Funding Proposal

FP317: Blue Halo S – Blue Ecosystem Adaptation Mechanism (BEAM)

Indonesia | Conservation International Foundation (CI) | Decision B.46/04

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Note to Accredited Entities on the use of the funding proposal template

- Accredited Entities should provide summary information in the proposal with cross-reference to annexes such as feasibility studies, gender action plan, term sheet, etc.
- Accredited Entities should ensure that annexes provided are consistent with the details provided in the funding proposal. Updates to the funding proposal and/or annexes must be reflected in all relevant documents.
- The total number of pages for the funding proposal (excluding annexes) **should not exceed 60**. Proposals exceeding the prescribed length will not be assessed within the usual service standard time.
- The recommended font is Arial, size 11.
- Under the GCF Information Disclosure Policy, project and programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Accredited Entities are asked to fill out information on disclosure in section G.4.

Please submit the completed proposal to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

"FP-[Accredited Entity Short Name]-[Country/Region]-[YYYY/MM/DD]"

KEY ACRONYMS

AE	Accredited Entity
AMA	Accredited Master Agreement
ARA	Adaptation Result Area
Bappeda	Regional Planning Development Agency
Bappenas	The Ministry of National Development Planning
BEAM	Blue Ecosystem Adaptation Mechanism
CI	Conservation International
CSO	Civil Society Organization
DKP	Regional Marine and Fisheries Agency
EE	Executing Entity
ENDC	Enhanced Nationally Determined Contributions
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
EVIKA	Evaluation of Conservation Area Management Effectiveness
FMA	Fisheries Management Area
GC	Grants Committee
GCF	Green Climate Fund
GESI	Gender Equality and Social Inclusion
GHG	Greenhouse Gas
GoI	Government of Indonesia
IDP	Information Disclosure Policy
IDR	Indonesian Rupiah
IP	Indigenous Peoples
IRW	Investment Readiness Window
KI	Konservasi Indonesia
M&E	Monitoring and Evaluation
MMAF	Ministry of Marine Affairs and Fisheries
MPA	Marine Protected Area
MRA	Mitigation result area
MSME	Micro, Small and Medium-sized Enterprises
NDA	National Designated Authority
NDC	Nationally Determined Contribution
NGO	Non-government Organization
PMU	Project Management Unit
PSC	Project Steering Committee
RPJMN	Mid-Term National Development Plan
SDGs	Sustainable Development Goals
SME	Small and Medium-sized Enterprises
SSP	Shared Socio-economic Pathways
TC	Technical Committee

SECTION A: PROJECT/PROGRAM SUMMARY				
A.1. Project or program	Project	**A.2. Public or private sector**	Public	
A.3. Request for proposals (RFP)	Not applicable			
A.4. Result area(s)	*Check the applicable GCF result area(s) that the overall proposed project/program targets below. For each checked result area(s), indicate the estimated percentage of **GCF and Co-financers' contribution** devoted to it. The total of the percentages when summed should be 100% for GCF and Co-financers' contribution respectively.*			
	All estimates are indicative, pending budget review and finalization		**GCF contribution**	**Co-financers' contribution[1]**
	Mitigation total			
	☒ Energy generation and access		5 %	
	☐ Low-emission transport			
	☐ Buildings, cities, industries and appliances			
	☒ Forestry and land use		10 %	8%
	Adaptation total			
	☒ Most vulnerable people and communities		45 %	43%
	☒ Health and well-being, and food and water security		20 %	40%
	☐ Infrastructure and built environment			
	☒ Ecosystems and ecosystem services		20 %	9%
A.5. Expected mitigation outcome *(Core indicator 1: Greenhouse gas (GHG) emissions reduced, avoided or removed / sequestered)*	483,322 tCO2e (6 years) 1,298,901 tCO2e (lifetime)	**A.6. Expected adaptation outcome** *(Core indicator 2: direct and indirect beneficiaries reached)*	*Indicate total number of direct and indirect beneficiaries*	
			Direct beneficiaries: 355,800 Male: 177,900 Female: 177,900	Indirect beneficiaries: 1,168,548 (6 years) 10,737,504 (lifetime)
A.7. Total financing (GCF + co-finance)	61.74 million USD	**A.9. Project size**	Medium (Upto USD 250 million)	
A.8. Total GCF funding requested	25.49 million USD			
A.10. Financial instrument(s) requested for the GCF funding	☒ Grant USD 25.49 million			
A.11. Implementation period	6 years	**A.12. Total lifespan**	20 years	

[1] Co-financer's contribution means the financial resources required, whether public finance or private finance, in addition to the GCF contribution (i.e. GCF financial resources requested by the AE) to implement the project or program described in the funding proposal.

A.13. Expected date of AE internal approval	*June 17, 2026*	**A.14. Environment and Social Standards (ESS) category**	**B**
A.15. Has this FP been submitted as a CN before?	Yes ☒ No ☐	**A.16. Has Readiness or Project Preparation Facility (PPF) support been used to prepare this FP?**	Yes ☒ No ☐
A.17. Is this FP included in the entity work program?	Yes ☒ No ☐	**A.18. Is this FP included in the country program?**	Yes ☒ No ☐
A.19. Complementarity and coherence	*Does the project/programme complement other climate finance funding (e.g. GEF, AF, CIF, etc.)? If yes, please elaborate in section B.1.* Yes ☒ No ☐		
A.20. Executing Entity information	Yayasan Konservasi Cakrawala Indonesia ("Konservasi Indonesia" or "KI"), a foundation registered in Indonesia.		

A.21. Executive summary (max. 750 words, approximately 1.5 pages)

1. The Blue Halo S – Blue Ecosystem Adaptation Mechanism (BEAM) Project will support the Government of Indonesia's (GoI) goal of transforming its marine and coastal economy to respond to the impacts of climate change, as identified by local communities and national stakeholders, while driving sustainable growth and development. This blue economy transition, detailed in Indonesia's national development plans, prioritizes support for Marine Protected Areas (MPAs); increased financing for community-based investments to improve fish catch value; enhancing and diversifying the livelihoods of coastal communities; and strengthening the climate resilience of people and the ecosystems on which they depend.

2. BEAM (the "Project") will support ongoing GoI interventions by addressing long-term financing gaps to increase the sustainable use of marine resources to achieve inclusive and sustainable economic growth and ecosystem conservation. The Project employs the 'protection–production' model which recognizes the critical importance and interlinkage between protecting key ecosystems threatened by climate change and supporting sustainable economic activities that support Indonesia's vulnerable coastal populations, incentivizing further protection. This creates a virtuous impact cycle to create a paradigm shift to a climate-responsive blue economy.

3. Climate change - including rising sea levels, increasing sea surface temperatures, and more intense storm events - is one of the main drivers of the decline in extent and quality of marine ecosystems in Indonesia. These ecosystems include the mangroves, seagrasses, and coral reefs that many Indonesians rely upon for livelihoods and food security. Climate change impacts are further exacerbated by under-resourced coastal and fisheries management and inadequate regulatory systems. Current systems must be adapted to respond to climate change and create a new paradigm that enhances coastal protection, inclusive economic activity, and improved marine biodiversity.

4. The Project will be implemented in Fisheries Management Area (*Wilayah Pengelolaan Perikanan* (WPP)) 572, an extensive coastal and marine region covering 94.3 million hectares adjacent to six provinces along the western coast of Sumatra Island - Aceh, North Sumatra, West Sumatra, Bengkulu, Lampung, and Banten in Java, with a total population of approximately 50 million. This region was selected by the GoI for this Project, as it is one of the most climate-vulnerable areas in Indonesia, is one of the country's most important fisheries, harbors biodiverse ecosystems, and is among the least-funded regions of the country. The Project's interventions in WPP572 are designed to facilitate replication and scaling across the Indonesian archipelago through demonstration of the economic and environmental impacts that can be achieved through deployment of an integrated model of protection and production at scale.

5. The Project is structured around two complementary Components that create synergies across their Activities. Component 1 focuses on creating the enabling conditions for the GoI's regulatory and policy transition to a sustainable blue economy. Component 2 deploys an on-granting mechanism to support Locally Led Climate Action (LLCA) for mitigation and adaptation interventions that utilize traditional and local knowledge, designed and implemented directly by beneficiary populations. Component 2 also include investment readiness activities to stimulate microfinance lending and produce

action-oriented knowledge products to support the growth of a climate-responsive 'blue economy'. The effectiveness of the direct climate interventions under Component 2 will be increased by the improved enabling environment established under Component 1. This approach is informed by detailed stakeholder engagement, guiding the development of overall strategy to address identified gaps in previous efforts to catalyze Indonesia's blue economy. Given limited government and private sector resources in WPP 572 and the vulnerability of its populations, GCF grant support to both Components is critical to catalyze sustainable climate interventions and build the capacities of government agencies, local organizations, and the private sector to foster a climate responsive blue economy.

6. Under Component 1 of the Project, Konservasi Indonesia (KI) as Executing Entity will provide direct support and technical assistance to national and sub-national government institutions to facilitate the improvement of protection and management of MPAs, enhancement of fisheries and ecosystem data and monitoring, and reforms to relevant policies to achieve inclusive, financially sustainable, and operationally effective sustainable blue economic development without sacrificing national conservation goals. In particular, the Project will support the enhancement of the Ministry of Maritime Affairs and Fisheries (MMAF)'s Public Private Partnership (PPP) program for MPA and coastal management, allowing for new sustainable financial flows into conservation and marine management. This intervention seeks to address current regulatory, technical, and financial barriers to the blue economy transition, resulting in 114,240 direct beneficiaries in WPP 572.

7. Component 2 will provide targeted support to local communities, CSOs, and institutions through two complementary on-granting windows for locally designed Adaptation and Mitigation interventions, along with Investment Readiness interventions to provide support to government microfinance institutions to increase lending to and growth of sustainable blue economy MSMEs in WPP572. The grant windows, their sub-windows, and the eligibility criteria to access funding were designed through participatory consultation with a variety of stakeholders, partners, and beneficiaries in WPP572, including vulnerable groups and their representatives. These activities will provide financial resources and technical assistance to support Locally Led Adaptation activities (resulting in 241,560 direct beneficiaries); fund projects that reduce GHG emissions (resulting in ~1.3M tCO_2e reduced GHG emissions over the Project lifespan – almost half of the projected BAU blue carbon emissions from WPP572); and support the long term growth of the blue economy by increasing access to existing concessional finance and the production and dissemination of knowledge products that fill key needs for businesses and investors. Both Component 1 and 2 will result in more than 10 million indirect beneficiaries (fishers, mariculture workers, and marine ecotourism employees) over the project lifespan across Indonesia.

8. BEAM aims to select the most impactful grant investments, encourage context-specific innovations that utilize traditional and local knowledge, and maximize achievement of its climate adaptation, mitigation, and investment readiness objectives. Across all Project interventions, emphasis is placed on providing support to vulnerable groups as identified in the GEDSI analyses.

9. Addressing the significant threats from climate change to Indonesia's coastal economy, vulnerable populations, and ecosystems in this Project will require close engagement and coordination with the Government of Indonesia. Project governance includes government representation at all levels of BEAM's strategy and implementation to ensure alignment of Project interventions with government priorities and complementarity with existing efforts to maximize effectiveness and sustainability of Project Outcomes. This country-led approach will contribute significantly to the targeted scaling and replication of the Blue Halo S model across Indonesia.

A. PROJECT/PROGRAMME INFORMATION

B.1. Climate context (max. 1000 words, approximately 2 pages)

Indonesia's climate context

10. Indonesia is one of the world's most biodiverse countries and hosts extensive marine ecosystems that are crucial for carbon storage and climate resilience. These ecosystems, including mangroves, seagrasses, and coral reefs, provide significant income to coastal communities through fishing and tourism, and play a vital role in Indonesia's climate mitigation targets and adaptation strategies, as outlined in its Enhanced Nationally Determined Contribution (NDC). Climate-driven natural disasters and changes in climatic variables (sea level rise, changing rainfall patterns, and sea surface temperature increases) are the primary drivers of non-anthropogenic coastal ecosystem degradation and climate vulnerability of the coastal population[2,3]. Indonesia ranks among the top third of countries most vulnerable to climate-driven disasters[4], and hosts the 5th largest coastal population in the world (49 million people), who are particularly at-risk to climate related disasters.[5] The GoI has identified the country's marine and coastal sectors as the most vulnerable to climate change impacts, projecting economic losses equivalent to IDR 81.82 trillion (~USD 5.2 billion) in 2024.[6]

11. Climate change is driving a reduction in fish stocks in Indonesia primarily through degradation of the coastal ecosystems on which fish depend for breeding and feeding, including mangroves, reefs, and seagrasses[7]. Climate impacts, combined with ineffective sustainable fisheries management are threatening a key source of income for coastal communities and the food security of the nation, with 50% of total animal protein consumed in Indonesia derived from fish products.[8,9] The Blue Nature Alliance found that existing fisheries protection and investments in sustainable fisheries management will result in significant fish stock declines between 2020 and 2050 and that additional establishment of effective Marine Protected Areas (MPAs) could boost fishing industry revenues by IDR 126 trillion (31% increase against BAU) by 2050.[10] There is also evidence that regulatory and technical reinforcement of MPAs in Fisheries Management Areas (WPPs) 714 and 715 resulted in greater fish stock volume and fish species biodiversity.[11]

12. While Indonesia's blue carbon potential is high, climate change is contributing to the degradation of coastal and marine ecosystems, which reduces carbon sequestration potential.[12] The impacts of climate change are also hindering Indonesia's ability to develop blue economic sectors including sustainable fisheries and tourism.[13, 14] The limited capacity of coastal populations to adapt to climate change is compounded by non-climate threats to ecosystems and the fisheries sector, and these communities' higher poverty rates than the national average.

Target Geography: Fisheries Management Area (WPP) 572

13. Fisheries Management Area (*Wilayah Pengelolaan Perikanan*) WPP 572 was identified as a government priority area for GCF support due to its low protection and investment status. This region offers ideal conditions for the scaling of the protection-production model in Indonesia to serve as a national blueprint for effective ecosystem and fisheries management. WPP 572 is an expansive marine zone that harbors one of the most important fisheries for the country[15], as well as rich, biodiverse marine ecosystems (mangroves, seagrass, and coral reefs) concentrated along vulnerable islands off the coast

[2] Arifanti, V., B. (2020). Mangrove management and climate change: a review in Indonesia. IOP Conf. Ser.: Earth Environ. Sci. 487 012022. doi: 10.1088/1755-1315/487/1/012022
[3] Ward, R. D., Friess, D. A., Day, R. H., and MacKenzie, R. A. (2016) Impacts of climate change on mangrove ecosystems: a region-by-region overview. Ecosystem Health and Sustainability 2(4): e01211. doi: 10.1002/ehs2.1211
[4] INFORM is a multi-stakeholder forum for developing shared, quantitative analysis relevant to humanitarian crises and disasters led by the Joint Research Center of European Commission. The INFORM Climate Change Risk Index is among the four INFORM platforms that focuses on providing quantified estimates of the impacts of climate change on the future risk of humanitarian crises and disasters.
[5] Climate Risk Profile: Indonesia (2021): The World Bank Group and Asian Development Bank, p. 15
[6] Ministry of National Development Planning/Bappenas. (2021a). Climate Resilience Development Policy 2020-20245 – Executive Summary. https://lcdi-indonesia.id/wp-content/uploads/2021/11/0_Executive-Summary.pdf
[7] Kaczan, D., Nurhabni, F., Cheung, W., Frölicher, T., Kuswardani, A., Lam, V., Muawanah, U., Puspasari, R., Reygondeau, G., Sumaila, U. and Teh, L. (2023). Hot Water Rising: The Impact of Climate Change on Indonesia's Fisheries and Coastal Communities. The World Bank, Washington, D.C.
[8] Blue Nature Alliance (2023) Indonesia '30x30' Marine Protected Areas fisheries cost benefit analysis. Presentation
[9] Napitupulu, L. and Tanaya, S. (2022) 3 Ways How Fisheries are Essential for a Resilient Food System during Pandemic and Beyond. WRI. https://wri-indonesia.org/en/insights/3-ways-how-fisheries-are-essential-resilient-food-system-during-pandemic-and-beyond#: ~:text=Despite%20the%20fact%20that%20fish, to%20the%20consumption%20of%20carbohydrates.
[10] Blue Nature Alliance (2023) Indonesia '30x30' Marine Protected Areas fisheries cost benefit analysis. Presentation
[11] Wibowo, A., V Limmon, G., Nikijuluw, V. And Wibisono, E. (2023). Konektivitas Ekologis antara Kawasan Konservasi Perairan dengan Sumber Daya Perikanan di WPPNRI 714 dan 715: Hasil Survei Perintisan. https://konservasi-id.org/wp-content/uploads/2025/03/BlueHaloS714715SurveyPolicyBrief_A4_V03_MI.pdf
[12] Lovelock, C. E., & Reef, R. (2020). Variable impacts of climate change on blue carbon. One Earth, 3(2), 195-211.
[13] Sari, D. A. A., & Muslimah, S. (2020). Blue economy policy for sustainable fisheries in Indonesia. In IOP Conference Series: Earth and Environmental Science (Vol. 423, No. 1, p. 012051). IOP Publishing.
[14] Supriyanto, E. E. (2022). Blue tourism: Treating marine ecosystems and increasing the potential of maritime tourism in Indonesia. Jurnal Kepariwisataan Indonesia: Jurnal Penelitian Dan Pengembangan Kepariwisataan Indonesia, 16(2), 138-148.
[15] WRI Indonesia (2022) Trends In Marine Resources And Fisheries Management In Indonesia. https://wri-indonesia.org/sites/default/files/2022-12/Marine%20Trends%20Report_WRI%20format_v14.pdf

of western Sumatra. WPP 572 encompasses 94.3M ha adjacent to six provinces on the western coast of Sumatra: Aceh, North Sumatra, West Sumatra, Bengkulu, Lampung, and Banten.

Map image removed

Figure 1: Map of WPP 572

14. WPP 572 is one of the most important fishing zones in Indonesia, with the largest concentrations of high volume catch areas. WPP 572 is also highly exposed to climate change induced losses in fish catch. Based on a World Bank report, by 2050 the decrease of economic returns to fisheries are expected to be worse for small-scale fisheries (17-19 percent reductions under RCP 2.6) than for industrial fisheries (13-14 percent), mostly because species caught by artisanal fishers are more vulnerable than those caught by the larger vessels.[16] Climate impacts are compounded by management practices. WPP 572 has one of Indonesia's highest overexploitation rates, with over half of key species caught above replacement rate.[17] WPP 572 is also an important tuna fishery, and as a result of increasing ocean temperatures, overfishing, and destructive fishing practices, tuna populations have fallen since 2014.[18]

15. Climate change significantly impacts fisheries within WPP 572 by altering marine ecosystems and reducing fish populations. Current and projected climate change in WPP 572 include increasing sea surface temperatures[19] (which displace fish populations)[20], ocean acidification (degrading corals and seagrasses)[21, 22], sea level rise (degrading breeding grounds), and more variable precipitation (increasing sedimentation and waste deposition from land) (see **Annex 2, Sections 2 and 3**). These changes disrupt fish breeding and migration patterns, leading to lower catches and heightened competition among fishers. Warmer waters resulting from climate change are altering the distribution of fish species within WPP 572, pushing them to deeper or cooler areas and impacting their reproductive success[21]. The Indian Ocean region of Indonesia, which includes WPP 572, is projected to face the most severe economic impacts from climate change in the country[23]. Under a low emissions scenario (SSP1-2.6), small-scale fisheries in this region could see economic returns decline by up to 17.2%, and as much as 57.7% under continued overfishing. Under a high emissions scenario (SSP5-8.5), losses escalate further, reaching up to 63.1%. However, modeling suggests that this dramatic decline can be mitigated by effective fisheries management, reducing the impact under SSP5 to 22.5%. Small scale fisheries productivity disproportionately affects coastal communities whose livelihoods and food security rely heavily on the sector, making implementation of effective management crucial.

Key Features of WPP572:

16. Approximately 14 million people live in low-lying coastal areas or on small islands of WPP 572, from Aceh in the north to Banten in the south. These coastal communities in the provinces adjacent to WPP 572 are more exposed to climate change impacts than inland populations.[24] These climate impacts include rising sea levels, inundating coastal regions and displacing people; more severe precipitation events leading to increased water runoff causing sedimentation, increased coastal waste deposition, and damage to crops and ecosystems; and increases in sea surface temperature (SST) which affects the quantity and distribution of fish and other seafood, thereby impacting both the food security and livelihoods of many communities. Compounding this vulnerability, ~4.7 million individuals live below the poverty line across the six provinces[25]

[16] Kaczan, D, Nurhabni, F, Cheung, W, Frölicher, T, Kuswardani, A, Lam, V, Muawanah, U, Puspasari, R, Reygondeau, G, Sumaila, U, and Teh, L (2023). Hot Water Rising: The Impact of Climate Change on Indonesia's Fisheries and Coastal Communities, The World Bank

[17] MMAF Decree (Keputusan Menteri Kelautan dan Perikanan) No. 19/2022 on estimation of potential fish resources, allowable fish catch, and utilization level of fish resources in the fisheries management area of the Republic of Indonesia.

[18] Suyasa, N, Rahardjo, P, Putri, D, Widagdo, A., (2020), Tuna fisheries in fisheries management area Republic of Indonesia 572 IOP Conference Series: Earth and Environmental Science

[19] Guest, J. R., Baird, A. H., Maynard, J. A., Muttaqin, E., Edwards, A. J., Campbell, S. J., ... & Chou, L. M. (2012). Contrasting patterns of coral bleaching susceptibility in 2010 suggest an adaptive response to thermal stress. PloS one, 7(3), e33353.

[20] Gamito, R., Costa, M.J. & Cabral, H.N. Fisheries in a warming ocean: trends in fish catches in the large marine ecosystems of the world. Reg Environ Change 15, 57–65 (2015). https://doi.org/10.1007/s10113-014-0615-y

[21] Lam, Vicky WY, Suchana Chavanich, Salpie Djoundourian, Sam Dupont, Françoise Gaill, Guillaume Holzer, Kirsten Isensee et al. "Dealing with the effects of ocean acidification on coral reefs in the Indian Ocean and Asia." *Regional Studies in Marine Science* 28 (2019): 100560.

[22] Listiawati, V., & Kurihara, H. (2021). Ocean warming and acidification modify top-down and bottom-up control in a tropical seagrass ecosystem. Scientific Reports, 11(1), 13605

[23] Kaczan, D, Nurhabni, F, Cheung, W, Frölicher, T, Kuswardani, A, Lam, V, Muawanah, U, Puspasari, R, Reygondeau, G, Sumaila, U, and Teh, L (2023). Hot Water Rising: The Impact of Climate Change on Indonesia's Fisheries and Coastal Communities, The World Bank

[24] Climateworks Centre's analysis, based on BPS (2020) number of household population for six provinces and 36 coastal regencies in WPP 572 (https://www.bps.go.id/statictable/2012/04/19/1604/persentase-rumah-tangga-menurut-provinsi-daerah-tempat-tinggal-dan-jenis-kelamin-kepala-rumah-tangga-2009-2022.html)

[25] Based on BPS (2020) number of poor population data for 36 regencies across six provinces in WPP 572 (https://bps.go.id/indicator/23/185/1/jumlah-penduduk-miskin-ribu-jiwa-menurut-provinsi-dan-daerah.html)

with Aceh, Bengkulu, and Lampung experiencing poverty rates of more than 12% (national average is ~9% as of 2023).[26] Despite the economic importance of these coastal provinces, WPP572 has historically been under-invested in, contributing to the explicit prioritization of WPP 572 by the government of Indonesia for this Project (See **Annex 2, Sections 1 and 3** for more information).

17. Though WPP 572 does not hold a large share of Indonesia's total mangroves (36,000 ha; about 1.15%; see **Annex 2, Section 2**)[27], these areas provide critical ecosystem services including coastal protection from flooding and serving as fish breeding grounds. Loss of mangrove ecosystems is driven by sea level rise (SLR) and sea-surface temperature (SST) increases, and are further compounded through anthropogenic pressures, such as mangrove-clearing for aquaculture production and timber.[28] Nearly 800,000 hectares of mangroves have been lost in Indonesia over the past 30 years (see **Annex 2, Section 2** for projected losses in WPP 572). Since mangrove ecosystems serve as the first line of defense against flooding for much of western Sumatra[29], further losses increase disaster risk for coastal communities.

18. Seagrass plays a key role in fisheries as a primary habitat for several fish species, and mitigates strong waves triggered by climate (storm) and non-climate (tsunami) events. Seagrass loss and associated blue carbon emissions in WPP 572 is attributed to ocean acidification and anthropogenic causes including increased sedimentation due to construction, filling or dredging; terrestrial agriculture, and aquaculture practices[30]. Blue carbon emissions from seagrass loss in WPP 572 are approximately 60% higher than those from mangrove loss (see **Annex 22**). Projected loss of seagrass in WPP 572 is approximately 6,183ha by 2030 and 16,938ha by 2060.

19. WPP 572 hosts 17% of all coral reef ecosystems in Indonesia. While coral reef ecosystems are not carbon sinks themselves, they are carbon sequestration catalyzers and provide critical ecosystem services. Coral reefs serve as buffers by acting as wave-dissipating barriers, which reduces coastal inundation and sedimentation of seagrasses and other coastal ecosystems.[31] Coral reefs are also critical breeding grounds and habitats for the fisheries food chain. In Indonesia the rate of coral loss is estimated to be as high as 6.8% (Eddy et al., 2021), meaning Indonesia's coral reefs might lose up to 265,000 ha annually - in WPP 572, up to 11,600 ha annually (see **Annex 2, Section 3**) - also negatively affecting Indonesia's tourism industry. Local drivers of coral degradation include climate change (such as increased sea surface temperatures, sedimentation from erosion caused by increased runoff from extreme precipitation, and ocean acidification), overfishing and destructive fishing, coastal development, watershed-based pollution, agricultural expansion, land conversion for aquaculture, and marine-based pollution and damage.

20. There are currently 550,000 hectares of MPAs within WPP 572[32], with plans to expand by an additional 10-20% by 2045. To achieve this, Indonesia's Ministry of Maritime Affairs and Fisheries (MMAF) prepared spatial plans identifying potential conservation areas and expansion of existing ones.[33] This planning combines technical mapping and spatial modeling with stakeholder consultations. The process focuses on ensuring that provinces understand MPA benefits and address potential conflicts in resource allocation early to avoid future disputes. These MPAs aim to enhance fisheries productivity, protect biodiversity, and increase resilience to climate change. Improved MPA management has been shown to lead to spillover benefits in terms of increased fish stocks and fish size [34,35] and therefore improved MPAs can provide benefits beyond their immediate vicinity and potentially beyond Indonesia in the case of pelagic species.

Climate change exposure: historical and future projections

21. The Climate Change Vulnerability Assessment (see **Annex 2, Section 3**) focuses on the most important climate change impacts on the ecosystems and populations in WPP 572: SLR, SST, and extreme precipitation events.[36]

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[26] BPS Statistics Indonesia - https://www.bps.go.id/en/pressrelease/2023/07/17/2016/indonesia-poverty-profile-in-march-2023.html
[27] Global Mangrove Watch
[28] Ilman, M., Dargusch, P., & Dart, P. (2016). A historical analysis of the drivers of loss and degradation of Indonesia's mangroves. *Land use policy*, *54*, 448-459.
[29] Alongi, D. M. (2015). The impact of climate change on mangrove forests. *Current Climate Change Reports*, *1*, 30-39.
[30] IPCC 2014
[31] Guerra-Vargas, L., Gillis, L. and Mancera-Pineda, J. (2020) Stronger Together: Do Coral Reefs Enhance Seagrass Meadows "Blue Carbon" Potential? Front. Mar. Sci. 7:628. doi: 10.3389/fmars.2020.00628
[32] MMAF. Sidako – Sistem Database Konsersvasi. Retrieved March 2025 from https://sidako.kkp.go.id/sidako/sebaran-kawasan.
[33] MMAF (2024). Perancangan Spasial bagi Perluasan Liputan Kawasan Konservasi untuk Mencapai Visi Kawasan Konservasi 30x45. Jakarta: Direktorat Jenderal Pengelolaan Kelautan dan Ruang Laut, Kementerian Kelautan dan Perikanan.
[34] Franceschini *et al.*, 2024. A global test of MPA spillover benefits to recreational fisheries *Sci. Adv.* **10**, eado9783 (2024)
[35] Cheung et al., 2024. Projecting contributions of marine protected areas to rebuild fish stocks under climate change. https://doi.org/10.1038/s44183-024-00046-w
[36] Hewitt, J., Ellis, J., & Thrush, S. (2016). Multiple stressors, nonlinear effects and the implications of climate change impacts on marine coastal ecosystems. *Global Change Biology*, 22. https://doi.org/10.1111/gcb.13176.

Observed climate trend	SST anomalies >1°C more frequent (2011–2022).	Sea Level Rise (SLR) with higher rates in the north (0.43 cm/yr) than south (0.39 cm/yr).	Variable Rainfall / Extreme rainfall events, measured as number of days with rainfall of more than 50 mm (R50mm), is high with an average of 3.2 days (1991-2020). High precipitation events lead increased water run-off rates
Projected climate trends 2021–2060	Mean SST anomaly of 0.51 to 1.27 °C between 2021-2040 and 2041-2060 with deviation ± 0.39 °C 2021-2040 SSP 2-4.5: 30.37 °C SSP 3-7.0: 30.76 °C 2041-2060 SSP 2-4.5: 31.07 °C SSP 3-7.0: 31.46 °C	Mean sea level rise from 0.24 to 0.55 cm/yr (2021-2040); SSP 2-4.5: 0.12 m Mean sea level rise to 0.67 cm/yr and total increase of 20 cm (2041-2060). SSP 2-4.5: 0.20 m	Number of days with rainfall of more than 50 mm (R50mm) rising along the western coast of Sumatra and the southwestern part of WPP 572 (2021-2040) while noting provincial variability. Projections for increased water runoff for Sumatra[37]: 2011-2041 SSP 2 – 4.5: +18% 2041-2070: SSP2 – 4.5: +29%
Ecosystem Impacts	More frequent and severe IOD events leading to coral bleaching.	Reduced mangrove photosynthesis and health decline; increased coastal flooding and coastal soil salinization, harming aquaculture and agriculture.	Increased deposition of waste (run off) in coastal areas. Increased sedimentation of coastal ecosystems
Population Impacts	Reduced fisheries productivity, leading to decreased livelihoods and reduced food security.	Reduced fisheries productivity (livelihoods / food security); coastal infrastructure damage; increased coastal flooding; reduced agricultural productivity (salinization) leading to reduced water and food security.	Increased risk of coastal flooding; reduced water quality; reduced food security (due to effects of waste and sedimentation on coastal ecosystems)

Table 1: Summary of the historical and projected climate impacts in WPP 572

Sea Surface Temperature (SST)

22. Historical: Sea-surface temperatures have varied considerably between 1991 and 2020. However, the frequency of temperature changes and the intensity of temperature fluctuations has increased relative to pre-1991 SST and indicate an upward trend in SST anomalies in WPP 572.

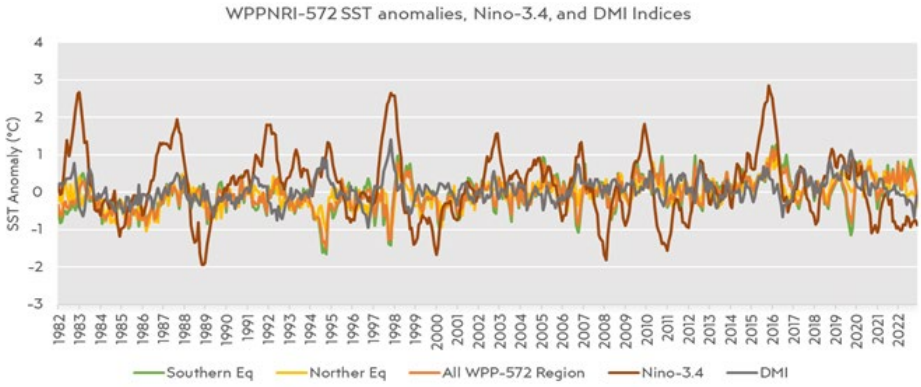


Figure 2: Sea surface temperature trends and anomaly in WPP 572. Coupled Model Intercomparison Project Phase 6 – CMIP6).

[37] SMHI, Climate Information, https://climateinformation.org/, last accessed: April 10, 2025.

23. Projections: SST in WPP 572 is projected to increase 0.51 °C between 2021-2040 to 1.27 °C between 2041-2060 ± 0.39 °C across three socioeconomic pathways (SSPs) against the 1995-2020 reference period (see Figure 3). This SST forecast aligns with the World Bank (2023) projection for the western Indonesian region.[38]

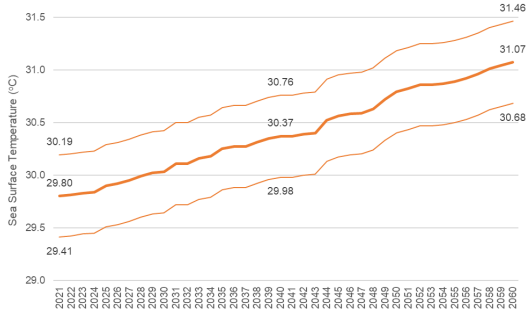


Figure 3: Projected annual mean sea surface temperature at WPP 572 region between 2021-2060 under three SSP scenarios against 1995-2020 reference period. Source: Coupled Model Intercomparison Project Phase 6 – CMIP6

24. Impact: Rising SST will increase the number and severity of coral bleaching events[39,40], reducing biodiversity and fisheries productivity[41], reduce the wave buffering capacity of reef ecosystems, and will force fish populations to migrate to cooler (deeper) waters further from the coast[42], reducing the ability of coastal communities to fish and maintain their livelihoods. Rising SST will also negatively impact the health of mangrove and seagrass ecosystems with consequent negative impacts on fisheries productivity and coastal protection.

Sea Level Rise (SLR)

25. Historical: An upward trend in annual Sea Level Rise (SLR) is observed in the historical data, as indicated in Fig. 4. In WPP 572, the northern area has a higher rate of SLR (0.43 cm/yr) than the southern area (0.39 cm/yr).

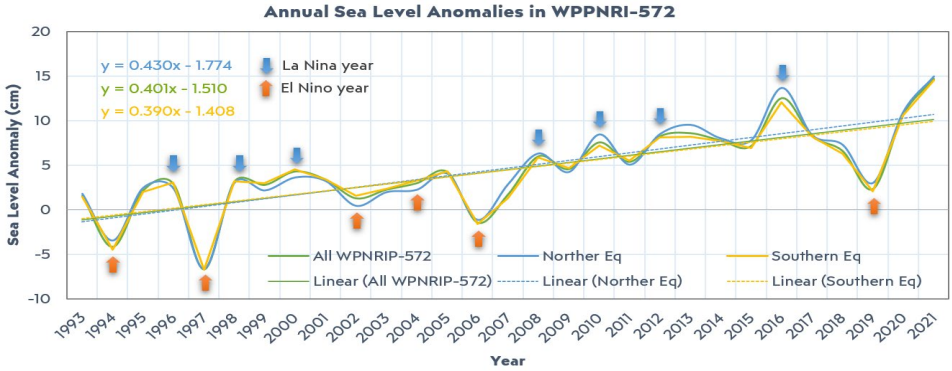


Figure 4: Annual variability and trends of sea level anomalies in WPP 572.

26. Projections: Projected mean sea level from a multi-model ensemble indicates a continued increase in sea level in WPP 572. The trend is expected to rise from 0.24 to 0.55 cm per year during the 2021–2040 period, and to 0.67 cm per year during the 2041–2050 period (Fig 5. See **Annex 2, Section 3**).

map image removed

Figure 5 *Mean Sea Level for 2021-2040 (a) and 2041-2050 (b) at WPP 572 Region from CMIP6 Multi-Model Ensemble.*

27. Impact: SLR will result in increased flooding, saline intrusion, erosion, and damage to infrastructure. Coastal ecosystems, particularly mangroves, are also affected by rising sea levels, leading to habitat loss, coral reef damage, and changes to the productivity of these ecosystems and resulting degradation of fisheries.

Variable Rainfall / Extreme Precipitation Events

[38] Kaczan, D., Nurhabni, F., Cheung, W., Frölicher, T., Kuswardani, A., Lam, V., Muawanah, U., Puspasari, R., Reygondeau, G., Sumaila, U., & Teh, L. (2023). *Hot Water Rising: The Impact of Climate Change on Indonesia's Fisheries and Coastal Communities*. The World Bank, Washington, D.C.
[39] Abram, Nerilie J., et al. (2003) "'Coral Reef Death during the 1997 Indian Ocean Dipole Linked to Indonesian Wildfires." Science, 301-5635, pp. 952–55. JSTOR
[40] Ibid
[41] Based on BPS 2019-2021 marine fishery data for six provinces in WPP 572.
[42] Barange, M., Bahri, T., Beveridge, M., Cochrane, K., Funge-Smith, S. & Poulain, F. (2018). Impacts of climate change on fisheries and aquaculture: Synthesis of current knowledge, adaptation, and mitigation options. FAO Technical Paper No. 627. http://www.fao.org/3/i9705en/ i9705en.pdf

28. Historical: WPP 572 exhibits spatial variations in monthly rainfall across provinces from 1991 to 2020, with Aceh and West Sumatra provinces showing the highest increase in rainfall and extreme precipitation events (**Annex 2, Section 3**).

29. Projections: The spatial trends in WPP 572 indicate a noticeable decrease in the number of CDD (Consecutive Dry Days) in most parts of this region. Conversely, the number of CWD (Consecutive Wet Days) is increasing in many areas within WPP 572. Additionally, the frequency of heavy rainfall events (measured as R20mm and R50mm) is rising on the western coast of Sumatra and the southwestern part of WPP 572 (**Annex 2, Section 3**).

30. Impact: Extreme precipitation events contribute to climate risks as they create erosion in coastal areas and increase flooding and waste runoff, which contributes significantly to ocean pollution and sedimentation of ecosystems. Heavy rainfall also contributes to climate vulnerability by triggering flash floods and landslides, impacting coastal infrastructure, disrupting fishing activities, and degrading marine ecosystems. Prolonged dry periods during the dry season can lead to water shortages and the salinization of estuaries, negatively impacting aquacultural productivity. Models largely agree that water run-off will increase under all RCP/SSP scenarios in Sumatra[43], negatively impacting coastal ecosystems and increasing deposition of both terrestrial waste and sediment into coastal ecosystems.

Table 2: Summary of climate rationale framework

Other factors contributing to coastal community and ecosystem vulnerability

Socio-Economic Vulnerability

31. Coastal communities in WPP 572 are highly reliant on the blue economy, with approximately 450,000 individuals formally employed in the fisheries sector (noting that informal participation is significant).[44] Poverty is high[45] with three provinces in WPP 572 (Aceh, Bengkulu, and Lampung) experiencing poverty rates (~14%) which are higher than the national average (9.4%).[46] Small Island communities within WPP 572 also face limited economic opportunities due to restricted market access. Women, marginalized groups, and Indigenous populations face additional socio-economic vulnerabilities (see **Annex 2, Section 3**, and **Annexes 6**, **7**, and **8** for more detailed information).

Earthquakes, Tsunamis and Volcanic Activity

32. Communities adjacent to WPP 572 face disaster risks from earthquakes and resulting tsunamis, due to low elevation coastal topography, high coastal population densities, and proximity to the Barisan Mountains which limits population mobility during tsunamis. The 2004 tsunami, caused by a 9.3 magnitude earthquake, destroyed 380,000 hectares of mangroves and extensive coral reef ecosystems, along with over 80,000 homes in Banda Aceh.

Marine resource management

33. The limited application of sustainable fisheries management plans, alongside destructive fishing practices and unsustainable aquaculture, contributes to ecosystem loss and threatens the long-term livelihoods of coastal communities in WPP 572. Without effective management, fisheries remain exposed to threats from overfishing. Field observations

[43] SMHI, Climate Information, https://climateinformation.org/, last accessed: April 10, 2025
[44] Based on data from National Statistical Agency (BPS, 2020) number of household population for six provinces and 36 coastal regencies in WPP 572.
[45] Yulhendri, I. S. M., Marna, J. E., & Softazia, W. (2020). The Analysis of the Economic Inequality of the Coast Regions. Economics Development Analysis Journal, 9(1). Retrieved from http://journal.unnes.ac.id/sju/index.php/edaj
[46] World Bank (2023). Poverty & Equity Brief Indonesia. https://databankfiles.worldbank.org/public/ddpext_download /poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/current/Global_POVEQ_IDN.pdf

indicate the use of low-explosive coral bombing (blast fishing) and trawling with fine mesh in shallow waters, destroying coral reef ecosystems and capturing endangered / banned species, including sharks. Despite being prohibited by Law 45/2009 and the Omnibus Law on Job Creation, weak enforcement and insufficient local financing impede efforts to prevent illegal, unreported, and unregulated (IUU) fishing in WPP 572 provinces (**Annex 2, Sections 1** and **2)**.

34. MPA management also suffers from inadequate financing and capacity, which reduces the effective implementation of natural ecosystem protection measures. A recent study on management effectiveness across 61 MPAs in Indonesia indicates that the majority of MPAs are not sustainably managed, and/or regulations are inadequately enforced due to deficiencies in infrastructure, facilities, and human resources.[47]

35. Intensive aquaculture further threatens mangrove and seagrass ecosystems, particularly in Lampung province. Field observations indicate that untreated wastewater from shrimp aquaculture pollutes mangrove and seagrass ecosystems, which are already struggling with climate-driven sedimentation. The most significant threats from aquaculture are wastewater discharge into the ocean and conversion of mangroves into aquaculture areas.[48] Figure 6 below illustrates land use and land cover change across WPP 572 between 2000 and 2024, highlighting the extent of deforestation and landscape degradation in coastal regions.

map image removed

***Figure 6**. Land use change, settlement, and ecosystem degradation within the 6 provinces in WPP 572 (2000–2024), showing areas of deforestation. Source: Ministry of Environment and Forestry. Land Cover Map, 2025; Tree cover loss (Hansen et al., 2025)*

Marine pollution

36. Terrestrial waste degrades coastal ecosystems, and waste deposition is increased by elevated storm activity and higher flooding rates caused by climate change. During storms and floods, untreated waste from urban areas and industrial facilities is washed into rivers and transported to the coast, overwhelming waste management infrastructure and leading to direct release into coastal waters.[49] This pollution compromises water quality and biodiversity, endangering marine life through entanglement, ingestion, and habitat degradation. Pollutants from untreated waste further contaminate coastal waters, impacting aquatic species and human populations that are reliant on coastal resources for livelihoods and sustenance.[50]

Blue Economy in WPP 572

37. In Indonesia, the 'blue economy' is defined as "*an approach to promoting sustainable marine management and the conservation of marine and coastal resources and their ecosystems to generate economic growth through community engagement, resource efficiency, minimizing waste, and multiple incomes."* (Law 32, 2014). Most blue economy enterprises in WPP 572 are micro/small and focus on fishing, fish processing, and tourism. Most lack formal business registration, access to markets, collateral, and capacity to fulfil the loan requirements of commercial banks. WPP 572 provinces have relatively fewer ports than other parts of the country and are isolated from both national (especially Javanese) and regional markets (Malaysia and Singapore). Enterprises located on remote islands with low connectivity to the mainland face even greater challenges in accessing markets. Technological innovations in marine biotechnology, maritime decarbonization, green shipbuilding, and other research-driven entrepreneurship are lacking in WPP 572, with startups mainly focusing on digital marketplaces and aquaculture automation.

38. While financial liquidity is high in Indonesia, the lack of investment-ready deal pipelines and perceptions that WPP 572 presents high risks limit capital allocation in the blue economy. Despite several government-funded micro-credit schemes[51], BLU LPMUKP, which provides subsidized loans to marine and fisheries MSMEs, faces significant operational barriers, including complicated paper-based procedures, the absence of an integrated digital loan management system, and limited outreach capacity, resulting in low disbursement absorption and restricted access for vulnerable coastal communities. Consequently, loan sharks (providing micro-loans at high interest rates - generally outside the law) are the most common

[47] Meilana, L., Fang, Q., Susanto, H. A., Widiastutik, R., Syaputra, D. E., Ikhumhen, H. O., Sholihah, R., Hakim, A., Yang, S., Liu, Z. (2023) How Indonesia marine protected areas (MPAs) are doing: A management performance-based evaluation. Biol Conserv 282: 110033.
[48] Ilman, M., Dargusch, P., Dart, P., & Onrizal (2016). A historical analysis of the drivers of loss and degradation of Indonesia's mangroves. *Land Use Policy*, 54, 448-459. https://doi.org/10.1016/ j.landusepol.2016.03.010
[49] Kusuma, Anma Hari, Amril Ma'ruf Siregar, Helvi Yanfika, Puspita Yuliandari, Muhammad Havis, Lusmeilia Afriani, and Rudy Rudy. 2022. 'Struktur Komunitas Karang Pasca Tsunami Di Desa Kunjir, Kecamatan Rajabasa, Kabupaten Lampung Selatan, Provinsi Lampung'. Jurnal Perikanan 12 (2): 245–55. https://doi.org/10.29303/jp.v12i2.301.
[50] Earp, H. S., Prinz, N., Cziesielski, and Andskog, M. (2018) For a World Without Boundaries: Connectivity Between Marine Tropical Ecosystems in Times of Change' in YOUMARES 8 – Oceans Across Boundaries: Learning from each other, edited by Simon Jungblut, Viola Lieblich, and Maya Bode, pp 125-144. Kiel Germany: SpringerOpen,
[51] LPMUKP (*Lembaga Pengelola Modal Usaha Kelautan dan Perikanan,* a public service agency under MMAF), LPDB-KUMKM (*Lembaga Pengelola Dana Bergulir Koperasu Usaha Mikro, Kecil dan Menengah,* a financial institution under the Ministry of Cooperatives and SMEs), and Ultra-Micro Loans

source of financing. Complicated paperwork and a lack of support to fishers to complete loan applications contribute to the popularity of loan sharks. Bank Perekonomian Rakyat (BPRs) (rural banks) are another source of capital that have slightly less stringent lending criteria than conventional banks. However, BPRs face several operational challenges, including high rates of non-performing loans, limited internal capacity, and applicant capacity constraints.

B.2 (a). Theory of change narrative and diagram (max. 1500 words, approximately 3 pages plus diagram)

BEAM Goal statement:

IF *key regulatory frameworks are improved, communities design and implement adaptation measures, carbon-rich ecosystems are conserved, and better access to finance is facilitated for blue economy actors* ***THEN*** *a sustainable protection and production model of coastal and marine management will be realized, resulting in improved climate resilience for coastal communities and reduced GHG emissions* ***BECAUSE*** *enabling conditions will be in place, communities will be empowered to create resilience and mitigate emissions, and the private sector will be able to expand sustainably.*

Outcomes:

39. The BEAM Project seeks to achieve the following Outcomes:

1) *Improved legal, regulatory, and financial conditions that facilitate climate responsive protection and production in coastal & marine areas*.
   - A total of 11 improved enabling policies, regulatory frameworks, and innovative financing mechanisms will be developed at the provincial and national levels that enable sustainable ecosystem protection and improved fisheries production. Together with Outcome 4 below, BEAM will result in 10 million indirect beneficiaries in coastal communities across Indonesia.

2) *Strengthened climate resilience of coastal communities in WPP572 through improved livelihoods and food security.*
   - Project activities are expected to lead to food security improvements for 169,340 unique individuals and more climate resilient livelihoods for 65,220 unique individuals.

3) *Improved condition and extent of coastal ecosystems in WPP572 resulting in reduced GHG emissions.*
   - Through Project activities, the rate of loss of blue carbon ecosystems in WPP 572 will be halved. This impact will result from the restoration / rehabilitation of approximately 291ha of critical coastal ecosystems, alongside improved management, protection, and enforcement measures that will reduce ecosystem loss and degradation over the Project implementation period and beyond.

4) *Improved economic performance and climate resilience of blue economy in WPP572.*
   - Technical assistance to BLU LPMUKP will be provided to increase microfinance lending in WPP572 and action-oriented research papers will be developed to reduce businesses' and investors' perceived risk / promote business expansion into WPP572.

Key Barriers: (See **Annex 2, Section 6** for further details)

Regulatory and Policy:+

40. Regulatory and policy barriers in WPP 572 stem from fragmented governance, conflicting mandates, and outdated frameworks that hinder development, management, and effective marine conservation efforts, including efforts to protect and manage blue carbon ecosystems under MPAs. These barriers include policy misalignment among government agencies, administrative crowding, and poor data management (See **Annex 2, Section 4**). For example, although MMAF Regulation No. 31/2020 mandates MPA legalization, implementation has been slow in WPP 572 due to delays and limited funding at the provincial government level. As a result, less than 2% of the area has been legally designated as MPAs. Additionally, climate adaptation measures are inconsistently integrated into policies - while the mid-term planning document RPJMN 2025-2029 includes blue economy goals, Indonesia's NDC lacks binding marine mitigation targets. This results in insufficient protection of blue carbon habitats. Current regulatory systems informing management practices, including MPAs, are also outdated, as they do not fully incorporate climate change impacts. Financing remains another critical barrier where MPAs rely heavily on national and regional budgets, but funding is inadequate. Innovative financing mechanisms,

such as blue bonds and payments for ecosystem services, remain underutilized due to unclear incentives under Government Regulation No. 21/2021.

41. Activities under Component 1 will address these legal and regulatory barriers by supporting the national government and relevant sub-national entities in the creation, improvement, and implementation of new regulatory frameworks and policies for ecosystem protection, sustainable fisheries management, and innovative financing. BEAM will also address regulatory weaknesses in the protection of blue ecosystems at national and sub-national levels by providing technical assistance and capacity building to improve coordination and data management. This includes strengthening the Public-Private Partnership (PPP) framework for MPA management, led by MMAF as the technical policy lead and implemented on the ground by provincial Marine and Fisheries Agencies (DKP – *Dinas Kelautan dan Perikanan*). An improved PPP framework will enhance coordination among government, the private sector, and local communities, enabling more inclusive investment, better infrastructure for fisheries and tourism, and sustainable access to marine resources. This PPP framework will be applied in WPP572 and nationally across Indonesia.

42. Lessons learned will be shared to enhance knowledge creation and facilitate the development of the blue financing ecosystem through industry advocacy and the establishment of standardized regulatory guidance. Several initiatives have made progress in addressing similar barriers. For instance, the Peat and Mangrove Restoration Agency (BRGM), established under Presidential Regulation No. 120/2020, rehabilitated 600,000 hectares of mangroves nationwide through 2024, though inter-ministerial coordination challenges persist. Debt-for-nature swaps, such as the US – Indonesia TFCCA Coral Reef Program, demonstrate how debt relief can fund MPA expansion, which is a model that could be replicated in WPP 572.

Technical:

43. Consultations with communities, local fishing associations, academic researchers, international research organizations, and government fisheries management institutions (**Annex 7**) indicate that significant gaps exist in current fisheries data, resulting in ineffective fisheries management strategies (e.g. maximum sustainable yield and total allowable catch) and fishing management area plans for WPP 572, which lead to inadequate fishing quota enforcement and overfishing. Weak community-based monitoring and insufficient technical capacity to manage fisheries data are also barriers.

44. Current data collection and analysis for fisheries is very costly due to protocols that rely on many dedicated and trained enumerators. Data collection and management can be enhanced through innovation to improve and simplify these practices. This could include fisher-centered products, such as cellphone-based data collection and reporting apps, camera-based identification, and measurement apps. Experience from other projects shows promising results. The Scientific Forum for Sustainable Fisheries (FIP2B – *Forum Ilmiah Pengelolaan Perikanan Berkelanjutan*) in West Nusa Tenggara Province developed a fisheries improvement platform, a digital system that integrates catches data, vessel tracking, and market linkages to promote sustainable fishing practices[52]. Similarly, Yayasan Konservasi Alam Nusantara uses FishFace, a camera-based AI tool for species identification, which cut monitoring costs by 40%.[53] Grant-based technical assistance will support such approaches, as elaborated in Activity 1.1.2. Coupled with technical assistance and capacity building to government entities to improve data management systems, BEAM will create a sustainable fisheries data mechanism that will continue beyond the life of the Project.

45. To address technical barriers that currently deter investor capital allocation to WPP572, including lack of market intelligence, weak cooperative systems, limited green shipping frameworks, and unclear marine tourism investment pathways, BEAM will support production of action-oriented blue economy research for businesses, investors, and other key stakeholders. These papers will provide critical technical information on market segmentation of blue economy enterprises in WPP 572, better enabling fisheries cooperatives, blue economy sub-sectoral opportunities, and marine investment roadmaps. The findings will be actively disseminated to a variety of stakeholders including financial intermediaries, development partners, and policymakers.

Social:

46. Coastal communities in WPP572 rely on fisheries for subsistence and income, but they have few economic opportunities due to limited financial resources, market access, and information availability. Community options for adaptation are further limited by lack of financing to undertake adaptive interventions, including diversification of livelihoods. Project provinces also have a higher average percentage of female-headed households, which are characterized by having lower adaptive

[52] https://fip2b-ntb.org/
[53] https://www.ykan.or.id/en/publications/articles/perspectives/the-fishface-system-is-a-breaktrough-for-preserving-fish-populations-in-indonesia/

capacity to respond to climate change and higher vulnerability due to less access to assets, climate information, and credit than male-headed households (**Annex 8**).

47. The Project will address these barriers by providing grants for sustainable and inclusive climate change adaptation and mitigation activities designed by communities and their representative organizations while ensuring access for vulnerable, indigenous, and disadvantaged groups (**Annex 8 and Annex 6f)**, as well as grants to promote investment readiness to participate in the blue economy. Strengthening the adaptive capacity of coastal populations, including women, will both directly strengthen climate resilience and provide a foundation for more inclusive blue economy investments in the future.

48. New data collection practices under Activity 1.1.2 will allow for Gender Equality, and Social Inclusion (GESI) surveys for the fisheries sector to more accurately capture the role of women in fisheries, and the roles of other socioeconomically vulnerable groups. The availability of improved data is expected to enable relevant stakeholders to understand the diversity of roles in fisheries value chains, including common gender-based task allocation, and create plans that address the needs of women and vulnerable groups.

Financial:

49. Government budget allocations are currently insufficient to undertake expansion or improvement of existing MPAs and environmental restoration activities. The collection of fishing revenues is done by entities not directly involved in MPA management and revenue is allocated to central or provincial budgets without earmarking funding for MPAs and fishery support, leading to insufficient financial resources for effective management of MPAs and fisheries.

50. Many local enterprises face challenges like lack of formal registration, market access, and collateral for commercial financing. Additionally, remote locations and low internet coverage hinder market access. The lack of investment-ready projects and the perception that sites in WPP 572 face high risks also limits capital allocation by the private sector. Government micro-credit schemes exist, but loan sharks remain a common financing source due to micro-credit paperwork complexities. Rural banks offer some capital but face operational challenges and have a higher risk perception of the fisheries sector. Venture capital investment in blue economy startups is occurring, but there is a need for sector-specific understanding and data transparency to foster blue financing growth at scale.

51. To address these barriers, BEAM will support the development of innovative MPA financing mechanisms under Component 1 to increase the number of sources and the volume of finance available for MPA and coastal management both in WPP572 and across Indonesia. In addition, under Component 2, BEAM will provide targeted technical assistance to the Marine and Fisheries Business Capital Management Agency (BLU LPMUKP), streamlining its microcredit processes by introducing an IT-based loan management system, simplifying disbursement methods, and training staff, thereby increasing affordable credit flows to small-scale fishers and fish farmers in WPP 572. Through this support, BEAM will stimulate lending to sustainable production models that increase local employment and support the growth of a sustainable and climate-resilient blue economy.

Key Assumptions and Risks:

52. The Theory of Change relies on several underlying assumptions for the success of the project:

1) Improvements to regulation and policy will have a direct impact on coastal ecosystems and their management.
2) Government agencies will use improved data to inform management and harvest strategies.
3) The protection-production model for coastal/marine ecosystems remains a strategic priority for government.
4) Government continues to prioritize and fund microfinance lending to fishers and coastal communities.
5) The global economy and political situation in Indonesia remains stable.

53. Key risks include (described in **Section F**):

R1: Political Prioritization of the Project and its objectives
R2: Lack of policy coherence among national and subnational government entities
R3: Large-scale natural disasters significantly affect WPP 572
R4: ESS and Gender negatively impacted by societal or institutional results of activities
R5: Risk of fraud, collusion, obstruction, corruption, retaliation, money laundering (i.e. Prohibited Practices)

54. In addition to the Key risks above, several risks associated with on-granting facilities are recognized by the Project and mitigated through Component 2 design to reduce their impact. These granting risks include:

- Complicated applications and reporting processes leading to limited uptake.
- Comprehensive oversight required to meet Project targets given undefined grantee interventions.
- Challenges in effectively monitoring and evaluating grant impacts.
- Determination of sustainability and long-term impact of funded sub-projects.
- Compliance with regulations and audits given the many different types of applicant organizations.
- Accessibility for a diverse range of applicants, including under-represented or marginalized groups.

Project Theory of Change:

55. The BEAM Project is designed to address the systemic barriers described above through an integrated protection-and-production approach that simultaneously strengthens the enabling environment for sustainable marine resource management, empowers communities to design and lead climate action including conservation of carbon-rich coastal ecosystems, and improves access to finance for blue economy actors.

56. The BEAM Project is founded on a climate risk framework that recognizes climate impacts as a function of hazards, exposure, and underlying vulnerabilities (see Table 1 above). Coastal communities, ecosystems, fisheries, and blue economy enterprises in WPP 572 are exposed to increasing climate hazards including sea-level rise, coastal erosion, extreme weather events, ocean warming, and resulting negative effects on fisheries productivity. Climate projections indicate continued increases in sea surface temperatures and sea level throughout the Project area, alongside increasing rainfall variability and heavy precipitation events that contribute to sedimentation, flooding, and degradation of coastal ecosystems. Climate risk is exacerbated by vulnerabilities resulting from fragmented governance, weak ecosystem protection, insufficient climate-responsive financing, limited access to information and markets, inadequate livelihood diversification, and constrained adaptive capacity among vulnerable groups, as well as high levels of poverty. BEAM's interventions are designed to reduce climate risk by strengthening institutions and governance systems, reducing ecosystem degradation, supporting ecosystem restoration, enhancing adaptive capacity and livelihood resilience, and improving access to finance and investment. Through these measures, the project reduces institutional, ecological, social, and economic vulnerability while also lowering the exposure of coastal communities and ecosystems to climate-related impacts, thereby strengthening long-term climate resilience in WPP 572.

57. Regulatory barriers in WPP 572 (B1) prevent the adequate protection of blue carbon. These challenges limit the effectiveness of MPAs, hinder protection of blue carbon ecosystems, and constrain sustainable fisheries management. To address these barriers, BEAM will work with national and sub-national government partners to develop and strengthen evidence-based policies, regulatory frameworks, and innovative financing mechanisms that support climate-responsive protection and production (Output 1.1). The project will improve coordination among government agencies, strengthen fisheries and ecosystem governance, enhance marine spatial management, and support implementation of public-private partnership (PPP) models for MPA management (Activity 1.1.1). Under Activity 1.1.1, the Project will support the establishment of a new national MPA and expansion of two provincial MPAs, strengthen fisheries management plans, and improve protection and enforcement systems. These measures reduce the exposure of marine ecosystems to overexploitation and degradation while safeguarding ecosystem services that support fisheries productivity and coastal livelihoods. Activity 1.1.1 also strengthens institutional adaptive capacity by improving coordination across government entities, supporting implementation of climate-responsive policies, and establishing innovative financing mechanisms that increase resources available for long-term ecosystem management.

58. In WPP 572, gaps in fisheries data, costly monitoring systems, weak enforcement, and limited technical capacity have contributed to unsustainable fishing practices and reduced effectiveness of management measures (B2). BEAM will address these barriers by supporting the development and deployment of innovative data collection and management systems, including fisher-centered digital platforms, mobile applications, artificial intelligence-enabled monitoring tools, and improved fisheries information systems (Activity 1.1.2). Capacity building and technical assistance will strengthen the ability of government agencies and fisheries stakeholders to collect, analyze, and use data to inform management decisions, harvest strategies, and conservation planning. Improved data systems will also generate better information on gender equality and social inclusion within fisheries value chains, allowing policymakers and stakeholders to better understand and respond to the needs of women and other vulnerable groups. These investments will create a sustainable fisheries knowledge ecosystem that supports evidence-based decision-making long after project completion and contributes to more effective management of coastal and marine resources across Indonesia. By supporting digital data collection, stock assessments, community-based monitoring, and integration of local and Indigenous knowledge, the BEAM Project enables

government agencies to make more informed and adaptive management decisions. Improved fisheries data allows for climate-responsive harvest strategies and quota-setting processes that can respond to fish stock conditions over time.

59. Lessons generated through implementation will be used to inform national policy dialogues and strengthen Indonesia's broader blue financing ecosystem (Activity 1.1.3). Activity 1.1.3 strengthens adaptive capacity beyond the life of the BEAM Project by establishing a knowledge management center and learning platform that facilitates replication, scaling, and continuous learning across WPPs and institutions. This center will be hosted by a local university and open to the public both online and in person to disseminate knowledge of climate change risks, climate-responsive adaptation approaches and innovations, and methods to conserve critical ecosystems.

60. As a result of Output 1.1. and Activities 1.1.1, 1.1.2, and 1.1.3, the project will achieve Outcome 1: Improved legal, regulatory, and financial conditions that facilitate climate-responsive protection and production in coastal and marine areas, including the development of 11 improved enabling policies, regulatory frameworks, and innovative financing mechanisms that support sustainable ecosystem protection and fisheries production nationally. The critical assumptions to achieve Outcome 1 include that government agencies adopt and operationalize improved policies and data systems to inform management and harvest strategies, and that these improvements will have a direct impact on coastal ecosystems. The key risks to achieving Outcome 1 are R1: political prioritization shifts away from project objectives and R2: lack of policy incoherence among national and subnational government entities.

61. Coastal communities in WPP 572 face increasing climate risks while possessing limited access to financial resources and market opportunities (B3). These challenges are particularly acute for women, Indigenous Peoples, and other vulnerable groups whose adaptive capacity is often constrained by inequitable access to assets, information, and finance. Through the BEAM on-granting mechanism, communities and their representative organizations will be empowered to design and implement locally led adaptation and mitigation initiatives that respond to their unique priorities and circumstances (Output 2.1). Adaptation grants will support sustainable livelihoods, ecotourism, collaborative MPA management, fisheries diversification, and waste management initiatives (Activity 2.1.1). The Adaptation grants also further strengthen local stewardship, monitoring and protection of critical ecosystems, contributing to the long-term maintenance of these ecosystem-based protective functions. BEAM will emphasize locally led solutions that incorporate traditional knowledge and ensure meaningful participation of women and marginalized groups.

62. At the community level, adaptation grants under Activity 2.1.1 increase livelihood resilience by supporting diversified income opportunities through ecotourism, sustainable fisheries, community enterprises, and waste management initiatives. Diversification reduces dependence on incomes from climate-sensitive fisheries and creates additional livelihood options that can withstand climate and environmental shocks. Technical assistance provided to grantees further strengthens their ability to implement and sustain these interventions. The Project also explicitly reduces vulnerability among women, Indigenous Peoples, and other marginalized groups through targeted outreach, accessible grant mechanisms, GESI-responsive project design, and participatory approaches. Improved inclusion helps address inequalities in access to information, assets, finance, and decision-making that contribute to elevated climate vulnerability among women (co-benefit 2). Grants empower communities to identify climate risks, design solutions that respond to local priorities, and implement interventions that improve economic resilience and food security. Evidence from locally led adaptation initiatives globally demonstrates that community-driven approaches are often more sustainable and effective because they are tailored to local environmental and socioeconomic conditions. The project will provide technical support, training, monitoring, and safeguards oversight to improve the effectiveness of beneficiary-designed interventions.

63. By strengthening adaptive capacity, improving climate-resilient livelihood opportunities, and enhancing food security, Outcome 2: Strengthened climate resilience of coastal communities in WPP 572 will be achieved, resulting in improved food security for approximately 169,340 people, improved and/or new climate-resilient livelihood options for approximately 65,220 people, and adoption of innovations that strengthen climate change resilience for approximately 121,240 people. See Table 3 in Section B2(a) for more detail on the Project's adaptation causal pathways. The critical assumptions to achieve Outcome 2 include that the protection-production model for coastal/marine ecosystems remains a strategic priority for government and that the government continues to prioritize and fund microfinance lending to fishers and coastal communities. Key risks are R3: large-scale natural disasters significantly affect WPP 572, R4: ESS and Gender negatively impacted by societal or institutional results of activities and R5: fraud, collusion, obstruction, corruption, retaliation, and money laundering.

64. The degradation of mangroves, seagrasses, and other coastal ecosystems undermines biodiversity, reduces ecosystem services, weakens community resilience, and contributes to greenhouse gas emissions (B4). Existing management and financing mechanisms have proven insufficient to halt ecosystem loss (B1 and B3). To address these barriers, BEAM will support community-led blue carbon and renewable energy projects (Output 2.2). Under Activity 2.2.1, mitigation grants will support the restoration and rehabilitation of mangrove and seagrass ecosystems and energy solutions that reduce pressure on coastal ecosystems while contributing to climate mitigation objectives. These restoration efforts also support improved biodiversity and habitat quality in WPP 572 (co-benefit 1) and provide adaptation benefits for coastal communities.

65. By providing mitigation grants to local organizations and improving management frameworks and enforcement, the project expects to achieve Outcome 3: Improved condition and extent of coastal ecosystems in WPP 572 resulting in reduced greenhouse gas emissions. By slowing the loss of blue carbon ecosystems and restoring approximately 291 hectares of critical coastal habitats, BEAM contributes to greenhouse-gas mitigation objectives and Indonesia's broader climate commitments. These same activities deliver substantial climate adaptation benefits. Mangroves and seagrasses function as natural coastal defenses that reduce wave energy, limit coastal erosion, decrease flooding and storm-surge impacts, and protect coastal settlements and infrastructure from climate-related hazards. Healthy coastal ecosystems also improve fisheries productivity by providing critical breeding, nursery, and feeding habitats for commercially important fish species. Improving ecosystem health and extent strengthens food security, supports livelihoods, and increases the resilience of fisheries-dependent communities to climate-induced declines in fish stocks and changing ocean conditions. As sea-level rise, increasing sea-surface temperatures, and more extreme weather events continue to affect WPP 572, healthy ecosystems help communities adapt by reducing exposure to hazards, lowering vulnerability, and maintaining the ecosystem services that underpin local economies (see Table 3). The critical assumptions to achieve Outcome 3 are the same as for Outcome 2 (that the protection-production model for coastal/marine ecosystems remains a strategic priority for government and that the government continues to prioritize and fund microfinance lending to fishers and coastal communities). The key risks are R3: large-scale natural disasters significantly affect WPP 572 and R5: Risks of fraud, collusion, obstruction corruption, retaliation, money laundering (Prohibited Practices).

66. The BEAM Theory of Change is supported by a quantified mitigation framework, detailed in Annex 22. The Project's mitigation impact is achieved through the three intervention pathways, which collectively are projected to reduce 483,322 tCO_2e over the 6-year implementation period and 1,298,901 tCO_2e over the Project's 20-year lifespan. The baseline for these estimates is derived from localized historical loss rates of mangroves and seagrass in WPP 572 (average of 0.2% and 2.82% annually, respectively). The additionality of the Project's mitigation outcomes is demonstrated through regulatory, financial, technological, institutional, and market barriers that prevent these interventions from occurring without GCF support. These barriers, and the Project's approach to overcoming them, are elaborated in Annex 22, and are further reflected in the Project's logical framework which presents quantified emissions reduction targets by intervention pathway.

67. Despite the economic potential of WPP 572, many blue economy enterprises face barriers to growth due to weak market information, insufficient access to affordable finance, and perceptions of high investment risk (B3). BEAM will address these challenges through targeted support to improve access to finance, and produce knowledge products to support expanded operations among blue economy actors in WPP 572 (Output 2.3). The Project will provide technical assistance to the Marine and Fisheries Business Capital Management Agency (BLU LPMUKP) to streamline lending processes, strengthen loan management systems, and increase access to affordable credit for small-scale fishers and fish farmers. In parallel, action-oriented research and market intelligence products will provide investors, businesses, financial institutions, and policymakers with better information on opportunities in fisheries, tourism, cooperatives, and other blue economy sectors (Activity 2.3.1).

68. By improving existing lending systems and providing better market intelligence, BEAM will achieve Outcome 4: Improved economic performance and climate resilience of the blue economy in WPP 572 by enabling enterprises to access capital, expand operations sustainably, and generate employment while supporting climate-resilient economic development. The critical assumptions to achieve Outcome 4 include that the global economy and political situation in Indonesia remain stable and the government continues to prioritize and fund microfinance lending to fishers and coastal communities. The key risks are R4: ESS and Gender negatively impacted by societal or institutional results of activities and R5: Risks of fraud, collusion, obstruction corruption, retaliation, money laundering (Prohibited Practices).

69. While previous government, donor and NGO initiatives have generated important progress in coastal ecosystem conservation, fisheries management and community resilience, the barriers noted above remain in WPP 572 because

interventions have often addressed individual constraints rather than interconnected, regulatory, technical, social and financial factors that undermine sustainable coastal and marine management. For example, national initiatives such as the Peat and Mangrove Restoration Agency (BRGM) successfully rehabilitated extensive mangrove areas across Indonesia, demonstrating the feasibility of large-scale ecosystem restoration; however, challenges related to inter-agency coordination sustainable financing, and long-term management, have continued to constrain the effectiveness and durability of conservation outcomes (see Annex 2, Section 4.2.1). Similarly, MPA expansion efforts have been limited by slow implementation of existing regulations, weak coordination between national and provincial authorities and insufficient operational funding. As a result, less than 2% of WPP 572 has been legally designated as MPA despite existing national policy mandates.

70. In fisheries management, previous investments have improved scientific understanding and piloted innovative data systems, including digital fisheries monitoring tools and AI-supported species identification; however, these approaches have generally remained localized or project-specific and have not been sufficiently integrated into government management systems, limiting their broader application and long-term sustainability. Significant data gaps therefore continue to undermine evidence-based harvest strategies, quota setting, and enforcement.

71. Likewise, existing microcredit and enterprise development programs have improved access to finance in some areas, but structural barriers remain, including cumbersome lending procedures, limited investment readiness of local enterprises, inadequate market intelligence, and persistent perceptions of high investment risk among financial institutions and investors. These factors continue to constrain growth of the blue economy in WPP 572.

72. Finally, many previous community resilience initiatives have focused on predetermined activities rather than community-driven solutions, limiting local ownership and reducing opportunities to incorporate local knowledge and address context-specific adaptation priorities. Women, Indigenous Peoples, and other vulnerable groups have also frequently faced barriers to accessing climate finance, information, and decision-making processes. Women often have less access to assets and credit, making it harder for them to adapt to climate change, and they are often underrepresented in decision-making processes that affect them, and the female-headed households, which account for approximately 15.5% of coastal households in WPP 572, face heightened vulnerability due to limited access to assets, climate information, and credit compared to male-headed households (see Annex 2, Section 3.7.2),

73. The causal pathways underpinning the Theory of Change recognize that progress toward sustainable coastal and marine management depends not only on the delivery of outputs, but also on critical assumptions regarding policy uptake and institutional coordination. These assumptions are explicitly reflected within the results chain and supported by targeted risk management measures. By addressing regulatory, technical, social, and financial barriers simultaneously, while incorporating lessons learned from previous initiatives, the project is expected to generate mutually reinforcing outcomes that improve ecosystem health, strengthen community resilience, support climate-resilient growth of the blue economy in WPP 572, and demonstrate effectiveness to support national scaling and replication.

74. The BEAM Project adopts an integrated protection-production approach that recognizes the strong interdependence between climate adaptation, climate mitigation, biodiversity conservation, and sustainable livelihoods in coastal and marine ecosystems. Rather than treating adaptation and mitigation as separate objectives, the BEAM Project is designed so that interventions generate mutually reinforcing benefits across relevant dimensions - improved ecosystem protection, sustainable fisheries management, climate-resilient livelihoods, and enhanced access to finance collectively reduce climate vulnerability while also conserving and restoring carbon-rich coastal ecosystems. This integrated approach reflects the reality that the resilience of coastal communities in WPP 572 is intrinsically linked to the health and productivity of mangroves, seagrasses, coral reefs, and marine ecosystems upon which livelihoods, food security, and local economic development depend. Through its interconnected interventions, the Project seeks to establish a self-reinforcing system in which governments, communities, and private sector actors collectively support sustainable marine resource management, climate resilience, and inclusive economic growth. This will result in a sustainable protection-and-production model for coastal and marine management in WPP 572 and provide lessons that can be replicated across Indonesia.

Project Structure:

Component 1: Strengthen Enabling Conditions

75. Component 1 will address identified barriers by working with the GoI to improve the regulatory, financial and policy environment to allow for effective protection and production in WPP 572. This enabling environment will improve the

effectiveness of the grant-based support delivered under Component 2. Component 1 activities will equip relevant stakeholders with adequate training and resources to sufficiently support fisheries science, evidence-based fisheries policy, and marine ecosystem management.

76. Completion of the Activities under Component 1 (see **B.3** for detail) will lead to achievement of Project Output:
    - 1.1: *Development and deployment of evidence-based regulatory frameworks and knowledge products for ecosystem protection, fisheries sustainability, and innovative financing*

Component 2: Locally Led Climate Action + Investment Readiness

77. Component 2 will support Locally Led Climate Action through adaptation and mitigation interventions designed and implemented by communities and representative organizations who will utilize local and traditional knowledge; and provide needs-based technical and capacity assistance to the Marine and Fisheries Business Capital Management Agency (BLU LPMUKP) to stimulate and improve investment readiness of the blue economy in WPP 572. The sub-windows within the Component 2, indicated below, were designed through extensive consultation with local NGOs, CSOs, and community groups to identify and target the sectors where support is most needed to build climate resilience through improved food security and livelihoods.

- Adaptation grants (Activity 2.1.1) will support four priority areas: (1) eco-tourism development; (2) collaborative MPA management support; (3) sustainable and diversified fishing livelihoods; and (4) sustainable waste management practices.
- Mitigation grants (Activity 2.2.1) will support two priority areas: (1) restoration and rehabilitation of blue carbon ecosystems; and (2) renewable energy technologies to support coastal livelihoods.
- Investment readiness support (Activity 2.3.1) includes two main interventions: (1) action-oriented research, producing knowledge products on market segmentation, enabling fisheries cooperatives, and marine tourism investment roadmaps in WPP 572; and (2) technical assistance to BLU LPMUKP to enhance access to finance for small-scale fishers and fish farmers in WPP 572.

78. Completion of the Activities under Component 2 (See **B.3** for detail) will lead to achievement of Project Outputs:

    - 2.1 *Locally-led climate adaptation projects are effectively implemented and monitored, resulting in enhanced climate resilience of vulnerable communities,*
    - 2.2 *Blue carbon and renewable energy projects are effectively implemented and monitored, resulting in reduced GHG emissions, and*
    - 2.3 *Blue economy enterprises have improved access to finance and expand operations in WPP 572.*

Co-benefits:

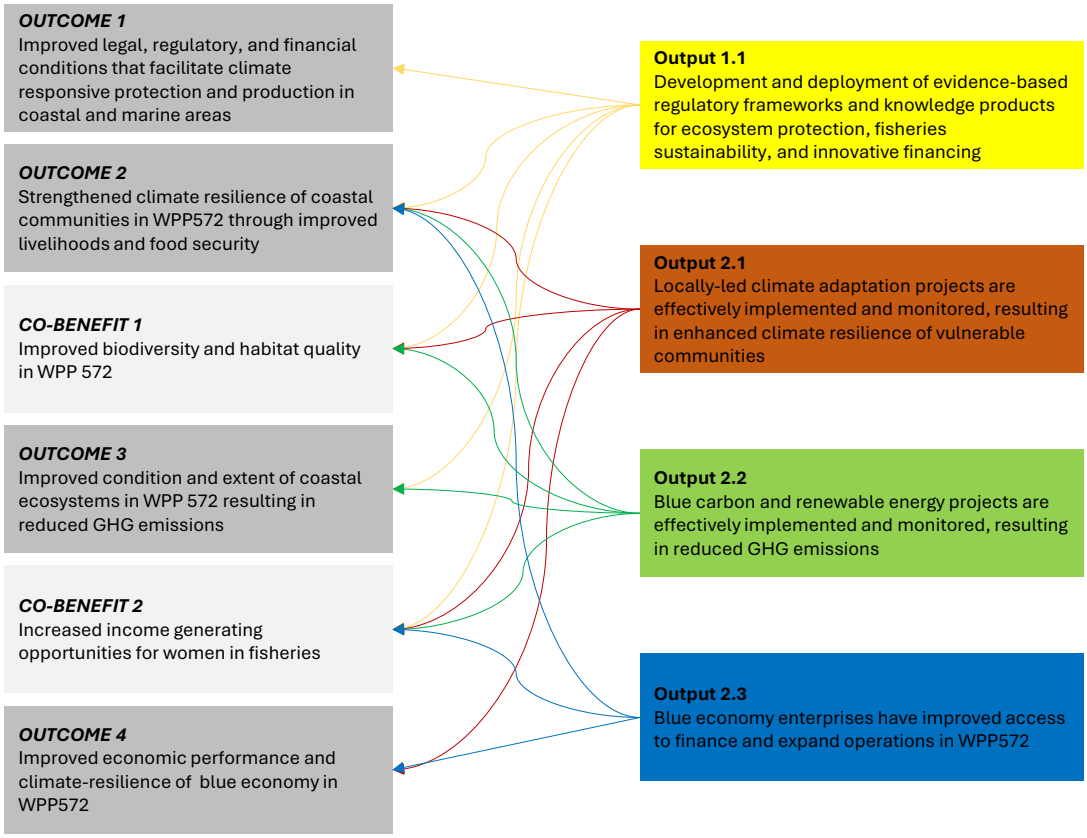
79. The Project interventions will lead to two co-benefits, which will be measured during the Project's implementation:
    1) Improved biodiversity and habitat quality in WPP 572, and
    2) Increased income generating opportunities for women in fisheries.

Climate Change Adaptation Causal Pathway:

Table 3: BEAM adaptation intervention pathways

The ***Theory of Change:*** *Diagram (Figure 7)* follows on next page

***Figure. 8**. Detail from the Theory of Change showing how outputs contribute to multiple outcomes and co-benefits*



B.2 (b) Mapping outcomes to GCF result areas and co-benefit categorization

Outcome number	GCF mitigation result areas (MRAs 1–4)				GCF adaptation result areas (ARAs 1–4)			
	MRA 1	MRA 2	MRA 3	MRA 4	ARA 1	ARA 2	ARA 3	ARA 4
Outcome 1: Improved legal, regulatory, and financial conditions that facilitate climate responsive protection and production in coastal & marine areas	☐	☐	☐	☒	☒	☐	☐	☒
Outcome 2: Strengthened climate resilience of coastal communities in WPP572 through improved livelihoods and food security	☒	☐	☐	☐	☒	☒	☐	☐
Outcome 3: Improved condition and extent of coastal ecosystems in WPP572 resulting in reduced GHG emissions	☐	☐	☐	☒	☒	☒	☐	☒
Outcome 4: Improved economic performance and climate resilience of blue economy	☐	☐	☐	☐	☒	☒	☐	☒

Co-benefit number	Co-benefits					
	Environmental	Social	Economic	Gender	Adaptation	Mitigation
Co-benefit 1: Improved biodiversity and habitat quality in WPP 572	☒	☐	☐	☐	☒	☒
Co-benefit 2: Increased income generating opportunities for women in fisheries	☒	☐	☐	☒	☒	☐

B.3. Project/programme description (max. 2500 words, approximately 5 pages)

Overview: *Additional detail on Project implementation available in* ***Annex 02, Section 6***

80. BEAM is designed to support the GoI to reduce the impacts of climate change while also driving inclusive, sustainable growth and development of the marine and coastal economy. BEAM aims to establish a protection–production model in WPP 572 to address climate impacts on vulnerable coastal communities, mitigate GHG emissions, and facilitate investment in a climate-resilient blue economy. By demonstrating the effectiveness of the protection production model in this under-invested region of Indonesia and disseminating lessons learned to government, the private sector, and other stakeholders the model can be replicated in other regions of Indonesia to support climate responsive growth of the blue economy while reducing ecosystem degradation.

81. BEAM is a key mechanism of the larger **Blue Halo S Initiative** which seeks to scale the protection production model of conservation and economic growth across Indonesia and beyond. Blue Halo S currently has a pilot project in Nias, North Sumatra which is undertaking ecosystem restoration, MPA management, and reforms to the fisheries sector to increase sustainability and improve outcomes for fishers. Blue Halo S also has an ongoing project funded by OceanX, Blue Nature Alliance, Becht Family Foundation, Global Fund for Coral Reefs, and Philanthropy Asia Alliance to collect primary data and help inform MPA policy, design, and preliminary fishery stock assessments in WPP 572.

82. The BEAM Project aims to achieve a paradigm shift to a protection-production blue economy model through two components: Component 1 will focus on enhancing regulatory frameworks for MPAs, fisheries management, and sustainable financing across government levels; and Component 2 will allocate grants and technical assistance through three distinct interventions: an Adaptation Window – targeting food security and livelihood improvements, a Mitigation Window – focused on ecosystem restoration and small-scale renewable energy technology, and Investment Readiness interventions – which provides technical assistance to BLU LPMUKP and production of action-oriented research papers supporting growth of a climate-responsive blue economy. The impact of Component 2 will be increased by the enabling environment established through Component 1. For example, by increasing MPA management capacity through regulatory reforms, the community fishing operations supported under Component 2 will be more effective in increasing livelihoods. Similarly, the fisheries data collection interventions under Component 1 will support MPA management grants provided under Component 2. Under Windows 1 and 2 in Component 2, grant funding will be provided to local community enterprises for climate adaptation and mitigation activities. The technical assistance to BLU LPMUKP under the Investment Readiness intervention complements these direct grants by strengthening the supply of affordable, accessible microcredit, enabling community enterprises that receive Project grant support to better access follow-on working capital or investment loans without reverting to informal loan sharks. While the Project will be implemented in WPP 572, its approaches and its influence on the policy and regulatory environment are expected to scale across Indonesia's blue economy and its impacts extend well beyond the implementation period of the Project.

Component 1: Strengthen Enabling Conditions

83. Component 1 will establish the enabling conditions necessary for the long-term protection of marine and coastal ecosystems, enhancement of sustainable fisheries management, and implementation of viable inclusive, sustainable financing mechanisms. This will be achieved through comprehensive support to developing regulatory frameworks, improving fisheries and marine ecosystem data, fostering capacity building, and facilitating knowledge sharing with national and sub-national governments. KI as Executing Entity (EE) will collaborate with key government ministries and partner organizations with expertise and experience in regulatory affairs, data collection / dissemination, communication, and knowledge management. KI will be supported by Technical Partner organizations and contracted technical experts for Project implementation support. This support will include specialized technical assistance to be provided by CI Foundation under a grant agreement managed by KI. CI's technical partner role is separate from CI's Accredited Entity role and will be subject to fiduciary, oversight, and conflict-of-interest controls.

Output 1.1 Development and deployment of evidence-based regulatory frameworks and knowledge products for ecosystem protection, fisheries sustainability, and innovative financing.

84. KI will support national and sub-national government entities in establishing, enhancing and overseeing new regulatory frameworks and policies for the protection of marine and coastal ecosystems; sustainable fisheries

management; and sustainable, inclusive blue financing mechanisms. KI will also address regulatory deficiencies at both national and sub-national levels by providing technical assistance and capacity building. These efforts will foster coordination and enhance management capabilities for marine and coastal resources in WPP 572 and beyond.

85. Output 1.1 relies on close collaboration with national entities, including the Ministry of Marine Affairs and Fisheries (MMAF), and sub-national partners in WPP 572. This collaboration is key for developing regulatory frameworks, strengthening MPA management, and advancing sustainable fisheries management as key enabling conditions for the blue economy.

86. BEAM's substantial co-financing underpins the work under this Output. MMAF is investing in MPA unit operations, fishing port infrastructure (which will facilitate better fisheries data collection and overall growth of the blue economy), and national M&E of the sector's development. Four provincial governments' direct co-finance (North Sumatra, West Sumatra, Bengkulu, and Lampung) are contributing to spatial planning, MPA zoning, surveillance, ecosystem mapping, and port development among other relevant interventions. A local university in WPP 572 (University of Bung Hatta) supports establishment of a Knowledge Learning Center for the blue economy. Finally, Konservasi Indonesia's direct co-finance contributes to OECM recognition, MPA establishment, BLUD financing mechanisms, and MPA-PPP feasibility studies. Project co-financiers contributions will directly advance regulatory reforms, data systems, institutional capacity, and innovative financing, the core pillars of Output 1.1.

87. The national and sub-national government agencies pre-identified to benefit from Output 1.1 are listed in Annex 7. These include national partners: MMAF; Bappenas; the Coordinating Ministry for Food Affairs; and national technical units located in WPP 572, such as the Fisheries Management Agency (LPP – *Lembaga Pengelola Perikanan*). Other partners have Provincial and District-level responsibilities: Provinces of WPP 572 (Aceh, West Sumatra, North Sumatra, Bengkulu, Lampung, and Banten); Provincial Regional Development Planning Agencies (BAPPEDA); Provincial Marine and Fisheries Agencies (DKP); Regional Technical Implementation Units (UPTD - *Unit Pelaksana Teknis Daerah*). Partners will be supported to develop regulatory frameworks, strengthen MPA and fisheries management, and translate national blue economy policies into effective local action. MMAF and Bappenas hold the mandate to formulate, revise, and enforce national policies on marine conservation, fisheries management, and blue economy development. Provincial and district governments translate these policies into action on the ground, enforcing regulations and leading community engagement to ensure effective implementation in WPP 572. By strengthening evidence-based regulatory frameworks in WPP 572, Output 1.1 creates a replicable model for sustainable fisheries governance that can be scaled across Indonesia. Technical assistance to MMAF will inform national policy revisions (e.g., fisheries quota-based policy, MPA enforcement, inclusive financing) that apply nationwide. Multistakeholder coordination at the provincial levels will serve as templates for other provinces, helping to reduce illegal fishing and increase fish stock resilience. Ultimately, this leads to more stable catches, improved livelihoods for millions of fishers, and enhanced climate adaptation across Indonesia's marine fisheries sector.

88. **Activity 1.1.1: Enhance ecosystem protection and fisheries sustainability through policy reform and creation of innovative financing mechanisms** will address identified regulatory weaknesses in the management of marine and coastal ecosystems and fisheries, as well as improve the regulatory environment for blue financing mechanisms in WPP 572 across a variety of national and provincial government ministries, agencies, and departments. The project will support provincial governments to implement national strategies locally, allocating resources for marine conservation fisheries management, and improved land management policies to reduce sedimentation and run-off into critical coastal ecosystems. This will include developing one new national MPA (approximately about 3 million hectares) and expanding two provincial MPAs (MPA Muara Batang Toru about 70,000 hectares and MPA Pulau Pagai Utara and Pulau Pagai Selatan about 643,000 hectares), reducing fish exploitation rates, promoting sustainable fisheries management, and conducting feasibility studies for blue financing. Through support to MPA management units, their capacity to design and enforce effective MPA regulations will be built, resulting in higher productivity fisheries in these coastal regions. Critical to this effort is the development of financial mechanisms to allow for the flow of funds to long term management of MPAs and enforcement of relevant regulations. The project will support a Public-Private Partnership (PPP) framework for MPAs, led by MMAF and implemented by provincial Regional Marine and Fisheries Agencies (DKPs). The framework improves coordination among government, private sector, and communities, enabling inclusive investment, better infrastructure, and sustainable resource access. It catalyzes private capital into blue economy businesses (fisheries, mariculture, ecotourism), benefiting local communities adjacent to MPAs and indirectly enhancing food security and diversified livelihoods across Indonesia's coastal villages. Technical assistance will be provided to national and provincial staff, with support from specialist organizations to enhance regulatory frameworks (specified in **Annex 2, Sections 4 & 6 and Annex 4**). To ensure inclusive policy development, the activity will prioritize engagement with women and vulnerable groups, including

Indigenous Peoples, as identified in **Annexes 7 and 8** through participatory tools that maximize engagement. This Activity includes the sub-activities:

- Sub-Activity 1.1.1.1 Provide technical assistance to provincial governments for effective implementation of national vision and policies.
- Sub-activity 1.1.1.2 Support the development, gazettement, and management of new and existing MPAs and OECMs.
- Sub-activity 1.1.1.3 Reinforce the current Fisheries Management Plan (*Rencana Pengelolaan Perikanan* – RPP), including its Fisheries Harvest Strategy at WPP 572.
- Sub-activity 1.1.1.4 Advance sustainable blue/green finance through the development of innovative financing mechanisms and the development of policies related to integrated protection–production and sustainable funding resources.

89. **Activity 1.1.2. Improve the production and use of data on fisheries and ecosystems by governmental and non-governmental entities.** This Activity will address insufficient and outdated information on key parameters (degree of degradation of mangroves, coral reefs, and seagrass, and on fish stocks in WPP 572) as identified from stakeholder consultations and the climate analysis presented in **Annex 7** and **Annex 2**. This activity is linked to Activity 1.1.1, and particularly Sub-Activities 1.1.1.2 (assisting regulatory frameworks on MPAs) and 1.1.1.3 (assisting the regulatory framework related to fisheries management). Under Sub-Activity 1.1.2.1, KI will support the Government of Indonesia's ongoing initiatives to enhance data utilization in existing and proposed MPAs and OECM sites. Traditional, local, and indigenous ecological knowledge will be systematically integrated into data systems where applicable and appropriate. Community members, including traditional fishers and local knowledge holders, will be actively involved through participatory assessments and validation workshops conducted in collaboration with MMAF, local governments, and academic partners. Where relevant, the project will also support the co-development of grant-level indicators that reflect both scientific and community-based understanding of ecosystem health. KI will enhance government data collection practices and plans relating to ecological and socioeconomic data and fisheries that will allow decision makers to implement climate-adaptive MPA and fisheries management practices.

90. The Project will support training of data collectors to ensure they are equipped with the necessary skills and knowledge to conduct surveys effectively, accurately, and inclusively, and develop a comprehensive plan for conducting GESI-responsive data surveys. KI will engage fisheries data specialists to: (i) design standardized data collection protocols that align with MMAF's quota based fisheries framework; (ii) train enumerators and local partners in digital tools and basic stock assessment; (iii) conduct stock assessments for priority species in WPP 572, directly feeding into the Fisheries Harvest Strategy (Sub Activity 1.1.1.3); and (iv) establish a data feedback loop with MMAF's fisheries management units to support annual quota setting and adaptive management. This enables a science based, climate-responsive quota system that balances environmental conservation with preserving community livelihoods. The Activity includes the sub-activities:

    - Sub-activity 1.1.2.1 Support the GoI's existing data collection initiatives to improve and utilize data on ecological and socioeconomics in MPAs and for areas for potential MPA expansion and OECMs.
    - Sub-activity 1.1.2.2 Gather data on the targeted fish commodities (biodiversity, volume, spatial distribution) to support sustainable fisheries management within WPP 572.

91. **Activity 1.1.3 Establish knowledge management and learning center for scaling and replication.** This mechanism will share and amplify information for capacity building, transferring lessons learned, and for replicating successful practices in other WPP areas in Indonesia. Lessons and best practices from Components 1 and 2 will be disseminated for future project replication and scaling up by stakeholders (CSOs, NGOs, Government) beyond the BEAM Project. A physical knowledge center will be established in an existing local university facility, featuring a comprehensive database system and a dissemination strategy. KI will work collaboratively with Bung Hatta University (in Padang, West Sumatra), MMAF, and provincial governments. KI will also launch a "protection and production campaign" at national & provincial levels and implement a road show to improve dissemination / reach. The Activity includes the sub-activities:

    - Sub-activity 1.1.3.1: Design and develop a knowledge center to enhance project knowledge sharing, capacity building, and replication efforts.

- Sub-activity 1.1.3.2: Collaborate with GoI (at the national, provincial, and local levels) and non-governmental agencies in amplifying, enhancing, and replicating lessons learned in other Fisheries Management Areas/WPPs through national and subnational awareness campaigns.
- Sub-activity 1.1.3.3: Capture and disseminate learning reports from project implementation amongst project stakeholders and partners to inform refinement, replication and scaling up.

Component 2: Locally Led Climate Action + Investment Readiness

92. In Component 2, a BEAM on-granting mechanism will be established to provide financial support and capacity building to organizations to conduct Adaptation and Mitigation interventions in WPP 572. KI will serve as EE and will establish, operate, and manage the on-granting mechanism with support from Technical Partners and specialized consultants. Component 2 will have two grant windows to provide funding via subgrants for work in climate Adaptation (Window 1) and Mitigation (Window 2). Investment readiness interventions are also included in this Component, with pre-identified interventions and targeted support to existing institutions. All grants will follow KI, CI, and GCF-compliant safeguards and gender practices. The design of the on-granting windows for Adaptation and Mitigation was informed by extensive stakeholder consultations undertaken during the PPF phase (Annex 07), involving national and sub-national government agencies, local communities, women's groups, CSOs, MSMEs, academia, and private-sector actors across WPP 572. Consultation findings, together with the Climate Change Vulnerability Assessment (CCVA), were used to identify priority geographies and thematic intervention areas and informed the design of the grant windows and sub-windows. Stakeholder inputs helped shape the adaptation sub-themes, the mitigation sub-themes, and the eligibility, safeguards, gender and social inclusion, and capacity support provisions reflected in **Annexes 26 and 27**. Across on-grant interventions, emphasis will be placed on providing support to vulnerable and disadvantaged groups as identified in the GEDSI analysis (see **Annexes 6, 7, 8, 26).**

93. KI will solicit applications and issue sub-grants to a diverse set of beneficiary organizations, including GoI public service agencies, NGOs and CSOs, research institutions, universities, and enterprises operating in, or targeting, provinces within WPP 572. The targeted beneficiaries will include organizations owned by and/or working with women and other vulnerable or under-represented groups, including indigenous peoples, in coastal communities.

94. BEAM will issue subgrants in specific climate-related thematic areas described below, and grantees will be selected based on their project's impact in these areas in accordance with Eligibility Criteria (see **Annex 26**). The grant mechanism for Adaptation (Window 1) and Mitigation (Window 2), will provide both large grants (more than USD 40,000 up to USD 400,000) and small grants (up to USD 40,000), with appropriate procedures - designed to be accessible for smaller organizations to facilitate **Locally Led Climate Action**. In addition, the on-granting mechanism is designed to provide support and technical assistance to potential grantees in order to increase accessibility and impact. (See **Annexes 2** and **Annex 26** for more details). All granting will be done via GCF-compliant grant agreements and in compliance with KI, CI, and GCF requirements (see **Annex 27**).

95. Under the Investment Readiness Window, KI will procure and manage expert consultant services to develop (i) action oriented blue economy research on market segmentation of blue economy enterprises in WPP 572, enabling fisheries cooperatives and marine tourism investment roadmaps to close critical knowledge gaps that deter investor capital allocation; and (ii) technical assistance to the Marine and Fisheries Business Capital Management Agency (BLU LPMUKP), targeting operational improvements to streamline microcredit processes, introduce an IT-based loan management system, simplify disbursement methods, and train staff, thereby increasing affordable credit flows to small-scale fishers and fish farmers in WPP 572, including those supported under the Project's Adaptation and Mitigation windows (See Activity 2.3.1, **Annex 02**).

96. KI will lead the granting process from solicitation to selection, award, disbursement, grants management and oversight, and close-out. KI will also conduct monitoring and evaluation (M&E), learning, and dissemination of lessons from the awarded projects. KI will be supported by Technical Partner organizations and contracted technical experts for grant proposal review and project implementation support. Certain specialized technical assistance will provided by CI Foundation under a grant agreement managed by KI. CI's technical partner role is separate from CI's Accredited Entity role and will be subject to appropriate fiduciary, oversight, and conflict-of-interest controls. More details are included below under **BEAM Grant Cycle, Implementation Arrangements** and in **Annex 2, Section 6, Annex 26, and Annex 27.**

97. A key feature of Component 2 is its responsiveness to local needs and market demand. Within stipulated thresholds, the Project will allocate funding and support to thematic areas with more demand (further detail in **Annex 2, Section**

6). This adaptive process will be determined by the Grant Committee and KI who will ensure that the overall distribution of grant awards / projects will lead to achievement of BEAM logical framework targets. Local community representatives will participate in the Grant Committee to provide contextual input, strengthen procedural transparency, and inform the assessment of community relevance and implementation risks.

98. Each round of on-granting will function as a learning cycle for the Project. KI, the Grant Committee, Technical Partners, and the M&E team will review grantee reports, field monitoring results, local stakeholder feedback, safeguards and gender monitoring, proposal demand, and grant window performance reports to identify implementation barriers, capacity gaps, and emerging local priorities. These lessons will inform subsequent calls for proposals, including refinements to outreach, eligibility criteria, selection guidance, technical assistance, monitoring requirements, and indicative allocations across windows and sub-windows, while remaining within approved budget thresholds and ensuring achievement of BEAM logical framework targets.

Output 2.1 Locally-led climate adaptation projects are effectively implemented and monitored, resulting in enhanced climate resilience of vulnerable communities

99. Grants issued under the Adaptation Grant Window (Grant Window 1) will support vulnerable coastal communities in WPP 572 to implement Locally Led Adaptation interventions to respond to the impacts of climate change on their livelihoods and food security. Grantees will demonstrate how proposed projects will deliver climate adaptation impacts (detailed eligibility criteria provided in **Annex 26**).

100. **Activity 2.1.1 Deploy grants for sustainable climate change adaptation in coastal communities.** KI will issue an estimated $6.48M in subgrants to support climate adaptation across four thematic areas: ecotourism, collaborative MPA management, sustainable and diversified fishing livelihoods, and sustainable waste management. The grants will be distributed as large grants for high-impact projects, and small grants to better address local needs / support organizations with more limited capacity. The grants will be selected through calls for proposals and selected in accordance with eligibility criteria as described in **Annex 26**. The Activity includes the sub-activities:

- Sub-Activity 2.1.1.1 Manage grants for ecotourism enterprises for community development.
- Sub-Activity 2.1.1.2 Manage grants for collaborative MPA management.
- Sub-Activity 2.1.1.3 Manage grants for sustainable and diversified fishing livelihoods (community-based economic activities).
- Sub-Activity 2.1.1.4 Manage grants for sustainable waste management.
- Sub-Activity 2.1.1.5 Establish and operate the adaptation and mitigation windows
- Sub-Activity 2.1.1.6. Provide technical assistance and support to adaptation grantees on cross-cutting subjects (including GEDSI and Safeguards)
- Sub-Activity 2.1.1.7. Monitor adaptation grant window performance

101. KI will issue calls for proposals; provide capacity building and technical assistance to all grantees who require support on preparing grant applications with support from Penabulu, a Technical Partner; lead and manage the grant selection process (with guidance from the Grants Committee) using the Window 1 eligibility criteria; conduct due diligence on applicants; assess grant applications for environmental and social safeguards; enter into sub-grant agreements with successful applicants; and undertake grant management and oversight (see details in **Annex 2, Section 6 and Annex 27**). KI and Penabulu will implement outreach through targeted workshops, community meetings, and collaboration with local networks to ensure equitable access, including identification of women-led and indigenous peoples organizations. A standardized GESI assessment tool will be applied in grant selection process to ensure the consideration of specific needs and interest of women and vulnerable groups (See **Annex 8, Annex 26, Annex 27**). Penabulu will provide capacity building and technical assistance to prospective and selected sub-grantees throughout the project cycle, including developing training modules and materials for proposal writing, conducting training sessions on proposal preparation, gender analysis training, and participatory project management approaches for sub-grantees. Penabulu will provide capacity building to sub-grantees during implementation and will oversee a learning process across the project . Specialized technical consultants will be engaged to facilitate the GESI assessment process, provide technical review during grant selection and conduct monitoring visits to ensure compliance with GESI principles.

102. The Adaptation Grant Window will fund projects that contribute to climate change adaptation in four priority areas of work/thematic areas identified through consultations and vulnerability analyses (see **Annexes 2 and 6**):

103. **Ecotourism Development:** Supporting businesses and local communities in shifting to, developing, or incorporating eco-tourism activities into their livelihoods. As climate change affects fishing profits and coastal ecosystems, ecotourism can emerge as a dual solution, offering new livelihood options (e.g., scuba-diving tours of coral reefs) and incentivizing ecosystem health monitoring practices.

104. **Collaborative MPA Management:** Providing equipment and supplies to aid national and sub-national governments in expanding and managing MPAs (linked to Component 1). The grantees may undertake interventions like monitoring ecosystems and fisheries, and grants may include monitoring equipment, including buoys, laptops, and remote sensing tools.

105. **Sustainable and Diversified Fishing Livelihoods:** Enhancing community-based economic activities through the grants to build capacity for, or equipment to, facilitate improved fishing practices, aquaculture enterprises, and other sustainable, climate-resilient livelihoods.

106. **Sustainable Waste Management:** Partnering with local organizations and/or private sector entities for enhanced waste management and monitoring, grantee projects will focus on developing waste management plans that respond to the impacts of climate change, training on waste management practices, and data collection practices for monitoring waste management at the local and provincial level. The selected grantees will assess current waste management practices and marine pollution levels, and implement community-led management plans and interventions. Reducing the quantity of waste deposited in coastal ecosystems will improve the food and water security of coastal populations.

107. Detailed information on priority areas of work, target geographies, and eligibility criteria for the Adaptation Grant Window can be found in **Annex 2**, **Section 6** and **Annex 26.** The number of grants and grant sizes are indicative only and may be adjusted during implementation based on applications received from beneficiary communities and to respond to project needs and priorities. Prior to the formalization of grant agreements, applicants will be subject to a series of pre-award requirements to ensure compliance with GCF, CI and KI policies, risk management standards, and applicable safeguards.

Thematic Area/Grant type description	Number of grants	Indicative Grant size (USD)	Indicative total (USD)	Cycle
2.1.1.1. Ecotourism development	4	Large (From 40,001 and up to 400,000)	1,600,000	On-cycle applications
	3	Small (Up to 40,000)	120,000	On-cycle applications
	2	Small (Up to 40,000)	80,000	Off-cycle applications
2.1.1.2. Collaborative MPA Management	4	Large (From 40,001 and up to 400,000)	1,600,000	On-cycle applications
	5	Small (Up to 40,000)	200,000	On-cycle applications
	2	Small (Up to 40,000)	80,000	Off-cycle applications
2.1.1.3. Sustainable and Diversified Fishing Livelihood	3	Large (From 40,001 and up to 400,000)	1,200,000	On-cycle applications
	3	Small (Up to 40,000)	120,000	On-cycle applications
	2	Small (Up to 40,000)	80,000	Off-cycle applications
2.1.1.4. Sustainable Waste Management	3	Large (From 40,001 and up to 400,000)	1,200,000	On-cycle applications
	3	Small (Up to 40,000)	120,000	On-cycle applications
	2	Small (Up to 40,000)	80,000	Off-cycle applications
		Total	**6,480,000**	

Table 4: Indicative Climate Adaptation Grants to be issued under Window 1

Output 2.2 Blue carbon and renewable energy projects are effectively implemented and monitored, resulting in reduced GHG emissions

108. Grants issued under the Mitigation Grant Window (Grant Window 2) will support low-carbon, climate resilient development pathways to enhance the climate change mitigation capacity of marine ecosystems in WPP 572. This grant window will primarily target projects that address restoration and rehabilitation of mangroves and seagrass beds, and renewable energy deployment in local communities.

109. **Activity 2.2.1 Deploy grants to improve ecosystems and achieve sustainable climate change mitigation impact**. KI will issue approximately $3.52M in grants in two thematic areas: ecosystem restoration and deployment of renewable energy interventions. The Activity includes the following sub-activities:

- Sub-Activity 2.2.1.1 Manage grants for high carbon ecosystem restoration.
- Sub-Activity 2.2.1.2. Manage grants for small-scale renewable energy deployment/installation.
- Sub-Activity 2.2.1.3. Provide technical assistance and support to mitigation grantees on cross-cutting subjects (including GEDSI and Safeguards)
- Sub-Activity 2.2.1.4. Monitor mitigation grant window performance

110. KI will issue a call for proposals, provide capacity building and technical assistance to all grantees who require support on preparing grant applications with support from Penabulu (a Technical Partner), lead and manage the grant selection process (along with the Grants Committee), conduct due diligence on applicants, enter into sub-grant agreements with successful applicants, and perform grant management and oversight for grants issued under the Mitigation Grant Window (see details in the “Grant cycle” section and logframe sub-activities). Penabulu will provide capacity building to sub-grantees during implementation and will oversee a learning process for each project under the grant window to improve projects funded under this grant window. KI will also engage specialized technical consultants via a contract agreement to support the selection process and monitoring of grants under Window 2.

111. The Mitigation Grant Window will focus on projects in two priority areas of work, identified based on consultations and vulnerability analyses (see **Annexes 2, 7, and 22**):

112. **Nature restoration:** Restoration and rehabilitation of seagrass and mangrove ecosystems in WPP 572. Grant projects in this thematic area will focus on interventions that retain and increase the ability of ecosystems to provide carbon sequestration and other ecosystem services (fish breeding grounds, reduction in coastal inundation) needed for low-carbon development. Grantees under this window could undertake the following indicative interventions: (1) collecting data on the existing extent and health of ecosystems (baseline assessments informed by remote sensing, site-visits to collect samples in known locations), data processing, remote sensing; (2) developing ecosystem restoration and/or conservation plans in each of the relevant ecosystems; and (3) undertaking on-the-ground restoration and/or conservation work based on these plans. The mitigation window will seek to ensure that ecosystems are sufficiently restored and healthy for economic activities such as eco-tourism and other investable economic activities to be supported through the Investment Readiness Window.

113. **Renewable energy deployment:** Deployment of renewable energy technologies, targeting local communities. Projects will deliver renewable energy equipment (e.g. solar panels), equipment that runs on renewable energy (e.g. ice production units for fish processing), and training on the use and maintenance of renewable energy equipment and hardware. These grants will improve livelihoods by increasing fish catch value and reducing loss and waste.

114. The Mitigation Grant Window will apply mitigation-related eligibility criteria to ensure contributions to the Project’s overall GHG mitigation targets (see **Annex 22**). However, technology deployment grants made within this window will not contribute significantly to Project GHG targets as the contribution in tonnes of CO_2e are small. The grants are cross-cutting, contributing both to improved livelihoods due to reduced loss of fish catch and a small contribution to the Project’s GHG mitigation targets.

115. A needs-based approach prioritizes areas with the highest mitigation potential while also addressing climate adaptation considerations including livelihoods benefits and disaster risk reduction for coastal communities. Detailed information on priority areas of work, target geographies, target populations, and eligibility criteria for the Mitigation Grant Window can be found in **Annex 26.**

Thematic Area/Grant type description	Number of grants	Indicative Grant size (USD)	Indicative total (USD)	Cycle
2.2.1.1. Nature Restoration	4	Large (From 40,001 and up to 400,000)	1,600,000	On-cycle applications
	7	Small (Up to 40,000)	280,000	On-cycle applications
	2	Small (Up to 40,000)	80,000	Off-cycle applications
2.2.1.2. Renewable Energy Deployment	3	Large (From 40,001 and up to 400,000)	1,200,000	On-cycle applications
	7	Small (Up to 40,000)	280,000	On-cycle applications
	2	Small (Up to 40,000)	80,000	Off-cycle applications
		Total	**3,520,000**	

Table 5: Indicative Climate Mitigation Grants to be issued:

116. BEAM's mitigation contributions are distributed across multiple activities under both Components 1 and 2. BEAM's mitigation framework targets emissions reductions from the protection and restoration of blue carbon ecosystems (mangroves and seagrass) in WPP 572. The mitigation framework consists of three interconnected intervention pathways: (i) Policy and regulatory strengthening (Activity 1.1.1, Sub-Activity 1.1.1.2) which improves MPA management effectiveness and reduces ecosystem loss; (ii) Community-based adaptation grants (Activity 2.1.1, Sub-Activities 2.1.1.1, 2.1.1.2, 2.1.1.3) which reduce pressure on blue carbon ecosystems through alternative livelihoods and collaborative management; and (iii) Direct ecosystem restoration and renewable energy application (Activity 2.2.1, Sub-Activities 2.2.1.1, 2.1.1.2) which restores degraded mangroves and seagrass beds, sequestering additional carbon, and application of renewable energy technologies. The methodological chain, including baseline establishment, project boundary definition, additionality assessment, quantification methodologies, and MRV arrangements, is presented below and is detailed in Annex 22.

Element	Activity 1.1.1	Activity 2.1.1	Activity 2.2.1
Emission Source/Sink	Avoided loss of mangroves and seagrass	Avoided loss of mangroves and seagrass	Enhanced sequestration from restored mangroves and seagrass
Baseline Scenario	Historical loss rate for mangroves and seagrass in intervention areas	Historical loss rate for mangroves and seagrass in intervention areas	No restoration (BAU)
Project Boundary	Spatial: existing and expanded MPAs in WPP 572; Operational: policy and enforcement improvements	Spatial: MPA areas and 10km buffer; Operational: community-led conservation activities	Spatial: selected restoration sites; Operational: replanting, nursery development, rehabilitation
Additionality	Regulatory and financial barriers prevent MPA effectiveness without BEAM; co-financing and technical assistance are essential	Community lack of access to finance and capacity; grants are essential for interventions	High upfront costs and limited private sector interest; grants are essential
Methodology	Tier 2 IPCC Wetlands Supplement (2013) with country-specific emission factors; GIS-based extent monitoring	Same methodology as Activity 1.1.1 with effectiveness index applied to intervention areas	Tier 2 IPCC Wetlands Supplement (2013) for restoration; direct measurement of sequestration
MRV Arrangements	MPA management effectiveness (EVIKA) tool, remote sensing; independent verification	Grantee reporting; remote sensing; field surveys; independent verification	Grantee reporting; remote sensing; field surveys; independent verification

Quantified Results (End of 6 Years)	98,680 tCO_2e	365,534 tCO_2e	19,108 tCO_2e
Quantified Results (20-year lifespan)	298,028 tCO_2e	848,975 tCO_2e	151,899 tCO_2e

Table 6: Summary of Climate Mitigation Framework Elements:

Output 2.3: Blue economy enterprises have improved access to finance and expand operations in WPP572

117. **Activity 2.3.1 Improve the Investment Readiness of the Blue Economy**. This activity supports blue economy enterprises in WPP 572 by addressing two critical barriers: the supply-side constraint limiting small-scale fishers' and fish farmers' access to affordable microcredit, and the knowledge gap that currently deters investor capital allocation to WPP572. To address these barriers, the Project deploys two complementary interventions: technical assistance to strengthen BLU LPMUKP's institutional capacity to make concessional loans in WPP 572 and beyond; and action-oriented blue economy research to generate the market intelligence needed to attract and guide private investment into the region.

118. The Project will provide technical assistance to BLU LPMUKP, targeting operational improvements to the Marine and Fisheries Business Capital Management Agency (BLU LPMUKP), MMAF's microcredit provider for the fisheries sector. Current outreach is constrained by a shortage of extension officers relative to the geographic scale of the region, complex paper-based loan procedures that are prohibitive for remote fishing communities, and the absence of an integrated digital system to manage the loan pipeline at scale. In line with BLU LPMUKP's recent shift in origination strategy, the institution is increasingly prioritizing established marine and fisheries cooperatives as aggregators, through which financing can be channeled to cooperative members, including during off-season income gaps. Activity 2.3.1 will engage a service provider to conduct a diagnostic assessment of BLU LPMUKP's process, design and implement an end-to-end IT-based loan management system, and train staff on simplified disbursement methods – directly increasing BLU LPMUKP's institutional capacity to identify, process and approve loan applications from WPP 572 enterprises. The diagnostic analysis will also assess whether current loan terms (repayment schedule, collateral requirements) match the needs of small-scale capture fisheries, and the feasibility of a limited extension-outreach pilot to address BLU LPMUKP's current staffing constraints, with a scale-up/transition decision to be made a mid-term review. This technical assistance strengthens BLU LPMUKP's existing client promotion and outreach function – already delivered through its extension offices, accompanied-lending model, and partnerships with local microfinance intermediaries – by expanding staff capacity and improving the systems and procedures that support it.

119. BLU LPMUKP is the government's primary microcredit provider for the marine and fisheries sector, offering subsidized working capital and investment loans ranging from IDR 30 million to IDR 1 billion (USD 1,700 – 56,000) with a loan tenor of 1 – 8 years to eligible MSMEs across marine sectors, including capture fisheries, aquaculture, fish processing, salt production, ecotourism, and other coastal livelihoods. Currently, loans carry a flat interest rate of up to 3% per annum – well below commercial lending rates – plus a one-time provision fee of 1.5% of the loan value, with total charges capped at 4% per annum in accordance with prevailing regulations. There is a current underservice of WPP572 provinces, reflecting a supply-side institutional bottleneck, not a lack of demand: fishers and MSMEs in WPP 572 need and want affordable credit, but are excluded by complex paper-based application procedures that are prohibitive for remote communities, and the absence of a digital system to manage the loan pipeline at scale.

120. With BEAM technical assistance, BLU LPMUKP will develop a digitized loan management platform, streamline its application workflows, and train extension officers on simplified disbursement methods. The expected outcome is a measurable increase in BLU LPMUKP's institutional capacity to process loan applications from WPP 572, expanding access to formal financial services for small-scale fishers and fish farmers who currently rely on informal lenders at significantly higher rates. Improved digital portfolio monitoring will also enable BLU LPMUKP to identify and respond to early warning signs of loan distress more effectively. The Project will further strengthen the pipeline by working with fishers collectives and MSMEs supported under the adaptation and mitigation windows of Component 2 to access BLU LPMUKP loan finance – creating a direct link between BEAM's conservation and livelihood interventions and formal financial inclusion.

121. The Project will also fund the development of action-oriented blue economy research on topics such as market segmentation of blue economy enterprises in WPP 572, sectoral analysis and business plan validation, the enabling of fisheries cooperatives, and marine tourism investment roadmaps. These papers will address critical knowledge gaps that currently deter investor capital allocation and will be actively disseminated to stakeholders within government, financial institutions, and industry.

122. KI will implement this Activity by procuring specialized service providers for the BLU LPMUKP technical assistance and for the research papers. All support will be delivered through in-kind contributions or service contracts directly procured by KI, in compliance with KI, CI, and GCF requirements. The sub-activities include:

- Sub-Activity 2.3.1.1 Provide technical assistance to BLU LPMUKP
- Sub-Activity 2.3.1.2. Develop action-oriented research papers on sustainable blue economy themes
- Sub-Activity 2.3.1.3. Monitor investment readiness intervention performance

BEAM Grant Cycle:

Figure 8: KI *Grant cycle process to administer grants* (detailed information can be found in **Annex 2, Section 6**)

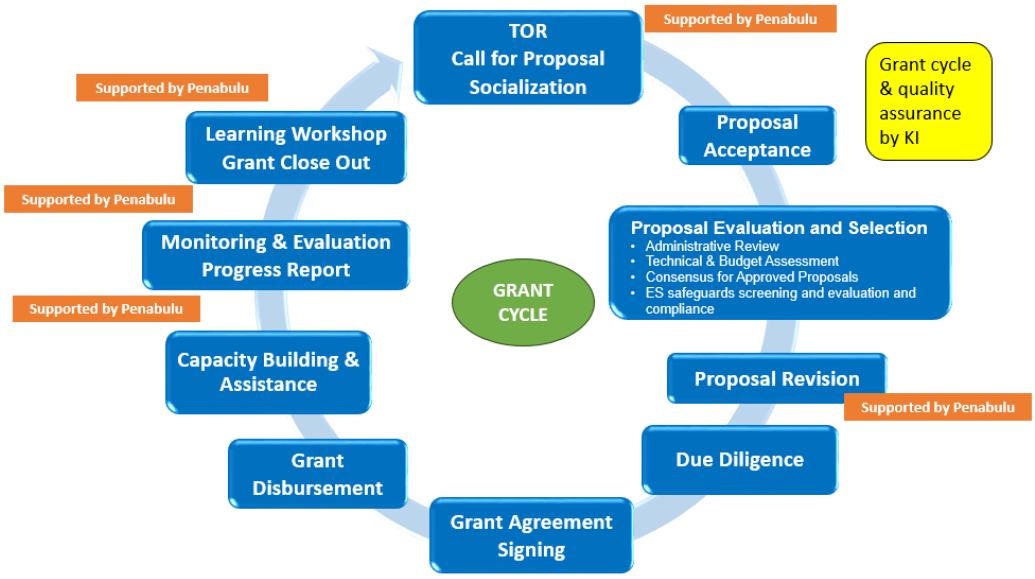
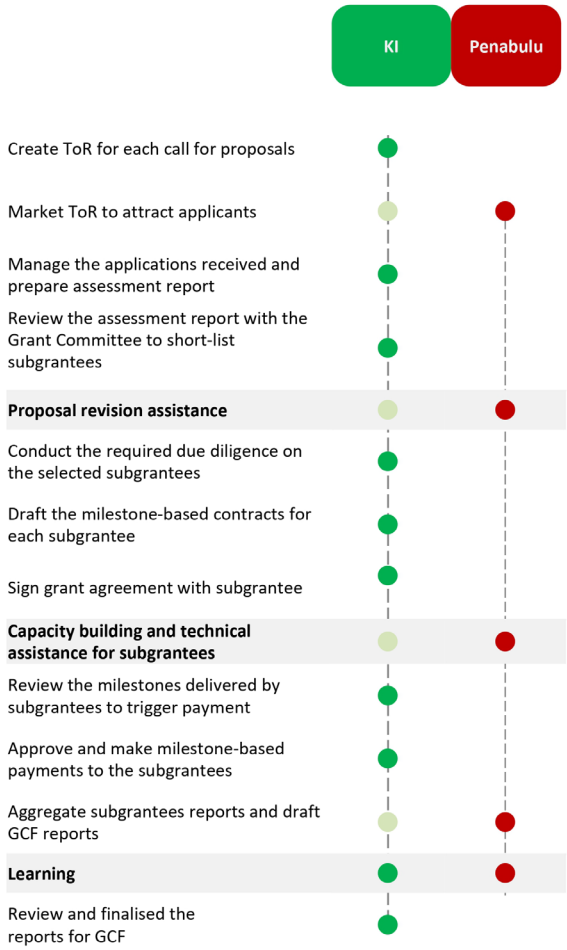


*Figure 9: BEAM Technical Partner Penabulu will provide technical support to KI in the implementation of Component 2 Windows 1 and 2 according to their expertise and the needs of grantee organizations (described in **Annex 2, Section 6).***



B.4. Implementation arrangements (max. 1500 words, approximately 3 pages plus diagrams)

National Designated Authority and Government Partner

123. Indonesia's Director General of Financial Sector Stability and Development at the Ministry of Finance (DJSPSK – *Direktorat Jenderal Stabilitas dan Pengembangan Sektor Keuangan*) is the GCF National Designated Authority as of August 2025. The NDA ensures that activities implemented by the Project align with strategic national objectives, priorities, and standards, and help advance ambitious action on adaptation and mitigation in line with country programming, national goals, and needs. The EE will engage with the NDA throughout Project implementation through consistent reporting on Project progress and to solicit feedback and guidance based on GoI priorities. The NDA will also support BEAM through disseminating information (e.g., website) of call proposal openings of the grant facility under Component 2 and knowledge of product dissemination. Indonesia's Ministry of Marine Affairs and Fisheries (MMAF) will be the lead technical ministry as this Project supports MMAF's long-term priority programs (i.e. MPA Vision 30x45, coastal waste management, and quota-based fisheries). MMAF will act as Chair for the technical and steering committees to provide valuable guidance to the EE.

Accredited Entity

124. Conservation International Foundation (CI), through its CI-GCF Agency, will serve as the Accredited Entity (AE) for the Project. The CI-GCF Agency will be responsible for the overall oversight of this project, as defined in the Accredited Master Agreement (AMA) between the GCF and CI, including technical, financial, and administrative monitoring and supervision (through reporting, audits, and annual site visits) and review and approval of the EE's

annual workplans and budgets. CI-GCF will also be responsible for providing support and guidance to the EE as mutually agreed; monitoring the achievement of Project results and Outputs; reporting to the GCF; and project closure and evaluation. CI-GCF will conduct these responsibilities, and disburse GCF funds to the EE, in line with CI's AMA with the GCF. The CI-GCF Agency serves as AE for three GCF projects currently under implementation, FP158, FP235, and FP259.

Executing Entity

125. Konservasi Indonesia (KI) will be the Executing Entity for the BEAM Project. The EE will be responsible for the following: Project execution and management; monitoring of subsidiary agreements of sub-grantees and service providers receiving GCF funds and their related activities; reporting to the AE; and collaborating with the GoI partners to optimize alignment of their respective components with national and regional climate policy priorities to achieve Project outcomes and GCF-level goals, and sustainability of Project interventions. The EE will also participate in the PMU and governance arrangements, as described below.

126. KI will serve as the EE for the Project. It will also participate in the BEAM grant selection committee, Project Steering Committee (PSC), Project Technical Committee (TC) and PMU; and provide all required reporting to the AE.

127. KI is a national foundation, independently registered organization in Indonesia (Yayasan) that supports the sustainable development and protection of critical ecosystems and is CI's main delivery partner in Indonesia. KI focuses on three main areas: 1) maintaining climate stability through nature conservation; 2) conserving marine and fishery resources; and 3) implementing an environmentally friendly approach in economic development. KI partners with GoI, indigenous communities, companies, academia, media, and CSOs to achieve sustainable development in Indonesia. KI has extensive experience of working on fisheries and marine management issues and has an office in WPP 572. KI has a successful track record of managing the disbursement of funds to local NGOs, community groups, and research institutions for marine conservation, livelihood development, and climate resilient initiatives.

128. KI established and supports the Blue Abadi Fund, a conservation trust fund devoted to the preservation of the Bird's Head Seascape MPA networks. It also provides capacity building to government, local communities and NGO partners on MPAs to strengthen local economies through tourism and establishing MPA sustainable financing mechanisms. KI is also the convening agent for the Global Fund for Coral Reefs that, in partnership with CI Ventures, created financial instruments to support coral reef conservation and mobilize recoverable grants to reef-positive businesses in sectors including reef fisheries, aquaculture, mariculture, ecotourism, restoration, blue carbon, and waste management. To date, five companies have been supported through this instrument to improve seaweed mariculture, mud crab, shrimp, and lobster aquaculture. KI, with CI and other partners, is also currently developing the Climate Smart Shrimp Fund that will fundraise and mobilize capital for farmers to transform shrimp ponds into integrated mangrove restoration areas and intensive ponds. More broadly, KI has received and successfully managed donor funds from foundations, NGOs, United Nations agencies, bilateral public donors and international corporations. Since 2025, KI currently serves as the Administrator for the TFCCA (Tropical Forest and Coral Reefs Conservation Act) program, the first debt for nature swap amounting US$35M for coral reef conservation in Indonesia. The TFCCA funds focus on three key geographies in eastern Indonesia, including the Bird's Head Seascape, the Lesser Sunda Seascape, and the Banda Seascape. As Administrator, KI oversees a transparent and competitive grant-making process, issuing grants to qualified local and national civil society organizations through open calls for proposals, supported by technical review, fiduciary screening, and ongoing oversight.

129. The AE has assessed the capacity of KI and has determined that they are capable of applying CI and GCF policies in the execution of this Project. The AE will enter into a Subsidiary Agreement with the EE for execution of Project activities, in accordance with the FAA and AMA. Accountability for the use of financial resources will be assured through the AE's monitoring of the project, including quarterly and annual financial reporting, site visits, and financial audits.

Project Management Unit

130. The PMU will be based in Jakarta, Indonesia, headed by a full-time BEAM Project lead employed by KI, who will be responsible for coordination with all stakeholders and successful implementation of the Project and attainment of the results specified in the project's funding proposal, to the required standards of quality and within the specified

constraints of time and cost. The PMU will be responsible for overall project management and planning, providing support to the execution of day-to-day activities, coordinating with the national government and project partners, and coordinating with the AE. The PMU will also include full-time staff employed by KI for Project-wide functions, such as project M&E, gender, safeguards, and finance. KI is the legal entity responsible for establishing, hosting and managing the PMU.

131. Additional Project staff employed by KI will be responsible for executing Components 1 and 2 of the Project, as detailed in **Annex 4 and Annex 23**. CI global staff will provide subject-matter expertise and support to KI as its delivery partner in the region. KI and the relevant CI divisions—which both follow all CI policies and procedures—will enter into an appropriate contractual agreements for this support (see **Annex 23**).

132. The PMU will check application completeness and eligibility. KI's Safeguards Specialist will screen eligible proposals, confirm the risk category, and review required safeguards instruments before Grant Committee consideration. The Grant Committee will assess the safeguards, technical, and fiduciary recommendations before approval. The PMU will cover safeguards, GESI, M&E, grievance management, reporting, incident response, and corrective actions.

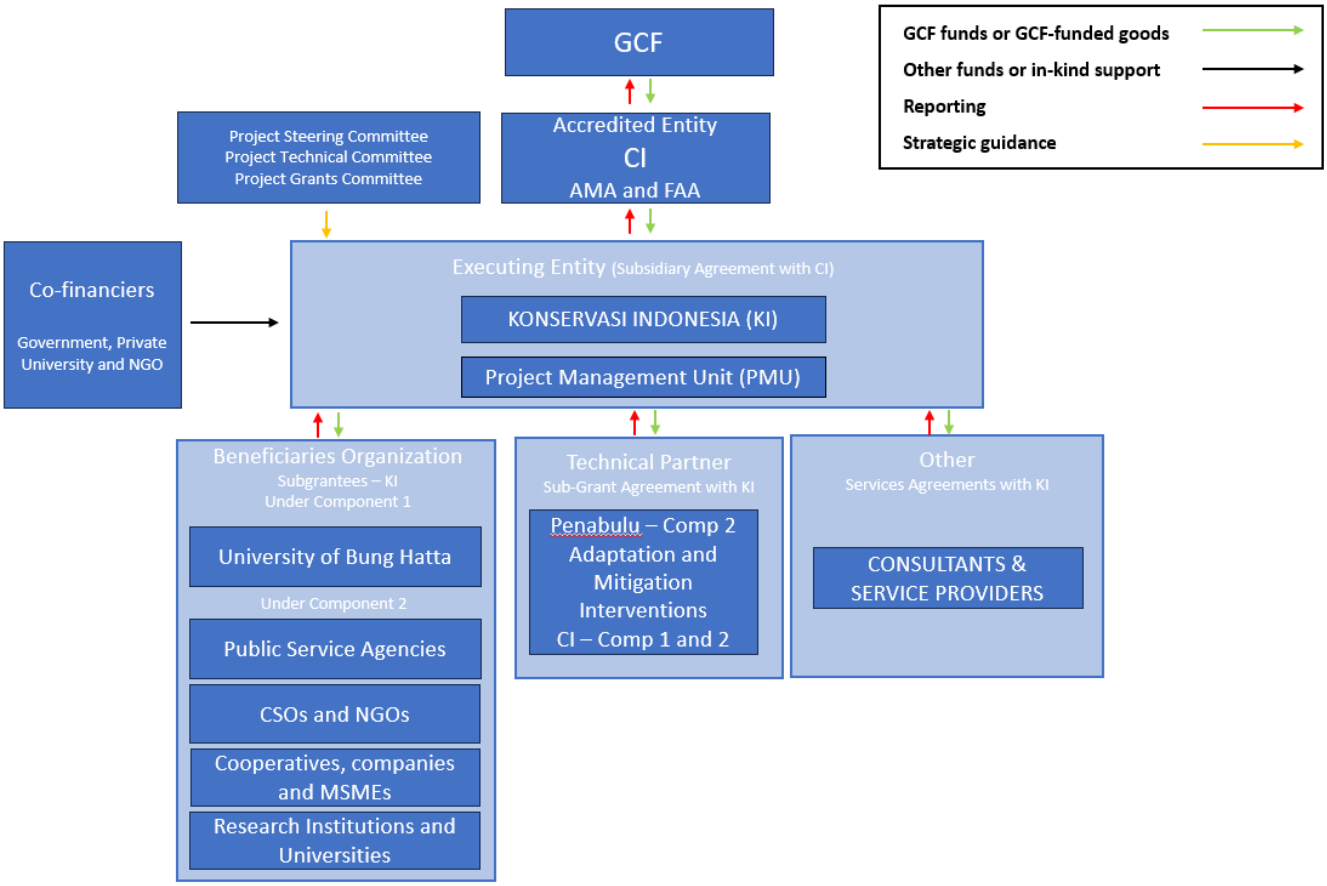


*Figure 10: Project implementation arrangements and financial flows (more detail available in **Annex 23**)*

Implementing Partners

133. As the EE, KI will engage with an array of Implementing Partners (IPs) to support implementation of Project activities or sub-activities. Of these IPs, KI will provide GCF resources to Technical Partners, Beneficiary Organizations, and other Service Providers (collectively, "sub-awardees") in compliance with GCF requirements. KI may also coordinate with implementing partners who do not receive GCF funds or resources like the Ministry of Marine Affairs and Fisheries.

134. The EE will provide GCF funding to procured parties (subgrantees and services providers, collectively, "sub-awardees") supporting project implementation in compliance with EE, CI, and GCF requirements for sub-awards.

During identification, and before entering into agreements, the EE will undertake due diligence of sub-grantees and services providers, and funds will be administered in accordance with EE procedures as approved or modified by the AE, to meet GCF requirements. KI will engage sub-grantees via sub-grant agreements or the equivalent which outline activities, deliverables, timetable, monitoring, assessment, and compliance requirements. Service providers will be engaged using the approved procurement policies and procedures of the EE (which CI assessed to meet GCF requirements).

Technical Partners

135. KI will engage Penabulu as a Technical Partner organization to support the implementation of Component 2 (see Annex 23). For Grant Windows 1 and 2, Penabulu will provide technical and management support for delivering capacity building and technical assistance to sub-grantees, including training on proposal development, project management, organizational strengthening, safeguarding, and grant management. Penabulu, under the guidance and direction of KI, will also develop training curricula, provide ongoing mentoring throughout the grant cycle, and support KI on monitoring and evaluation. In implementing the on-granting mechanism under Component 2, KI conducts a capacity assessment for all prospective grantees as part of the due diligence process. The depth of assessment is differentiated by grant size: small grants (up to USD 40,000) undergo streamlined desk review, while large grants (up to USD 400,000) undergo more comprehensive assessment, including on-site verification where required. Assessment results inform grant award decisions, determine monitoring frequency, and identify capacity gaps requiring targeted support. Recognizing that the large-grant category spans from USD 40,001 to USD 400,000 (there could be exceptions above this threshold which will be reviewed on a case-by-case basis according to the Grants Manual) and may therefore represent significantly different levels of financial management and implementation complexity, sub-grantees transitioning from small to large grants will receive dedicated transition support based on both the grant amount and the sub-grantee's capacity assessment. This graduated approach ensures that organizations build capacity commensurate with their grant size, reducing fiduciary and implementation risks while fostering institutional growth. KI will retain responsibility for safeguards clearance and grant approval.

136. KI will enter into a grant agreement with Penabulu, which will include contractual terms to ensure compliance with KI, CI, and GCF requirements, including safeguards and prohibited practices. KI will manage and monitor Penabulu's performance throughout project implementation and will retain ultimate approval authority over its activities, including annual workplans and budgets.

137. Penabulu, an Indonesian NGO, will support KI in the implementation of Grant Windows 1 and 2. Penabulu has a track record of more than two decades of strengthening the financial management of non-profit organizations. Its Grant Management division has extensive experience of mobilizing and managing grant funds and providing thematic training, technical assistance and organizational capacity building to partners to support grants from other donors. Penabulu has received and managed donor funds from foundations, NGOs, bilateral, and multilateral public donors.

138. In limited circumstances, CI may provide technical assistance on safeguards, gender, grantee management, legal and security to the Project in its capacity as an Implementing Partner. Where such support is required, KI will enter into a grant agreement with CI for the delivery of clearly defined activities. Any such arrangements will be subject to the same fiduciary controls, reporting requirements, oversight mechanisms, procurement standards, and conflict-of-interest management measures applied to other project implementing partners. These arrangements are distinct from CI's role as the Accredited Entity and do not alter the overall accountability framework under which KI remains responsible for Project execution.

Co-financiers

139. The Project includes direct co-financing contributions from the national government (MMAF), four provincial governments, the University of Bung Hatta, and KI. All co-financiers have distinct legal personality and are able to enter into appropriate co-financing arrangements with KI. These co-financing arrangements will be established by KI with each co-financier to formalize their commitment and to ensure reporting of co-finance contributions.

Beneficiary Organization Grantees

140. Under Component 2, KI will also provide GCF funding to Beneficiary Organization Grantees through their respective Grant Windows of the BEAM Granting Facility under Outputs 2.1–2.3 of Component 2. Grantees will be competitively selected via the relevant eligibility criteria detailed in **Annex 26**, and grants will be administered as described in the

"Grant Cycle" section of **Annex 2 and Annex 27**. Eligible beneficiary organizations include public service agencies; local, regional, national or international NGOs and CSOs; universities and research organizations; and private sector MSMEs. Under Component 1, the University of Bung Hatta will be engaged by KI via a grant agreement as a Beneficiary Organization Grantee.

141. KI, as applicable, will enter into a grant agreement with each Beneficiary Organization Grantee that will include contractual terms to ensure compliance with KI, CI, and GCF requirements. KI will manage and monitor these sub-grants and will approve grantees' workplans and budgets.

Service Providers

142. KI will procure additional consultants, vendors, and service providers to support the implementation of their respective Project activities (see **Annexes 2, 4, 23, and 10** for more details). The EE will follow CI procurement policies, supplemented with additional procurement terms as required by the AE to meet GCF standards in procuring these goods and services and will enter into a service agreement with each contracted entity.

Other Implementation Partners

143. As described in Section B.3, some partners will contribute to the implementation of the Project but will not receive GCF resources. KI will coordinate implementation of the Project with these implementation partners (detailed in **Annex 23**) and will enter into agreements with them as appropriate to ensure clarity on the roles and responsibilities of each party.

Project Governance

144. The Project's governance structure includes the Project Steering Committee (PSC), Technical Committee (TC), and Grants Committee. Government employees sitting on these committees will not be remunerated by GCF funds for their participation.

145. The PSC will be composed of representatives from GoI and appointed stakeholders. It will provide strategic guidance to the EE, support adaptive management of Project implementation, review progress and evaluation reports, discuss problems or strategic issues that might arise during implementation, and provide support for the necessary inter-institutional coordination and contributions to Project activities. Government representatives on the PSC may also invite key stakeholders or advisors to support relevant elements of the Project.

146. The PSC will hold annual meetings, beginning in Year 1, to review Project progress and to advise the BEAM Project Lead on strategic and policy-related decisions. Ad hoc meetings of the PSC may also be convened at the request of one of its members. The PSC may adopt its own rules of procedure, if appropriate, and will follow mutually agreed terms of reference that will be developed in Year 1 of the Project. The PMU will provide logistical and administrative support to the PSC. The Project's annual reports will be shared with PSC members by the EE and will be made freely available to GoI departments. The PSC will be comprised of representatives of the following entities: Ministry of Marine Affairs and Fisheries (MMAF), the Coordinating Ministry for Food Affairs (CMFA), Bappenas, Ministry of Home Affairs, Ministry of Environment.

147. The TC will provide expertise and guidance to the EE and ensure technical coordination with GoI agencies. The TC will oversee the Project to guarantee its alignment with national strategies. The TC will specifically support the EE in guiding Project activities and will serve as a communication channel to support the implementation of activities, particularly with government agencies.

148. The TC will meet twice a year to provide direction for activity implementation, stimulate stakeholder buy-in, and provide feedback on GoI policies and pronouncements. The TC will be comprised of representatives of the following entities: MMAF, CMFA, Bappenas, Ministry of Finance, the Ministry of Environment, Ministry of Home Affairs, Provincial Governments in WPP 572, and KI.

149. The Grants Committee will review and select the sub-grant project proposals for the BEAM grant windows under Component 2 of the project, with KI providing final approval authority as EE. The Grants Committee will consider and approve the assessments and recommendations of the first-level review of grantees carried out by KI and Technical

Partners. The Grants Committee, through the participation of the EE, will make funding decisions to select an appropriate balance and selection of grantees to ensure achievement of overall BEAM targets as described in the logical framework; ensure access to BEAM funding for women-led organizations; ensure participation by indigenous communities and other marginalized groups; and ensure that all selected grantees are compliant with CI, GCF, and EE policies, particularly ESS. Please see **Annex 26** for more information on Eligibility Criteria.

150. The Grants Committee will include representatives from KI and national ministries. It will also include representation of subject matter experts from universities and research institutions to ensure that the selection, supervision and implementation of grants are informed by the latest academic research and expertise, fostering innovation and evidence-based decision making. The EE will develop this roster of experts, which will be verified and agreed by the TC. The Grants Committee will be comprised of Project staff from KI along with subject matter experts (e.g. one or two staff from universities/research institutions). Representatives from MMAF and CMFA will also be invited to the Grants Committee meetings. Local community representatives will also be included in the Grant Committee to provide community-level perspectives, transparency, and help ensure that grant decisions remain responsive to local needs and realities. Community representative participation (including women and identified vulnerable groups) will enable relevant feedback on proposed activities, potential social and environmental risks, and community engagement considerations.

B.5. Justification for GCF funding request (max. 1000 words, approximately 2 pages)

151. Analysis of climate exposure, sensitivity risk, and vulnerability profile in WPP 572 shows the imperative to address the escalating impacts of climate change to marine and coastal communities and ecosystems. The coastal economic sectors, particularly fisheries, aquaculture, and tourism which rely on stable and healthy marine ecosystems, are experiencing negative effects from climate change, these impacts are projected to become worse in the future, affecting ecosystems and the human populations that rely on nature for their food, livelihoods, and well-being. Strategies for adapting to these changes and enhancing resilience should be designed and implemented by the communities most affected - funding from the GCF will catalyze and incentivize the creation of a sustainable blue economy that relies on both protection and production to support vulnerable populations in the long term.

152. It is essential to deploy multilateral finance alongside national efforts to bolster infrastructure, engage communities in resilience-building efforts, utilize technology for effective adaptation, and embed climate resilience into comprehensive policy planning. While the GoI has integrated climate resilience into policy planning, provincial and national budgets remain insufficient to finance the necessary adaptation infrastructure, community-based resilience programs, and ecosystem restoration at scale. The private sector, meanwhile, is reluctant to invest due to perceived risks and long payback periods as demonstrated by negative trends in both Domestic Direct Investment and FDI in the fisheries sector in recent years (see Annex 02, Section1). The GCF's grant-based support is critical to bridge this gap, enabling interventions that reduce climate risks while unlocking sustainable blue economy growth.

153. There is a considerable gap between current national spending from GoI's national budget and the resources needed to meet the RPJMN targets for marine ecosystem protection (through MPA creation and management). The GoI currently spends 16.4% of the necessary funding to meet these targets, which is considerable but insufficient to achieve the impact targeted in the RPJMN. MMAF and provincial governments are providing most of the co-financing for the Project, but GCF resources will also unlock investments (target $20-50M) in blue economy sectors that rely on natural ecosystems and the sustainability of productive fishing areas. While Indonesia's economy is growing, resulting in its recent uplisting to upper-middle income status, sustained support and investment are necessary to avoid setbacks and address threats including climate vulnerability and global political instability – as demonstrated by the recent cancellation of USAID programming. National-level economic categorization masks deep subnational inequalities, particularly in remote coastal and island regions like WPP572. These communities are among the poorest and most climate-vulnerable in the country, with limited access to services, infrastructure, or adaptive capacity. Indonesia's UMIC status reflects macroeconomic progress, but it has not yet translated into widespread private sector confidence in the blue economy, especially in adaptation-focused or ecosystem-dependent ventures. GCF's role is uniquely catalytic, not because Indonesia lacks capital, but because GCF funding can unlock that capital by addressing risk perceptions, market readiness, and institutional capacity. Climate change is already reversing

development gains in vulnerable coastal zones, and without early, concessional investment, the costs of inaction will escalate dramatically. The GCF's grant-based support is essential to ensure that Indonesia's economic transition is inclusive, climate-resilient, and equitable.

154. Currently, MPA management costs across Indonesia are estimated to be $50.7M/yr with the GoI and other international NGO financing contributing $8.3M/yr. The GCF can play a key role in closing that gap through grant assistance to fund enabling condition interventions, which will directly assist GoI and relevant stakeholders to improve the effectiveness of MPA management, thereby reducing management costs, and developing financial mechanisms and sustainability strategies to ensure that MPAs have the resources they need to manage ecosystem protection and restoration effectively. Private sector investors lack direct incentives to fund public goods like MPAs, but GCF grant-based assistance can deliver a paradigm shift towards self-sustaining MPAs for the people of Indonesia. Under Component 1, BEAM will support national and provincial governments to establish and operationalize Regional Public Service Agency (BLUD) units, which are legally mandated entities that can retain and reinvest revenues for conservation. Through Activity 1.1.1, the project provides technical assistance to strengthen regulatory and institutional frameworks, enabling MPAs to generate and manage revenue streams (e.g., tourism fees, ecosystem services) and reinvest them into site-level management. This reduces reliance on external funding and lays the foundation for financially self-sustaining, resilient MPAs.

155. The GoI and Indonesian financial sector (including national banks and private sector actors / creditors) have made considerable strides to establish the country's blue economy, through institutionalization of sustainable financing regulations,[54,55] and fostering partnerships between ministries and national financial institutions designed to facilitate investments in nature conservation. However, critical gaps remain, particularly in WPP572, that hinder the full realization of a climate-resilient, sustainable blue economy in Indonesia. These gaps persist due to structural limitations in public funding, low private sector capacity which deters investment, and a lack of solutions that explicitly de-risk investments while scaling ecosystem protection. This GCF intervention is essential to address these challenges, as neither the government nor the private sector can mobilize sufficient capital under current conditions.

156. The main financing instruments used in Indonesia's blue economy sector are loan-based. However, their uptake remains severely limited, particularly for small-scale fishers and fish farmers in WPP 572. Commercial banks perceive high risks in lending to remote, informal, climate-exposed communities, while existing government microcredit schemes, such as those offered by BLU LPMUKP, struggle to reach their intended beneficiaries. BLU LPMUKP provides subsidized loans (~3% per annum) to marine and fisheries MSMEs, but its outreach is constrained by complex paper-based procedures and the lack of an integrated IT system, resulting in low disbursement absorption and limited access for vulnerable coastal groups. GCF grant funding is essential because neither commercial banks (which avoid high-risk, low-return microcredit) nor the government budget alone (which cannot cover the upfront costs of digitization, training, and process redesign) can address these operational barriers.

157. A commercial loan to BLU LPMUKP would be inappropriate, as the agency operates on a not-for-profit mandate with subsidized rates, and any additional debt would undermine its affordability objective. GCF grants will directly finance the development of a digital loan management system, streamlined disbursement protocols, and extension officer training, enabling BLU LPMUKP to channel affordable credit to thousands of previously unreached small-scale fishers and fish farmers. This support is highly catalytic: once the system is operational, BLU LPMUKP can sustainably recycle loan repayments into new lending, multiplying the impact of the initial GCF investment without ongoing donor support. Without such technical assistance, the existing financing gap for small-scale blue economy actors will persist, perpetuating reliance on predatory informal lenders and limiting climate resilience

Scaling logic, financing flows and long-term sustainability

158. BEAM is designed not as a stand-alone grant program, but as a catalytic intervention that establishes the institutional, financial, and market foundations required to sustain and scale climate resilience investments beyond the Project period. The Project's scaling strategy operates at three mutually reinforcing levels: (i) institutional scaling through

[54] POJK (OJK Regulation) No. 51/POJK.03/2017 (Ketentuan mengenai Keuangan Berkelanjutan / OJK Regulation on Sustainable Finance-P51/2017); POJK (OJK Regulation) No. 60/POJK.04/2017 Green Bond/OJK Regulation on Green Bond issued by private banks or financial institutions.

[55] In January 2005, Bank Indonesia issued Regulation No.7/2/PBI/2005 on Asset Quality Rating for Commercial Banks. This regulation requires banks to appraise the "measures taken by the debtor to conserve the environment" as part of an assessment of the debtor's business prospects.

government systems and policies; (ii) financial scaling through sustainable financing mechanisms and increased capital mobilization; and (iii) geographic scaling through replication across other Fisheries Management Areas in Indonesia.

159. At the institutional level, BEAM invests in permanent government systems rather than temporary project structures. Through Activity 1.1.1, the Project supports regulatory reform, MPA expansion, fisheries management improvements, and the development of innovative financing mechanisms that will continue to operate after GCF funding has ended. Support to Regional Public Service Agencies (BLUDs), improved MPA governance systems, strengthened Public-Private Partnership (PPP) frameworks, and enhanced fisheries management plans are expected to become embedded within government planning and budgeting processes. Similarly, Activity 1.1.2 strengthens national and provincial fisheries data systems, stock assessment processes, and adaptive management mechanisms, creating long-term institutional capacity that supports climate-responsive management beyond the Project implementation period.

160. At the financial level, the Project creates a transition from external grant finance toward sustained domestic and private-sector financing. GCF grants are used to address market failures and investment barriers that currently prevent capital from flowing into conservation, adaptation, and sustainable blue economy activities. Through Activity 1.1.1, BEAM supports the development of sustainable financing mechanisms for MPAs and ecosystem management, including improved revenue retention through BLUD structures, tourism-related revenues, ecosystem-service financing opportunities, and PPP arrangements. These mechanisms create recurring revenue streams that can finance ecosystem protection and management long after Project completion. Consequently, GCF funding is not intended to permanently finance MPA management, but rather to establish the conditions under which MPAs can progressively become financially self-sustaining.

161. The Project creates a financing continuum for local enterprises and communities. Adaptation and mitigation grants provide early-stage support for community organizations, cooperatives, and MSMEs that are typically unable to access traditional financing due to limited capacity, high perceived risk, or lack of collateral. These grants allow beneficiaries to test climate-resilient business models, establish operational track records, build organizational capacity, and develop investment-ready projects. Through Activity 2.3.1, beneficiaries are then connected to BLU LPMUKP's concessional credit facilities, creating a pathway from grant funding to sustainable loan financing. As BLU LPMUKP modernizes its lending systems and expands outreach, loan repayments will be recycled into future lending, creating a revolving financing mechanism that continues generating impact beyond the Project lifespan.

162. BEAM also addresses barriers that currently constrain larger-scale investment in WPP 572. The Project's blue economy research, market intelligence products, investment roadmaps, and cooperative development support reduce information asymmetries and perceived investment risk. These interventions are expected to facilitate additional investment into sustainable fisheries, mariculture, ecotourism, and other blue economy sectors. By improving the enabling environment, generating investment-ready opportunities, and strengthening financial intermediation, BEAM establishes the conditions necessary for significantly greater capital mobilization over time than can be achieved through grants alone.

163. BEAM's geographic scaling strategy is supported by the national nature of many Project Outputs. Regulatory reforms, PPP frameworks, fisheries management approaches, financing mechanisms, and knowledge products developed under Component 1 are intended for application beyond WPP 572. Activity 1.1.3 establishes a formal knowledge management and learning platform with government and university partners to document lessons learned, disseminate best practices, and support replication in coastal communities and other Fisheries Management Areas across Indonesia. As a result, WPP 572 serves as a demonstration landscape for Indonesia's protection-production model, with successful approaches expected to inform future government, donor, and private-sector investments nationwide.

164. Taken together, these sustainability mechanisms create a clear financing and scaling pathway in which GCF funding initially addresses critical market and institutional failures, government systems and financing mechanisms progressively assume greater responsibility for implementation, private and concessional finance expand as risks decline, and successful models are replicated nationally. This approach ensures that project benefits continue beyond the grant period and that climate resilience, ecosystem protection, and sustainable blue economy investments can be sustained and scaled over the long term.

Justification for prioritizing blue carbon interventions:

165. The BEAM Project prioritizes blue carbon interventions, mangroves and seagrass conservation and restoration, based on a multi-faceted evidence base that considers carbon value, co-benefits, policy alignment, feasibility, and the project's core approach of "protection-production". WPP 572 contains approximately 36,000 ha of mangroves and 24,854 ha of seagrass beds (Annex 2, Section 2), representing a large, accessible, and rapidly deteriorating carbon stock. In addition, healthy mangroves and seagrass deliver broad co-benefits beyond carbon sequestration, including coastal protection, fish nursery habitats, biodiversity conservation, and livelihood support for vulnerable coastal communities, directly contributing to adaptation objectives and social and environmental co-benefit indicators. Blue carbon interventions also directly align with Indonesia's national policy priorities, including the Enhanced NDC, FOLU Net Sink 2030, MPA Vision 30×45, and National Blue Economy Strategy, ensuring complementarity with government programs and securing long-term country ownership.

166. Alternative mitigation pathways such as offshore renewable energy, green shipping, or industrial aquaculture decarbonization face substantial technical, regulatory, and financial barriers in WPP 572, where the blue economy is dominated by MSMEs with limited access to capital and markets, and existing microcredit schemes are underutilized due to operational constraints. Blue carbon interventions maximize mitigation impact, deliver extensive co-benefits, align with national strategies, respect regional feasibility constraints, and reinforce the protection-production approach, making them the most effective, efficient, and sustainable use of GCF resources for achieving the Project's climate goals.

167. The additionality of BEAM's mitigation outcomes is demonstrated across multiple dimensions. Regulatory additionality arises because BEAM provides technical assistance, capacity building, and policy support that address documented regulatory gaps, where less than 2% of WPP 572 has been legally designated as MPA despite existing mandates, and MPA management effectiveness remains low due to inadequate financing and capacity. Financial additionality is demonstrated by the high upfront costs of ecosystem restoration (USD 4,730-4,825/ha for mangroves; USD 66,944/ha for seagrass), limited access to concessional finance for coastal communities, and insufficient government budget allocations, with BEAM's grant funding filling a financing gap that neither the government nor the private sector can currently address. Technological additionality is evident in Sub-Activity 2.2.1.2, where solar-powered chillers require significant upfront capital and technical capacity not currently available to small-scale fishers, with BEAM providing both the capital investment and technical assistance needed to overcome these barriers. Institutional additionality is demonstrated through BEAM's capacity building and institutional strengthening that addresses weak coordination between national and subnational agencies, limited capacity of MPA management units, and lack of community engagement mechanisms. The Project's approach is additional to existing practices in Indonesia, which have typically addressed individual constraints rather than the interconnected regulatory, technical, social, and financial factors that undermine sustainable coastal and marine management.

Grant mechanism:

168. BEAM will facilitate deployment of existing capital and non-grant finance by strengthening Indonesia's blue economy regulations, ensuring the vitality of marine ecosystems, and through direct support to private sector actors. BEAM is designed to optimally deploy grants to support this set of actions because climate adaptation and mitigation activities, including work on marine ecosystem protection and enabling conditions, are not directly financially profitable or bankable. Grants are more suitable to funding such initiatives and BEAM is designed to create a virtuous cycle by directly improving climate resilience in the areas more desired by beneficiaries and mitigating GHG emissions by protecting and conserving key ecosystems, thereby building local capacities and creating an enabling environment that can attract further private sector investments and deployment of non-grant instruments.

169. BEAM will deploy grant assistance now to reduce the costs of ecosystem restoration which will be higher in the future. Scenario modelling analysis compared three rates of natural resource depletion (0%, 1.5%, and 3%) and GDP contributions to blue economy sectors (7% and 12.45%) found that as ecosystems become more degraded the investments needed in the future nearly double, from about USD 121.5 billion per year (0% depletion, 12.45% investment) to about USD 208.3 billion per year (3% depletion, 12.45% investment).[56] Therefore, investments in ecosystem protection today will not only be cheaper than costs for ecosystem protection in the future but will also decrease the extent of ecosystem degradation in the long run. Financing this gap will not yield a direct return, so a non-debt instrument is best suited to address the ecosystem protection financing gap.

[56] UNDP, Coordinating Minister for Maritime Affairs and Investment, (2022)., Blue Financing Strategic Document, p. 30-31

170. GCF's grant-based assistance will provide funds directly to local community enterprises under Windows 1 and 2 for locally led climate action - activities that may not generate a direct financial return on investment but are essential for climate adaptation and mitigation. These activities may include ecosystem-based adaptation, adoption of low-emissions technologies, climate-resilient livelihood practices, and community-led restoration. Given the high risks associated with innovative climate projects, especially in countries like Indonesia, grants can absorb initial risks, making subsequent investments more attractive to private financiers.[57] In the past, grants in the blue economy sector have been largely limited to philanthropic CSR direct grants, which are limited in scope and size rather than targeting a systemic shift to a protection–production model. The scale of the grants to be deployed directly to community enterprises under Windows 1 and 2 will enable local actors to lead interventions to achieve wider paradigm shift.

Grant funding for private sector actors:

171. GCF funding for early stage ventures, cooperatives, and MSMEs under grant Window 1 (Adaptation) and Window 2 (Mitigation) will be catalytic to the blue economy in WPP 572. Mechanisms for providing this early stage funding, along with the technical assistance required to reduce risk and increase impact, does not currently exist in Indonesia. Local community enterprises, including small-scale fishers, fish farmers, and coastal tourism operators, face high upfront costs, limited access to affordable credit, and insufficient capacity to develop bankable climate resilience projects. Without direct grant support, these enterprises cannot overcome the initial barriers to adopting climate-smart practices or deploying low-emission technologies. GCF grant funding will fill this gap by enabling vulnerable communities to implement adaptation and mitigation activities that are not commercially viable but are essential for long-term resilience and emissions reductions. Grant funding will also build the capacity of these MSMEs to access concessional loan finance from BLU LPMUPK, allowing for longer term growth beyond the BEAM Project.

B.6. Exit strategy (max. 500 words, approximately 1 page)

172. The ambitions and impacts of BEAM will not end with GCF funding. The Project aims to support catalytic interventions by deploying a combination of policy reforms, innovative financing mechanisms, and private sector engagement that will create a protection–production paradigm for WPP 572, with applicability across Indonesia. Tools, inclusive and innovative financing mechanisms, and training and capacity-building approaches deployed by BEAM will support scaling and replication across the country. The Project integrates policy reforms, innovative financing mechanisms, the private sector, and direct government engagement to strengthen marine and coastal governance and financial sustainability. The Project is therefore structured to create enabling conditions for national replication.

173. The Project's technical assistance and policy support to provincial governments under Component 1 is expected to result in the creation and adoption of improved work plans and strategies, including development of sustainable / ongoing financing mechanisms for MPA management, a key gap identified by stakeholders. These plans and the policy recommendations for MPA establishment and expansion will be used to create regional zoning plans and to request ongoing allocations of government budget resources for implementation.

174. BEAM is designed to build long-term institutional, policy, and financial sustainability for both adaptation and mitigation efforts beyond the Project's implementation period. Component 1 will support government partners in strengthening enabling conditions through legal and policy reform, institutional capacity building, and the development of sustainable financing mechanisms such as the Regional Public Service Agency (BLUD) model which will be retained / utilized well beyond the Project period of performance. This approach enables subnational governments to manage and reinvest revenues (e.g. tourism levies, user fees) to MPA management units to effectively design, update, and enforce MPA regulations, reducing long-term dependency on external grants.

175. MPA, sustainable fisheries, and education programs engage fishing communities, fostering collaboration for enhanced MPA co-management and buy-in from communities. Community-led governance models, including locally managed marine areas, and fisher cooperatives will be central to ensuring long-term climate resilience. Capacity-building programs will empower coastal communities to directly manage adaptation and mitigation activities, integrating traditional knowledge with scientific approaches in the design and implementation of interventions. It is vitally important to utilize the extensive local knowledge of ecosystems and the threats that communities face to

[57] Mitigation Action Facility (2023) https://mitigation-action.org/wp-content/uploads/230303_Financial_Mechanisms_Factsheet_MAF.pdf

create solutions that are locally appropriate and feasible to implement. As communities experience increased incomes and food security, they will be better positioned and incentivized to sustain marine conservation efforts beyond the Project implementation period. To reduce dependency on grants, policies on integrated protection–production and sustainable financing mechanisms will promote a more sustainable funding for MPA co-management by providing support to provincial public service agencies (BLUD) capable of generating revenue from services fees, grants, cooperation with third parties, and local government funding, to ensure continuous financing for MPAs. These funds will be replenished through service fees, eco-tourism revenues, and public-private partnerships. It is expected that these measures will ensure effective long-term MPA management and sustainable financing.

176. For ecosystem restoration interventions under Component 2, restored areas will be maintained and managed to remain intact from future degradation, such as destructive fishing or unregulated coastal development. This will be achieved by integrating regulatory enforcement and local community surveillance into funded interventions, with sustainability mechanisms clearly identified in grant applications. For data systems, the Project will institutionalize data collection and management within local and national agencies (e.g., MMAF and provincial governments), provide technical guidance, and work with universities to embed knowledge management in their long-term programming, ensuring continuity after BEAM concludes.

177. The Project will deliver grant-based initiatives to drive sustainable and locally led climate adaptation and mitigation impacts in the WPP 572 region. These investments will apply eligibility requirements to focus support on community-identified blue economy needs, such as sustainable fisheries and low-carbon climate-resilient livelihoods that will be sustained beyond the grant implementation period. Sub-project sustainability will be essential criteria under the Project's Grant Facility: applicants will be required to outline their project's exit strategy. Even for procured goods, such as renewable energy equipment grants under the Mitigation Window, proposals will detail how generated income will maintain / replace procured equipment.

178. Under Activity 2.3.1, BLU LPMUKP, the government's primary microcredit provider for the marine and fisheries sector, will receive targeted support to digitize its loan management system, streamline disbursement procedures, and train extension officers. BLU LPMUKP's lending program is already backed by recurring government budget allocations, ensuring a stable source of loan capital. However, its current low disbursement absorption and limited outreach are due to operational inefficiencies, not lack of funds. Through the BEAM Project, once reforms are in place, the existing government funding will be far more effective and better utilized, reaching thousands more small-scale fishers and fish farmers in WPP 572 and across Indonesia. The improved IT system and streamlined workflows will be maintained by BLU LPMUKP using its own operational budget, while loan repayments from borrowers will be recycled into new lending, creating a self-sustaining cycle that does not depend on future donor support.

179. The Project-supported exchange of knowledge and lessons learned among sub-grantees will promote future impactful projects, and a regional knowledge center, hosted by a University which plans to continue operating the knowledge center beyond the Project implementation period, will support consistent learning and dissemination of practical information to a wide variety of stakeholders. Recommendations for replicating the BEAM model of protection-production across Indonesia and the region will be developed and embedded in national plans and strategies (e.g., the National Climate Adaptation Plan). This ensures that BEAM's legacy extends beyond WPP 572, influencing marine conservation and sustainable fisheries nationwide.

180. Sustainability will be further supported through the managed closure of Project activities, with the outputs and outcomes of BEAM sustained by Indonesian country partners including government and private sector actors who are involved and embedded as project owners from the outset. Beyond the lifetime of the Project, its impacts are expected to unlock and build the enabling conditions for further private-sector finance solutions to help protect blue carbon and biodiversity, build climate resilience, and promote sustainable livelihoods in perpetuity. The Project's exit strategy is rooted in financial diversification, private-sector engagement, and institutional ownership, ensuring that its impact endures long after the GCF funding period concludes.

SECTION C: FINANCING INFORMATION

C.1. Total financing

(a) Requested GCF funding	**25.49M**		**USD**	
GCF financial instrument	**Amount**	**Tenor**	**Grace period**	**Pricing**
(i) Senior loans				
(ii) Subordinated loans				
(iii) Equity				
(iv) Guarantees				
(v) Reimbursable grants				
(vi) Grants	25.49M			
(vii) Results-based payments				

(b) Co-financing information	**Total amount**		**Currency**		
	36.25		million USD ($)		
Name of institution	**Financial instrument**	**Amount**	**Currency**	**Tenor and grace**	**Pricing**	**Seniority**
Bengkulu Provincial Gov't	In-kind	19.02	million USD ($)			
Lampung Provincial Gov't	In-kind	0.52	million USD ($)			
North Sumatra Provincial Gov't	In-kind	0.50	million USD ($)			
West Sumatra Provincial Gov't	In-kind	1.87	million USD ($)			
Bung Hatta University	In-kind	0.11	million USD ($)			
Ministry of Marine Affairs & Fisheries	In-kind	13.63	million USD ($)			
Konservasi Indonesia	In-kind	0.60	million USD ($)			
Total financing	**61.74**		**Million USD ($)**			

(d) Other financing arrangements and contributions (max. 250 words, approximately 0.5 page)	As indicated in the table above, MMAF and provincial governments will be providing the majority of the co-finance. Contributions from other Project stakeholders can be considered parallel finance, complementing the project. In addition, in-kind contributions of time or other resources to support the Project are expected from local communities and local government bodies. CI will endeavor to track such parallel financing for final project reporting as detailed in the GCF Policy on Co-financing.

C.2. Financing by component

Component	Output	Indicative cost million USD ($)	GCF financing (indicative)		Co-financing (TBD)		
			Amount million USD ($)	Financial instrument	Optionsmillion USD ($)	Financial instrument	Name of Institutions
Component 1: Strengthen enabling conditions	Output 1.1: Development and deployment of evidence-based regulatory frameworks on ecosystem protection, fisheries sustainability, and innovative financing	41.26	6.87	Grants	*18.07* *0.41* *0.46* *1.64* *0.06* *13.15* *0.60*	In-kind In-kind In-kind In-kind In-kind In-kind In-kind	Bengkulu Provincial Gov't Lampung Provincial Gov't North Sumatra Provincial Gov't West Sumatra Provincial Gov't Bung Hatta University Ministry of Marine Affairs & Fisheries KI
Component 2: Locally Led Climate Action + Investment Readiness	Output 2.1: Locally-led climate adaptation projects are effectively implemented and monitored, resulting in enhanced climate resilience of vulnerable communities	8.83	8.83	Grants			
	Output 2.2 Blue carbon and renewable energy projects are effectively implemented and monitored, resulting in reduced GHG emissions	5.47	5.47	Grants			
	Output 2.3: Blue economy enterprises increase investment and expand operations in WPP572.	1.75	1.75	Grants			

	PMC	2.95	1.16	Grants	0.95 0.11 0.04 0.23 0.05 0.41	In-kind In-kind In-kind In-kind In-kind In-kind	Bengkulu Provincial Gov't Lampung Provincial Gov't North Sumatra Provincial Gov't West Sumatra Provincial Gov't Bung Hatta University Ministry of Marine Affairs & Fisheries	
	M&E	1.48	1.41	Grants	0.07	In-kind	Ministry of Marine Affairs & Fisheries	
Indicative total cost (million USD)[58]		61.74	25.49		36.25			

C.3 Capacity building and technology development/transfer

C.3.1 Does GCF funding finance capacity building activities?	Yes ☒ No ☐
C.3.2. Does GCF funding finance technology development/transfer?	Yes ☒ No ☐

181. The Project places substantial emphasis on capacity building and technology development/transfer as integral components of an integrated and sustainable production and protection model for the blue economy. The Project's strategic investment aims to enhance both institutional, market-based and community-level capabilities. At the institutional level, capacity building initiatives will foster improved governance structures and sustainable practices (See **Annex 2, Section 6**). Local communities, including women and other vulnerable groups, will receive targeted capacity building and technologies including solar-powered chiller systems on fishing boats, and AI-powered fisheries data monitoring systems empowering them to actively participate in ecosystem protection and improve livelihoods.

182. The Project will allocate resources to advance technology development and transfer, particularly enhancing information systems to improve the integration of climate and environmental data, contributing to evidence-based decision-making (Activity 1.1.2). Additionally, the project will reinforce effective MPA management practices through strengthening surveillance capacity for MPAs (Activity 1.1.1). Activities relating to testing and deploying new technologies that deliver more resilient livelihoods, such as improved cold chains (renewable energy technology) or reduced waste, will also be supported under Grant Windows 1 and 2 of Component 2. Under Activity 2.3.1, capacity building and technology transfer will be provided to BLU LPMUKP, the government's primary microcredit provider for the marine and fisheries sector. This intervention will deliver a digital loan management system (technology transfer), streamline disbursement procedures to enhance access to credit.

183. While the exact amount of funding allocated for capacity building and technology transfer is contingent on sub-grants issued by the Project, preliminary estimates based on research and market engagement activities conducted during Project design indicate there will be a substantial allocation of Project grant funds to these essential components.

[58] Budget figures are estimated figures provided by the Executing Entities for this draft and are under assessment by the Accredited Entity. Budget figures are subject to change in next submission to the GCF.

EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA

This section refers to the performance of the project/programme against the investment criteria as set out in the GCF's Initial Investment Framework.

D.1. Impact potential (max. 500 words, approximately 1 page)

184. This Project will contribute to the following mitigation and adaptation result areas:
- **MRA1 – Energy generation and access:** The project will contribute to this result area through the deployment of small-scale renewable energy technologies for coastal fisheries, particularly through solar-powered cold-chain and fish preservation systems supported under Activity 2.2.1. These technologies reduce reliance on fossil-fuel-based energy sources and conventional ice production while improving energy access, reducing post-harvest losses, and strengthening the climate resilience and economic viability of small-scale fisheries.
- **MRA 4 – Forestry and land use**: The Project will contribute to this through ecosystem restoration and reduced loss of coastal and marine ecosystems (mangroves, seagrass), which will reduce GHG emissions and increase carbon sequestration (Outcome 2). Protection of coastal and marine ecosystems will also be strengthened by improvement in the management of MPAs via policy support and capacity building (Outcome 1).
- **ARA 1 – Most vulnerable people and communities:** Vulnerable coastal communities will be the primary beneficiaries of grant-based assistance for activities that will strengthen their resilience to climate change through improved livelihoods and food security (Outcomes 1 and 3).
- **ARA 2 – Health, well-being, food, and water security**: Participatory development of improved fisheries, fish preservation techniques, management areas, and reduced pollution will improve the food security of local communities (Outcome 3).
- **ARA 4 – Ecosystems and ecosystem services:** As outlined under MRA 4, the Project will improve the state of marine and coastal ecosystems, which will increase provision of ecosystem services, such as improved habitats for fish species (Outcomes 1 and 2).

Climate change mitigation impacts: see **Annex 22** for more detail

185. The Project's mitigation impact is achieved through three complementary pathways: (i) improved MPA management effectiveness (Activity 1.1.1) contributing 98,680 tCO_2e by the end of the implementation period; (ii) community-led conservation and livelihood interventions (Activity 2.1.1) contributing 365,534 tCO_2e; and (iii) direct ecosystem restoration and renewable energy application (Activity 2.2.1) contributing 19,108 tCO_2e. The baseline for these estimates is derived from localized historical loss rates of mangroves (average 0.2% annually across WPP572) and seagrass (2.82% annually), as detailed in Annex 22. The Project's interventions are designed to be synergistic: the enabling environment established by Component 1 enhances the effectiveness of community interventions under Component 2, while Component 2 restoration activities directly rehabilitate ecosystems that will benefit from improved management conditions.

186. Mangrove and seagrass ecosystems act as critical carbon sinks in WPP 572's (**Annex 22**). The baseline scenario (without Project) indicates that over the next 6 years emissions from loss of intact mangrove and seagrass ecosystems is expected to exceed 941,841 tCO_2e in WPP 572. Over the coming 20-year period blue carbon emissions are projected to be 2.75 million tCO_2e in WPP 572.

187. The BEAM Project, with an implementation period of 6 years (~2027 to 2032) and a lifespan of 20 years until 2046, will reduce blue carbon ecosystems loss through the improvement of marine and coastal ecosystem management outlined in Activity 1.1.1 (Sub-Activity 1.1.1.2) of Component 1, Activity 2.1.1 (Sub-Activity 2.1.1.1, 2.1.1.2, 2.1.1.3), and Activity 2.2.1 (Sub-Activity 2.2.1.1) of Component 2. The activities include support to GoI in improving management effectiveness of the existing MPAs and expansion of new MPAs and OECMs, which will maintain and enhance the health of existing mangrove and seagrass ecosystems in WPP 572. Reinforcing these conservation measures will significantly contribute to protecting existing marine blue carbon stocks and expanding their reach, thereby enhancing the regions' potential as a blue carbon sink.

188. Ecosystem restoration activities outlined in Activity 2.2.1 of Component 2 will also reduce the loss of carbon-rich blue ecosystems. Restoring blue carbon ecosystems through protection, rehabilitation, and replanting will yield both GHG emissions reductions and ecosystem services including improved fisheries breeding grounds, mitigation of erosion, and reduced coastal flooding. BEAM's mitigation interventions are projected to prevent 483,322 **tCO2e** over the Project implementation period and 1,298,901 **tCO2e over 20 years**.

Climate change adaptation impacts: see **Annex 24** for more detail

189. The Project will provide adaptation benefits to vulnerable communities in WPP 572, including fishers, coastal communities in low-lying areas, local organizations, and women. An estimated 355,800 direct beneficiaries in provinces adjacent to WPP 572 and 10M indirect beneficiaries across Indonesia will be positively impacted over the project lifespan. The regulatory reforms undertaken under Component 1 and 2 will positively impact fishers who operate in and around MPAs across Indonesia (indirect beneficiaries) and interventions under Component 2 will directly increase the climate resilience of local communities in WPP572 by increasing their food security and livelihoods. Interventions supported to achieve this reduction in vulnerability include improving catch value from more sustainable fisheries, increased coastal and marine eco-tourism, collaborative management of MPAs, sustainable waste management to reduce pollution, and improved low-carbon climate-resilient livelihoods. See the **Logical Framework** and **Annex 24** for more details.

D.2. Paradigm shift potential (max. 500 words, approximately 1 page)

190. While the concept of the sustainable blue economy has existed and been promoted in Indonesia since at least 2014, the application of the concept has not yet been undertaken at scale. BEAM is designed to address identified barriers and capacity constraints to achieve a **paradigm shift from unsustainable exploitation of marine resources to a climate responsive protection-production model of coastal and marine management.** Key to this vision is the development of scalable, inclusive, and sustainable finance for the blue economy. The Project aims to establish the financial and legal standing necessary for blue enterprise activities while enhancing the enabling environment for ecosystem protection, fisheries sustainability, and innovative financing by improving data collection and governmental regulatory frameworks at both national and sub-national levels. These measures will increase investor confidence in Indonesia's blue economy.

191. The Project will deploy grants in WPP 572, targeting climate adaptation interventions, ecosystem rehabilitation and restoration, and marine and coastal management to achieve reduced vulnerability to climate change, reduced GHG emissions, and create the social and environmental conditions on which blue investments and economic growth rely. The Project design is based on thorough stakeholder engagement, aligns with the GoI policies, and will be implemented in close coordination with the GoI and the private sector - making its interventions adaptable and replicable in other regions of the country to achieve a wider paradigm shift across Indonesia.

192. Recommendations for replicating the BEAM model of protection-production across Indonesia and the region will be developed based on lessons learned from implementation. The Project will seek to embed these recommendations in national strategy documents (e.g., National Climate Adaptation Plan) to ensure replication and scaling of interventions, an approach that is supported by the GoI. To further grow the sustainable blue economy, practitioner-oriented papers and blueprints will be developed to disseminate learnings from the IRW across WPP 572 and Indonesia. Knowledge exchange among sub-grantees under Component 2 will promote future impactful projects, and a regional knowledge center will support ongoing learning.

193. A key element of the desired paradigm is effective and sustainable MPA management. This will be achieved by developing the necessary regulatory framework, inclusion of communities in monitoring, building the capacities for data collection and utilization to inform harvest strategies, and developing financial mechanisms for ongoing effective management of MPAs. With these interventions in place, MPAs will be an effective tool for ensuring the productivity and inclusive economic benefits of the blue economy for all stakeholders. This work in WPP572 will serve as a blueprint for national implementation, demonstrating the potential of well-managed MPAs to enhance fish species diversity and stock volume. Interventions include expanding MPAs' scale to provide benefits to more ecosystems, and creating avenues for blue economy financing of the marine protection–production model.

194. For the Project to achieve a durable paradigm shift, all stakeholders – from community members to national government institutions – must have ownership and experience benefits from the sustainable use of marine resources. BEAM is designed to reflect this requirement by supporting locally-led adaptation and mitigation interventions which are identified and implemented directly by recipients, that address the needs of local communities and utilize local and traditional knowledge to increase their food security, livelihoods, and the quality of the ecosystems on which they depend. Complementing these interventions, the Project will support the government's efforts to improve the enabling environment to support the growth, financial sustainability, and inclusive development of the blue economy in Indonesia. By ensuring that the Project responds to the needs of all stakeholders and is aligned with GoI strategy, a paradigm shift to protection/production in WPP 572, and eventually across Indonesia can be achieved.

D.3. Sustainable development (max. 500 words, approximately 1 page)

195. Sustainable development is the cornerstone of the protection-production model to be implemented by the Project. The overarching goal of BEAM is to move from an economic model where fisheries and other marine resources are under managed and over exploited, leading to poverty and food insecurity; to one where long-term economic growth is achieved for all stakeholders without damaging the critical ecosystems that the coastal economy depends on. BEAM is fully aligned with Indonesia's 2030 Sustainable Development Agenda (*Presidential Regulation No 59*).

196. The Project directly supports progress towards the following United Nations SDGs:

- No Poverty (#1),
  - *Increased and diversified livelihoods of coastal communities in WPP572*
- Zero Hunger (#2)
  - *Improved food security of coastal communities in WPP572*
- Good Health and Well Being (#3)
  - *Improved food security and reduced pollution from waste management interventions and improved ecosystem services*
- Gender Equality (#5)
  - *Gender responsive interventions across BEAM and increasing the capacities of women to more fully participate in the blue economy*
- Clean Water and Sanitation (#6)
  - *Improved waste management and reduced pollution in coastal ecosystems*
- Affordable and Clean Energy (#7)
  - *Provision of renewable energy technology through targeted grants to improve fisheries livelihoods and reduce loss/waste*
- Decent Work and Economic Growth (#8)
  - *Diversified and improved livelihoods for coastal communities; increasing investment in the blue economy to deliver economic growth for all stakeholders.*
- Reduced Inequalities (#10)
  - *Increasing the role of women in fisheries and providing targeted grants to vulnerable populations and communities.*
- Responsible Consumption and Production (#12)
  - *Increasing sustainable production through more effective management practices and reducing over-exploitation of limited marine resources.*
- Climate Action (#13)
  - *GHG emissions reductions and reduced climate vulnerability of beneficiary populations*
- Life Below Water (#14)
  - *Improving the quality and extent of critical coastal and marine ecosystems, improved management of fish stocks and fisheries practices.*
- Peace, Justice, and Strong Institutions (#16)
  - *Capacity building of provincial and national level government and community institutions to manage and sustainably build the blue economy.*

D.4. Needs of recipient (max. 500 words, approximately 1 page)

197. Indonesia is home to some of the most biodiverse marine ecosystems in the world - these ecosystems play critical roles in mitigating GHG emissions, offer numerous climate resilience benefits to coastal communities, and are a key source of income and food security. Within WPP 572, coastal and marine ecosystems and fisheries are projected to experience negative impacts from climate change (**Annex 2, Sections 2 and 3**). Continued degradation of these ecosystems from climate and non-climate factors will result in higher GHG emissions, higher disaster risk for coastal populations, and lower economic productivity. Compounding the impacts of climate change and inadequate management policy is underinvestment in the region, which limits sustainable growth and economic activity that supports both communities and ecosystems.

198. The population adjacent to WPP 572 is more vulnerable than most of the coastal population of Indonesia, with higher rates of poverty and higher reliance on ecosystem services for food security and livelihoods. This reliance on nature makes the population more exposed to climate risk, with rising sea levels, increased sea surface temperatures, and more variable rainfall / extreme precipitation events directly affecting the well-being of coastal populations. Through extensive consultation involving stakeholders at all levels, but focusing on community

representatives, identification of specific challenges was undertaken and approaches were selected and integrated into BEAM design to address local risks and needs.

199. Rather than utilize pre-identification of all Project interventions, it was determined that the most efficient and effective mechanism to sustainably respond to the vulnerabilities of populations and ecosystems is to support locally-led climate action. Through BEAM, communities (including representation from vulnerable and marginalized groups as identified in the GEDSI analysis), local organizations, and the private sector will design interventions that address their needs directly. These interventions will be funded through the Adaptation and Mitigation grant windows under Component 2 and be implemented by the communities and institutions who are most in need of support. Proponents will be encouraged to submit proposals demonstrating a deep understanding of their communities' and businesses' challenges. By empowering local stakeholders to identify and address these needs, the Project will ensure that proposed projects are responsive and tailored to the specific contexts and requirements of each target group.

200. The Project interventions under Component 1 were developed with government partners to directly address the enabling conditions and regulatory needs present in WPP 572. Through engagement with these stakeholders, the suite of activities and deliverables was developed to respond to identified barriers and capacity gaps as identified by the government agencies responsible for the effective management of natural ecosystems and growth of a climate-resilient blue economy that serves coastal populations and helps achieve national objectives. The provision of significant co-finance from Provincial and National government to support the work of Component 1 is a strong indication that the Project is aligned with and responding to the needs of these key stakeholders.

201. The BEAM Project seeks to respond to the needs of vulnerable coastal populations, the government of Indonesia, and the private sector to create a holistic set of interventions whose impact is greater than the sum of its parts. In this way, the Blue Halo S protection-production model can be shown effective at scale, and further replicated and expanded across Indonesia to meet even greater needs.

D.5. Country ownership (max. 500 words, approximately 1 page)

202. The Project was designed in close collaboration with the GoI and its design reflects country ownership through its support for achievement of national climate-relevant objectives. In particular, the Project is aligned with Indonesia's Second Nationally Determined Contributions (SNDC 2025), which is aligned with the RPJMN 2025-2029, the RPJPN 2025-2045, and the LTS-LCCR 2050, and maintains Indonesia's pathway toward net zero emissions by 2060 or sooner. The Project is also aligned with Indonesia's National Adaptation Plan (NAP) submitted to the UNFCCC in 2025, which covers the period 2026-2030 and sets out the pathway toward 2035, including strengthened resilience in economic, social and livelihood, and ecosystem and landscape systems. In addition, the project also supports implementation of Indonesia's FOLU Net Sink 2030 agenda, relevant marine spatial planning and blue carbon policies, and Indonesia's blue economy priorities.

203. BEAM will contribute to reducing the loss of carbon-rich blue ecosystems through the improvement of marine and coastal ecosystem management under Component 1 and through the restoration of blue carbon ecosystems (mangrove and seagrass) under Component 2. These interventions are consistent with the Second NDC, which recognizes the role of integrated terrestrial, coastal, and marine ecosystem management, including blue carbon, marine spatial planning, and the protection and restoration of key ecosystems as part of Indonesia's mitigation and resilience strategy. The Project will also contribute to Indonesia's National Climate Change Adaptation Plan (NAP) 2025 by providing climate adaptation benefits in marine and coastal sectors and increasing the climate resilience of communities, particularly fishers and others who rely on ecosystem services for their livelihoods and food security. In line with the evolving national adaptation framework for 2026-2030 and the pathway toward 2035, the Project will support resilience-building across ecosystem, livelihood, and local economic systems in vulnerable coastal areas.

204. The Project will support the achievement of the MMAF's program on blue economy development. MMAF's program includes the MPA Vision 30x45 (a national initiative to conserve 30% of territorial waters by 2045) and ensuring sustainable, quota-based fisheries. MMAF's work program will be facilitated by the Project's enabling condition activities under Component 1 and support from the Project is essential to fulfil the GOI's ambitious commitments on MPA Vision 30x45. MMAF's program to ensure sustainable fisheries will be supported by Sub-Activity 1.1.1.3 *Reinforce the current Fisheries Management Plan including its Fisheries Harvest Strategy at WPP 572*. The Project

will provide technical assistance to LPMUKP (Marine and Fisheries Capital Fund Agency), aiming to streamline loan disbursement to fishers and SMEs.

205. Indonesia has sought to provide blue economy sectors with various sources of financing and has made the blue economy the focus of national plans, strategies, and international commitments. The establishment of the Indonesia Financial Services Authority (OJK) in 2014 expanded the focus on green banking to include all financial services. OJK, alongside the Ministry of the Environment and Forestry, initiated programs and policies to integrate environmental protection in the financial sector. The introduction of the Sustainable Finance Roadmap (2015–2019), the issuance of green bonds and sukuks, and the establishment of the Indonesia Sustainable Finance Initiative underscore Indonesia's commitment to sustainable finance. Despite these important efforts to mobilize diverse financial instruments, the GoI needs to increase the climate resilience of blue economy sectors through livelihood protection, regulatory reform in ecosystem and marine management, and nature restoration activities. This will allow for more effective use of the financial instruments and facilities developed over the last 25 years. The project will provide policy recommendations, spatial planning outputs, investment priorities, and technical evidence that will feed into the Government's Climate Budget Tagging (CBT) and Regional Climate Budget Tagging (RCBT) policy tools, supporting central and subnational governments in tracking climate-related budget allocations and expenditures for marine and coastal action.

206. Indonesia's RPJMN underscores the country's prioritization of a robustly managed ocean-related sector as a catalyst for achieving national development goals. Specifically, the RPJMN highlights the role of tourism in achieving its overarching objectives, which aligns with one of this Project's key livelihood activities for coastal communities through support for eco-tourism activities. Tourism is a key focus area in Indonesia's quest to bolster its green and blue economic sectors and addressing threats to tourism from climate change is a priority for the GoI.

207. The Project also closely aligns with Indonesia's SDG priority areas including SDG 14: Conserve and sustainably utilize the oceans, seas, and marine resources for sustainable development. In 2020, Bappenas adapted the marine and ecosystem protection targets in SDG 14 to fit the Indonesian context, one of which is to prevent and significantly reduce marine pollution of all kinds from land-based activities, including marine debris and nutrient pollution, by 2025. This target is closely aligned with Project interventions which will reduce pollution of coastal ecosystems from climate change-increased storm activity by improving waste management practices.

208. The direct co-financiers of this Project are the National Government (through MMAF), the EE, a University, and four of the six participating Provincial Governments. Extensive engagements with these government entities have demonstrated and reinforced the alignment of priorities and interventions between ongoing government efforts and those of BEAM.

D.6. Efficiency and effectiveness (max. 500 words, approximately 1 page)

209. BEAM is designed with cost-effectiveness and efficiency as top priorities. By supporting direct climate interventions designed and deployed by local communities and by facilitating access to existing capital, concessional financing, and government programs, the Project will utilize local knowledge, resources, and current financial mechanisms to address climate impacts effectively. In addition, the protection-production model is fundamentally an approach that is designed to increase marine management effectiveness - the health and extent of ecosystems directly impacts the climate resilience of communities and the ability of the sustainable blue economy to grow.

210. The Project is publicly funded, time-limited and focused on delivering public goods and services. It is not designed to generate revenues for the project itself and so financial analysis for the overall project is not relevant. The economic analysis (**Annexes 3a** and **3b**) demonstrates strong project viability. The high, positive NPV of USD 42.3 million indicates substantial net economic benefits to society. The Economic Internal Rate of Return (EIRR) of 29.1% substantially exceeds the 8% social discount rate used, indicating robust economic returns, and the Benefit-Cost Ratio of 1.67 demonstrates efficient use of funding. A financial analysis (see **Annexes 3b and 3c**) was developed for illustrative subprojects of the grant program Windows 1 (Adaptation) and 2 (Mitigation) that enable financial benefits for beneficiaries. The financial analysis demonstrates that the activities designed to achieve climate adaptation and mitigation while improving community livelihoods and strengthening small businesses can be financially viable and therefore self-sustaining.

211. BEAM's approach ensures cost efficiency by utilizing and enhancing existing institutions such as local government services and microfinance cooperatives, reducing the need for new structures and lowering execution costs. The long-term presence and prior work of KI in Indonesia mean the Project can build on a solid foundation with

experienced staff and established organizational frameworks. BEAM also incorporates activities aimed at identifying effective financial tools and support mechanisms to unlock investment in climate change adaptation and mitigation for MSMEs, CSOs, and private sector stakeholders. This strategic focus ensures that the Project remains agile, flexible, and capable of maximizing the impact, replication, and scaling of interventions, thereby enhancing overall cost-effectiveness and efficiency.

212. The complementarity of the Project's two components also contributes to overall efficiency and effectiveness. By building a solid regulatory and management foundation for protection and production in collaboration with government authorities while concurrently funding interventions to build and demonstrate that model, the Project will more effectively build the resilient, low emissions development pathway desired by both the GoI and vulnerable coastal communities. The investments and private sector engagement under Component 2 are supported by the enabling conditions built under Component 1, and the three grant windows under Component 2 complement each other to create the production-protection paradigm sought by the Project.

213. Adaptive management is integral to the Project, allowing for continuous refinement of data collection methods, evolving ecosystem understanding, and flexible community support. This commitment to ongoing learning and reflection will ensure the Project can efficiently adapt to new challenges and opportunities, thereby increasing its effectiveness and responsiveness over the course of implementation. To support adaptive management efforts, internal lessons will be systematically captured and shared across technical teams through the PMU. In parallel, insights and lessons from grantees under Component 2 will be disseminated though the knowledge management and learning hub under Component 1, and grant making decisions over the Project implementation will be informed by prior successes / challenges encountered.

LOGICAL FRAMEWORK

*This section refers to the project/programme's logical framework in accordance with the **GCF's Integrated Results Management Framework** to which the project/programme contributes as a whole, including in respect of any co-financing.*

E.1. Project/Programme Focus

Please indicate whether this proposal is for a mitigation or adaptation project/programme. For cross-cutting proposals, select both.

☒ Reduced emissions (mitigation)

☒ Increased resilience (adaptation)

E.2. GCF Impact level: Paradigm shift potential (max 600 words, approximately 1-2 pages)

Assessment Dimension	Current state (baseline)		Potential target scenario (Description)	How the project/programme will contribute (Description)
	Description	**Rating**		
Scale	The Blue Economy concept is relatively newly adopted in Indonesia. While Article 14 of Law 32 of 2014 on Marine[59], the country's Blue Economy Development framework was published in 2021 [60], highlighting the need for innovative finance mechanisms and support for pipeline development to unlock the potential of the sector. The GOI expects that the implementation of the Blue Economy will support the country to meet its emission reduction target in the Enhanced NDC: 31.89% unconditionally and 43% conditionally against the 2030 BAU scenario[61]. The GoI divides Indonesia's fishery management areas (WPP) into eleven	Low	The project aims to create a climate responsive blue economy that supports vulnerable populations and the ecosystems on which they depend by enhancing ecosystem protection, fisheries sustainability, and innovative financing at the provincial level by aligning subnational policies and incentives with national goals: • Improve science-based management of marine protected areas and coastal ecosystems in Indonesia • Increase knowledge and capacity to develop innovative finance mechanisms for protection of blue carbon ecosystems and biodiversity conservation, thereby enhancing ecosystem services • Increase climate resilience of vulnerable coastal populations through improved/ diversified	The Project is designed to create a replicable model for climate-responsive blue economy development that can be scaled nationally, through: • Enhancing policies on ecosystem protection and fisheries sustainability, and innovative financing (Activity 1.1.1). In this activity, the project will provide necessary technical assistance to the national and local government for effective implementation of national vision and policies (RPJMN) and support the development of relevant policies. • Through **Activity 1.1.1**, the Project supports the establishment of a new national Marine Protected Area (approximately 3 million hectares) and the expansion of two provincial MPAs (approximately 713,000 hectares combined), significantly increasing the area of coastal and marine ecosystems under improved management. The Project also supports implementation of fisheries management measures across the entirety of

[59] Kelautan (Marine), Undang-undang Republik Indonesia Nomor 32 Tahun 2014 (Republic of Indonesia Constitution Number 32 Year 2014). https://peraturan.bpk.go.id/Details/38710

[60] Bappenas· (2021). Blue Economy Development Framework for Indonesia's Economic Transformation. In L. A. A. T. Sambodo, S. Yanti, D. D. P. Pane, & A. Sim (Eds.), https://perpustakaan.Bappenas.go.id/e-library/file_upload/koleksi/dokumenBappenas/file/Blue Economy Development Framework for Indonesias Economic Transformation.pdf

[61] Republic of Indonesia. (2022). *Enhanced Nationally Determined Contribution Republic of Indonesia*. https://unfccc.int/sites/default/files/NDC/2022-09/ENDC Indonesia.pdf

	regions [62] , and there is potential for scaling-up successful interventions and policy improvements in other WPPs based on learning from this BEAM Project. The Ministry of Marine Affairs and Fishery launched a Blue Economy project in the eastern region of Indonesia (FMA 714, 715, 718), called Lautra, funded by the World Bank, under implementation since 2023[63,64].		livelihoods and improved food security. • Create a successful model to scale to the rest of Indonesia and beyond	WPP 572, a fisheries management area covering approximately 94.3 million hectares and supporting approximately 14 million coastal residents. • Strengthen Indonesia's fisheries and ecosystem data systems (Activity 1.1.2) by training local universities, fisheries management units, and MPA technical units. This will ensure that science-based management approaches piloted in WPP 572 can be sustained, validated, and replicated in other WPPs. • The Knowledge Management and Information System (Activity 1.1.3) will serve as a centralized platform to document and disseminate methodologies, success stories, and lessons learned, which will be accessible to policymakers and practitioners nationwide. • A structured on-granting mechanism in the Component 2 will demonstrate how community-level interventions can deliver both climate adaptation and mitigation impacts, and enhancing the investment readiness and capacity of blue economy actors to sustainably create climate-responsive growth. These grant windows enable interventions to be implemented simultaneously across a broad geographic area, reaching vulnerable coastal communities, fisheries-dependent households, local organizations, cooperatives, and MSMEs. In parallel, Activity 2.3.1 strengthens BLU LPMUKP's lending systems, enabling affordable finance to reach a substantially larger number of small-scale fishers, fish farmers, and blue economy enterprises than is currently possible. • The Project's transformation pathway is based on three mutually reinforcing scaling mechanisms. First, the Grant Facility will fund and test locally led

[62] Jalur Penangkapan Ikan dan Alat Penangkapan Ikan di Wilayah Pengelolaan Perikanan Negara Republik Indonesia dan Laut Lepas (Fishing Routes and Fishing Equipment in the Fisheries Management Areas of the Republic of Indonesia and the High Seas), Pub. L. No. 59/PERMEN-KP/2020 (2020). https://peraturan.bpk.go.id/Details/159488/permen-kkp-no-59permen-kp2020-tahun-2020

[63] Tempo. (n.d.). Insan Terang Lautra: Jurus KKP Kembangkan Kawasan Konservasi (Insan Terang Lautra: MMAF Steps to Develop Conservation Areas). 2022. Retrieved September 4, 2023, from https://nasional.tempo.co/read/1659056/insan-terang-lautra-jurus-kkp-kembangkan-kawasan-konservasi

[64] World Bank. (2023). Lautan Sehat, Masyarakat Sehat: Proyek Baru akan Memperkuat Ketahanan Daerah Pesisir dan Ekonomi Biru di Indonesia (Healthy Oceans, Healthy Communities: New Project Will Strengthen Coastal Resilience and Blue Economy in Indonesia). https://www.worldbank.org/in/news/press-release/2023/03/23/healthy-oceans-healthy-communities-new-project-will-boost-coastal-resilience-and-strengthen-blue-economy-in-indonesia

				adaptation and mitigation models that demonstrate technical, social, and financial viability in WPP 572. Second, successful approaches will be documented through the Knowledge Management and Information System and integrated into government planning, MPA management systems, fisheries management frameworks, and provincial implementation guidance, creating pathways for replication beyond project-supported sites. Third, the Project will strengthen financing mechanisms for the blue economy by improving BLU LPMUKP's lending systems and investment readiness functions, creating a pathway through which successful grantees, cooperatives, MSMEs, and community enterprises can transition from grant finance to longer-term concessional credit and other financing sources. Under Output 2.3, this scaling pathway is operationalized directly through institutional strengthening of BLU LPMUKP's loan processing systems and financing functions. The resulting improvements are expected to increase BLU LPMUKP's loan disbursement capacity across multiple WPPs in Indonesia where the institution operates, rather than solely within WPP 572, providing and early and measurable demonstration of the Project's paradigm shift potential within the results framework itself, rather than only as a post-project replication aspiration. Together, these mechanisms are designed to support scaling beyond the Project geographic area and beyond the Project period of performance through government adoption, institutionalization, and increased access to sustainable finance. • All interventions will be undertaken in collaboration with the GoI and in alignment with national strategy and plans to ensure buy in, sustainability, and replicability.

Replicability	The GoI is eager to develop the Blue Economy, considering the country's substantial ocean resources. It aims to generate more income, promote sustainable livelihoods for people living near the coast, and safeguard marine biodiversity by restoring the marine and coastal ecosystem. The GoI has addressed these aims in their policy documents including medium and long-term development plans (RPJMN and RPJPN). However, these national plans are not necessarily aligned with local plans, regulations, and budget. Without support from development partners, the replicability of the blue economy is 'medium'.	Medium	Replication of the BEAM model will stem from the improved enabling environment (national institutional and regulatory frameworks that are aligned with the sub-national ones and supported with sufficient budget), developed standards, guidelines, systems, lessons learned, and best practices that could be implemented or adopted by similar projects in different WPP areas across Indonesia. Government and non-government organizations will replicate the following activities as they will be involved in and exposed to the Project: (i) guideline and selection criteria to choose grantees, (ii) management of Marine Protected Areas (MPAs) and coastal ecosystems, (iii) methods for effective adaptation and mitigation, (iv) management and technical best practices, for example, sustainable grant disbursement, stakeholder engagement strategies, and governance arrangement model, (v) blue enterprise development and innovative financing model. Financing schemes that might fund the project's replication include the state budget (*APBN*), the subnational budget (APBD), and the village fund (Dana Desa). Because governments at different levels see the advantages of implementing the blue economy, they will replicate the activities using these budgets. More specifically, the government will fund the project replications if they align with the national development plans. It is anticipated that the BEAM interventions will allow for / build the enabling conditions for	The Project will contribute to the replicability of interventions through: Component 1, which aims to improve the enabling environment for ecosystem protection, fisheries sustainability, and innovative financing. This component will strengthen the buy-in of the stakeholders by improving the financial and legal standing necessary for the implementation and replication of blue economy at the national and sub-national levels. This component covers: - Provision of technical assistance to government at all levels to develop policy and innovative financing (Activity 1.1.1). Under this activity, the Project will create tangible policy products that other provinces and WPPs can directly adopt or adapt. These includes: 1) provincial-level SOP and guidelines, a national-level policy recommendations for PPP (Public-Private Partnership) mechanisms in MPA management, and a Harvest Strategy for pelagic fisheries in WPP 572. - Building institutional capacity and systems for fisheries and relevant coastal and marine ecosystems data (Activity 1.1.2**.**). This activity will invest in human capital (through capacity building) and data infrastructure. - Establish a knowledge management and learning center for active dissemination of the project (Activity 1.1.3). The center will serve as centralized, accessible repository of methodologies, tools, and data. The center will also serves as a showcase, so that the project can demonstrate its achievements and success and the pathways to achieve them. Hence, stakeholders within and outside the project areas will benefit from lessons learnt and best practices on the issues supported and experienced by the project. Component 2 will manage grants for adaptation, mitigation, and catalytic blue economy investments. Government and non-government organizations including community members and businesses with

			the deployment of other innovative financial mechanisms in the future (e.g. blue bonds)	sustainable protection and production knowledge and skills gained from the project interventions are expected to develop climate resilience-coastal ecosystems, livelihoods, blue enterprises and their expansion outside WPP 572. Emphasis / prioritization will be taken to support women led organizations and indigenous community organizations where possible. Capacity building and training throughout all activities. Participants with strengthened capacity can implement, or transfer their knowledge to their peer groups, in other projects.
Sustainability	The Blue Economy concept aligns with national policies, including the medium and long-term development planning documents (RPJMN and RPJPN). It also aligns with global initiatives (e.g. SDG 14). At the national level, some relevant institutional and regulatory frameworks are available and operational. The GoI also allocated some budget for Blue Economy development. However, these still need to be strengthened and aligned with those at the subnational level, which lacks institutional and regulatory frameworks and budget allocation. Moreover, practices and customs that are counterproductive towards or impede the achievement of national goals are experienced in WPP 572. Some examples are IUU fishing by foreign[65] and local[66] ships, and unsustainable developments (e.g., hydroelectric power	Low	The institutional and regulatory frameworks and resource allocation for ecosystem protection, fisheries sustainability, and innovative financing at the national level are improved (in quantity and quality), considering the country's wide area coverage and complex issues related to the Blue Economy development. Regulatory frameworks are aligned and coherent with and supported by the sub-national governments. Sub-national government will have relevant institutional and regulatory frameworks, allocate sufficient resource to ensure its effective implementation, and can seek external funding and establish innovative financing schemes to grant relevant project as necessary in the future. Blue economy enterprise partners (with increased income, assets, linked to market and financing access) as a result of the BEAM interventions, may become catalysts or guarantor for further investments, investors,	The project ensures that its policy outputs become part of Indonesia's permanent governance architecture. The Harvest Strategy being developed for key pelagic species will be integrated into Indonesia's quota-based fisheries policy, with built-in annual monitoring and evaluation that makes adaptive management a routine government function. Provincial-level SOPs and guidelines, along with formal working groups (Pokja) for MPAs and blue financing mechanisms, embed blue economy principles into permanent government structures and operations that continue functioning beyond the project timeline. At the institutional level, Activities 1.1.1 and 1.1.2 strengthen government capacity, fisheries management systems, MPA governance, and climate-responsive decision-making processes. These institutional improvements remain in place after Project completion and become part of routine government operations. The Project also supports the establishment and operationalization of Regional Public Service Agencies (BLUDs) and sustainable financing mechanisms that allow revenues from tourism, ecosystem services, and other sources to be retained and reinvested into MPA management and conservation activities. This reduces long-term dependence on donor financing and helps create financially sustainable MPA systems.

[65] Indonesia Ocean Justice Initiative. 2021. "*Ancaman IUUF Dan Keamanan Laut Indonesia – September Oktober 2021* (IUUF Threats and Indonesian Maritime Security – September October 2021)." Retrieved May 28, 2024 (https://oceanjusticeinitiative.org/2021/10/21/ancaman-iuuf-dan-keamanan-laut-indonesia-september-oktober-2021/).
[66] Permana, Munzir. 2024. "*Praktik Ilegal Dan Destructive Fishing Ancam Perairan Laut Aceh* (Illegal and Destructive Fishing Practices Threaten Aceh's Sea Waters)." *Radio Republik Indonesia*. Retrieved May 28, 2024 (https://www.rri.co.id/hukum/548093/praktik-ilegal-dan-destructive-fishing-ancam-perairan-laut-aceh).

	plants[67], land concessions[68] for palm oil and mining in the provinces of Aceh and North Sumatra) which can adversely affect coastal communities.		and donors or philanthropists who will provide grants to support similar projects. Healthier marine and coastal ecosystem, climate-resilient community with access to enhanced sustainable livelihood (human, natural, financial, physical, and social capital).	The project will invest in training that outlasts the intervention itself. Local universities and MPA technical units will receive training on ecological and socioeconomic surveys, ensuring scientific monitoring methods are embedded in local institutions that can train others. Fisheries enumerators and technical units are trained in data collection and stock assessment, building a permanent cadre of government and local experts who maintain monitoring systems and advise on management decisions. Technical assistance provided to all sub-grantees (Component 2) equips community organizations with enduring skills in project management, financial accountability, and sustainable practices that they retain and apply to future initiatives. The project will work closely with the national and sub-national governments, academia, private sectors, media, and marine and coastal communities and organizations to build their capacities and good governance arrangements towards and develop Blue Economy. Through the BEAM grant support to research and dissemination and project documentations (monitoring, evaluation, reporting, and learning) the project will learn about and improve practices that can be implemented and sustained. The project will ensure gender-balanced proportion in the involvement of stakeholders and to engage the most vulnerable groups in every stage of intervention, including indigenous communities / peoples. The project will also ensure that each intervention complies with the sustainability principles. For example, the project will ensure the quality and sustainability (eco-

[67] Sulityo, Dwi Prayogi. 2018. "Pembangunan PLTA Batang Toru Rugikan Masyarakat Dan Lingkungan Sekitar *(The development of the Batang Toru Hydroelectric Power Plant is detrimental to the surrounding community and environment)*." *Kompas Media*. Retrieved May 28, 2024 (https://www.kompas.id/baca/utama/2018/09/20/pembangunan-plta-batang-toru-rugikan-masyarakat-dan-lingkungan-sekitar).
[68] Doaly, Themmy. 2024. *"Lingkungan Sumatera Makin Terancam Masa Pemilu, Walhi Tuntut 7 Agenda Pemulihan (Sumatra's Environment Increasingly Threatened During Election, Walhi Demands 7 Recovery Agendas)*." *Mongabay*. Retrieved May 28, 2024 (https://www.mongabay.co.id/2024/01/20/lingkungan-sumatera-makin-terancam-masa-pemilu-walhi-tuntut-7-agenda-pemulihan/).

				friendly, certified) of the equipment and materials employed. Furthermore, the project will expect the active participation of the marine and coastal communities to plan, implement, manage and maintain the results of adaptations carried out. So, they will be able to do it independently, and the ecosystems will be taken care of, beyond the project period. Financial sustainability is strengthened through Activity 2.3.1, which provides technical assistance to BLU LPMUKP. The Project finances the modernization of loan management systems, streamlining of lending procedures, and staff training. Once established, these systems continue operating beyond the Project period, enabling BLU LPMUKP to sustainably provide affordable credit to fisheries-sector MSMEs. Because BLU LPMUKP operates a revolving loan model, repayments can be recycled into future lending, allowing benefits to continue and expand without ongoing donor support. Finally, sustainability is reinforced through the Project's financing continuum. Windows 1 and 2 provide grant funding to help communities, cooperatives, and MSMEs overcome early-stage barriers and develop viable climate-resilient enterprises. Activity 2.3.1 then creates pathways for successful beneficiaries to access concessional finance through BLU LPMUKP and other financing sources, enabling continued growth and reducing future reliance on grant support. This transition from grant finance to sustainable financing creates a long-term pathway for maintaining and expanding Project impacts beyond the GCF funding period.

E.3. GCF Outcome level: Reduced emissions and increased resilience (IRMF core indicators 1-4, quantitative indicators)						
GCF Result Area	**IRMF Indicator**	**Means of Verification (MoV)**	**Baseline**	**Target**		**Assumptions / Note**
				Mid-term	**Final**[69]	
Total GHG emission reduction	Core 1: GHG emissions reduced, avoided or removed/sequestered	Consolidated from the MRA4 and MRA1 rows below; Verified by the independent carbon verifier's report	0 tCO_2 eq.	170,461 tCO_2e reduced, avoided or removed/ sequestered,	483,322 tCO_2e reduced, avoided or removed/ sequestered, 1,298,901 tCO2e (lifespan)	**Assumption:** Enabling environment permits development, management, and formalization of new and existing Marine Protected Areas (MPA) and Effective Area-Based Conservation Measures (OECMs) as well as rehabilitation and restoration of mangroves and seagrass in WPP 572. Costs of environmental restoration and conservation remain stable **Note**: Please see **Annex 22** for full assumptions and calculations.
Total Adaptation beneficiaries	Core 2: Direct and indirect beneficiaries reached	Consolidated from the ARA1, ARA2 and ARA4 rows below; Tracked through the project DBMS beneficiary register, de-duplicated per Annex 24.	0	177,900 direct (88,950 female and 88,950 male) 0 indirect 0 indirect	355,800 direct (177,900 female and 177,900 male) 1,168,548 indirect (584,274 female and 584,274 male) 10,737,504 indirect (5,368,752 female and 5,368,752 male)	Mid-term target assumes half of planned grant making to direct beneficiaries is achieved by mid-term. All indirect beneficiaries will be achieved in the second half of Project implementation with national policy adoption, as well as the scaling of climate-resilient blue economy financing. Note: Please see Annex 24 for full calculations and assumptions.
MRA4 Forestry and land use	Core 1: GHG emissions reduced, avoided or	Independent carbon verifier's report, drawing on MMAF GIS data and remote-sensing analysis of mangrove and seagrass	0 tCO_2 eq.	**Nature restoration:** 3,363 tCO_2e.	**Nature restoration:** 18,835 tCO_2e.	**Assumption:** - Interventions will enhance carbon sequestration and

[69] The final target means the target at the end of project/programme implementation period. However, for core indicator 1 (GHG emission reduction), please also provide the target value at the end of the total lifespan period which is defined as the maximum number of years over which the impacts of the investment are expected to be effective.

	removed/sequestered	extent with field confirmation.		**Reduced deforestation/degradation (Improve MPAs):** 166,961 tCO_2e.	**Reduced deforestation/degradation (Improve MPAs):** 464,213 tCO_2e.	storage and lead to decreased greenhouse gas emissions. - Additionally, the rehabilitated and restored ecosystems will act as natural buffers, protecting marine and coastal communities and biodiversity against climate change impacts. **Notes:** Targets are based on projections of the grants to be issued for ecosystem restoration. Methods: SNI 7717:2020 and SNI 7716:2012 protocols; Annex 22 GHG methodology. Please see Annex 2 and Annex 22.
MRA1 Energy generation and access	Core 1: GHG emissions reduced, avoided or removed/sequestered Supplementary 1.4: Renewable energy generated	Installation and commissioning /utilization records for solar chiller systems, verified by grantee report	0 tCO2 eq. 0 MWh	136 tCO_2e reduced/avoided 182.5 MWh	273 tCO_2e reduced/ avoided 365 MWh	**Assumptions:** - The mitigation impact of solar-powered chillers is calculated using an emission factor-based approach. - Baseline emissions assume grid-powered ice production/freezer use, while solar-powered freezers produce no emissions during operation. - The calculation assumes 250 solar freezers. **Notes:** Targets are based on projections of the grants to be issued for renewable energy. Method: Grantee

						reports will be used for monitoring GHG reductions. Please see Annex 2 and Annex 22.
ARA1 Most vulnerable people and communities	Core 2: Direct and indirect beneficiaries reached	Derived from Supplementary 2.1 and 2.5 below.	0	Total: 93,230 beneficiaries with improved resilience from adopting climate-resilient livelihood options and resilience-enhancing innovations (46,615 male and 46,615 female)	Total: 186,460 beneficiaries with improved resilience from adopting climate-resilient livelihood options and resilience-enhancing innovations (93,230 male and 93,230 female)	**Assumption:** - Target beneficiaries adopt and derive climate resilience benefits from improved or new climate-resilient livelihood options, practices, technologies, and innovations supported by the project, including sustainable and diversified fisheries, climate-resilient ecotourism enterprises, ecosystem restoration approaches, renewable-energy-powered technologies, climate-informed business and financing models, knowledge products and learning platforms (KLC/KMIS), and livelihood opportunities linked to collaborative MPA management and ecosystem stewardship. **Notes:** Data will be collected through the project's baseline, midterm, and end-line household livelihood studies and disaggregated by gender and sector/role. The total population of Indigenous Peoples (IPs) is currently unknown; therefore, no specific IP beneficiary target is included, although grant applications from

						IP communities will be affirmatively targeted. The latest national population and socio-economic survey data (BPS/SUSENAS) will be used as a contextual benchmark.
	Supplementary 2.5: Beneficiaries (female/male) adopting innovations that strengthen climate change resilience	Project baseline, midline and endline household livelihood surveys that record innovations adopted	0	Total: 60,620 Beneficiaries (female/male) adopting innovations that strengthen climate change resilience (30,310 male and 30,310 female)	Total: 121,240 Beneficiaries (female/male) adopting innovations that strengthen climate change resilience (60,620 male and 60,620 female)	**Assumption:** - Target beneficiaries adopt improved / new climate resilient livelihood options obtained from the project interventions, including knowledge products and learning platforms (KLC/KMIS), ecosystem restoration approaches, renewable-energy-powered technologies, and climate-informed business and financing approaches.
ARA2 Health, well-being, food and water security	Core 2: Direct and indirect beneficiaries reached	In this case, the Core 2 beneficiary calculation refers to beneficiaries with improved food security. MoV: Grantee reports that integrate FAO Food Insecurity Experience Scale (FIES) indicators, along with BAPANAS IKP/FSVA data and Indonesia's BPS. Grantee data (sex disaggregated) to be collected at baseline, midterm and end of project.	0	Total: 84,670 Beneficiaries (female/male) with improved food security (42,335 male and 42,335 female)	Total: 169,340 Beneficiaries (female/male) with improved food security (84,670 male and 84,670 female)	**Assumption:** - Target beneficiaries improve food security through increased access to and availability of aquatic foods, sustainable fisheries and mariculture production, and ecosystem services from conserved and restored marine and coastal ecosystems. **Notes:** Data will be collected through baseline, midterm, and end-line household food security surveys and disaggregated by gender. Indigenous Peoples (IPs) will be targeted, but quantified targets cannot be established at the FP stage. Bapanas IKP/FSVA and

						BPS data will serve as contextual benchmarks, complemented by grantee reporting using the FAO Food Insecurity Experience Scale (FIES) methodology.
ARA4 Ecosystems and ecosystem services	Core 4: Hectares of natural resources brought under improved low-emission and/or climate-resilient management practice	MMAF GIS data and legal instruments (MPA/OECM designation decrees); baseline, midline and endline studies by third-party contractor; grantee monitoring reports, EVIKA assessment for MPA management effectiveness In this case, the figures presented do not include data from Supplementary 4.1 below, which refer to ecosystem restoration.	1,319,058 ha of existing MPAs	- Existing MPAs in WPP 572: 1,319,058 ha	- Existing MPAs in WPP 572: 1,319,058 ha - New expansion of MPAs and OECMs: 3,000,000 ha Total area: 4,319,815 ha	**Assumption:** - MPA and OECM designation, expansion, and management effectiveness improvements are achieved as planned through support to government partners and community-based management arrangements. **Notes:** - Marine Protected Areas: Designated/*Ditetapkan* 974,626 ha; Reserved/*Dicadangkan* 344,432 ha - MPA expansion in WPP 572 by the end of 2023 surpassed 1.3 million ha. - OECM-TBD Mangrove and seagrass mapping will adhering to SNI 7717:2020 and SNI 7716:2012 protocols.
	Supplementary 4.1: Hectares of terrestrial forest, terrestrial non-forest, freshwater and coastal marine areas brought under resoration and/or improved ecosystems	Baseline, midline and endline studies by third-party contractor; grantee monitoring reports.	0 ha	- Mangroves restoration: 102.4 ha - Seagrass restoration: 6 ha. Total nature restoration: 108.4 ha	- Mangroves restoration: 285 ha - Seagrass restoration: 6 ha Total nature restoration: 291 ha	**Assumption:** - Sufficient grants are issued to restore the hectares indicated - Restored areas demonstrate sustained ecological recovery and remain under improved management during the project lifetime. **Notes:** - Mangroves 36,040 ha - Seagrass 24,854 ha - Coral Reefs: 170,520 ha

						Details on data sources on restoration of mangroves and seagrass are provided in **Annex 22**. Provision of support to MPA authorities and BEAM grants mechanism are expected to improve the quantity and quality of the ecosystems. Mangrove and seagrass mapping will adhering to SNI 7717:2020 and SNI 7716:2012 protocols.
ARA4 Ecosystems and ecosystem services	Supplementary 4.3: Tonnes of fish stock brought under sustainable management practice	Independent fish landing survey conducted by project staff, combined with MMAF fisheries production statistics.	Baseline indicators for the estimated MSY will be established within 1 year of project inception	NA - No mid-term target is set for this indicator, as the estimated MSY requires an effort data to be reliably estimated using surplus production models.	Estimated MSY (in tonnes) for priority pelagic species is maintained or increased by at least 5% from the baseline	**Assumptions** - Sufficient data on catch, effort, and species composition will be collected through the Project's fisheries monitoring activities (Sub-Activity 1.1.2.2) to enable robust re-estimation of MSY at end-line (Y5) - Improvements in stock status (reflected in increased MSY) are attributable to improved fisheries management practices, including the implementation of the Harvest Strategy and quota-based management. **Notes** - MSY is the standard fisheries management reference point used by MMAF to determine allowable catch and set quotas. - The fishery target commodities for this indicator are pelagic fishes, which are the primary commercial and subsistence species in WPP 572. - Surplus Production Model methodology will be applied

E.4. GCF Outcome level: Enabling environment (IRMF core indicators 5-8 as applicable)					
Core Indicator	**Baseline context (description)**	**Rating for current state (baseline)**	**Target scenario (description)**	**How the project will contribute**	**Coverage**
Core Indicator 5: Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low emission climate-resilient development pathways in a country-driven manner	The GoI allocates significant national funding for mitigation and adaptation actions in 2020–2030. However, national funding and policy do not necessarily align with sub-national institutional and regulatory frameworks. This is because local governments have their authority, regulation, and budget allocation based on Law No. 22/1999 on decentralization, which was revised by Law No. 32/2004 and Law No. 23/2014, respectively. Law 23/2014 in Indonesia significantly impacts establishment and management of Marine Protected Areas (MPAs) and blue carbon ecosystem conservation, transferring provincial government authority to the central government. This includes the identification of MPAs of national significance, such as marine conservation areas.	*medium*	Institutional and regulatory frameworks at the national level are: (i) coherent with the sub-national plan documents and strategies; (ii) supported with budget allocations and annual expenditures from central sources; (iii) reporting increased investment in the blue economy, climate, and sustainable development sectors;	Assessing the coherence of existing institutional and regulatory frameworks at national and sub-national levels, producing recommendations and providing necessary assistance to enhance them through Activity 1.1.1. It specifically aims at enhancing institutional and regulatory frameworks for ecosystem protection, fisheries sustainability, and innovative financing. Facilitate regulation revisions and development of new regulations to promote MPAs and conservation areas, thereby reducing greenhouse gas emissions. The project aims to conserve and restore carbon-rich ecosystems in WPP 572, utilizing small-scale renewable energy to reduce GHG emissions and enhance climate resilience. Promote the production, update, consolidation, and better use of data on fisheries and relevant coastal and marine ecosystems. This will contribute to the evidence-based recommendation or establishment of new policies and the rescinding and/or adjustment of outdated policies.	*National level (one country)*
Core indicator 7: Degree to which GCF Investments contribute to market development/tra	MSMEs are the backbone of Indonesia's economy, contributing 61% of the GDP and employing nearly 97% of the workforce. However, they contribute less than 16% to exports and face significant challenges including: (i) limited access to finance; (ii) knowledge of how to sell	*low*	The quantity and quality of Blue Economy-aligned enterprise partners (including MSMEs) is growing. The project expects that the 2X	The project will use the criteria or guidelines developed to assess and choose those enterprises that are qualified to get assistance, including funds, as described in the Investment Readiness Window Implementation Plan.	*Multiple sub-national areas within*

nsformation at the sectoral, local, or national level	to and access the market; (iii) awareness and knowledge of how to do sustainable business; (iv) low productivity and innovation ; (v) informal set-up; and (vi) intrinsic market failures applicable to the blue economy, such as unproven higher risk perceptions or market access challenges		Criteria [70] on the global baseline standard of gender lens investing will be achieved. Through the project interventions, the following scenario of the blue economy market and investment in Indonesia are expected: Improved deal pipeline and investment readiness for MSMEs, startups, and project developers in eligible blue sectors in WPP572 coastal region, while incentivizing businesses to expand in the project target geography. Local/regional investors and businesses to raise capital through blue sector focused financial products and to allocate capital for the growth of blue economy are catalyzed; Local and foreign sources of capital for blue economy investments in Indonesia are unlocked; A thriving blue economy ecosystem in target geography is enabled	Moreover, through Activity 2.3.1, BEAM targets: (i) developing enterprise access to finance; (ii) conducting action-oriented research papers; (iii) providing technical assistance, and; (iv) market building and industry advocacy. The Project will: • Foster new blue economy enterprises through grants and technical assistance, addressing knowledge gaps and capital allocation to increase investor proficiency and capital allocation in the blue economy. • Assess the blue practices of the program's sub-grantees and build their capacity to adopt and integrate sustainable blue practices. • Bring together various stakeholders in the blue economy, including enterprises, banks, investors, NGOs, and local and national governments, to strengthen their capacity and commitment to scale the blue economy in WPP572 region and Indonesia.	*a country*

[70] 2X Challenge. (2024). *2X Criteria Reference Guide. February 2024.* https://static1.squarespace.com/static/5b180402c3c16a6fe0001e45/t/65e72c44689786427b5b0889/1709648967612/2X+Criteria+Reference+Guide_February+2024.pdf

Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards	Indonesian organizations have been sharing knowledge on sustainable livelihoods, climate change adaptation, and mitigation strategies through various methods, including websites, workshops, and online learning processes. For example: 1. Workshop on Blue Carbon Indonesia Strategy for Achieving Nationally Determined Contribution (NDC) Targets and Implementation of Carbon Economic Value (NEK) that was organized hybrid by MMAF, JICA, and UNDP on 24 January 2023[71]. 2. Climate Risk and Impact Assessment of Pekalongan, Indonesia[72]. 3. Knowledge generated by USAID – APIK (*Adaptasi Perubahan Iklim dan Ketangguhan* – Climate Change Adaptation and Resilience)[73] At the sub-national level, knowledge generation and sharing primarily focuses on Java. This can be concluded from the number of disaster-related, including climate-related disaster research publications, focused on the island [74], despite its relatively lower multi-hazard disaster risk index. 4. The Directorate of Climate Change Adaptation at The Ministry of Environment	*low*	Standards, guidelines, systems for inclusive implementation, monitoring, and evaluation, and best practices are developed to: (i) target a transition toward a blue economy that encourages evidence generation; (ii) recognize and address the needs of women and most vulnerable groups; (iii) strengthen analytic capacity and knowledge building; (iv) enhance policy and decision making; (v) be supported by fit-for-purpose grants that help businesses align investments with climate and sustainable development outcomes; (vi) share lessons about what works and what does not work among diverse stakeholders at provincial and national levels; (vi) feed into timely reviews and adaptive management.	BEAM will specifically target: i) inclusive production and consolidation of up-to-date data for improved management of fisheries and marine and coastal ecosystems (Activity 1.1.2.) ii) establishment of knowledge management and learning center which acts as a hub for capacity building, knowledge collections, exchange and sharing, and amplification of the project's outputs and achievements, as well as building lessons learned (Activity 1.1.3). iii) capacity building in all activities for the improvement of enabling environment, climate change adaptation, mitigation strategies, investment readiness, and grant management. The project will generate standards, guidelines, implementation mechanisms, monitoring, evaluation, and best practices. A key differentiator is that BEAM will focus on applied knowledge generation and application of good practices. Drawing from the learnings of blue economy enterprise development through integrated demand and supply -side interventions, the project aims to create a blueprint for scaling across Indonesia. Action-oriented research papers will provide insights and guidance to the government and private sector on expanding blue economy sectors beyond the fisheries sector in WPP572.	*Multiple sub-national areas within a country*

[71] CMMIA. (2023). Workshop on Blue Carbon Indonesia Strategy for Achieving Nationally Determined Contribution (NDC) Targets and Implementation of Carbon Economic Value (NEK). https://www.youtube.com/watch?v=oc0euaVwbcM
[72] Syam, D., Wengi, K., & Gandapurnama, A. (2021). Climate Risk and Impact Assessment of Pekalongan, Indonesia. In Technical Working Report (Issue July). https://www.mercycorps.or.id/sites/default/files/dokumen/Climate risk and impact assessement_Pekalongan_MercyCorpsIndonesia_final.pdf
[73] USAID APIK | weADAPT
[74] Cari! (n.d.). Disaster-related Research Publication in Indonesia of 2022 - A Year in Review. Indonesia Disaster Knowledge Update. Retrieved May 23, 2023, from https://knowledge.caribencana.id/special_brief/idku-jan-23

	(MoE), has created The System for Identifying Village Vulnerability Index (SIDIK) [75] that displays vulnerability indexes for different jurisdictions, allowing local governments to access and verify data inconsistencies. The MoE collaborates with National Agencies for Geospatial Information (BIG) and National Agency for Meteorology, Climatology and Geophysics (BMKG) to refine the SIDIK. BIG supplies geospatial data representing exposure levels, while BMKG provides climate hazards and future extreme events.				

E.5. Project/programme specific indicators (project outcomes and outputs)

Project/programme results (outcomes/ outputs)	Project/programme specific Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions / Note
				Mid-term	Final	
Outcome 1. Improved legal, regulatory, and financial conditions that facilitate climate responsive protection and production in coastal & marine areas	a) Number of improved policy and regulatory frameworks on ecosystem protection, fisheries sustainability, and innovative financing as a result of BEAM interventions.	Baseline, mid-term, and end of project studies analyzing government legal instruments, reports, institutional and regulatory framework	0	3 improved policies and regulatory frameworks	11 improved policies and regulatory frameworks	**Assumption**: i) Strong political will and commitment, regardless of leadership change, coupled with the enactment of consistent, clear, and transparent laws and regulations. **Note**: i) Policy and regulatory framework ranging from the constitution to district regulations, including technical and implementation guidelines, as well as: • Policy recommendations for provincial government work plan (RKPD), provincial agency strategic planning (*Renstra Dinas*), or Provincial level SOP/guidelines

[75] Inventory system for vulnerability index in Indonesia. Retrieved May 2, 2025. http://perpustakaan.menlhk.go.id/pustaka/images/docs/INVENTORY%20SYSTEM%20FOR%20VULNERABILIOTY%20INDEX%20IN%20INDONESIA.pdf.

						on the Blue Economy, Sustainable Fisheries, Marine Conservation • Development and management of marine protected areas (MPAs). • Policy recommendations for the new establishment or expansion (new and existing) of MPAs • Fisheries management plan, fisheries harvest strategy - HS, fisheries harvest control rule - HCR). Those related to blue investment include, but are not limited to, blue bond and blended finance. ii) There will be approximately 11 policy and regulatory frameworks improved covering the issues noted in the footnote for output 1.1 iii) At least 1 policy from relevant government institutions with the objective of addressing barriers for women working in the fishery sector in accessing social protection programs (e.g., KUSUKA).
	b) Number of direct beneficiaries adopting innovations that strengthen climate resilience (contributes to Core 2)	Attendance records and reports from workshops and meetings as well as KLC visitors. Statistically sampled surveys for these participants and visitors to assess knowledge and adoption of climate-responsive innovations.	0	57,120 individuals (28,560 men / 28,560 women)	114,240 individuals (57,120 men / 57,120 women)	**Assumptions** - Government agencies, communities, research institutions, and other stakeholders actively participate in BEAM-supported meetings, workshops, trainings, and knowledge-sharing activities. - Participants have continued access to knowledge products and learning resources developed through the Knowledge and Learning Centre (KLC). - Knowledge gained through BEAM interventions translates into the adoption of climate-responsive policies, practices, technologies, or management approaches.

						- Institutional and policy support for climate-responsive coastal and marine management remains in place throughout the project period. **Notes** - Beneficiaries are individuals adopting innovations, knowledge, or practices that strengthen climate resilience through BEAM-supported capacity-building and knowledge-sharing activities. - Beneficiary estimates are based on Annex 24 methodologies. - Innovations may include improved ecosystem management, sustainable fisheries practices, climate-responsive planning, blue economy approaches, and innovative financing mechanisms. - Data will be disaggregated by sex and reported through the project M&E system.
	c) Number of indirect beneficiaries expected to benefit from improved policy, regulatory, institutional, and financing conditions for climate-resilient blue economy sectors (contributes to Core 2)	Evidence of adoption, operationalization, or use of PPP framework and related policy reforms by relevant government, private sector, or community actors; policy implementation documentation.	0	NA	1,168,548 (implementation period) 10,737,504 indirect beneficiaries (over project lifespan)	**Assumptions** - Policy, regulatory, financing, and institutional reforms supported by BEAM are adopted and operationalized by relevant stakeholders. - Improved enabling conditions facilitate wider uptake of sustainable fisheries, marine conservation, mariculture, and blue economy investments. - National and sub-national government institutions continue supporting implementation of policy and regulatory reforms beyond the project period. - Private sector and community actors utilize the improved policy and financing environment to strengthen climate-resilient economic activities. **Notes** - Indirect beneficiaries are individuals who benefit from improved policy, regulatory, institutional, and financing conditions but do not receive direct support from BEAM.

						- Beneficiary estimates are based on Annex 24 methodologies and represent people working in or relying on marine capture fisheries, mariculture, and marine ecotourism sectors in coastal villages across Indonesia. - Benefits are expected through improved access to sustainable resource management, financing opportunities, ecosystem services, food security, and climate-resilient livelihoods. - Indirect beneficiaries will be reported based on evidence of adoption, operationalization, or use of the supported policy, regulatory, and financing frameworks.
Outcome 2: Strengthened climate resilience of coastal communities in WPP572 through improved livelihoods and food security	a) Targeted coastal population with improved food security b) Targeted coastal population with improved livelihoods	- Grantee reports that integrate FAO Food Insecurity Experience Scale (FIES) indicators, along with Bapanas IKP/FSVA data and Indonesia's BPS. Grantee data (sex disaggregated) to be collected at baseline, midterm and the end of project.	0	a)84,670 individuals with improved food security (42,335 female and 42,335 male) b)32,610 individuals with improved livelihoods (16,305 female and 16,305 male)	a) 169,340 individuals with improved food security (84,670 female and 84,670 male) b) 65,220 individuals with improved livelihoods (32,610 female and 32,610 male)	**Assumption:** i) Capacity-building activities carried out with the BEAM grants under Component 2 lead to improved livelihood capital assets. **Note:** i) Data is disaggregated by sex and the typology of beneficiaries (households, businesses, and institutions). The data collected includes vulnerability status, assets, and location. ii) See calculations and detailed methodologies in Annex 24 iii) The EE will reference MoE's SIDIK, a system that displays vulnerability indexes for various jurisdictions, enabling local governments to verify data inconsistencies and add new indicators. iv) Bapanas IKP / FSVA, retained as a contextual area-level benchmark. v) Grantee reports that integrate FAO FIES methodology will strengthen the analysis of food security situation given by BPS and Bapanas

Outcome 3: Improved condition and extent of coastal ecosystems in WPP 572 resulting in reduced GHG emissions	a) Extent and percent of reduced loss of blue carbon ecosystems in WPP 572	- Remote-sensing analysis of mangrove and seagrass extent with field ground-truthing, conducted by a third-party contractor; MMAF GIS data as the reference dataset.	Baseline ecosystem loss: Mangrove (40.53 ha by mid-term; 80.95 ha by final-term) Seagrass (784.91 ha by mid-term; 1,505.39 ha by final-term)	Target avoided loss: Mangrove (34.13% or 13.83 ha) Seagrass (34.31% or 269.28 ha)	Target avoided loss: Mangrove (44.15% or 35.74 ha) Seagrass (50.36% or 758.05 ha)	Assumption: 1) Strong political will and commitment, regardless of leadership change, coupled with the enactment of consistent, clear, and transparent laws and regulations. il) Quality (and certified) seeds/seedlings are planted ili) Communities (taking into account the most vulnerable grouper and gender-balanced proportion) actively participate in conservation and rehabilitation. This includes (but is not limited to) ecosystem planning, implementation, and protection. For example in the community consultations (for planning and implementation), at least 30% of participants are women/vulnerable groups. **Note**: Blue carbon ecosystems cover mangroves and seagrass. Data towards this outcome will be disaggregated by ecosystem type and area. During project implementation, the EE will closely coordinate with MoE's Deputy for Climate Change Control and Carbon Economic Value Governance which manages NDC's targets and developments on Indonesia's carbon value and standard framework, shaping carbon market and emission reduction policies. SNI protocols and Annex 22 carbon methodology will be applied.
	b) Number of direct beneficiaries with improved resilience benefits from restored coastal ecosystems and renewable energy technologies	Grantee reports, verified by KI field inspection; ecosystem restoration monitoring reports; beneficiary records from supported villages; renewable energy deployment reports; sex-disaggregated beneficiary data.	0	20,650 individuals (10,325 men / 10,325 male)	41,300 individuals (20,650 men / 20,650 women)	**Assumptions** - Restoration and protection activities are implemented as planned and achieve expected ecosystem recovery outcomes. - Communities actively participate in ecosystem restoration, protection, and monitoring. - Environmental and climate conditions remain suitable for mangrove and seagrass recovery.

						- Government agencies continue supporting ecosystem management, protection, and monitoring efforts in WPP 572. **Notes** - Beneficiaries are individuals whose resilience is strengthened through improved ecosystem services from restored coastal ecosystems and the adoption of renewable energy technologies. - Beneficiary estimates are based on Annex 24 methodologies. - Improved resilience benefits include enhanced food security, livelihood stability, coastal protection, ecosystem services, and reduced vulnerability to climate-related shocks.
Outcome 4: Improved economic performance and climate resilience of blue economy in WPP572	a) Number of loans from WPP 572 provinces awarded by BLU LPMUKP above pre-project period baseline	- BLU LPMUKP loan application pipeline data disaggregated by province and verified against LPMUKP's internal application management system - BLU LPMUKP annual performance report	0	50 new loans disbursed to WPP 572 enterprises	200 new loans disbursed to WPP 572 enterprises	**Assumption:** - BLU LPMUKP continues to receive government budget allocations for loan capital including adequate replenishment of the revolving fund to support new disbursements in WPP 572. - The digitized loan management system is successfully deployed and adopted by extension officers. - Streamlined procedures do not compromise prudent credit risk assessment. - NPL recovery and loan repayments from existing debtors contribute sufficiently to revolving fund availability for new lending cycles - MMAF policy direction and institutional arrangements – including the collaboration with Pusat Penyuluhan – remains supportive of BLU LPMUKP's lending mandate in WPP 572 throughout the project period
	b) Number of direct beneficiaries with improved climate-resilient livelihoods	BLU LPMUKP quarterly operational reports; IT loan management system data; training attendance and post-training assessment	0	5,600 individuals	11,200 individuals	**Assumptions** - BLU LPMUKP maintains sufficient lending capital and operational capacity to support increased loan disbursement in WPP 572.

	through increased access to blue economy finance and investment readiness support	records; independent verification of new borrowers disaggregated by gender, sector, and location; .		(2,800 men / 2,800 women)	(5,600 men / 5,600 women)	- The digitized loan management system and streamlined procedures continue to improve access to finance for coastal enterprises. - Borrowers utilize financing for productive investments that strengthen business performance and climate resilience - Loan repayment performance remains adequate to sustain revolving fund availability and future lending cycles. - MMAF, BLU LPMUKP, and local partners continue supporting implementation and outreach to target beneficiaries. **Notes** - Beneficiaries are individuals whose livelihoods are strengthened through improved access to finance and investment readiness support. - Beneficiary estimates are based on Annex 24 methodologies and reported as unique beneficiaries after applying adjustments to avoid double counting. - Improved climate-resilient livelihoods include increased income stability, improved access to financial services, and enhanced capacity to invest in climate-resilient business practices. - Data will be disaggregated by sex, enterprise type, and geographic location and reported through the project M&E system
COMPONENT 1: **Strengthen Enabling Conditions (KI)**						
Output 1.1. Development and deployment of evidence-based regulatory frameworks and	a) Number of drafts of regulatory frameworks on ecosystem protection, fisheries sustainability, and innovative	Baseline, mid-term, and end of project studies analyzing government legal instruments, reports, institutional and regulatory frameworks	0	3	11	**Assumption**: i) Strong political will and commitment, regardless of leadership change, coupled with the enactment of consistent, clear, and transparent laws and regulations. **Note:**

knowledge products for ecosystem protection, fisheries sustainability, and innovative financing	financing developed.					i) Policy and regulatory framework ranging from the constitution to district regulations, including technical and implementation guidelines. ii) There will be approximately 11 drafts of policy and regulatory frameworks developed covering the topics noted in the footnote.[76] iii) At least 1 policy from relevant government institutions with the objective to address barriers of female actors in fishery to access social protection programs (e.g., KUSUKA). iv) National and regional planning documents such as RPJMN, RPJMD, Renstra. v) Ministerial regulations related to: integrated protection-production, non-conventional funding resources, management of conservation grant. vi) Development and management of Marine Protected Areas (MPAs). vii) Development and management of other area-based conservation measures. viii) Fisheries Management Plan (Fisheries Management Plan or *Rencana Pengelolaan Perikanan* - RPP WPP 572, Fisheries Harvest Strategy - HS, Fisheries Harvest Control Rule - HCR). ix) Interregional Area Zoning Plan or *Rencana Zonasi Kawasan Antarwilayah* - RZ KAW; Coastal Areas and Small Islands Zoning Plan x) Those related to innovative financing include, but are not limited to, blue bonds and blended finance.

[76] Assumed topics covered: fisheries management plan (*RPP) WPP* 572 Provinces; 1 Harvest Strategy for WPP 572 & Harvest Control rule for WPP 572; 3 technical documents on the proposed new MPA; 3 zonation plans; 3 management plannings; 2 provincial (Sumatera Utara and Barat) regulation on MPA designation. Government regulations on:1 Non-conventional funding resources to support PnP scheme; 3 Ministerial decrees on new MPA establishment (1 large scale, 2 provincial level); 2 governor (Sumatera Utara and Barat) decrees on management of conservation grant (BLUD); 2 regional ((Sumatera Utara and Barat) planning documents related to fisheries, eco-tourism, and conservation/MPA.

	b) Number of data sets on fisheries and relevant coastal and marine ecosystems produced, updated, consolidated, and better used by government and non-government entities.	- Project monitoring reports on data sets produced; government (e.g. BRIN) and non-government planning and policy documents demonstrating use of the data sets.	0	5 data sets produced	8 data sets produced	**Assumption:** i) Government and non-government entities use robust methodology of data production, update, consolidate, and use. **Note:** i) The data quality will be improved from the existing baseline situation. ii) The data includes seagrass and mangroves ecosystems, commodities-based fish, and socio-economic information. iii) A GESI-responsive approach will be applied in collecting the data, e.g., sex, socio-economic-disaggregated commodity farmers, and supply and value chain. iv) The intervention will be focused on large-scale MPAs, MPAs within north Sumatra and West Sumatra Provinces, and other MPAs within the WPP 572 region.
	c) Number of knowledge and learning center is established for enhanced ecosystem management and sustainable fishing practices.	Signed MoU or establishment agreement with the host university, and the centre's operational records (governance documents, annual work plan).	0	1 knowledge and learning center is established	1 knowledge and learning center is established	**Assumption:** i) Government and non-government organizations fully and actively participate in the knowledge and learning center establishment. **Note:** - The knowledge and learning center will be established within a local university in WPP 572. It will start its operation in the Y2. - Regular monitoring and activity reports on knowledge and learning center produced by consultants, government agencies, non-government agencies, and KI will support the evidence of establishment
	d) Number of lesson-learned documents on grant operations, pipeline development and successful blue economy interventions for scaling up and replicability	Published lessons-learned documents (project report)	0	1 lessons-learned document drafted	1 lessons-learned document developed	**Assumption:** i) Multiple stakeholders (taking into account the most vulnerable groups and ensuring gender equality) fully and actively participate in the lesson learned document's development.

						ii) The lesson learned document is aligned at the national and sub-national levels and based on lessons learned across the two Components. iii) Lessons are integrated into further investments made through the IRW and government of Indonesia blue financing strategies. **Note:** i) The target is set for 1 document which consists of lessons-learned from 6 of the WPP 572 provinces. In the initial years (up to midterm) the activity will focus on identifying/building suitable models (or piloting) and drafting the document for scaling finance over the long-term. ii) The document will make specific recommendations for the replicability of the Blue Halo S production and protection model across Indonesia and the region based on lessons learned from grant activities. The lessons will be amplified through the communications strategy supported under Activity 1.1.3 iii) The reports will be produced by KI and grantees.
	e) Number of beneficiaries adopting innovations to strengthen climate resilience	Attendance records and reports from workshops and meetings as well as KLC visitors. Report of Statistically sampled surveys to be conducted for these participants and visitors to assess knowledge and adoption of climate-responsive innovations.	0	57,120 individuals (28,560 men / 28,560 women)	114,240 individuals (57,120 men / 57,120 women)	Please see detailed methodologies presented in Annex 24
COMPONENT 2: Locally Led Climate Action + Investment Readiness						
Output 2.1: Locally-led climate adaptation projects are effectively implemente	a) Number of vulnerable coastal community members who receive direct climate resilience benefits from supported activities pertaining to adaptation	Grantee monitoring and activity reports, verified by KI field inspection.	0	94,530 individuals (47,265 men / 47,265 women)	189,060 individuals (94,530 men / 94,530 women)	**Assumption:** i) Targeted coastal community members (take into account the most vulnerable groups and gender-balanced proportion) fully and actively participate in climate change adaptation interventions.

d and monitored, resulting in enhanced climate resilience of vulnerable communities	interventions in WPP 572					ii) Grantees are accountable, effective, and efficient in implementing the adaptation interventions. **Notes:** i) Data is disaggregated by gender and type of adaptation intervention received such as ecotourism enterprises for community development, collaborative MPA management, etc. ii) Note that here and for all on-granting, prioritization will be given to indigenous and other marginalized communities. Data do not exist on total IP populations, so no specific target is presented here / throughout the logical framework.
Output 2.2: Blue carbon and renewable energy projects are effectively implemented and monitored, resulting in reduced GHG emissions	a) Hectares of carbon-rich ecosystems conserved and rehabilitated.	- Remote-sensing analysis of mangrove and seagrass extent with field confirmation, conducted by a third-party contractor.	0	• Mangroves restoration: 102.4 hectares • Seagrass restoration: 6 hectares.	• Mangroves restoration: 285 hectares • Seagrass restoration: 6 hectares.	**Assumption:** i) Quality (and certified) seeds/seedlings are planted. ii) Coastal community members (taking into account the most vulnerable groups and gender-balanced proportion of stakeholders) fully and actively participate in conservation and rehabilitation. This includes (but is not limited to) ecosystem planning, implementation, and protection. For example, in the community consultations (for planning and implementation), at least 30% of the participants are women and vulnerable groups. iii) Grantees are accountable, effective, and efficient in conserving and rehabilitating the ecosystems. **Note:** - Blue carbon ecosystems cover mangroves and seagrass. - SNI protocols for mangrove and seagrass mapping (SNI 7717 2020 and SNI 7716:2012)

	b) Number of individuals with improved climate resilience resulting from mitigation interventions (improved livelihoods and or food security)	Grantee monitoring and activity reports, verified by KI field inspection. Sex aggregated.	0	20,650 individuals (10,325 male / 10,325 female	41,300 individuals (20,650 male / 20,650 female	Note: Please see detailed calculations and methodologies presented in Annex 24 and 24a
	c) Kilowatt-hour small-scale renewable energy deployed/installed	Grantee monitoring and activity reports, verified by KI field inspection	0	400 - 800 kW per day (from 100 solar chiller systems)	800 - 1600 kW per day (from 250 solar chiller systems)	**Assumption:** Coastal community members (taking into account the most vulnerable groups and gender-balanced proportion of stakeholders) fully and actively participate in renewable energy installation. This includes (but is not limited to) planning, implementation, and maintenance. For instance: - in the community consultations (for planning and implementation), at least 30% of the participants are women and vulnerable groups. - targeted communities are expected to independently fund maintenance using their increased income, profit, or savings resulting from the installation. - Grantees are accountable, effective, and efficient in resourcing and installing renewable energy.
Output 2.3: Blue economy enterprises have improved access to finance and expand operations in WPP 572	a) Number of BLU LPMUKP extension officers trained in simplified disbursement methods and - Deployment of new loan management system	- Training attendance records - Post-training competency assessments - New system indicator verified against BLU LPMUKP internal records, the service providers/consultants	- 0 officers trained - No IT loan management system exist under BEAM	- 30 officers trained - It loan management system operational and actively used to process a pilot cohort of at least 50 loan applications	- 100 officers trained - IT loan management system fully operational; simplified application SOPs adopted and in active use by trained extension officers to	**Assumptions:** i) Officers are available and willing to participate ii) Training materials are appropriate for local literacy and digital skill levels

				from WPP 572 enterprises	process at least 200 additional loan applications from WPP 572	
	b) Number of action-oriented research papers produced and disseminated to financial intermediaries, development partners, and policy makers	- Published research papers - Dissemination event reports (workshops, webinars, policy briefs) - List of recipient organizations	0	2 papers	4 papers	**Assumption:** i) Research consultants are procured on time and deliver high-quality, practitioner-focused outputs. ii) Target audiences actively engage with and use the papers to inform investment decisions or policy. **Note:** Topics include market segmentation of blue economy enterprises in WPP 572, enabling fisheries cooperatives, green shipping opportunities, and marine tourism investment roadmaps.
	c) Number of individuals with improved climate resilience from improved and diversified livelihoods	- BLU LPMUKP loan application and issuance reports	0	2,800 individuals (1,400 male / 1,400 female)	11,200 individuals (5,600 male / 5,600 female)	Note: please see detailed methodologies in Annex 24. Midline assumes 50 loans issued, endline assumes 200 loans issued
Project/programme co-benefit indicators						
Environmental Co-benefit: Improved biodiversity and habitat quality in WPP 572	Coral reef habitat quality (coral cover within targeted MPAs)	- Survey reports on habitat quality and coverage by consultants, grantees and MPA management unit (in targeted MPAs)	Coral coverage at several MPAs in WPP 572 ranges from 22.30 – 47.20% [77]	Coral reef: coral cover within MPAs is maintained as in the baseline	Coral reef: coral cover within MPAs is increased by 2-3%.	Coral cover is used as a proxy for coral reef ecosystem condition and its capacity to provide ecosystem services.

[77] Coral cover data (2020-2023) from several MPAs in WPP 572: MPA Sawo Lahewa (30.06%), MPA Kota Padang (28.94%), MPA Kota Pariaman (25.53%) MPA Pasaman Barat (36.67%), MPA Selat Bunga Laut Mentawai (34.11%, MPA Pulau Pieh (47.20%), and MPA Kabupaten Agam (22.30%).

Environmental Co-benefit: Improved biodiversity and habitat quality in WPP 572	Mangrove habitat quality (mangrove density)	- Mangrove survey reports by consultants and grantees and relevant government agencies in targeted sites.	Mangrove condition with high density (>70%) ranges from 73.9 – 92.9%[78]	Mangrove: average proportion of >70% density is maintained at 83%.	Mangrove: average proportion of >70% density is at 85%.	Mangrove density is used as a proxy for ecosystem health and ecosystem service provision.
Social Co-benefit: Increased in come generating opportunities for women in fisheries	Percent of targeted women (particularly female-headed household and other vulnerable groups) in blue economy sectors and fisheries with increased income	- Report of household livelihood survey of targeted beneficiaries, with sex-disaggregated data on income.	0	25% of female beneficiaries have improved income	50% of female beneficiaries have improved income	Women's income is expected through improved access to climate-resilient livelihood opportunities, productive assets, skills, financing, and market opportunities supported by the Project. Data will be disaggregated by age, disability, social and economic status and occupation. Analysis of IP beneficiaries will also be conducted

E.6. Project/programme activities and deliverables

	Description	**Sub-activities**	**Deliverables**
COMPONENT 1: **Strengthen Enabling Conditions (KI)**			
Activity 1.1.1. Enhance Ecosystem Protection and Fisheries Sustainability through	This activity will support the national government and relevant sub-national entities in the creation, improvement, and management of new regulatory frameworks and policies for ecosystem protection and sustainable fishery management by providing technical assistance to sub-national governments for	**Sub-Activity 1.1.1.1.** Provide technical assistance to provincial governments for effective implementation of national vision and policies.	**Deliverable 1.1.1.1.i.** technical meetings, trainings, and consultation workshops on the Blue Economy, Fisheries, and Marine Conservation are conducted with key government stakeholders at national and provincial levels in North Sumatra and West Sumatra. **Deliverable 1.1.1.1.ii.** Policy recommendations are produced for the provinces of North Sumatra and West Sumatra: i. Minimum 2 policy recommendations for provincial government regulatory frameworks and policies. **Deliverable 1.1.1.1.iii.** Minimum 2 provincial level SOP/guidelines on the Blue Economy, Sustainable Fisheries, and Marine Conservation are developed at North Sumatra and West Sumatra Provinces.

[78] Average of mangrove condition with high density (>70%) in each WPP 572 provinces: Aceh (86.3%), North Sumatra (73.9%), West Sumatra (77.8%), Bengkulu (92.9%), Lampung (90.1%), Banten (79.6%). Source: MoEF 2021 (detail of data can be accessed at **Annex 2, Section 2**)

Policy Reform and creation of Innovative Financing Mechanisms	effective implementation of national vision and policies, providing support in MPA expansion and sustainable fisheries management, and providing support for the development of a sustainable blue financing mechanism. Activity 1.1.1. is directed at technical staff within the Ministry of Marine Affairs and Fisheries (MMAF), among other government stakeholders and technical consultants.	**Sub-Activity 1.1.1.2.** Support the development, gazettement, and management of new and existing Marine Protected Areas (MPAs) and Other Effective Area-based Conservation Measures (OECMs).	**Deliverable 1.1.1.2.i.** The following MPA-related interventions that comply with MMAF regulation No.31/2020 are facilitated for 1 new national MPA and 2 new provincial MPAs: a. development of working group (*Pokja*) for the targeted new/expansion MPAs at national and provincial levels. b. technical meetings and consultation workshops for MPA initiation and MPA zoning plans. c. development of MPA initiative document, enactment of MPA designation (*pencadangan*) decrees, MPA zoning plan, and enactment of MPA establishment/expansion decrees. **Deliverable 1.1.1.2.ii**. Develop at least a national-level policy recommendation to establish a Public-Private Partnership (PPP) mechanism for Marine Protected Area (MPA) management. **Deliverable 1.1.2.iii.** evaluations of MPA management effectiveness by MMAF using EVIKA are facilitated for MPAs within the North Sumatra and West Sumatra Provinces. **Deliverable 1.1.1.2.iv.** Strengthening and enhancing surveillance practices for MPAs within the North Sumatra and West Sumatra Provinces: **a)** MPA and sustainable fisheries awareness-raising for local communities and fishers are organized **b)** training on surveillance practices for local government agencies and local community surveillance groups (*POKMASWAS - Kelompok Masyarakat Pengawas*) are organized
		Sub-Activity 1.1.1.3. Reinforce the current Fisheries Management Plan (*Rencana Pengelolaan Perikanan - RPP)* including its Fisheries Harvest Strategy in WPP 572. **Sub-Activity 1.1.1.4.** Advance sustainable blue/green finance through the development of innovative financing mechanisms and the development of policies related to integrated protection-production and sustainable funding resources	**Deliverable 1.1.1.3.i.** The development of sustainable fisheries management document for the targeted fish commodities (i.e., pelagic fishes) of WPP 572 which comprises of: a. a working group (*Pokja*) to develop a Fisheries Harvest Strategy (HS) for the targeted fish commodities in the WPP 572 is established b. workshops and technical meetings on socialization and awareness of sustainable fisheries management are organized. c. trainings on Fisheries Harvest Strategy development are organized. **d.** a Harvest Strategy (HS) document for the targeted fish commodities (i.e., pelagic fishes) of WPP 572 is developed and effectively implemented. **Deliverable 1.1.1.4.i.** 1 Sustainable Blue Financing Mechanism for MPA, such as *BLUD,* is developed in the provinces either in North Sumatra or West Sumatra, and the following BLUD-related development is facilitated:

			a. the development of working group (*Pokja*) for the Sustainable Blue Financing Mechanism b. capacity building for government stakeholders to increase knowledge on Sustainable Blue Financing Mechanism the targeted Sustainable Blue Financing Mechanism are endorsed by the provincial government
Activity 1.1.2. Improve the production and use of data on fisheries and ecosystems by governmental and non-governmental entities	This activity will establish a baseline of ecosystem and fisheries stock conditions, focusing on health, surface area, and volume. This baseline is crucial for the development of effective management plans and serves as fundamental indicators for enhanced marine management. This activity will also formulate a comprehensive plan for conducting Gender, Equality, and Socially Inclusive (GESI)- responsive data surveys.	**Sub-Activity 1.1.2.1** Support the Government of Indonesia's existing data collection initiatives to improve and utilize data on ecological and socioeconomic in MPAs and areas for potential MPA expansion and OECMs.	**Deliverable 1.1.2.1.i.** Monitoring and data management system for ecological and socioeconomic data are strengthened through multi-stakeholders' meetings or workshops, and technical assistance. **Deliverables 1.1.2.1.ii.** Training for the MPA technical unit and local universities to conduct ecological and socioeconomic surveys and data analysis is organized within the province of North Sumatra and West Sumatra. **Deliverables 1.1.2.1.iii.** Data of ecological and socioeconomic for the new targeted MPAs (at the sub-activity 1.1.2) and existing MPAs within North Sumatra and West Sumatra Provinces are gathered.
		Sub-Activity 1.1.2.2. Gather data on the targeted fish commodities (biodiversity, volume, spatial distribution) to support sustainable fisheries management within WPP 572.	**Deliverable 1.1.2.2.i.** Improved and more sustainable fishery monitoring system (i.e., fish landing monitoring by KI and data collection using a logbook by MMAF is supported) for the targeted fish commodities and data management system for fisheries within the WPP 572. **Deliverable 1.1.2.2.ii.** Training for enumerators (including government stakeholders) on fisheries' data collection and training on fisheries data analysis, including the fish stock assessment, are organized for the fishery's technical unit and its relevant stakeholders.
Activity 1.1.3. Establish knowledge management and learning center for scaling and replication	Activity 1.1.3 will be directly executed by KI in close collaboration with MMAF, CMMAI, and provincial governments within WPP 572. This activity will focus on collecting and curating tacit and explicit knowledge with the purpose of sharing and amplifying information, capacity building, transferring lessons learned, and replication.	**Sub-activity 1.1.3.1** Design and develop a knowledge center to enhance project knowledge sharing, capacity building, and replication efforts.	**Deliverable 1.1.3.1.i.** The Knowledge and Management Information System (KMIS) is developed and operationalized. **Deliverable 1.1.3.ii.** A Knowledge and Learning Center to showcase success stories and lessons learned for the BEAM project is developed and sustained.
		Sub-activity 1.1.3.2. Collaborate with GOI (at the national, provincial, and local levels) and non-governmental agencies in amplifying, enhancing, and	**Deliverable 1.1.3.2.i.** Protection and production campaigns at the national level are launched. **Deliverable 1.1.3.2.ii.** Roadshow seminars and panel discussions at local universities within WPP 572 are organized. **Deliverable 1.1.3.2.iii.** Media engagements at the national level and at the 6 provinces are conducted.

	Concurrently, the knowledge center, comprehensive database system, and dissemination strategy will be developed.	replicating lessons learned to other FMAs/WPPs through national and subnational awareness raising campaigns. **Sub-Activity 1.1.3.3.** Capture and disseminate learning reports from project implementation amongst project stakeholders and partners to inform refinement. replication and scaling up.	**Deliverable 1.1.3.2.iv.** 12 Success stories from the field and research related to Component 1 and Component 2 are published. **Deliverable 1.1.3.3.i.** Lessons learned from project implementation are documented and disseminated for replication and scaling
COMPONENT 2: Locally Led Climate Action + Investment Readiness			
Activity 2.1.1 Deploy grants for sustainable climate change adaptation in coastal communities	This grant window finances projects under the four sub-themes dedicated to supporting adaptation measures and enhancing resilience to climate change, primarily targeting vulnerabilities faced by coastal communities in FMA 572. Grantees may be CSOs, NGOs, cooperatives, companies, MSMEs, universities and research institutions committed to establishing conditions that support adaptation measures and enhance resilience to climate variability and changes.	**Sub-Activity 2.1.1.1** Manage grants for ecotourism enterprises for community development **Sub-Activity 2.1.1.2** Manage grants for collaborative MPA management **Sub-Activity 2.1.1.3**. Manage grants for sustainable and diversified fishing livelihoods (community-based economic activities). **Sub-Activity 2.1.1.4**. Manage grants for sustainable waste management. **Sub-Activity 2.1.1.5.** Establish and operate the adaptation and mitigation grant windows **Sub-Activity 2.1.1.6.** Provide technical assistance and support to adaptation grantees on cross-cutting subjects (including GEDSI and Safeguards) **Sub-Activity 2.1.1.7.** Monitor adaptation grant window performance	**Deliverable 2.1.1.1.i.** 9 grants totaling US$ 1.8 million (at US$ 40,000 - 400,000 each) for ecotourism development, which consists of operator, logistics, transportation and accommodation are awarded and managed. **Deliverable 2.1.1.2.i.** 11 grants totaling US$ 1.88 million (at US$ 40,000 – 400,000 each) for collaborative MPAs management (with active participation of the local community) are awarded and managed. **Deliverable 2.1.1.3.i.** 8 grants totaling US$ 1.4 million (at US$ 40,000 - 400,000 each) for sustainable and diversified fishing livelihoods (community-based economic activities) are awarded and managed. **Deliverable 2.1.1.4.i.** 8 grants totaling US$ 1.4 million (at US$ 40,000 – 400,000 each) for sustainable waste management are awarded and managed. **Deliverable 2.1.1.5.i.** Adaptation and mitigation grant facility established and operational. **Deliverable 2.1.1.6.i.** Technical assistance provided to 36 grantees throughout the grant process. **Deliverable 2.1.1.7.i.** 36 reports are developed on grant and funding window performance.
Activity 2.2.1. Deploy grants to improve ecosystems	The climate mitigation grant window fund projects facilitating low-carbon, resilient development pathways, aiming to mitigate the impacts of climate change.	**Sub-Activity 2.2.1.1** Manage grants for high carbon ecosystem restoration. **Sub-Activity 2.2.1.2.** Manage grants for small-scale renewable energy deployment/installation.	**Deliverable 2.2.1.1.i.** 13 grants (villages) totaling US$ 1.96 million (at US$ 40,000 – 400,000 each) for the restoration of nature (roughly 285 hectares of mangroves and 6 hectares of seagrass beds) are awarded and managed.

and achieve sustainable climate change mitigation impacts		**Sub-Activity 2.2.1.3.** Provide technical assistance and support to mitigation grantees on cross-cutting subjects (including GEDSI and Safeguards) **Sub-Activity 2.2.1.4.** Monitor mitigation grant window performance	**Deliverable 2.2.1.2.i.** 12 grants totaling US$ 1.56 million (at US$ 40,000 – 400,000 each) for small-scale renewable energy deployment/installation are awarded and managed. **Deliverable 2.2.1.3.i.** Technical assistance provided to 25 grantees throughout the grant process. **Deliverable 2.2.1.4.i.** 25 reports are developed on grant and funding window performance.
Activity 2.3.1. Improve the Investment Readiness of the Blue Economy	This intervention supports enterprise development and investment readiness, creating a blueprint for the growth of sustainable blue economy for WPP572 and other regions of Indonesia. It specifically provides technical assistance to BLU LPMUKP to address operational barriers that constrain its outreach to MSMEs, alongside support for action-oriented research papers that generate evidence-based recommendations for policy and investment. This intervention aims to enable growth and mature stage enterprises engaged in the blue economy.	**Sub-Activity 2.3.1.1** Provide technical assistance to BLU LPMUKP **Sub-Activity 2.3.1.2**. Develop action-oriented research papers on sustainable blue economy themes **Sub-Activity 2.3.1.3.** Monitor investment readiness interventions performance	**Deliverable 2.3.1.1.i.** A service provider engaged to develop and deploy a digitized loan management platform for BLU LPMUKP, covering loan origination, disbursement, portfolio monitoring, and repayment tracking. **Deliverable 2.3.1.1.ii.** BLU LPMUKP's loan application and approval procedures streamlined (e.g., reduced documentation, simplified forms, standardized workflows). **Deliverable 2.3.1.1.iii.** At least 100 BLU LPMUKP extension officers trained in the use of the new IT system and in simplified, climate-responsive disbursement methods. **Deliverable 2.3.1.2.i.** 4 service contracts totaling US$ 600K for action-oriented research papers on sustainable blue economy themes in WPP 572 are awarded and managed **Deliverable 2.3.1.3.i.** Reports are developed on BLU LPMUKP technical assistance and action-oriented research papers for wider dissemination and scaling across Indonesia.

E.7. Monitoring, reporting and evaluation arrangements (max. 500 words, approximately 1 page)

214. Monitoring, reporting, and evaluation arrangements (including the ESMF and Gender Action Plan) will comply with relevant CI and GCF policies, including the GCF Monitoring and Accountability Framework and the Integrated Results Management Framework.

215. The AE will oversee the work of the EE through quarterly EE reports and meetings to monitor progress towards deliverables and milestones. KI, as EE, will prepare an Annual Performance Report to monitor Project progress and report to the CI-GCF Agency, summarizing annual project results, progress, and challenges to be addressed along with any adaptive management processes implemented. The APR will submitted to the GCF by the AE in accordance with Project FAA. The EE and AE will also prepare a Project Completion Report for submission to the GCF. KI will prepare Annual Performance Reports summarizing project results, progress, and implementation challenges.

216. The Monitoring and Evaluation (M&E) Plan (**Annex 11**) includes GCF-level Impact and Outcome indicators based on the IRMF and Project-level Outcome and Activity indicators, metrics for each indicator, methodology for data collection, baseline information, frequency of data collection, and indicative resources needed to complete the plan. The Project M&E will be coordinated by a dedicated M&E specialist employed by KI, working in close coordination with subgrantees, and Technical Partners and supported by the Project's gender and safeguards specialists. KI will be responsible for providing timely and comprehensive data on Component 2, as applicable. All monitoring data will be aggregated for Project-level reporting through APRs. The plan will include indicator definitions, baselines, means of verification, and baseline, mid-term, and end-line assessments.

217. The M&E Plan is a living document focused on measuring outputs, outcomes, and paradigm shift impacts. It will be finalized during the project start-up phase and updated as needed during implementation. The plan will define roles and responsibilities for data collection and management, reporting flows, monitoring tools, indicator verification methods, and alignment with national monitoring systems.

218. KI will provide capacity building assistance and work through technical partners to engage with grantees for their respective windows to ensure accurate and timeline collection of M&E data from grantees / projects funded through the Grant Facility. These results will be compiled and presented to the PSC and AE for monitoring of Component 2 results against logical framework indicators.

219. The Project Steering Committee (see Implementation Arrangements) will review annual budget and workplans, discuss implementation issues and identify solutions, and increase coordination and communication between key project partners. The NDAs will participate in these meetings as a member of the Project Steering Committee.

220. The AE will engage independent consultants via a service contract to conduct Interim and Final Independent Evaluations of the project (see **Annex 5** for timeline). Interim Independent Evaluation Report and a Final Independent Evaluation Report will be submitted to the GCF as per the timeline agreed in the Project FAA.

SECTION F: RISK ASSESSMENT AND MANAGEMENT

F.1. Risk factors and mitigation measures (max. 3 pages)

221. BEAM will continuously monitor risks to Project success and will apply adaptive management measures to address risks over the implementation period of the Project. For all risks indicated below, the Project will seek to mitigate impacts by maintaining transparent, consistent communication with beneficiaries, partners, government institutions, the private sector, and the GCF.

222. Project staff will ensure that on-grant proposals meet all eligibility criteria prior to selection and funding by referring to the safeguards screening, and will ensure that all ESS risks are appropriately captured and mitigated in accordance with the Project ESMF. The ESMF will be used to assess Grant Facility proposals and implementation.

223. Given the close cooperation with the GoI that is required to successfully implement the Project, particular consideration will be given to political risks and potentially changing Government priorities. This will entail ensuring ongoing consultation and briefing of government officials. The Project will also carefully monitor any regulatory or policy changes implemented by the new government for any adverse impacts on Project implementation.

224. Ongoing risks related to limited capacities of stakeholders, grantees, and relevant authorities' to engage throughout Project implementation will be addressed through capacity building interventions in both Components. The Project's overall risk rating is **medium.**

Selected Risk Factor 1: Change to political priorities		
Category	**Probability**	**Impact**
Technical and operational	Medium	Medium

Description

225. In October 2024, President Prabowo Subianto was inaugurated. President Prabowo has committed to continuing President Jokowi's initiatives, including development of the blue economy. The RPJMN 2025-2029, which is the projection of the president's vision and priorities for the year 2025 – 2029, was released on March 2025. The RPJMN emphasizes food security and infrastructure, with less explicit detail on MPAs or blue economy governance. However, Indonesia's NDC and the 30x45 MPA ambitions are two examples of commitments that will be continued. With MMAF endorsement, BEAM is well positioned to support Indonesia's Asta Cita (grand mission) #2 and #4, promoting national independence through self-sufficiency in food, energy, water, green economy, and blue economy, while continuing downstream industrialization to increase domestic value. In addition, a risk exists that over time the government will develop strategies, policies or regulatory changes that do not align with BEAM's objectives and approaches. For instance, President Prabowo's administration merged the Coordinating Ministry of Maritime Affairs and Investments (CMMAI) into the new Coordinating Ministry for Food Affairs (CMFA), potentially diluting focus on marine conservation. Nonetheless, the Ministry of Marine Affairs and Fisheries remains intact in the new Prabowo's administration, which shows government's continued commitment in this sector.

226. The newly elected provincial and regency leaders were inaugurated in February 2025. This could pose additional risk. Although, in theory, national regulations and policies trickle down to the sub-national level, under the regional autonomy law (*otonomi daerah*), implementation of fiscal decentralization is practiced to improve efficiency and effectiveness in fulfilling the interests of local communities; therefore, policy implementation may be subject to prioritization of the newly elected leaders. However, sub-national leaders are motivated to improve regional revenues, so it is unlikely that resistance to efforts to improve the sustainable blue economy will materialize.

Mitigation measure(s)

227. CI and KI have leveraged existing relationships and built new relationships with key GoI counterparts for the Project, including MMAF, Bappenas, Ministry of Home Affairs, and the Fiscal Policy Agency as NDA. The Coordinating Ministry of Maritime Affairs and Investment (CMMAI), which was disbanded on 20th October 2024 by President Prabowo and succeeded by Coordinating Ministry for Food Affairs (CMFA), and the Ministry of Marine Affairs and Fisheries (MMAF) lead the Government of Indonesia (GoI) in overseeing the design process for Blue Halo S-BEAM. KI will continuously engage with technical staff in these counterpart agencies to ensure their continued guidance and support. CI and KI will also identify opportunities to integrate the objectives and concepts of the Project into GoI's long-term planning, i.e., the RPJPN 2025–2045, to ensure ongoing alignment despite changes in leadership. Changes in legislation and laws linked to the Project's objectives will be monitored and Project actions will be adjusted accordingly. The same engagement will also be carried out with regional governments to ensure that new regional governments have interests and priorities that are in line with the Project.

Selected Risk Factor 2: Lack of policy coherence		
Category	**Probability**	**Impact**
Technical and operational	Medium	Medium

Description

228. Lack of policy coherence between different ministries and government bodies could pose a risk to BEAM through delays, work duplication, overlapping policies, or areas of prioritization. Different line ministries may have conflicting strategies and objectives for the blue economy which may affect Project implementation (e.g., building coastal infrastructure vs. conserving coastal ecosystems). Different ministries may also have differing data collection / reporting methodologies, potentially causing impacts on Project reporting. These potential conflicting policies and priorities (which may change over the course of Project implementation) may affect the ability of the Project to achieve its intended targets and report against impacts as expected.

229. One relevant example is mangrove rehabilitation which is implemented under the guidance and/or authority of four government institutions: MMAF, MoE, BRGM, and ATR/BPN.79 The government has not clearly defined which part of the Project targeted coastal areas will be under the jurisdiction of MMAF and which fall under other ministries. Although ideally, they work together in priority areas, each body may not always have the same priority areas.

Mitigation measure(s)

230. This risk will be directly mitigated through Activity 1.1 in Component 1, which will clarify several marine ecosystem management regulations and policies, and work in close coordination with the ministries that work on coastal and marine management to ensure that the implementation of BEAM activities is clearly under the authority of a specific entity within GoI. Representation from all relevant government institutions / ministries is included in the governance of the Project and all efforts will be made to ensure alignment and clearly defined roles and responsibilities for all stakeholders in the implementation, monitoring, and prioritization of BEAM interventions.

Selected Risk Factor 3: Natural disasters in WPP 572 locations

Category	Probability	Impact
Technical and operational	Medium	Medium

Description

231. WPP 572 is highly prone to natural disasters, such as earthquakes, floods, volcanic eruptions, cyclones, and tsunamis, causing death, injuries, and damage to infrastructure in target communities. Natural disasters could cause disruptions to planned activities, temporarily restrict access to affected sites and damage facilities. Impact could be high locally but is identified as a medium risk to overall BEAM implementation as any one natural disaster is likely to be localized and therefore will not affect the whole of WPP 572.

Mitigation measure(s)

232. BEAM will subscribe to an emergency alert system, provide project staff with disaster and emergency relief skills, and regularly monitor environmental conditions to identify and address potential risks. The Project has developed a specific Disaster Risk Management Plan (within **Annex 6(b)**) to inform Project implementation. The Project will also develop contingency plans (which will incorporate the specific vulnerabilities and needs of women and most vulnerable groups) for logistical or operational issues, including identifying alternative suppliers or service providers in the event of a natural disaster. BEAM will monitor project activities regularly to identify and address potential delays or issues due to extreme natural and climatic events.

Selected Risk Factor 4: Risks related to environment and social standards (ESS) and gender

Category	Probability	Impact
Technical and operational	Medium	Medium

Description

233. Reluctance from local communities, particularly women and vulnerable groups, to engage in Project activities poses a risk to BEAM implementation. Historical distrust stemming from unresolved complaints and unfulfilled promises of assistance has fostered skepticism within communities, which presents a potential early-stage challenge for the Project. Furthermore, systematic barriers within higher-level systems may hinder the collection of necessary data to promote GESI. As a result, marginalized vulnerable communities and women may face reduced access to project interventions and benefits.

Mitigation measure(s)

234. BEAM will develop clear communication channels and a Project level Accountability and Grievance Mechanism for stakeholders to address concerns and resolve conflicts. The Project will also establish clear protocols for stakeholder engagement to ensure that all stakeholders are involved in project planning and decision-making and will work through the project governance mechanism established for the implementation phase to mediate any disagreement among stakeholders. This includes implementation of Free Prior Informed Consent (FPIC) at the earliest stage of project implementation. In addition, the project will socialize the Accountability and Grievance Mechanism at all events

[79] https://tekno.tempo.co/read/1837666/penyusunan-regulasi-perlindungan-mangrove-kkp-minta-kejelasan-kewenangan

conducted under the BEAM Project and will monitor its use, to ensure feedback and grievances are received and responded to in a timely and effective manner.

235. The project will ensure that women and vulnerable groups are fully engaged in the implementation of BEAM and the design and implementation of sub-granted projects through the Grant Facility. Project staff will also ensure that the Stakeholder Engagement Plan is implemented, and that it is updated as needed. The Stakeholder Engagement Plan (**Annex 7**) identifies all the key stakeholders that will be involved in or that will be affected by the Project and how/when they will be engaged (noting that this plan will be updated as needed and as additional stakeholders are identified to ensure inclusion). The Project will also utilize the Gender Action Plan (**Annex 8**) to ensure that women and vulnerable groups are represented in project interventions and receive proportional benefits from project interventions.

Selected Risk Factor 5 Prohibited Practices, including ML/FT

Category	Probability	Impact
Prohibited practices	Low	Medium

Description

236. The Project involves a wide array of actors, including government, Technical Partner Grantees, Beneficiary Organization Grantees, and vendors and service providers. Based on a calculation using multiple international risk indicators, CI assesses Indonesia to be a low-risk country for GCF prohibited practices, including terrorist financing and money laundering. However, Serious breaches of prohibited practices policy, including ML/FT, would impact the reputation of CI and the Project, leading to reduced impact, delays, or other negative consequences.

Mitigation Measure(s)

237. As CI's main delivery partner in Indonesia, KI has already adopted the use of CI's Anti-Money Laundering and Counter-Terrorism-Financing (AML/CFT) Policy, and related procedures, which have been assessed as appropriate by the GCF. Finally, the Technical Partners were screened and cleared against international sanctions lists.

238. As AE, CI, has several procedures and controls in place to prevent, mitigate, and identify risk. In order to comply with CI AML/CTF, U.S. law, and GCF fiduciary standards, CI applies rigorous CFT/AML screening to all CI funding recipients. CI also assesses the Prohibited Practices (PP) risks of grant recipients and includes any required mitigation measures in its legally binding grant agreements. All EE staff and subgrantees must also undergo training on PP (including red flags and how to report violations), and all grant / services agreements (used by both CI and sub-grantees) must include language on compliance with the GCF Policy on Prohibited Practices, including AML/CFT. To help mitigate the risk of ML/FT, the EE will implement CI's AML/CFT policies and procedures for the Project. Technical Partner Grantees will receive capacity-building related to AML/CFT and prohibited practices from KI, as required, and compliance with PP policies and mitigation measures is part of AE oversight throughout implementation.

239. To report and remedy risks, any CI employee; employee of an executing entity, grantee, partner, or vendor; or beneficiary may report a grievance or violation of these policies anonymously online or by telephone through CI's Ethics Hotline. All reported grievances will be investigated and addressed per CI's Anti-Fraud Policy & Guidelines for Investigations. Full details can be found on CI's website at https://www.conservation.org/feedback. More information on this risk can be found in **Annex 20**.

Selected Risk Factor 6: Sub-grant and procurement fiduciary risk

Category	Probability	Impact
Governance	Low	Medium

Description

240. The Project will manage numerous sub-grants and engage beneficiary organizations, technical partners, contractors, vendors, and service providers with varying levels of fiduciary, procurement, accounting, internal-control, and reporting capacity. Weak controls or documentation could result in ineligible expenditures, procurement irregularities, delayed disbursements, audit findings, implementation delays, or reputational impacts for KI, CI, and GCF.

Mitigation Measure(s)

241. KI and CI will apply risk-based institutional, fiduciary, procurement, and integrity due diligence before entering into sub-grant agreements or contracts. The level of review, monitoring, reporting, and verification will be proportionate to the assessed risk and value of each grant or contract.

242. Sub-grant agreements will establish requirements concerning eligible expenditure, procurement, financial management, supporting documentation, asset management, reporting, audit access, prohibited practices, AML/CFT, and the return or recovery of misused funds.

243. Sub-grantees will receive appropriate financial management, procurement, record-keeping, and reporting training. KI will undertake sample-based and risk-based expenditure reviews, monitor compliance with approved budgets and procurement plans, and require corrective-action plans where weaknesses are identified. Disbursements may be withheld, suspended, or made conditional on completion of agreed corrective measures.

Selected Risk Factor 7: Grant Facility Coordination and Results Consolidation Risk

Category	Probability	Impact
Technical and operational	Low	Medium

Description

244. BEAM's multiple grant windows, varied sub-project types, and dispersed implementation sites may create differences in project quality, delivery speed, monitoring, and reporting. These challenges could slow grant processing and make it harder to consolidate results consistently across the Project.

Mitigation Measure(s)

245. The Grant Facility will apply clear eligibility, technical, fiduciary, safeguards, gender, and integrity checks. Only proposals meeting all minimum requirements will be approved, with documented decisions, conflict-of-interest controls, and milestone-based disbursement tied to safeguards compliance and satisfactory performance. Capacity-building support will be provided before and after selection, including support to strengthen proposals, safeguards instruments, work plans, budgets, monitoring systems, and community-engagement arrangements. Disbursement will be linked to agreed milestones, safeguards requirements, and satisfactory performance.

Selected Risk Factor 8: Community Participation and Inclusion of Vulnerable Groups

Category	Probability	Impact
Technical and operational	Low	Medium

Description

246. Women, Indigenous Peoples, and other vulnerable groups may face social, institutional, financial, or geographic barriers that constrain their effective participation in Project activities and decision-making. Given the limited availability of data on coastal Indigenous Peoples in the target area, there is also a risk that relevant groups may not be identified or engaged at an early stage. If these barriers and information gaps are not adequately addressed, participation and access to benefits may be uneven, potentially weakening local ownership and affecting the achievement of the Project's gender equality and social inclusion objectives.

Mitigation Measure(s)

247. BEAM will implement and regularly update the Stakeholder Engagement Plan, Gender Assessment and Action Plan, Indigenous Peoples Framework, and Project-level Accountability and Grievance Mechanism. Given the limited availability of data on coastal Indigenous Peoples in the target area, screening and targeted engagement will be undertaken as sub-project locations and beneficiaries are identified, with Free, Prior and Informed Consent applied where required.

248. Engagement will proactively include women, Indigenous Peoples, traditional communities, persons with disabilities, youth, older persons, poor households, and other vulnerable groups. Methods will be adapted to local conditions through accessible venues, appropriate timing, local languages, targeted outreach, accessible consultation, site-specific engagement plans, disaggregated monitoring separate consultations where appropriate, and support for meaningful participation. Feedback will inform Project and sub-project design. Participation, benefit distribution, grievances, and results will be monitored using appropriately disaggregated data. The grievance mechanism will be widely communicated and provide accessible, confidential, and culturally appropriate channels for raising and resolving concerns.

Selected Risk Factor 9: Environmental Pollution and water and soil quality risk

Category	Probability	Impact
Technical and operational	Low	Medium

Description

249. Project-supported field activities may cause temporary soil disturbance, erosion, sedimentation, waste, or localized water and soil contamination if not carefully managed. These impacts could affect nearby ecosystems and communities, reduce restoration benefits, and require corrective action.

Mitigation Measure(s)

250. Environmental safeguards will be integrated into activity design, screening, budgets, contracts, and field supervision in line with the ESMF and relevant ESMP requirements. Site selection will avoid environmentally sensitive or unstable areas and consider existing land use, erosion risk, water flow, biodiversity, community access, and the suitability of proposed restoration methods. Activities will also apply erosion and sediment controls, safe storage and handling of fuels and chemicals, proper waste management, and rehabilitation of temporarily disturbed areas. Contractors, partners, and sub-grantees will be required to meet national regulations and Project safeguards standards, with monitoring and timely corrective action where issues arise.

Selected Risk Factor 10: KI Implementation capacity and grantee oversight risk

Category	Probability	Impact
Technical and operational	Low	Medium

Description

251. KI will lead enabling-condition activities (such as policy and regulatory support, fisheries data-system improvements, MPA financing and PPP development, and knowledge-sharing) and manage the BEAM Grant Facility. As this will be KI's first grant facility in western Indonesia, limitations in staffing levels, systems, technical expertise, or partner-management arrangements may affect implementation timelines, oversight, and timely delivery of Project outcomes

Mitigation Measure(s)

252. KI will establish a fully staffed PMU with clear authority and dedicated expertise in grant management, finance, procurement, safeguards, M&E, and government coordination. Dedicated PMU functions for safeguards, GESI, M&E and grievance management; staffing review and extra support This capacity is reinforced by KI's role in administering the US$35 million TFCCA program, including its first grant cycle covering 58 selected proposals for coral reef conservation and sustainable livelihoods. Technical partners, a centralized grant-tracking system, and regular capacity reviews will support timely implementation, consistent oversight, and early action on bottlenecks. Additional staff, training, or technical assistance will be deployed where needed.

SECTION G: GCF POLICIES AND STANDARDS

G.1. Environmental and social risk assessment (max. 750 words, approximately 1.5 pages)

253. The Project will apply the ESMF, ESMP, Stakeholder Engagement Plan, Gender Assessment and Action Plan, Indigenous Peoples Framework, and grievance mechanism throughout implementation. Component 2 proposals will undergo exclusion-list review, environmental and social screening, risk categorization, and safeguards appraisal before submission to the Grant Committee. The ESMF is aligned with GCF policy and builds on the relevant environmental and social framework in Indonesia, with additional measures included to fully comply with the relevant requirements under each applicable ESS. The Project design employs FPIC and will continue to engage with beneficiaries to ensure FPIC is followed throughout implementation.

254. The use and applicability of these various instruments (i.e. ESMF, Grievance Mechanism, Disaster Risk Management Plan) as they relate to the identified environmental and social risks of the Project are highlighted in Table 5 of the ESMF (**Annex 6a**). The section below provides a summary of the expected risks and mitigating strategies that will be used in the implementation of the project. These risks have been grouped thematically, based on the type of assistance the planned activities will require (e.g. capacity building, technical assistance). An ESS analysis report will also be mandatory for all project applications submitted for grant funding to demonstrate that a given Project-funded intervention does not violate the do no harm principle from an environmental or social perspective. Based on screening, KI will require proportionate site-specific instruments, such as an ESMP, Labour Management Plan, Occupational Health and Safety Plan, Stakeholder Engagement Plan, Indigenous Peoples Plan, Waste Management Plan, or other risk-specific measures.

255. As final subproject sites are not yet confirmed, Indigenous Peoples will be identified through site-level screening and community validation. Where Indigenous Peoples are present or may be affected, the Project will ensure culturally

appropriate engagement, meaningful participation, fair access to benefits, and appropriate mitigation measures. FPIC will be applied where required under ESS 4.

Risks	Mitigation Measures	Related Parties	Reference Systems
Environmental pollution risks to water and soil quality due to field work, including restoration activities	Ensure that water and soil quality management mitigation provisions are implemented throughout the stages of the project and are monitored. Integrate environmental risk and mitigation aspects into technical design and work plan. Provide capacity building support, including consultant mobilization, training, and supervision Enforce requirements for adequate and safe working conditions.	Contractor Field supervisor (supervising consultant) Local Environmental Office MMAF (including the local Technical Implementation Unit)	ESMP ESCOPs Environmental management plans integrated with the project work plans
Poor working conditions, especially for workers placed on the project site	Adhere to environmental, Social, Health and Safety (ESHS) Requirements. Preparation of stand-alone or integrated OHS Management plans. Compliance with good practice on workers accommodation in case of setting up temporary labor camps. Monitoring and implementation of sanctions and/or corrective actions in the context of poor performance.	Contractor/ third party Field supervisor Local Manpower Office MMAF (all Directorate Generals that will have activities/sub-projects with workers in the field)	Environmental and Social Code of Practice (ESCOP) WBG Worker Accommodation: Processes and Standards Inclusion of ESHS requirements in project work plans and bid documents for third party providers (procurement documents).
Occupational Health and Safety (OHS) accidents, including exposure to natural disasters	Integrate OHS management into the project work plan, including provisions on capacity building, PPE, and related equipment for project workers, or prepare stand-alone OHS plans for more complex works, commensurate with risks and impacts. Develop requirement on monitoring, including supervisory consultant works for field activities. Implement an Environmental and Social Incident Reporting protocol describing reporting, investigation mechanisms, and corrective actions. Provide capacity building support, including expert mobilization, training, and supervision.	Contractor/ third party Field supervisor Local Manpower Office MMAF	Environmental and Social Incident Reporting Protocol Regular OHS monitoring. Planned capacity building activities in OHS. Relevant ESHS requirements to be included in the project work plan and bid documents if the related work will be done by contractors/third parties
Less inclusive capacity building	Integrate gender sensitive and inclusive institutional and technical capacity building modules Undertake mapping to identify key stakeholders relevant to specific capacity building topics	MMAF (DGoCF/ DGoMSM/ DG of Aquaculture and the local Technical Implementation Unit) Contractor (if capacity building activities are outsourced to a third party) Social and environmental specialist / consultant within the PMO (Project Secretariat)	Capacity building activity plan GESI principles and guidelines

Social exclusion and lack of a meaningful participation, especially among vulnerable groups	Ensure inclusive village level process such as the use of participatory rural appraisal tool (PRA), involving village facilitators, mandate that vulnerable communities are included as project beneficiaries, hold inclusive village meetings, conduct inclusive economic assessments. Identify vulnerable groups once the location (village/sub-district) and sub-project activities have been confirmed. Implement strategy for engagement activities for vulnerable groups outlined in Stakeholder Engagement plan (SEP). The project includes provisions for outreach and facilitation to vulnerable groups, including provisions for safe spaces for women, small-scale fishers or traditional fishermen, communities who depend on marine resources for their livelihoods fisherwomen and women engaged in informal blue economy. Engage field-based partner for building trust and intensive communication and collaboration with local communities.	Vulnerable people/ groups, such as small-scale fishers/ traditional fishers, and women engaged in the informal blue economy. Community leaders or traditional leaders (elders/customary heads)	The Stakeholder Engagement Plan (SEP) Link to project design, through participatory planning of village master plan and inclusion of vulnerable groups that will be measured/ monitored annually through EVIKA score monitoring. Action plan will be developed annually in response to the M&E findings; the action plan will be included in the Zoning plan and Management plan, which will be reviewed by the PMU and the AE. Inclusive channels to disclose project information

G.2. Gender assessment and action plan (max. 500 words, approximately 1 page)

Gender assessment

256. The gender assessment combined quantitative and qualitative methods across all six provinces, including desk review, secondary data, interviews, focus groups, and field observations. It engaged 135 participants—64 men and 71 women—including community members, government officials, and NGOs. The findings will guide GESI-responsive outreach, grant screening, appraisal, contracting, implementation, monitoring, and reporting, including targeted support for women-led and underserved applicants, required GESI actions and budgets in Component 2 proposals, and disaggregated beneficiary reporting. Please see **Annex 8** for more information.

257. The gender assessment identified the following vulnerable groups:

- *Small-scale traditional fishers (male fishers)*: Male fishers face unique challenges due to their heavy reliance on marine resources for sustenance. This dependency is compounded by limited alternative job opportunities resulting from lower educational attainment and skills, which restrict their employment options. They navigate significant occupational hazards, including health and safety conditions inherent in their work environment.
- *Small-scale traditional fishers (female fishers)*: Female fishers usually harvest clams, crabs and seashells in shallow coastal or intertidal habits. Their livelihoods are significantly affected by damage from extreme weather events and anthropogenic land use factors which impact coastal biodiversity. They face challenges including reliance on marine resources, inadequate equipment, long working hours (balancing domestic chores with fishing), mis-categorization leading to exclusion from official fisher benefits, and undertaking multiple roles from harvesting to marketing. Despite long hours and low pay in fishery-related jobs, the flexibility in scheduling can be advantageous, especially for those with children.
- *Women in the informal sector, particularly in post-harvest activities*: These women perform labor-intensive tasks that are generally paid less than those in harvesting. Their contributions across the fishery value chain are significantly underreported, resulting in undervaluation and exclusion from assistance programs. They rely heavily on catches by their partners or other fishers for income, alongside managing unpaid household responsibilities. Workers employed in fish farms and aquacultures face confined living conditions in compounds that limit access to information and the outside world. They typically lack job security and benefits due to informal employment status.
- *Female heads of household in fishing communities*: These women's income relies directly on marine ecosystem health, leaving them vulnerable to environmental changes and resource depletion. Limited education and skills restrict their job options beyond fishing. They juggle generating income with household duties, often finding their husbands' fishing income insufficient, forcing them to seek additional earnings while handling domestic tasks. This dual burden exacerbates their economic and social vulnerability.

- *Elderly female fishers in areas like Mentawai who fish for personal sustenance and to support extended family members*: The physical condition of elderly female fishers significantly limits their work abilities. Despite this, they are forced to continue due to a lack of alternative income sources and this dependency exposes them to physical strain and health issues. The lack of accurate data on elderly female fishers highlights administrative neglect, marginalizing and excluding them from support programs.

Gender Action Plan

258. Based on these findings, a gender lens will be integrated into all Project interventions by combining GESI mainstreaming with targeted initiatives to ensure gender responsiveness. The Gender Action Plan aims to strengthen various domains of adaptive capacity and create an enabling environment for GESI mainstreaming and specific interventions.[80] Domains crucial for enhancing the adaptive capacity of identified vulnerable groups include:
    - Assets: Establishing community-based savings groups, improving access to KUSUKA (ID card for marine-related business) for female marine and fishery actors, and ensuring fair access to government assistance, market opportunities, credit, and financial instruments.
    - Social organizations: Strengthening existing local working/business groups to serve as self-organized social platforms accessible for women and other vulnerable groups.
    - Learning: Developing inclusive knowledge, information, and education materials on climate change impacts, sustainable fisheries practices, coastal community livelihoods, and targeted capacity building programs to improve knowledge and skills among vulnerable groups.
    - Agency: Developing inclusive co-design approaches with local populations and vulnerable groups, that aim to empower these groups to shape and own proposed regulatory, policy, and market activities, ensuring that adaptation strategies are locally owned and sustainable long-term.
    - Adaptation strategies: Developing diverse adaptation options that consider the needs and priorities of women to ensure flexibility in responding to climate change impacts.
    - The Project introduces proactive measures including capacity building for government institutions on women's and vulnerable groups' needs, guidelines for GESI-responsive research grant selection, implementation, and data collection, and impact research on gender equality achievements.

259. The grant windows under Component 2 prioritize support for the most vulnerable, with KI actively encouraging proposals from women and vulnerable groups. Grant eligibility seeks gender equality and women's empowerment outcomes in all sub-grants (See **Annex 26)**.

260. The PMU's GESI function will lead implementation of the Gender Action Plan, supported by the Safeguards and M&E functions. Subgrantees will implement relevant GESI actions and report progress to KI.

G.3. Financial management and procurement (max. 500 words, approximately 1 page)

261. CI, as AE, will follow financial management and procurement in line with CI policies and procedures, and provisions of the AMA between CI and the GCF. CI has assessed KI capacities and has determined that it has strong financial and procurement standards in place to meet CI and GCF fiduciary standards.

Financial management

262. CI and KI utilize Unit 4 Business World software for enterprise resource planning, managing financial accounting and monitoring globally. This system supports financial monitoring, reporting, HR, procurement, and record-keeping per CI's AMA requirements. It includes ledger accounts to track income and expense by donor, project, and sub-award. CI and KI employ a coding system and procedures for project monitoring and reporting.

263. KI and sub-grantees must submit quarterly financial reports to be reviewed by the AE and EE. The AE will pre-approve financial reporting templates used by KI for BEAM grantees as part of the Grants Manual.

264. An annual independent external Project audit will be conducted aligned with internationally recognized standards, and results submitted to the GCF as per CI's AMA.

[80] As defined in Cinner, J.E., Adger, W.N., Allison, E.H. et al. (Building adaptive capacity to climate change in tropical coastal communities. Nature Clim Change 8, 117–123 (2018). https://doi.org/10.1038/s41558-017-0065-x), adaptive capacity refers conditions that facilitate people to anticipate and respond to change, to minimize consequences, to recover, and to take advantage of new opportunities that arise from climate change.

265. Disbursements to CI will be recorded in the Project ledger using Unit 4 Business World for tracking. Disbursements from the EE to sub-grantees will occur upon receipt of acceptable progress, financial reports and other grant agreement requirements.

266. CI has controls in place, preventing the risk of prohibited practices, including money laundering and financing of terrorism (collectively, "PP"). CI applies CFT/AML screening to all CI funding recipients. CI assesses PP risks of grant recipients and includes mitigation measures in its grant agreements. EE staff and sub-grantees must also undergo training on PP (including red flags and how to report violations), and all grant and services agreements (used by the EE and sub-grantees) must include language on compliance with the GCF Policy on Prohibited Practices. Monitoring for PP compliance, including site visits, is conducted throughout project implementation.

267. PP violations, fraud, or financial misuse can be reported anonymously online or by phone through GCF's IIU or CI's Ethics Hotline. CI's investigates and addresses all reports to its Ethics Hotline per its Anti-Fraud Policy and Guidelines for Investigations.

268. CI-GCF grants management and sub-recipient monitoring utilize an integrated systems across its donor management, accounting, and budgeting. This system notifies due dates of deliverables, tracks disbursements, expenses, milestones, and audit findings, and identifies project risks for informed and documented project supervision.

Procurement

269. All procurement will follow CI's Procurement Process Standards, ensuring best value and compliance with donor funding terms and conditions. Goods and services are procured to be used only as intended, aligning with CI's Code of Conduct and anti-fraud policies. CI's procurement standards meet GCF fiduciary standards.

270. KI has procurement policies which are fully aligned with CI and GCF standards. The Subsidiary agreement will incorporate flow-down terms to ensure compliance (see **Annex 19**). KI will adhere to AE's procurement controls and risk-mitigation measures, including planning, multi-level purchasing approvals (with AE approval above set thresholds), quarterly reporting, periodic inventories, and post-award reviews.

271. KI will assess procurement policies of sub-grantees conducting procurement. Sub-grantees meeting CI's Procurement Process Standards will follow their own procedures for the Project; others must adhere to CI's Policy or contractual flow-downs. Detailed procurement requirements, per CI and GCF standards will be stipulated in the grant agreement between EE and grantees.

272. CI will oversee all procurement for the Project, ensuring goods are used as intended. Training on procurement and prohibited practices will be provided to EE staff, CI will approve annual procurement plans and procurements exceeding over a specified threshold. Quarterly reports and periodic site visits will monitor procurement and equipment.

G.4. Disclosure of funding proposal

☐ No confidential information: The accredited entity confirms that the funding proposal, including its annexes, may be disclosed in full by the GCF, as no information is being provided in confidence.
☒ With confidential information: The accredited entity declares that the funding proposal, including its annexes, may not be disclosed in full by the GCF, as certain information is being provided in confidence. Accordingly, the accredited entity is providing to the Secretariat the following two copies of the funding proposal, including all annexes:

- Full copy for internal use of the GCF in which the confidential portions are marked accordingly, together with an explanatory note regarding the said portions and the corresponding reason for confidentiality under the accredited entity's disclosure policy, and
- Redacted copy for disclosure on the GCF website.

SECTION H: ANNEXES

H.1. Mandatory annexes

☒	Annex 1	NDA no-objection letter(s) **(template provided)**
☒	Annex 2	Feasibility study - and a market study, if applicable
☒	Annex 3	Economic and/or financial analyses in spreadsheet format
☒	Annex 4	Detailed budget plan **(template provided)**
☒	Annex 5	Implementation timetable including key project/programme milestones **(template provided)**
☒	Annex 6	Environmental and social document corresponding to E&S category (A, B or C; or I1, I2 or I3): **(ESS disclosure form provided)** ☐ Environmental and Social Impact Assessment (ESIA) or ☒ Environmental and Social Management Framework (ESMF) or ☐ Environmental and Social Management System (ESMS) ☒ Others (Disaster Risk Management Plan, Grievance Mechanism, IP Framework, ESMP)
☒	Annex 7	Summary of consultations and stakeholder engagement plan
☒	Annex 8	Gender assessment and project/programme-level action plan **(template provided)**
☒	Annex 9	Legal due diligence (regulation, taxation and insurance)
☒	Annex 10	Procurement plan **(template provided)**
☒	Annex 11	Monitoring and evaluation plan **(template provided)**
☒	Annex 12	AE fee request **(template provided)**
☒	Annex 13	Co-financing commitment letter, if applicable **(template provided)**
☒	Annex 14	Term sheet including a detailed disbursement schedule and, if applicable, repayment schedule

H.2. Other annexes as applicable

☒	Annex 15	Evidence of internal approval **(template provided)**
☐	Annex 16	Map(s) indicating the location of proposed interventions
☒	Annex 19	Procedures for controlling procurement by third parties or executing entities
☒	Annex 20	First level AML/CFT (KYC) assessment
☒	Annex 21	Operations manual (Operations and maintenance)
☒	Annex 22	Assessment of GHG emission reductions and their monitoring and reporting[81]
☒	Annex 23	Implementation Arrangements Detail
☒	Annex 24	Adaptation Beneficiary Calculations
☒	Annex 25	Contributions of the BEAM Project to GCF's USP2 targets
☒	Annex 26	Locally Led Climate Action Eligibility Criteria
☒	Annex 27	Grants Manual

[81] Annex 22 is mandatory for mitigation and cross-cutting projects.