Strengthening Capacities for Prevention, Control and Management of Invasive Alien Species (SMIAS) in Indonesia

Part I: Project Information

GEF ID
10705

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
☐ CBIT
☐ NGI

Project Title
Strengthening Capacities for Prevention, Control and Management of Invasive Alien Species (SMIAS) in Indonesia

Countries
Indonesia

Agency(ies)
FAO

Other Executing Partner(s)
Directorate of Biodiversity Conservation, Ministry of Environment and Forestry (MoEF)

Executing Partner Type

Government

GEF Focal Area
Biodiversity

Taxonomy
Focal Areas, Biodiversity, Protected Areas and Landscapes, Productive Seascapes, Terrestrial Protected Areas, Species, Invasive Alien Species, Stakeholders, Type of Engagement, Participation, Partnership, Influencing models, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Indigenous Peoples, Beneficiaries, Local Communities, Communications, Awareness Raising, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Gender results areas, Capacity Development, Participation and leadership, Capacity, Knowledge and Research, Knowledge Exchange, Knowledge Generation

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 0

Climate Change Adaptation
Climate Change Adaptation 1

Duration
60 In Months

Agency Fee($)
419,540.00

Submission Date
9/21/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount($)	Co-Fin Amount($)
BD-2-6	GET	3,500,000.00	63,029,524.00
BD-2-7	GET	916,210.00	2,916,513.00
Total Project Cost ($)		**4,416,210.00**	**65,946,037.00**

B. Indicative Project description summary

Project Objective

To safeguard globally significant biodiversity and ecosystem services through improved prevention, control and management of invasive alien species (IAS) in Indonesia.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
1: Strengthened policy, regulatory, institutional and financing frameworks for IAS management	Technical Assistance	1.1: Policy and regulatory frameworks enabling more effective and comprehensive IAS management _Indicators_ · _Updated NISSAP with targets, budgets and timetables_ · _Umbrella regulation on IAS in place_ 1.2: Institutional capacities and coordination for IAS management strengthened _Indicators_ · _Biosecurity Task Force within the Coordinating Ministry_	1.1.1 – National policies, plans and regulations for IAS management developed and/or updated 1.2.1 – National biosecurity management capacities strengthened 1.2.2 – Capacity of institutions to manage and prevent the spread of IAS in the landscape / seascape enhanced 1.2.3 – Information and information management systems on IAS strengthened 1.3.1 – Financing mechanisms to support IAS management developed and tested	GET	2,755,000.00	11,750,000.00

for Maritime and Investment Affairs (KEMENKO MARVES) established and operational

· Increased score on the FAO Capacity Development Scorecard (baseline tbd during PPG phase)

· Updated National List of IAS of Highest Concern

1.3: Increased financial resources and mechanisms for IAS management in Indonesia

Indicators

· Cost-benefit analyses completed for IAS of highest concern

· Increased government funding for IAS management

· At least 2 PES programs (1 in each project landscape) to support the costs of IAS management developed and tested

2: Demonstrated landscape-level approach to invasive alien plant species (IAPS) management	Technical Assistance	2.1: Existing and new management plans / mechanisms in place to enable landscape level management of IAPS	2.1.1 – Spatial planning and assessments of IAPS pathways completed	GET	1,050,000.00	39,335,378.00
			2.1.2 – Landscape-level management plans for IAPS created and under implementation			
		Indicators	2.1.3 - IAPS management integrated into protected area management plans			
		· 2 spatial maps completed for project landscapes				
		· 2 landscape level IAPS management plans finalized and under implementation	2.2.1 - Development of training modules and curricula on IAPS management for local forestry and agricultural extension staff, PA and forest managers, and policy makers			
		· Area of 4 priority IAPS reduced by 187.2 ha	2.2.2 – Community and private participation in IAPS prevention / control approaches enhanced, and approaches integrated into existing forestry/agricultural production systems			
		· BBNP: 129 ha (terrestrial)				
		· BTSNP: 57 ha (terrestrial) and 1.2 ha (aquatic)				
		2.2: Diverse stakeholders within project landscapes with enhanced roles and capacities to engage in IAPS management				
		Indicators				

· *Improved scores on GEF METT for 2 PA sites:*

· *BBNP: Baseline (78); Target (tbd in PPG)*

· *BTSNP: Baseline (74); Target (tbd in PPG))*

· *2 multi-stakeholder IAPS coordinating mechanisms established and operating*

· *At least 2,260 local inhabitants participating in IAPS management activities within PAs, FMUs, production and other relevant landscapes*

3: Strengthened knowledge & awareness of IAS issues among key stakeholders, and project monitoring and evaluation based on adaptive management principles	Technical Assistance	3.1: Understanding and awareness of IAS issues increased and supporting improved management in Indonesia	3.1.1 - Awareness and understanding of IAS issues increased 3.1.2 – IAS management practices / lessons learned captured, documented and disseminated	GET	400,914.00	11,860,659.00
		3.2: Project implementation is supported by an M&E strategy based on measurable and verifiable outcomes and adaptive management principles	3.2.1 - Project monitoring and evaluation strategy implemented			
			Sub Total ($)		**4,205,914.00**	**62,946,037.00**

Project Management Cost (PMC)

				GET	210,296.00	3,000,000.00
			Sub Total($)		**210,296.00**	**3,000,000.00**
			Total Project Cost($)		**4,416,210.00**	**65,946,037.00**

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	MoEF - Directorate of Biodiversity Conservation	Grant	Investment mobilized	39,213,252.00
Recipient Country Government	MoEF - Directorate of Area Conservation	Grant	Investment mobilized	289,802.00
Recipient Country Government	MoEF - Bromo Tengger Semeru National Park Authority	In-kind	Recurrent expenditures	6,207,198.00
Recipient Country Government	MoEF - Bromo Tengger Semeru National Park Authority	Grant	Investment mobilized	1,939,747.00
Recipient Country Government	MoEF - Bantimurung Bulusaraung National Park Authority	In-kind	Recurrent expenditures	3,896,974.00
Recipient Country Government	MoEF - Bantimurung Bulusaraung National Park Authority	Grant	Investment mobilized	3,570,971.00
Recipient Country Government	MoEF - Agency for Forestry Human Resource Development and Extension	Grant	Investment mobilized	188,242.00
Recipient Country Government	MoEF - Research Development and Innovation Agency	Grant	Investment mobilized	56,567.00
Recipient Country Government	Local Government (Lumajang Regency)	Grant	Investment mobilized	260,821.00
Recipient Country Government	Indonesian Science Institute	Grant	Investment mobilized	281,402.00
Recipient Country Government	SEAMEO BIOTROP	In-kind	Recurrent expenditures	75,274.00

Recipient Country Government	SEAMEO BIOTROP	Grant	Investment mobilized	163,058.00
Private Sector	Bosowa cement company (CSR program)	Grant	Investment mobilized	1,041.00
Others	National Road Agency for Makassar Area	Grant	Investment mobilized	147,238.00
Donor Agency	KfW	Grant	Investment mobilized	1,662,308.00
Donor Agency	JICS	Grant	Investment mobilized	127,975.00
Donor Agency	IFAD	Grant	Investment mobilized	7,764,167.00
Donor Agency	Food and Agriculture Organization	Grant	Investment mobilized	100,000.00

Total Project Cost($)   65,946,037.00

Describe how any "Investment Mobilized" was identified

Preliminary Investment Mobilized was identified during project identification in consultation with key project partners, as noted in Table C. It totals US$ 55.77 million and includes public investments of government, private investment as well as grants from donor agencies including KfW, JICS and IFAD as described in Section 2) Baseline Scenario. The Agency will work to further confirm and expand the sources of IM during the PPG phase. In-kind co-financing from government and other partners has been classified as recurrent expenditures, while public investments as well as grants from donor and GEF agencies have been classified as investment mobilized.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
FAO	GET	Indonesia	Biodiversity	BD STAR Allocation	4,416,210	419,540	4,835,750.00
				Total GEF Resources($)	4,416,210.00	419,540.00	4,835,750.00

E. Project Preparation Grant (PPG)

PPG Required ☑

PPG Amount ($)	PPG Agency Fee ($)
150,000	14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
FAO	GET	Indonesia	Biodiversity	BD STAR Allocation	150,000	14,250	164,250.00
				Total Project Costs($)	150,000.00	14,250.00	164,250.00

Core Indicators

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
94,026.00	0.00	0.00	0.00

Indicator 1.1 Terrestrial Protected Areas Newly created

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

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

Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
94,026.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)	
Bantimurung Bulusaraung National Park (BBNP)	317261	National Park	43,750.00							🗑
Bromo Tengger Semeru National Park (BTSNP)	1269	National Park	50,276.00							🗑

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

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

27439072.00	0.00	0.00	0.00

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
27,335,974.00			

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

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

Type/Name of Third Party Certification

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
103,098.00			

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

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

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

Title	Submitted

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

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	1,572			
Male	1,048			

	Total	2620	0	0	0

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

• Target for Core Indicator 1: This is the combined area of the Bantimurung Bulusaraung National Park (BBNP) (43,750 ha) and the Bromo Tengger Semeru National Park (BTSNP) (50,276 ha) • Target for Core Indicator 4: Area of Production FMUs and agriculture within the two project landscapes o Landscapes under improved management to benefit biodiversity: Project interventions to support IAS prevention and management frameworks at the national level will strengthen the protection of all conservation areas in the country from IAS impacts, and therefore will benefit the conservation of the globally important biodiversity found within these areas. There are 552 conservation area units within Indonesia , totalling 27.43 million ha. (approximately 14.4% of Indonesia's total land area of 1,904,569 million sq. km.) The 94,026 ha under Core Indicator 1 have been deducted to avoid double-counting. o Productive landscape around the BBNP: Two Forest Management Units totalling 51,406 ha, as well as adjacent productive lands, including 5,329 ha of timber production forest, 5,681 ha of production forest for non-wood products, 6,341 ha of production forest managed by local communities, and 10,000 ha of agricultural lands, and 2,500 ha of communities and other lands, for a total of 78,757 ha. o Productive landscape around the BTSNP: Adjacent productive lands, including 1,294 ha of Utilization Zone; 3,140 ha of Traditional Zone, and 1,907 of Rehabilitation Zone, and 18,000 ha of agricultural lands, for a total of 24,341 ha. • Target for Core Indicator 11: The total number of direct beneficiaries is estimated to be 30% of the inhabitants in the following communities: o BBNP: Labuaja Village with a total population of 2,209 (1,102 men and 1,107 women); and Samangki Village with a total population of 5,176 (2,521 men and 2,655 women) o BTSNP: Ranupane village, with a total population of 1,345 (651 men and 694 women) In addition, the project directly addresses and strengthens national commitments to the realization of Aichi targets, namely 7, 9, 14 and 19. [1] The State of Indonesia's Forest 2018

Part II. Project Justification

1a. Project Description

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

Indonesia is a tropical archipelago with over 13,000 islands, a land area of over 2 million km^2, a water area of about 5.8 million km^2, and over 80,000 km of coastline. Indonesia contains 7 major biogeographic regions. The three main types are *tropical rainforest*, which is found in every major island; *tropical monsoon*, predominantly on the north coast of Java, the south and east coasts of Sulawesi, and Bali; and *tropical savanna*, in isolated locations of Central Java, lowland East Java, coastal southern Papua and smaller islands to the east of Lombok and Nusa Tenggara Timur. Indonesia is one of the world's 17 megadiverse countries, with 2 of the world's 25 "hotspots", 18 of World Wildlife Fund's "Global 200" ecoregions, and 24 of Bird Life International's "Endemic Bird Areas"[1]. Indonesia has the 5th most floral diversity in the world, and 55% of plant species found in the country are endemic, while approximately 12% of all mammal species in the world (515 species) are found in Indonesia. As well as harbouring globally important biodiversity, the country's extensive forests and numerous other ecosystems generate significant environmental benefits of national and global importance, acting as carbon reserves[2], regulating hydrological flows and protecting watersheds against degradation, and providing goods and services on which rural livelihoods depend[3].

Threats / Impacts of Invasive Alien Species

Invasive Alien Species (IAS) constitute a significant threat to biodiversity globally. The rapid global rise in trade and travel has greatly increased both intentional and unintentional movements of plant and animal species within countries and across the globe. In many cases these introduced species are highly invasive and quickly replace native flora and fauna, thereby producing variety of negative impacts. For example, there is now broad scientific consensus that IAS play a crucial and devastating role in driving species extinctions, and otherwise impacting native species through predation; competition for food and other resources; alterations in community composition and vegetation structure; hybridization with native species; and as vector pathogens and pests[4]. IAS also produce ecosystem-level impacts, such as alternating fire and hydrologic regimes, modifying soil chemistry and nutrients, and causing erosion and sedimentation, that affect ecosystem services in natural environments as well as agriculture, forestry, fisheries and other productive landscapes. These same impacts can degrade animal health (e.g. through pathogens/disease and by degrading pastureland and water supplies) as well as human health and livelihoods (by degrading pasturelands and croplands, affecting crop pollinators, and introducing pathogens/disease to human).

Indonesia's 5th National Report to the CBD (2014) classifies IAS as one of the five most important threats to biodiversity in the country. IAS are known to damage sensitive ecosystems in island archipelagos such as Indonesia, and to pose a critical threat to globally significant biodiversity, since islands generally have due high numbers of endemic species, many of which have evolved in isolation and are therefore particularly vulnerable to invasive predators, competitors, diseases, etc. Invasive plants can decrease species diversity by *ca.* 50% and abundance by *ca.* 44%, also reducing fitness and growth of native plant species by *ca.* 42 and 22%, respectively (Vilá et al. 2011). The loss of plant species, or changes in vegetation structure as a result of alien plant invasions, may have cascading trophic effects

(Sakai et al., 2001), especially on other species at higher trophic levels. For example, alien plant species have been reported to decrease animal fitness and abundance both by ca. 17% (Vilá et al., 2011). Although IAS impacts have not been systematically studied in Indonesia, invasive alien plant species (IAPS) in particular constitute a significant threat to the country's biodiversity, ecosystem functions, and socio-economic development. Indonesia's 5th National Report to the CBD (2014) identifies a total of 342 IAPS affecting terrestrial and aquatic environments, of which approximately 20 have been identified as species of most concern[5]. These IAPS have impacted diverse ecosystems in the country, including sensitive watersheds, peatland systems, lake systems and others, as well as extensive areas of agricultural land. In addition, Indonesia's vast forest ecosystems have been greatly impacted by the interplay between the affects of deforestation for timber and agricultural land clearance, forest fires, and IAPS. In this regard, deforestation creates conditions for IAPS to invade newly cleared areas, and is known to increase the vulnerability of forests to fires. IAPS have also had significant impacts on Indonesia's freshwater lakes and rivers, for example when species such as Giant Salvinia or Kariba Weed (*Salvinia molesta)* and Water Hyacinth (*Eichhornia crassipes*) form dense growths that block waterways, displace native plant species and aquatic organisms, and prevent economic activities including capture fisheries and aquaculture.

The impacts of IAPS on Indonesia's system of protected areas have been significant; they are believed to be one of the most important cause of ecosystem degradation across most of the country's national parks[6]. One study[7] identified 339 IAPS that have already contributed to degradation of protected areas in Indonesia, acting throughout the archipelago and affecting multiple ecosystems. For protected areas in Indonesia, the pathways of IAPS introduction include the planting of invasive species around park management headquarters and tourist facilities, or as "living" park boundaries, and the accidental introduction of species by park staff or visitors. But the most significant pathway is believed to be the spread of IAPS into protected areas from surrounding lands and along waterways such as rivers or streams. For the most part, this pathway is the result of increasing demographic and development pressures that leave the landscapes adjacent to protected areas highly degraded and vulnerable to IAPS. However, in some cases local development programs have further contributed to the problem. For example, in some areas invasive fish species have been introduced for protein production and have spread into protected areas along streams and rivers, and fast-growing invasive agro-forestry species have been introduced for timber and fuelwood production and have spread into protected areas with disastrous consequences. Poor management of productive activities has also contributed to the spread of IAPS; for example, livestock herds entering into some PA sites have introduced plant propagules of invasive species such as *Acacia nilotica.*

Barriers

Weak policy and regulatory frameworks and insufficient institutional capacities, resources and collaboration prevent collaborative management of Invasive Alien Species across sectors and institutions: Indonesia has enacted several new regulations in the past five years to support IAS management. For example, Ministerial Decree of Environment and Forestry *No. 94 / 2016* contains a list of identified invasive plants and animals, as well as technical guidelines and training documents on IAS management, while the Plant Quarantine Act (*Act No 21, 2019)* requires the monitoring of IAS and expands the scope of monitoring responsibilities for the Quarantine Agency. However, these regulations are not comprehensive and numerous gaps remain. For example, regulation P.94 focuses on protected landscapes and does not view abutting production landscapes; the Plant Quarantine Act requires the monitoring of IAS but makes no provisions for management and control; and regulations controlling the movement of IAS only apply to points of entry into Indonesia.

In addition, many regulations relevant to IAS are still in the form of ministerial regulations, which means that they are not binding on other ministries and related sectors. In addition, although 'invasive alien species' were added to the mandate of Indonesia's *Agricultural Quarantine Agency* (AQA) in 2006, to date there is still no regulation listing banned plants and diseases, and the work of the AQA is limited to preventing the movement of plants and diseases across the national border and at major ports. Thus, despite some advances, it is widely recognized that existing regulations are not sufficient to prevent the entry of most IAS into the country and do not even exist yet to control the movement of IAS between islands.

Indonesia's planning frameworks for IAS are similarly constrained. The *National Invasive Species Strategy and Action Plan* (NISSAP) was developed in 2015 and identifies a suite of activities for IAS management in the country; however, the NISSAP has no specific targets, timetables or budgets to enable implementation and thus functions only as a general policy document. Furthermore, although the NISSAP identifies specific institutions to carry out IAS management activities, there are no policies or directives that require the relevant ministries and institutions to work together to implement the plan. Combined with a lack of clarity regarding institutional responsibilities and the absence of any inter-institutional coordinating or information sharing mechanisms on IAS, the result is that existing IAS management by various ministries continues to be done independently of each other. To give one example, neither the Ministry of Trade nor the Ministry of Tourism and Creative Economy participate at all in biosecurity initiatives. Given the cross-cutting nature of IAS impacts, which can simultaneously affect biodiversity, water resources, crop, pasture and forest production, human and animal health, local livelihoods, etc., the failure of Indonesia to implement cross-sectorial approaches is a significant barrier to effective IAS management.

This problem is exacerbated by limited experience and technical capacities; few persons in the country have extensive knowledge of strategies for IAS prevention, monitoring and measuring, control, and awareness raising, and the country has limited scientific resources for addressing IAS management challenges (e.g. although Indonesian scientists have the expertise to carry out IAS surveys, no national institutions have resources to support such work). Technical resources for IAS management (such as technical manuals or IAS checklists to be used at ports of entry) are insufficient, and while international resources (e.g. Plantwise Knowledge Bank, ISC, GISD and other databases) are available, few technical personnel in Indonesia are aware of them, or they are constrained by language or internet access barriers. While some national databases on IAS exist (e.g. the Ministry of Agriculture has a database with some IAS plant data), the overall level of information on IAS in Indonesia (species; pathways; environmental and socio-economic impacts; etc.) is very limited and often anecdotal and/or not scientifically confirmed. There are very few examples of economic valuations / cost benefit analyses of IAS in Indonesia; for example, Baluran National Park is the only protected area that has such information. Thus, Indonesian policy makers and resource managers do not have the information necessary to understand and appreciate IAS impacts, assess costs and benefits, set priorities, or take appropriate actions. As a result, funding for IAS management in Indonesia is extremely low given the country's globally important ecosystems and their high degree of vulnerability to IAS.

Limited knowledge, experience and capacities constrain the ability of resource managers and local communities to manage IAS at the landscape level: Local stakeholders, including managers of protected areas and productive forest management units, local government officials, and local community members, have extremely limited experience with, understanding of, or capacities and tools to effectively manage IAS in the landscape. For example, Indonesia's protected areas managers and staff know very little about IAS pathways into PAs and the threat they pose to biodiversity, or about techniques and practices to prevent new IAS introductions or to manage IAS already present within PAs. Other local resource managers, extension officers and officials have even less experience, and in many cases probably are not even familiar with the concept of invasive alien species. Moreover, most local officials, resource managers and extension staff frequently already have a wide range of responsibilities for which they are inadequately trained and equipped.

There are also few demonstrated models / approaches for managing IAS in Indonesia, and even where they have been tested (e.g. bio-control agents to control rice pests and some invasive alien plant species), there has been little to no monitoring and evaluation of the success or failure of these interventions. Furthermore, despite the fact that IAS spread across administrative boundaries, IAS management activities that do take place in the landscape are generally done by individual agencies with little to no participation from other agencies or local communities. As a result, there is little experience and few mechanisms to address IAS threats with a landscape level approach that can prevent IAS impacts from spreading from one area to another. There is also no common understanding in the country of invasion pathways or even which species are invasive, and as a result approaches to IAS management differ widely. For example, forestry and agricultural production units often promote the use of invasive species, frequently without understanding their potential negative impacts and ability to spread widely through a

landscape. Finally, regulations, procedures and tools for IAS management in the landscape are inadequate. Law No. 5 includes penalties for the release of IAS within protected areas, but this is rarely enforced and does not even cover the release of IAS in productive areas. Most Protected Area management plans do not address IAS, and in cases where PAs have tested IAS management activities, any lessons learned are rarely shared with other PA units in the country.

Lack of awareness and understanding of the negative ecological and socio-economic impacts of IAS: Many government agencies in Indonesia are unaware of or do not fully understand IAS issues / impacts, and it remains common for agencies (even including directorates within MoEF) to promote the use of IAS that they see as beneficial or do not understand to be invasive. Even within the biodiversity sector, most policy and decision makers do not recognize the level of threat that IAS pose to biodiversity and focus most programs and resources on other issues. Outside the biodiversity sector (for example in agriculture and fisheries), policy makers and managers focus on protecting economic crops and fisheries from pests and disease, and do not necessarily see the benefits associated with biodiversity conservation or protection of ecosystem services. This is partly because IAS impacts, in particular the financial costs associated with plant and animal invasions, are poorly understood. Finally, the general public in Indonesia has minimal awareness of IAS or their impacts on the environment, livelihoods or human well being, and as a result public support for and participation in IAS management is very limited.

Project Sites

Project field activities will focus on two landscapes in Indonesia where IAPS are having significant negative impacts. These sites, and the specific IAPS pathways and species to be addressed, were selected based on a number of criteria, including:
i) landscapes where IAPS threaten globally significant biodiversity and ecosystem services (both sites are Key Biodiversity Areas) as well as production systems and ecosystem services important for local economies / livelihoods;
ii) landscapes where IAPS pathways / impacts cross over jurisdictional / land use boundaries;
iii) landscapes where partners managing both protected and productive areas / sectors have a shared interest and willingness to address IAPS, with a focus on areas with both Protected Areas and adjacent Forest Management Units;
iv) landscapes that provide a good economic case for action (e.g. sites where IAPS are directly impacting livelihoods and/or ecosystem services with monetary value (water provision; tourism attractions); and
v) IAPS for which prevention and/or control measures are technically and financially feasible.

The selection of the sites will be validated and/or adjusted as needed during the PPG phase, based on a more detailed assessment of these criteria.

Bromo Tengger Semeru National Park (BTSNP) and surrounding landscape: The BTSNP (WDPA ID 1269) is a protected area of 50,276 ha located in East Java, with a staff of 186 persons. The NP overlaps with the Gunung Bromo Tengger-Semeru Key Biodiversity Area. The NP ranges in elevation from 750 meters to more than 3,100 meters, and consists of Sub-montane, Montane, and Sub-alpine ecosystems. The BTS landscape is home to the Tengger indigenous group; who inhabit two villages (Ngadas and Ranupani) within the NP and another 15 villages in the surrounding landscape. The NP is an important tourism destination; many visitors come to enjoy nature tourism in the high mountain areas and in the lake areas that serve as the base for visiting the mountains; there is also cultural tourism in the form of various temples, caves, and sites of ancient inscriptions. In addition to being a national park, the BTSNP is also classified as a Conservation Forest Management Unit (FMU). The Raden Soerjo Grand Forest Park (27,868 ha; also classified as a Conservation FMU) is located adjacent to the NP and supports activities such as recreation/tourism, education and research, and cultivation (honey production). The landscape surrounding the BTSNP otherwise consists of productive lands, including 1,294 ha of Utilization Zone; 3,140 ha of Traditional Zone, and 1,907 of Rehabilitation Zone, and 18,000 ha of agricultural lands; there are

also 3,527 ha used for community infrastructure and other uses. Local residents carry out various forms of agricultural production, including intensive fruit (apple) and horticultural farming, and intensive vegetable farming systems (on steep hillsides) for potatoes, cabbage, leeks and carrots, as well as cultivation of bamboo that is used in rainwater harvesting and irrigation systems and the harvesiting of at least 16 medicinal plant species.

The BTS has been severely impacted by the spread of Giant Salvinia (*Salvinia molesta),* a floating aquatic fern that thrives in slow-moving, nutrient-rich, warm freshwater. This species has invaded Ranu Pane Lake inside the NP, due primarily to the flow of nutrients into the lake from intensive agricultural practices in the uplands, where it forms dense vegetation mats that reduce water flow and lower the light and oxygen levels in the water. This stagnant dark environment negatively affects a diversity of native freshwater species, including endemic fish and aquatic plants. Giant Salvinia can significantly alter wetland ecosystems and even completely cover slow-moving or standing water bodies, with enormous impacts on socio-economic activities that depend on open, flowing and/or high quality water bodies, including hydro-electricity generation, fishing and river transport. In the Ranu Pane Lake, the problems created by Giant Salvinia are compounded by heavy sedimentation levels due to runoff from agricultural fields and eutrophication due to fertilizer runoff and domestic waste from villages within the lake's catchment area. Field studies show that the area of Ranu Pane lake has been reduced by around 50% as of January 2020 due to sedimentation and invasion by Giant Salvinia. While local community livelihoods depend mostly on upland agriculture, a balance must be found between agricultural productivity and reducing downstream impacts from Giant Salvinia so that native plants and animals and the ecological functioning of the lake is maintained. This will be addressed by introducing conservation agriculture using more environmentally friendly farming systems such as those that have been successfully adopted by farmers in Indonesia under the FAO's Conservation Agriculture Project in collaboration with the Government of Indonesia. Due to this, park managers are collaborating with universities and local NGOs to increase community awareness on how to save the lake's ecosystem, which is highly important to the livelihoods of local communities. In the meantime, each year the park spends a large part of its budget to manually or mechanically remove Salvinia from the lake. Other important IAPS in this landscape include Brazilian Vervain (*Verbena brasiliensis*), which has invaded 20 ha of savanna ecosystem, as well as *Acacia decurrens*, *Caliandra calothyrsus*, and *Chromolaena odorata*, all of which have negative impacts on biodiversity, water catchment services, and hydropower generation.

Bantimurung Bulusaraung National Park (BBNP) and surrounding landscape: The BBNP (WDPA ID 317261) is a protected area of 43,750 ha located in South Sulawesi, with a staff of 132 persons. In addition to being a national park, the BBNP is also classified as a Conservation Forest Management Unit (FMU) and it is classified as a Key Biodiversity Area and an ASEAN Heritage Park. The BBNP is divided into three main ecosystem types, forest ecosystems on limestone (karst ecosystems; the BBNP has the 2nd largest karst ecosystem globally), non-dipterocarpaceae rainforest ecosystems, and lower mountain forest ecosystems. The BBNP is a catchment area for several large rivers in South Sulawesi. 48 villages are located within the NP, and there are agricultural lands within the NP and the broader landscape. The landscape surrounding the BBNP includes one Production FMU (a combination of plantation forests, natural forests, and some areas of cultivation, such as for chocolate, coffee, shifting cultivation) and one Protection FMU that together encompass 51,406 ha, as well as 5,329 ha of timber production forest, 5,681 ha of production forest for non-wood products, 6,341 ha of production forest managed by local communities, and 10,000 ha of agricultural lands; there are also approximately 2,500 ha used for community infrastructure and other uses. As most of the landscape surrounding the BBNP is forested, local residents rely heavily on forest resources, including local production of honey and mushrooms that is managed by Forest Farmer Groups (with support from with FMUs), which set their own regulations on harvesting and allocate a part of their revenues to support forest rehabilitation activities. Tourism is also highly important, with almost 60% of the local population involved in one way or another in this sector, which includes attractions such as a butterfly park and famous waterfalls and cave systems.

Within the BBNP, a risk analysis process carried out by park management identified 18 invasive alien plant species, of which two -- African Tuliptree (*Spathodea campanulata),* Siam Weed (*Chromolaena odorata*) -- pose the most important threat to biodiversity and ecosystem services within the park. The African Tulip Tree (*Spathodea campanulata*), which has spread widely within the park (it now covers 438 ha), has greatly reduced the area of several native or endemic species,

including the Sulawesi Eboni (*Dyospiros celebica*), palms (*Livingtonia sinensis*), and several native orchids (*Acocentrum miniatum, Dendrobium macrophyllum,* and *Palaenopsis amboinensis*). *Chromolaena odorata* has invaded an additional 100 ha within the park. Furthermore, PA managers believe that the loss of these native plants is causing a decline in the populations of some endemic wildlife species that feed on these plants, including the Sulawesi Monkey (*Macaca maura*), Sulawesi Tarsier (*Tarsius fuscus*) and the Sulawesi bear cuscus (*Aelurops ursinus*). *M. maura* is protected under Indonesian law and has critically endangered status under IUCN. The origin of the spread of Spathodea within the park is unknown, though it is suspected that the plant was intentionally introduced to improve flood and erosion control, or that it was dispersed by animals or through the air.

2) The baseline scenario and any associated baseline projects

A number of laws and policies constitute the primary instruments governing IAS management in Indonesia. The most important and relevant policy instruments are the *National Invasive Species Strategy and Action Plan* (NISSAP) and *Indonesia's NBSAP 2015 – 2020*. The legal framework for IAS includes *Law Number 21 (2019) on Animal, Fish and Plant Quarantine,* which is the primary legal instrument covering prevention and quarantine; *Ministry of Environment and Forestry Decree Number P.94/Menlhk/Setjen/Kum.1/12/2016 on invasive species*, which includes control measures for invasive species and mentions eradication (but does not provide specific guidance on procedures for IAS eradication); *Directorate General of Nature Reserve and Ecosystem Conservation Decree Number 4/KSDAE/SET/KSA.2/11/2019 on Procedures for Risk Analysis of Invasive Plants in Sanctuary Reserve Areas, Nature Reserve Areas, and Hunting Areas*, which covers early detection / rapid response as well as control measures (in protected landscapes); *Ministerial Decree of Marine and Fisheries No. 41 / 2014* on the prohibition of dangerous fish species entering Indonesia's territory; and *Law 16 / 1992 Concerning Animal, Fish, and Plant Quarantine,* which is the basic law regulating the introduction and spread of exotic species detrimental to agriculture and fisheries.

There area a number of previous and on-going programs in Indonesia on IAS management and related issues that constitute an important baseline for the proposed project. The Coordinating Ministry for Maritime and Investment Affairs (KEMENKO MARVES) has formed a new Deputy for Coordination of Environment and Forestry (under Presidential Decree No 92/2019 and Ministerial Decree No 2, 2020), within which a Biosecurity Task Force will be established during project implementation. KEMENKO MARVES is already responsible for ensuring that IAS management targets for all ministries under the National Mid-tem Plan will be achieved, and it is leading a national effort among several technical line ministries to collaboratively address the significant threat posed by water hyacinth (*Eichhornia crassipes*) in 40 priority lakes throughout the country. The Agricultural Quarantine Agency (AQA) within the Ministry of Agriculture is tasked with preventing the introduction and spread of plants and diseases dangerous for agriculture within Indonesian territory. The AQA has 52 offices throughout the country to undertake this assignment, and their actions make a significant contribution to the management of IAS in Indonesia. Once an invasive plant has arrived and is established (and has crossed the border or passed through the port), the Regional Agricultural Agencies under the MoA are responsible for their control. These regional agencies are established across the country at Provincial level, and in some cases also at the District level. The AQA has trained its staff in surveillance and risk analysis on IAS; established an updated list of IAS in Indonesia to improve surveillance at pre-border and entry points; and created an IAS information management system in collaboration with the FAO project "Strengthening Quarantine Control System on Invasive Alien Species". The Directorate of Biodiversity Conservation of the Directorate General of Nature Resources and Ecosystem Conservation (KSDAE) within MoEF has a budget of USD 78,975 / year specifically for policy and technical work on IAS prevention and management at the national level and in ten national park sites. In addition, MoEF has allocated USD 7.7 million/year for ecosystem restoration (enrichment planting of trees) within the national park system; the proposed project will work with MoEF to expand the scope of this program to include IAS management activities. In addition, efforts are underway to update the list of invasive species attached to the *Decree Number P.94/Menlhk/Setjen/Kum.1/12/2016* and to formulate a regulation for Invasive Wildlife Species Risk Analysis (involving both MoEF and MoA). The Directorate for Conservation Areas and Management of Protection Forest within KSDAE is responsible for managing most of the country's protected area system (excluding most marine protected areas). Within MoEF, capacity building has been provided to the Agency for Forestry Human Resource Development and Extension and the

Directorate of Biodiversity Conservation to identify IAS, carry out Risk Assessments, and conduct inventories / mapping of IAS in all conservation areas. Although protected area management plans are supposed to include an assessment of IAS threats and propose responsive management measures, at present most PA management plans pay little attention to IAS, and KSDAE is currently reviewing Ministerial Regulation Number 48 (2014) on Guidelines of Ecosystem Restoration in Nature Reserves and Nature Conservation Areas to better integrate IAS issues. In addition, the Biodiversity Conservation Directorate under KSDAE takes the lead in conservation programs focusing on keystone species; including several dozen large, long-term programmes to conserve keystone species. In cases where the target keystone species are threatened by IAS, activities to mitigate their impact and restore habitats are supposed to be undertaken.

The proposed project will collaborate with several on-going donor-supported and civil society programs and projects relevant to IAS management objectives. The Southeast Asian Regional Centre for Tropical Biology (SEAMEO BIOTROP) in Indonesia has on-going programs and research on IAS pathways, biological characteristics and control measures, facilities for testing the introduction of biological agents into the country, as well as capacity building programs on IAS management. SEAMEO BIOTROP can play a key role in (i) facilitating the introduction of host specific and damaging bio-control agents to manage IAS and (ii) identifying invasive alien plants and animals that should be subject to a ban. SEAMEO BIOTROP can also share its experience with IAS management in Gede Pangrango National Park. The ASEAN Centre for Biodiversity (ACB) can play an important role in linking project participants with similar initiatives in other countries in Southeast Asia. Within the BTSNP, park managers continue to try to manage Giant Salvinia (*Salvinia molesta),* and even though the park spends a large part of its budget each year to manually or mechanically remove Salvinia, this IAPS continues to be a significant problem. Within the BBNP, park management has on-going programs to control the African Tuliptree (*Spathodea campanulata),* but these are very poorly funded and have made little progress. KfW is implementing a project to support the President of Indonesia's program on Social Forestry in areas near to the BTSNP, and JICS is implementing IAS management and rehabilitation activities within the BBNP (these two programs are described in more detail in the Coordination section below). Finally, the project will seek to learn from and build on the results of several on-going and previous programs for IAS prevention and management in landscapes that include protected areas. These programs include on-going activities by the Ujung Kulon National Park Authority for the management of invasive sugar palm (*Arenga obtusifolia*), and by WCS and the Sumatran Tiger Project for the management of invasive vine *Merremia peltata* in Bukit Barisan Selatan National Park; as well as recently completed projects such as the ADB-funded Project "Institutional Strengthening of Baluran and Bali Barat National Park Authorities to Address Biodiversity Conservation" (2014-2019) and in particular its pilot project on invasive alien species management.

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project

<u>Invasive alien species are a significant and growing problem in Indonesia:</u> they are one of the main threats to Indonesia's national protected areas network, which is the very foundation of BD conservation in the country; they have been identified as a key threat to some of the most important endemic and/or endangered species in the country, including the Sulawesi Black Macaca (*Macaca maura*), Tangkasi/tarsies (*Tarsius fuscus*), Javan Eagle (*Nisaetus barthelsi*), Javan Leopard (*Panthera pardus javanicus*), and Javan langurs (*Trachypithecus auratus*); they have a negative impact on agricultural production and on Indonesia's efforts to enhance forestry production and improve forest conservation by inhibiting the growth of target species, increasing fire risk, etc.; and they reduce important ecosystem functions such as water provision, erosion control, production of NTFPs, and attractiveness for tourism. Indonesia's increasing integration into regional and international trade and transport networks, and growing inter-island transport and movement of people, is making the effective management of IAS even more urgent.

In recognition of these trends, <u>the project proposes several key approaches for IAS management</u>. At the national level, a key aspect of the project strategy is to establish the first dedicated government unit in Indonesia to oversee the coordination of IAS management throughout the country, which will facilitate cross-sectoral approaches among line ministries and raise awareness of and support for IAS management among decision-makers and the general public. At the site

level, a key aspect of the project strategy is to take a landscape level approach to IAS management, building on lessons from past efforts in Indonesia (e.g. the FORIS project), which found that attempts to manage IAS solely within priority landscapes such as protected areas were ineffective and unsustainable. Other key elements of the project approach include: i) strengthening the capacity of institutions and other partners to engage in IAS management at both the national level (Component 1) and site level (Component 2); ii) focusing specifically on Invasive Alien Plant Species (IAPS) at the site level (Component 2), but addressing IAS more broadly (i.e. both flora and fauna) in the national level interventions under Components 1 and 3; and iii) focusing on IAS management approaches that include identification of priority species / pathways, risk assessment, prevention, quarantine, and early detection – rapid response (EDRR) in order to prevent both the entry and spread of IAS, as well as control measures to address IAS that are already present in the landscape.

Together, the above components encompass a suite of outcomes that will result, by the end of the project, in the following fundamental changes (as shown in Annex C, Theory of Change): i) a reduction in the risk of IAS being introduced into and spreading within Indonesia; ii) models, capacities and experience that enable protected area managers and other stakeholders to effecitvely prevent the introduction and manage the presence of IAS in landscapes that are critically important for biodiversity conservation; and iii) widespread recognition that IAS prevention and management is a national priority with important ecological, social and economic benefits for the people of Indonesia. To achieve these end states, the proposed project includes a suite of interventions organized under three inter-connected components: 1) strengthened policy, regulatory, institutional and financing frameworks for IAS management (leading to reduced IAS introduction and spread); 2) demonstrated landscape-level approaches to IAPS management (leading to reduced IAS impacts in priority landscapes for BD); and 3) strengthened knowledge & awareness of IAS issues among key stakeholders (leading to prioritization of IAS prevention and management). The success of this approach will depend on several key assumptions, many of which relate to actions that need to be carried out by the Government of Indonesia, including: enactment of a new umbrella regulation on IAS; creation and sustained support for a Biosecurity Task Force; increased budget allocations for IAS management and/or levies on shipping/air transportation; and support for the up-scaling of IAS management approaches throughout the protected area system in the country. The project design also assumes that local-level stakeholders will realize tangible ecological, social and economic benefits from improved IAS management, thereby providing them with incentives to support IAS management post-project.

Project Objective: To safeguard globally significant biodiversity and ecosystem services through improved prevention, control and management of invasive alien species (IAS) in Indonesia.

Component 1: Strengthened policy, regulatory, institutional and financing frameworks for IAS management

Outcome 1.1: Policy and regulatory frameworks enabling more effective and comprehensive IAS management

Output 1.1.1 – National policies, plans and regulations for IAS management developed and/or updated: Under this output, the project will support the updating of the National Strategy and Action Plan on Invasive Species Control (NISSAP), including the development of targets, budgets and timetables for implementation of the NISSAP, and building awareness about the NISSAP among relevant institutions / agencies. The project also will support the development and implementation of a new umbrella regulation on IAS (strengthening the existing regulation with a higher legal status) that applies to all ministries and institutions. Ministerial[1] and Directorate General regulations and procedures on IAS Risk Analysis, Quarantine[2] and Management will be updated and/or developed in order to support the following objectives: fostering early detection of new IAS; streamlining the introduction of exotic Biological Control Agents (BCAs) for management of IAS; prevention and monitoring of IAS at pre-border involving MoEF, Ministry of Marine and Fisheries (MMAF) and Ministry of Agriculture; supporting regulations to enable effective implementation of Law No. 21 (2019) on Animal, Fish, and Plant Quarantine that addresses IAS introductions at the border and within the country.

In addition, <u>Ministerial and Directorate General regulations and procedures on for management of IAS in the landscape will be updated and/or developed</u> to support the following objectives: ensuring the decentralization of responsibility for management of IAS to local government authorities and the allocation of resources to IAS management at the local level; allowing PA managers to remove IAS tree species (currently PAs are not allowed to harvest any tree species), drawing lessons learnt from similar initiatives in other countries in order to reduce the risk of negative consequences that could arise from this regulatory change; and supporting regulations under Ministerial Decree Number 94 to enable IAS prevention and management activities to take place in all categories of conservation areas (regulations currently only support such activities within Nature Conservation Areas and Sanctuary Reserve Areas). Moreover, the proposed project will contribute to the implementation of Law 22 on Sustainable Farming Systems (2019) in relevant project sites, and will support revision of MOEF Ministerial Regulation 48 on Guidelines of Ecosystem Restoration in Nature Reserves and Nature Conservation Areas (2014) in order to ensure that IAS concerns are well-integrated into current and future regulations.

Implementation of the NISSAP is expected to begin during the period of project implementation. At present, the Ministry of Environment and Forests (MoEF) is elaborating detailed regulations needed to support implementation of the NISSAP, which is a key part of the MoEF's larger ongoing national program to adopt an ecosystem-based approach to management of natural resources and biodiversity. MoEF is also continuing to advocate for a high-level regulatory framework, such as a Presidential Degree or Government Degree, to support the NISSAP and facilitate the involvement of all relevant line ministries (MMAF, MOA, Ministry of Education, BAPPENAS, Ministry of Trade, the Coordinating Ministry for Maritime Affairs and Investment and Ministry of Finance) in its implementation.

Regarding financing of the NISSAP, part of the co-financing provided by MoEF represents funds that will be allocated for implementation of the NISSAP. MoEF and other relevant ministries have already allocated approximately USD 450,000 to support the updating of the NISSAP and the associated regulatory work during the period of this project. Additional co-financing from MoEF and other ministries to implement the NISSAP will be generated once the NISSAP has been updated, the regulatory framework is finalized, and the implementation process gets underway. In addition to funding from government ministries/agencies, project activities under Output 1.3.1 (Financing mechanisms to support IAS management developed and tested) will help to create financing mechanisms for IAS management, including implementation of the NISSAP, over the long-term.

<u>Outcome 1.2: Institutional capacities and coordination for IAS management strengthened</u>

Output 1.2.1 – National biosecurity management capacities strengthened: Under this output, the Coordinating Ministry for Maritime and Investment Affairs (KEMENKO MARVES) will be <u>designated as the IAS national focal point and coordinating agency</u> under the new IAS umbrella regulations. Within KEMENKO MARVES, the office of Deputy Assistant for Watershed Management and Natural Resource Conservation, which is responsible (*inter alia*) for coordinating national activities on natural resource and ecosystem conservation. Within the office of the Deputy Assistant, a Biosecurity Task Force will be established, with a dedicated budget and staff, who will be provided with extensive capacity building in order to undertake a number of key responsibilities, including: i) acting as the <u>central node for technical expertise and knowledge on IAS issues</u> in Indonesia, and providing expertise and data to other ministries / agencies as needed; ii) <u>developing tools, manage information, provide training for relevant line ministries / resource managers</u> (e.g. Quarantine Agency, MoEF, MoA, managers of PAs and FMUs, etc.); iii) <u>coordinating governmental activities for IAS management</u> in terms of information sharing (e.g. on IAS risks, identification, response measures, etc.); responses to IAS outbreaks; and coordinating IAS management between ministries and other stakeholders responsible for both protected and productive landscapes / seascapes; and iv) <u>leading Indonesia's activities for international cooperation on IAS management.</u> This approach is based on lessons learned in the FORIS project on the importance of creating a designated agency / unit that can champion IAS issues and bring key stakeholders to the table. To sustain capacity building activities post-project across various sectors, the project will develop a capacity building workplan for all relevant Ministries / Agencies. For this, the project will work with MoEF's existing technical training centre within the Agency for Extension and Human Development, which has experience in developing technical

guidelines and training materials on IAS prevention and risk analysis. The capacity building and transfer of knowledge process during the course of the project will include "training of trainers" for selected staff with IAS management responsibilities within key agencies (e.g. the Biosecurity Task Force in KEMENKO MARVES; MoEF; Quarantine Agency, etc.) at the national and local levels.

Output 1.2.2 – Capacity of institutions to manage and prevent the spread of IAS in the landscape / seascape enhanced: Under this output, the project will help to strengthen the technical capacities of the Indonesia Agricultural Quarantine Agency to prevent the entry of IAS into Indonesia by: i) building the capacity of the quarantine agency to expand its scope of IAS prevention (which has historically been limited to IAS that threaten agriculture) to include IAS that impact the natural environment (as mandated under the new *Law 21 of 2019*); ii) strengthening the quarantine agency's capacity to carry out risk analyses and develop response strategies for IAS of highest concern (see Output 1.1.4), and to identify and manage priority IAS entry pathways (forestry and agriculture); and iii) establishing clear and efficient institutional rules / mechanisms to enable the importation of biocontrol agents for IAS management. In addition, the project will help to strengthen the technical capacities of resource management ministries / agencies (in particular MoEF, MoA, MMAF) to manage IAS across landscapes / seascapes by: i) strengthening technical capacities to identify and manage priority IAS pathways (with a focus on forestry and agriculture sectors) that facilitate the spread of IAS across landscapes / seascapes; ii) strengthening institutional capacities to develop management plans for specific IAS pathways / species; and iii) developing protocols and tools for Early Detection and Rapid Response for new IAS outbreaks in the field, including an enhanced interactive mobile phone app (with data on additional IAS, local names, and translated into Bahasa Indonesia) to allow members of the public to easily and quickly identify and reports new outbreaks (the app and a strategy for managing information reported will be developed in collaboration with the Indonesian Science Institute and Biotrop)

Output 1.2.3 – Information and information management systems on IAS strengthened: Under this output, the project will update the national list of IAS of highest concern (Indonesia's 5th National Report to the CBD identifies 20 such species out of a total of 342 IAS listed in the country), using risk analysis tools that measure invasiveness, impact and potential distribution (i.e. to what degree are intact ecosystems suitable for invasion by a species), and building on techniques developed to SEAMEO-BIOTROP and the previous FORIS project. Updating the national list of IAS of highest concern (under Ministry of Forestry Decree Number P.94) will provide the legal basis for IAS management activities such as empowering field staff to conduct surveillance and management of IAS. The project also will assess the existing / potential impacts on biodiversity from different IAS management approaches (e.g. biocontrols vs. chemical or physical interventions for agricultural pests), and building on work to date, carry out additional assessments of environmental and economic risks of priority IAS based on likelihood of incidence / degree of impact. The project will support the efforts of MoA, MoEF, MMAF and other partners (SEAMEO BIOTROP) to update / enhance their existing IAS databases and establish data sharing protocols / mechanisms, and it will support the Biosecurity Task Force to incorporate more information and data on IAS in Indonesia into existing international databases

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[1] Minister of Environment and Forestry Regulation No.94/2016 on Invasive Species

[2] Law No. 16/1992 on Quarantine

Outcome 1.3: Increased financial resources and mechanisms for IAS management in Indonesia

Output 1.3.1 – Financing mechanisms to support IAS management developed and tested: Under this output, the National Planning Agency (BAPPENAS) will lead the development of a long-term financing plan for IAS prevention and management in Indonesia, which will be used to strengthen technical and human resource capacities within key institutions, including the Biosecurity Task Force in KEMENKO MARVES, MoEF, the Ministry of Marine and Fisheries and the Ministry of Agriculture. The plan will include strategies to explore and develop cost benefit analyses to support increased government budget contributions, fees/levies on key sectors, and payments for ecosystem services that contribute to IAS prevention and management. For example, the project will work to enhance support from policy makers for IAS management and new IAS programs by carrying out the first national level cost-benefit economic analyses of IAS in Indonesia, focusing on species on the national list of IAS of highest concern that have an impact on agriculture and forestry, as well as IAS with impacts on biodiversity, with a focus on ecosystem services / species that are globally significant and/or are known to have important economic and/or social values for the country (including values for tourism, medicines, wild crop relatives important to agriculture, etc.). The analyses will include both environmental and socio-economic costs and benefits; for example the potential benefits for local communities of controlling IAS that impact agricultural and forestry production as well as overall ecosystem functioning and/or biodiversity, with the objective of building a strong business case for investing in IAS management and control early on at a national as well as local level so as to build support for new policies and strategies relating to IAS, ensure adequate budget allocations by government, and create acceptance in the private sector for contributing towards the costs of management. The project also will share information on IAS cost benefit analyses with policy makers and resource management institutions in order to increase government budget allocations for IAS management. Building on lessons learned in the FORIS project, the project will engage with decision makers early in this process in order to ensure buy-in and support. In addition, the Directorate of Biodiversity Conservation within MoEF, in consultation with the National Planning Agency and the Ministry of Finance, is currently drafting a mechanism to support national funding for biodiversity management (including IAS management). Among the elements under consideration is a mechanism for levies on trade, tourism, travel and transport (the "4 Ts"), which are key pathways for IAS introduction / spread in Indonesia. The project will support efforts to promote this mechanism, including providing the cost benefit analyses that will help to justify its importance on economic and social grounds. Finally, the project will assess the potential for Payments for Ecosystem Services (PES) from the private sector to support funding of IAS management activities. Possible PES mechanisms may include financial contributions from tourism operators to support IAS management (and thereby preserve the tourism attributes of the parks), as well as payments by water companies and/or municipal governments to support management of invasive aquatic plants (e.g. *Salvinia molesta, Eichornia crassipes*) that threaten water supplies. Activities will include carrying out willingness to pay (WTP) studies and collecting other relevant data to support PES design (e.g. water flows; water pricing; costs of alternatives such as dam construction; tourism levels and preferences; etc.). Based on this work, the project will support the development and testing of pilot PES programs in areas with highest potential for success.

Component 2 – Demonstrated landscape-level approach to invasive alien plant species (IAPS) management

Under this component, the project will take a landscape level approach with a focus on priority protected areas and adjacent production forests. Managed forest areas (community and individual forest management units; village forests; etc.) often coexist with conservation areas so that IAPS management is inseparable from a landscape approach and community involvement is needed to prevent IAPS coming into managed or non-conservation forest areas and then spreading to conservation areas. For example, there is evidence suggesting that an *Acacia mangium* plantation forest concession has been a source of problems for nearby natural forest areas because Acacia seeds spread through the air and colonize open areas in natural forests. Similarly, the previous GEF-funded FORIS project worked on the management of the IAPS *Acacia nilotica* in Baluran NP, but the local villages continued to bring their herds of cattle into the NP and the cattle were one of the main pathways for the distribution (through faeces) of *Acacia nilotica* seeds. Acacia is known to spread easily, suppress the growth of local species, and make forest areas more susceptible to fire as acacia wood and litter is highly flammable. For these reasons, the project will integrate improved IAPS management effectiveness across PAs, Forest Management Units, and local communities in two priority landscapes cantered around the Bantimurung Bulusaraung and Bromo Tengger Semeru National Parks, while also promoting and enabling community-based approaches to IAS management. More broadly,

since there are communities within both national parks, the project will formulate a special strategy to work jointly with communities and National Park Authorities in implementing proposed activities. The selection of priority landscapes will be confirmed during the project preparation phase using a nationally agreed set of criteria based on the GEF biodiversity global indicators. The targeting will identify the prioritized hotspots for biodiversity and the specific target IAPS.

<u>Outcome 2.1: Existing and new management plans / mechanisms in place to enable landscape level management of IAPS</u>

Output 2.1.1 – Spatial planning and assessments of IAPS pathways completed: Under this output, the project will <u>carry out spatial planning / mapping for the two project landscapes</u>, including the national parks, forest management units, and adjacent agricultural and forestry production lands, in order to identify ecosystem types, land uses, and the current extent of IAPS spread. The project also will <u>identify the primary pathways</u> for the spread of known IAPS threats within each project landscape. The mapping of invasion pathways at the site level will constitute important baseline studies (of which there are very few in Indonesia) to support the goal of the national and local Quarantine Agencies to identify priority IAPS entry pathways in the forestry and agriculture sectors (e.g. use of IAPS seeds / seedlings, ornamental plants, etc.), and to develop specific regulations to address these pre border and post border pathways. Identification of IAS pathways will also seek to develop approaches that promote learning and application by other landscape areas that may not have the resources to conduct in-depth studies.

Output 2.1.2 – Landscape-level management plans for IAPS created and under implementation: Under this output, the project will <u>develop IAPS management plans for the two project landscapes</u> in order to complement other forms of environmental management at the landscape level and optimise environmental, economic and social benefits. The plans will be aligned with the guidelines of the NISSAP, and will include: identification and mapping the distribution of IAPS at landscape and PA site levels; determination of priority IAPS based on their damage to local ecosystems; determination of strategies and plans for effective control actions that take account of ecological conditions, community involvement, and the availability of resources; development of practical training materials / approaches; and monitoring and evaluation plans. Once the plans are completed, the project will support <u>implementation of priority activities in the IAPS management plans</u>, including prevention, early detection / rapid response, and control measures. Emphasis will be put on low-cost, high impact interventions, for example the use of low-cost biological control agents (in the productive landscape). Finally, the project will <u>document lessons learned / effective models</u> for IAPS management at the local landscape level based on the foregoing activities.

Output 2.1.3 - IAPS management integrated into protected area management plans: Under this output, the project will support PA managers in <u>integrating IAPS management activities and targets into two existing national park management plans</u> (within the context of the landscape level management plans developed under 2.1.2). The project also will work with PA managers and national MoEF staff to <u>integrate IAPS management into action plans for keystone species that occur in the two landscapes</u>. Indonesia's Keystone Species program addresses conservation of 25 national priority species, and the following species are found within the two target landscapes: the Sulawesi Black Macaca (*Macaca maura*) and the Makassar Tarsier (*Tarsius fuscus*) in the BBNP; and the Javan Eagle (*Nisaetus barthelsi*), Javan Leopard (*Panthera pardus javanicus)*, and Javan langur (*Trachypithecus auratus*) in the BTSNP. Finally, the project will monitor the success of the national park IAPS management activities; consolidate information on results and best practices; <u>disseminate information throughout the overall national protected areas system</u>, including through exchange visits for managers of other PAs

<u>Outcome 2.2: Diverse stakeholders within project landscapes with enhanced roles and capacities to engage in IAPS management</u>

Output 2.2.1 - Development of training modules and curricula on IAPS management for local forestry and agricultural extension staff, PA and forest managers, and policy makers: Under this output, the project will strengthen IAPS monitoring, evaluation and enforcement <u>capacities among staff of Protected Areas and Forest Management Units</u>, including training in identification and response measures for IAPS; joint training activities in the field to control IAPS that impact adjacent PAs and FMUs; provision of IAPS control equipment; and awareness raising for both PA and FMU staff to avoid the use of intentional planting of IAPS for timber production, boundary marking, etc. The project also will strengthen <u>capacities of local government extension officers</u> to provide technical advice and support to local communities to carry out IAPS management on community productive lands. In addition, the project will <u>build awareness and understanding among local officials</u> of the potential role of government programs that promote / utilize IAPS and/or sustain IAPS pathways, and of the ecological and economic costs for local inhabitants from IAPS impacts on ecosystem services

Output 2.2.2 – Community and private participation in IAPS prevention / control approaches enhanced, and approaches integrated into existing forestry/agricultural production systems: Under this output, the project will support the <u>establishment of multi-stakeholder coordinating mechanisms</u> in each project landscape (building on work the MoEF has done in some areas on multi-stakeholder forums for managing FMUs) to bring together local governments, local units of relevant Ministries, community representatives and private partners to agree on priorities and collaboration for IAPS management. To enable better stakeholder participation, the project will <u>strengthen the capacities of local community-based organizations</u> to raise awareness, learn good practices, and plan and implement collective management of IAPS, such as training for local community members in IAPS identification and response measures, and it will <u>promote community participation in IAS management within protected areas</u> (Nature Resource and Ecosystem Conservation Decree No. 6 of 2018 on Conservation Partnership enables collaboration between national park authorities and local community in managing IAS in national parks). In addition, the project will introduce conservation agriculture practices in selected sites designed to reduce excessive application of fertilizer and pesticides that produces negative IAPS impacts in water bodies; this will constitute an important contribution to the implementation of Law 22 on Sustainable Farming Systems (2019). The project will also seek breakthroughs in controlling the spread of IAPS when biological control is ineffective by working with local communities and the private sector to <u>find productive uses for IAPS in the short term</u>. For example, based on existing knowledge, several types of invasive species such as *Merremia peltata* and others can be used as animal feed, thereby providing an incentive for harvesting these plants and creating additional sources of income. The project will provide support in identifying such species and in developing an appropriate management framework their use; i.e. so that the use of such IAPS is only allowed until they can be permanently replaced by native species. The project also will assist efforts to <u>identify non-invasive, economically attractive native plant species</u> that local communities can utilize in forestry and agricultural production in place of locally problematic IAPS, and work with agriculture and forestry extension services to make these plant species available. Finally, the project will <u>support efforts of private forest landowners</u> who wish to improve IAPS management on their lands in order to gain forestry certification.

Component 3: Strengthened knowledge & awareness of IAS issues among key stakeholders, and project monitoring and evaluation based on adaptive management principles

<u>Outcome 3.1: Understanding and awareness of IAS issues increased and supporting improved management in Indonesia</u>

Output 3.1.1 - Awareness and understanding of IAS issues increased: Under this output, the project will carry out public awareness initiatives to increase awareness and understanding of IAS issues and impacts, utilizing a variety of media (on-line; mass media; educational publications, etc.). In so doing, the project will build on previous efforts in IAS awareness raising carried out by other projects, such as the GEF-funded "Removing Barriers for Invasive Alien Species Management in Production and Protection Forest of Southeast Asia", which developed a national communications campaign on IAS as well as various educational

materials / programs at the local level), and the GEF-funded project in Mexico "Enhancing National Capacities to manage Invasive Alien Species (IAS) by implementing the National Strategy on IAS", which developed awareness raising programs focused on PA visitors as well as for sectors responsible for IAS entry into the country. Awareness and education on IAS prevention and management issues will be provided for PA managers / staff (linking to activities under Output 2.2.1), as well as private sector partners, in particular tourism operators, given that the two target project sites are heavily visited tourism destinations and visitors are an important contributing factor to IAS introductions and spread in these landscapes. This output also will include activities to develop specific IAPS awareness materials for local governments and communities in the project landscapes, with a focus on information that will encourage / incentivize behavioural changes that will reduce the use (intentional or unintentional) and spread of IAS, in particular changing practices of local farmers in and around Bromo Tengger Semeru National Park that contribute to IAS introductions / spread (based on activities carried out under Output 2.2.2). The project will seek to learn from the experiences of the FORIS project, which carried out IAS public awareness campaigns in the region of the Baluran National Park that included various print and electronic media (including videos and animated movies) as well as outreach programs and competitions for students. Throughout the awareness raising and communications work, an emphasis will be placed on documenting, using and disseminating local / traditional knowledge and wisdom regarding IAS impacts and IAS management options, and on delivering messages that address potential conflicts between cultural preferences/beliefs and IAS management practices (e.g. some communities may view native trees as being of little value and desire to replace them with exotic species that will generate income; such perceptions need to be tackled head on through conducting and communicating a cost benefit analysis approach).

Output 3.1.2 – IAS management practices / lessons learned captured, documented and disseminated: Under this output, the project will develop and implement a strategy to disseminate information products on IAS management developed under Components 1 and 2 (in particular under Output 1.2.3) through publications, news features and other reporting both within Indonesia and at the regional / international level (e.g. through the Asian Centre for Biodiversity). In addition, the project will support regional-level workshops and/or learning visits between different PA management units (UPTs) to enable sharing of best practices and lessons learned; such activities will be continued post-project by MoEF. Furthermore, the project will collect the views, experiences and priorities of PA managers and local communities regarding IAS prevention and management by coordinating existing stakeholders, their functions and resources via a mutual platform, or "IAS Forum", which will provide inputs and guidance for policy and regulatory changes as well as field activities. This forum will be modelled on the existing Watershed Forums (Forum DAS) and the Indonesian Elephant Conservation Forum (the latter was established in recognition of the fact that elephant conservation problems required a collective effort and cross-learning among individual programs, and now it brings together government, NGOs, academics, and the media to develop, monitor, and evaluate elephant conservation strategies in Indonesia).

<u>Outcome 3.2: Project implementation is supported by an M&E strategy based on measurable and verifiable outcomes and adaptive management principles</u>

Output 3.2.1 - Project monitoring and evaluation strategy implemented: Under this output, the project will develop a M&E strategy with relevant interest groups that clearly defines expected outcomes and time periods for completion, and provides for confirmation through objectively verifiable indicators and means of verification. The project will carry out a Mid Term Review and Final Evaluation with the objective of constructively informing and guiding implementation of the project, supporting the application of adaptive measures when necessary, taking account of sustainability considerations, and documenting lessons learned for project management.

4) Alignment with GEF focal area and/or Impact Program strategies

The project is aligned with GEF focal area programs BD-2-6 "Address direct drivers to protect habitats and species through the Prevention, Control and Management of Invasive Alien Species" by: implementing cost effective response measures to prevent introductions; focusing on high risk pathways for IAS invasion and spread; controlling and managing IAS that have become established; addressing the impacts of IAS on critical ecosystem services, including water provision; and supporting the focus during GEF-7 on island ecosystems. The project also is aligned with BD-2-7 "Address direct drivers to protect habitats and species and improve financial sustainability, effective management, and ecosystem coverage of the global protected area estate", by: strengthening the protection of priority protected area ecosystems and the biodiversity that they harbor; strengthening individual and institutional capacity to manage protected areas (to improve management of IAS); and assessing the potential to use payments for ecosystem services mechanisms to support funding of IAS management (within and outside of protected areas).

The proposed project will directly contribute to Indonesia's obligations to support the implementation of the *United Nations Convention on Biological Diversity* (CBD) (which Indonesia ratified in 1994), and specifically *CBD Article 8* (h), which states: "Each contracting Party shall, as far as possible and as appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species". In addition, the proposed project is in-line with Aichi Target Number 9, which states: "by 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment". The project also will contribute to the following *Sustainable Development Goals*: Goal 2, 5, 6, 8 and 15. The Post-2020 Global Biodiversity Framework is currently under development and in draft with CBD; the project concept (PIF) has been designed to accommodate known and foreseen IAS Global Agenda directions, and will incorporate these in project design (PPG phase) and further once the Post 2020 Agenda is officially released later this year.

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

In the absence of the proposed project, invasive alien species will continue to enter into and spread within Indonesia, with growing negative impacts on biodiversity, ecosystems services, natural resources production and the well-being and health of all Indonesians. Although programs to address pest species that threaten agriculture, and to a lesser extant forestry and fisheries, will continue to operate, these will continue to suffer from a lack of sufficient data and the absence of effective tools and guidelines for identifying IAS, developing risk assessments, and implementing effective prevention and response programs for IAS incursions. Furthermore, Indonesia will continue to mostly ignore IAS that may have severe impacts on biodiversity and ecosystem services (because they do not also impact productive sectors such as agriculture, forestry and fisheries), resulting in continued severe threats to globally significant biodiversity (see discussion of GEBs below). Finally, general awareness of IAS impacts will remain low among policy makers, the general public, and also development partners.

Fortunately, the timing is good for a new emphasis on IAS management in Indonesia. As the negative impacts of IAS on biodiversity, ecosystems services, natural resources, etc. have become more widespread and intense in the past decade, awareness among resource management agencies and rural inhabitants of these impacts, and the need to do something about them, has grown significantly. Most protected areas in the country now identify IAS as one of their highest priority problems, and more institutional partners are identifying the impacts of IAS on their sectors. In addition, in recent years, the Government of Indonesia has undertaken significant efforts to improve management of its forests, including strengthening of Forest Management Units (FMU), and development of local forest management and business plans for forest restoration and production (KPH-P) as well as forest protection (KPH-L), and the FMU network of forest governance can be leveraged to improve management of IAPS. There is also an initial institutional and regulatory base in Indonesia on which to build an incremental approach to management of IAPS.

In the Alternative Scenario, GEF funding will support the essential capacity building, development of tools and information resources, creation of new policies and regulations, and awareness raising among decision-makers, resource managers, private sector players and the public, that will elevate support for IAS management and greatly strengthen Indonesia's ability to effectively manage IAS. By the end of the project, Indonesia will be benefitting from strengthened policy, regulatory, institutional and financing frameworks for IAS management; a demonstrated landscape-level approach to IAPS management; and strengthened knowledge & awareness of IAS issues among key stakeholders. More specifically, IAS management in Indonesia will address a much wider scope of species and pathways; will address IAS at the appropriate geographic scale (landscapes) needed to effectively prevent IAS spread; will be based on much stronger technical capacities, information resources, and management tools and mechanisms; will involve for the first time numerous additional ministries responsible for all protected and productive landscapes and key IAS pathways in IAS management activities; and and will benefit from the participation of a much broader spectrum of institutional partners and civil society and private sector stakeholders. As a result, Indonesia will have sustained capacity to effectively address the potential negative impacts of IAS on globally significant biodiversity and ecosystem services.

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The protected areas targeted by the project harbour globally significant biodiversity that will benefit from the project. Within the BBNP, at least 709 plant species have been identified, including 6 protected species, namely ebony (*Diospyros celebica*), palms (*Livistona chinensis*, *Livistona* sp.), and orchids (*Ascocentrum miniatum*, *Dendrobium macrophyllum* and *Phalaenopsis amboinensis*). The BBNP also harbours 33 species of mammals, 154 species of birds, 17 species of amphibia, 30 species of reptiles, 23 species of fish and 240 species of butterflies; including the following national priority species: 1) Sulawesi Black Monkey (*Macaca maura*), 2) *Kus-Kus* (*Ailurops ursinus*), 3) Sulawesi Kus-Kus (*Strigocuscus celebensis*), 4) Weasel Sulawesi (*Macrogalidia musschenbroekii*), 5) Sulawesi wild boar (*Sus celebensis*), 6) Sulawesi Hornbill (*Aceros cassidix*), 7) Sulawesi kengkaren (*Penelopides exarhatus*), and 8) Sulawesi Hawk (*Spizaetus lanceolatus*). Within the BTSNP, at least 439 plant species have been identified, including: orchids (131 species); tree (113 species); palm (7 types); shrubs (52 types); bamboo (4 types); liana (27 types); grass (14 types); terna (81 types); and nails (8 types), including a number of rare orchids (*Malaxis purpureonervosa*; *Meleola wetteana*; and *Liparis rhodocila*), endemic orchids (Tosari / *Habenaria tosariensis* and Shrimp Orchid / *Dendrobium jacobsonii*), endemic grasses (*Styphellia javanica*) and mountain plants including (*Anaphalis* sp). The BTSNP also harbours 38 species of wild animals that are protected according to *Government Regulation No.7 (1999)* concerning the Preservation of Plant and Animal Species, including 24 species of birds, 11 mammals, 1 reptile and 2 insects.

Because the project is designed to establish a model for improved IAS prevention, control and management for landscapes that include protected areas, it has a strong potential to benefit biodiversity at a much broader scale throughout the country, including in particular the 552 conservation area units within Indonesia. This is highly important, as Indonesia is one of the world's 17 megadiverse countries, with 2 of the world's 25 "hotspots", 18 of World Wildlife Fund's "Global 200" ecoregions, and 24 of Bird Life International's "Endemic Bird Areas"; it ranks second to Brazil in the sum of its "Diversity Value" and Endemism Value"[1]. Indonesia has the 5th most floral diversity in the world, and 55% of plant species found in the country are endemic, while approximately 12% of all mammal species in the world (515 species) are found in Indonesia. Indonesia is globally important as a centre for agro-biodiversity due to its variety of wild and domesticated plant cultivars and livestock. Additionally, the project is expected to generate adaptation benefits by increasing the resilience of biodiversity and ecosystems to climate change.

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[1] *Diversity Value* is based on the diversity of birds, mammals, reptiles, amphibians and freshwater fishes; butterflies and tiger beetles and higher plants. *Endemism Value* is calculated based on birds, mammals, reptiles and amphibians, butterflies and tiger beetles and higher plants

7) Innovation, sustainability and potential for scaling up

Innovation: By establishing Indonesia's first dedicated government unit for the management of invasive alien species, the proposed project has the potential to transform national capacity, awareness and support for addressing the growing threats posed by IAS in the country. Another key innovation of this project will be the piloting of a landscape level approach to IAS management that addresses IAS threats across both productive agricultural and forest lands as well as adjacent protected areas, and depends on the participation of PA administrations, productive forest management unit administrations, and the local inhabitants who reside throughout these areas. In addition, project activities to develop the use of effective, safe and cost-efficient Biological Control Agents (BCAs) for IAS management will be innovative in Indonesia, where they have been used rarely. Effective BCAs can be used to reduce the spread and impacts of IAS, and promote the survival of globally significant species and/or ecosystems, including their services such as water supply, carbon sequestration, agriculture and forestry commodities, soil protection and others etc.

Sustainability: By establishing and operationalizing a dedicated Biosecurity Task Force within Government, and providing capacity building for that task force as well as other government agencies, the project will strengthen the sustainability of institutional programming for IAS management in Indonesia. The project also will produce a number of legal and institutional outputs, including modified regulations, improved information and data on IAS, new IAS management tools and guidelines, etc. – that will help national stakeholders to sustain IAS management after the project has ended. Based on consultation with several government agencies, it is clear that the new regulation to be formulated during project implementation will have a strategic standing in legal terms, as it will enable the ministries to establish specific allotments in their budgets to address IAPS and IAS issues in Indonesia. To support the financial sustainability of the project interventions, the project will invest in building the national case for effective IAS interventions, programming and budgets through calculating and communicating the costs of IAS to the economy, its people and the protected area network. This data could be used to generate support among policy makers for increased current investments in Indonesia on IAS and PA management, especially if it can be demonstrated that the benefits of management outweigh the costs. The project also will assess the potential for Payments for Ecosystem Services (PES) from the private sector to support funding of IAS management activities, for example funding from ecotourism operators to manage IAS that threaten natural areas/attractions, or from municipalities whose water supply is being impacted by the spread of invasive plants, and will support the development and testing of pilot PES programs in areas with highest potential for success.

Scaling-Up: Project activities under Component 2 are designed to provide a model for landscape level approaches to IAS management that can help to protect globally significant biodiversity and ecosystem services within protected areas as well as generate benefits for adjacent agricultural and forest production systems. If successful, such a model has the potential for widespread replication in other landscapes that include terrestrial protected areas throughout Indonesia, as virtually all such areas are being heavily impacted by IAS. Project activities under Component 1 will establish the policy and institutional frameworks to enable such replication to take place more easily and efficiently, as well as financing strategies and mechanisms to enable scaling up of IAS management. In addition, the leadership of MoEF in this project (which is the ministry responsible for most of the country's protected areas) will facilitate scaling up of project lessons throughout the country's PA system. MoEF will support information sharing, training, and visits among different PA sites to learn about and adopt existing and new IAS prevention and management practices (including training to implement the existing DG of Nature Reserve and Ecosystem Conservation Decree P.4/KSDAE/Set/KSA.2/11/2019 on Procedures for Risk Analysis of Invasive Plants in Sanctuary Reserve Areas, Nature Reserve Areas, and Hunting Areas). These activities have been included in the 2020-2024 mid-term plan (at both the national and site levels) of the DG of Natural Resources and Ecosystem Conservation within MoEF. Information sharing will be carried out through the existing Indonesia Biodiversity Clearinghouse, and technical training will be facilitated by the MoEF education and training centre through technical guidance (*Bimtek Pusdiklat*). As noted under Component 3, the project will support regional-level workshops

and/or learning visits between different PA management units (UPTs) to enable sharing of best practices and lessons learned; such activities will be continued post-project by MoEF. More generally, project activities under Component 3 will increase awareness of and support for IAS management in the country, and provide important mechanisms for ensuring that lessons learned and relevant data are available to support replication by new stakeholders.

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[1] https://www.cbd.int/countries/profile/default.shtml?country=id

[2] Carbon stocks range from 107 tC/ha for low density forests to 192 tC/ha for high density forests (http://highcarbonstock.org/wp-content/uploads/2014/12/GAR-HCSA-2012.pdf)

[3] 25,863 villages nationwide (37.2 million people in around 9.2 million households) are located either within or at the fringe of forest areas; 1.7 million households in these villages are classified as poor.

[4] *What is the evidence that invasive species are a significant contributor to the decline or loss of threatened species?*, 2014, P.D Roberts, H. Diaz-Soltero, D.J. Hemming, M.J Parr, R.H Shaw, N. Wakefield, H.J Wright and A.B.R Witt

[5] Twenty Selected Invasive Plant Species in Indonesia. Report Submitted to CABI under the UNEP/GEF Project: Removing Barriers to Invasive Species Management in Production and Protection Forests in South East Asia (FORIS). T. Setyawati

[6] National Strathegic and Action Plan on Invasive Alien Species Management in Indonesia, 2015

[7] Invasive Alien Species in Some Conservation Areas in Indonesia, by Susilo, H, and Exploitasiana, I., 2013, in draft

[8] Minister of Environment and Forestry Regulation No.94/2016 on Invasive Species

[9] Law No. 16/1992 on Quarantine

[10] *Diversity Value* is based on the diversity of birds, mammals, reptiles, amphibians and freshwater fishes; butterflies and tiger beetles and higher plants. *Endemism Value* is calculated based on birds, mammals, reptiles and amphibians, butterlies and tiger beetles and higher plants

1b. Project Map and Coordinates

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

Geographic Coordinates

·   Bantimurung Bulusaraung National Park (BBNP) is located between 119 °34 '17 "- 119 ° 55' 13" East Longitude (BT) and between 4 ° 42 '49 "- 5 ° 06' 42" South Latitude (LS).

·   Bromo Tengger Semeru National Park (BTSNP) is located between 7 ° 54 '- 8 ° 13' South Latitude and 112 ° 51 '- 113 ° 04' East Longitude.

Maps of Bantimurung Bulusaraung and Bromo Tengger Semeru National Parks
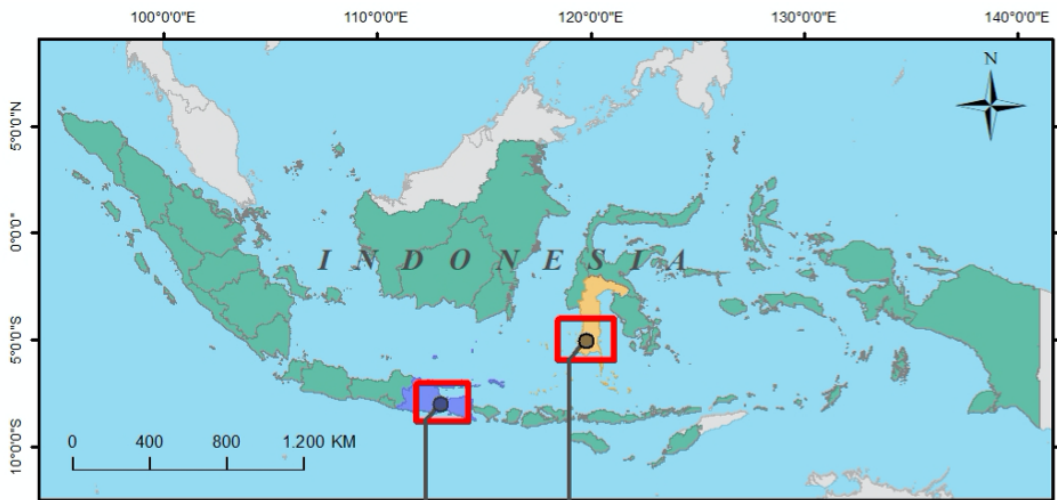
STRENGTHENING CAPACITIES FOR PREVENTION, CONTROL AND MANAGEMENT OF INVASIVE ALIEN SPECIES (SMIAS) IN INDONESIA
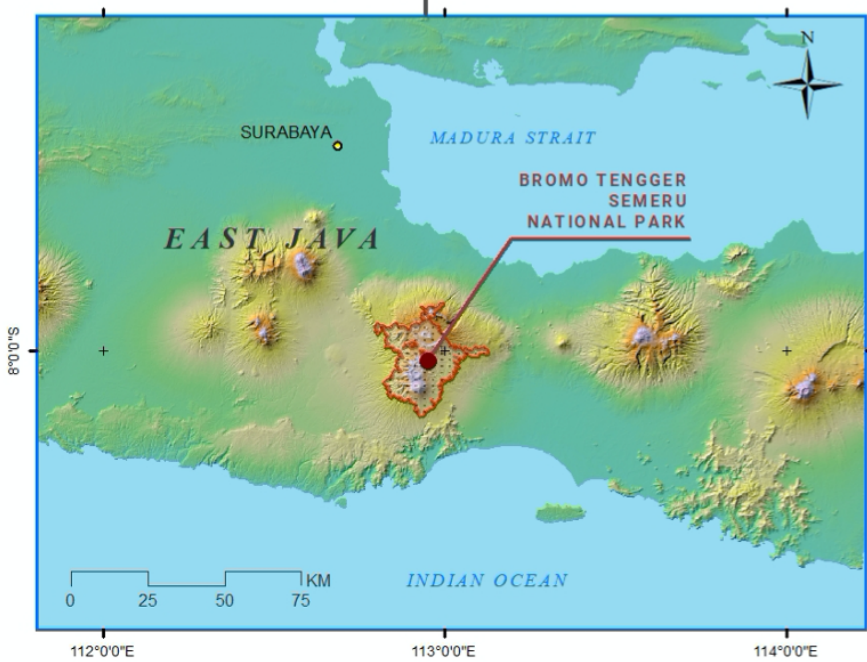
2. Stakeholders

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

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above,please explain why:

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

Preliminary consultations were held during project identification with key project partners, including the relevant national government agencies. Site visits to the two project sites were conducted in January 2020 to consult with relevant national park staff and other local stakeholders, in particular to prepare the preliminary METT assessments and discuss threats from IAS.

Activities to support the design / preparation of the project will be led by MoEF, which will take responsibility for coordinating the inputs of other government agencies as well as civil society and the private sector. At the level of the two target landscapes, MoEF will ensure that local communities, including indigenous communities (e.g. the Tengger communities in the BTSNP landscape) are involved in the decision-making regarding project preparation and that their traditional knowledge and cultural practices for environmental management are integrated into project design. Final decisions on the IAPS to be targeted in the two landscapes will be based in part on the needs and priorities of local communities. Civil society organizations and local private sector partners also will be consulted.

The following Table lists the main stakeholders and stakeholder groups, introduces their relevant mandate and how they may be involved in the project preparation. A detailed stakeholder involvement and participation plan will be prepared during the project development phase.

Stakeholder (group)	Mandate (or activities)	Potential role in Project Preparation
Indonesian Government Ministries / Agencies		
Directorate of Biodiversity Conservation; part of the Directorate General of Natural Resources and Ecosystem Conservation (KSDAE) within MoEF	Responsible for the formulation and implementation of policies and provision of technical guidance in the field of conservation of species and genetic biodiversity. KSDAE is also the national focal point of invasive alien species.	· As Executing Agency, take lead role in coordinating national inputs for project formulation · Provide data on invasive species in Indonesia and other technical inputs as needed
Directorate for Conservation Areas and Management of Protection Forest (part of KSDAE within MoEF)	Responsible for Indonesia's protected area system, including preparation and operationalization of protected area management plans.	· Technical inputs / guidance on project activities within the two target landscapes, in particular within the national parks

Forestry and Environmental Research Development and Innovation Agency (FOERDIA), within MoEF	Responsible for research, development and innovation in the field of forest management	· Provide lists and research data on invasive species impact and management · Provide recommendations on invasive species management
Agency for Forestry Human Resource Development and Extension, within MoEF	Responsible for the formulation and implementation of policies regarding forestry extension services.	· Carry out technical guidance and evaluation of the implementation of activities related to forestry extension
Coordinating Ministry for Maritime and Investment Affairs (KEMENKO MARVES)	Responsible for the formulation, determination, and implementation of policies for various ministries and agencies (including Maritime and Investment Affairs; MoEF; Tourism; Transportation; and Energy and Mineral Resources), and for monitoring, analysing, evaluating and reporting on issues and activities related to issues in the field of biodiversity conservation.	· Strategic guidance for project design related to institutional coordination and strengthening for biosecurity management
Agricultural Quarantine Agency (AQA); Ministry of Agriculture	Overall responsible for stopping the entry and the spread (from port to port) of pests and diseases of animals and plants. Implementation is led by the 52 local Agricultural Quarantine Agencies. The Ministry of Agriculture also chairs the *Biological Agent Commission*, the body responsible for approving the import of new species such as bio-control agents.	· Provide technical inputs to guide project design relevant to prevention and control of IAS spread into and within the country
Regional Agricultural Agencies; Ministry of Agriculture	There are 52 agencies throughout the country at the Province and District levels, which are responsible for plant/animal protection in their region, including for prevention, control and eradication of pests and diseases that impact economically valuable plants and animals.	· Provide technical inputs to guide project design relevant to IAS prevention activities and to the management of IAS within the target landscapes
Ministry of Marine and Fisheries (MMAF)	Responsibility for stopping the entry and spread (from port to port) of pests and diseases of aquatic organisms, especially fish. Also has responsibility for monitoring aquatic species that have already entered Indonesia's territory.	· Provide inputs on improved biosecurity approaches for marine / aquatic organisms
Indonesian Science Institute (LIPI)	Responsible for assessment and formulation of national policies in the field of scientific research; conducting basic scientific research; organization of focused inter and multi-disciplinary research; monitoring and examining science and technology trends; and facilitation / sup	· Provide lists and research data on invasive species impact and management · Provide recommendations on invasive species management

	port for government agencies on scientific research	
Local Governments (in East Java Province and South Sulawesi Province)	Provincial and District governments are tasked with coordinating and promoting development in their regions, and therefore have direct responsibility over likely IAS pathways such as trade, transport, tourism, and agricultural activities	· Promote invasive species awareness · Coordinate participation of private sector partners in project design
Bilateral and multilateral stakeholders		
Southeast Asian Regional Centre for Tropical Biology (SEAMEO BIOTROP)	As part of the Southeast Asia Ministries of Education Organization (SEAMEO), BioTrop contributes to economic development in the region through research and field programs in the biological sciences, and is one of the leading research agencies in Indonesia on IAS. Its current programs focus on: 1) Restoration of degraded ecosystems; 2) Sustainable management of intensively used ecosystems / landscapes; and 3) Conservation and sustainable use of unique ecosystems / landscapes of high biodiversity	· Provide lists and research data on invasive species impact and management · Provide recommendations on invasive species management
ASEAN Centre for Biodiversity (ACB)	ACB was established under the ASEAN Secretariat to facilitate cooperation and coordination among ASEAN Member States and relevant national government and regional and international organizations on conservation and sustainable use of biological diversity.	· Provide inputs on how the project can: i) increase understanding of the importance of IAS management; ii) publish information on IAS; and iii) develop a strategy for regional integration of IAS management
Asia-Pacific Forest Invasive Species Network (APFISN)	APFISN is a cooperative alliance of the 34 member countries in the Asia-Pacific Forestry Commission (APFC); its members include many highly regarded researchers in the field of IAPS. APFISN has a strong record of providing targeted capacity building to support better management of IAS, and in awareness raising through technical and policy workshops and its website (https://www.apfisn.net/)	· Provide technical inputs on IAS management, based on regional experiences · Provide capacity building on IAS management approaches · Support awareness raising at the regional level
Non-governmental stakeholders including private sector		
CABI	CABI is an international not-for-profit organization that aims to improve people's lives by providing information and applying scientific expertise to solve problems in agriculture and the environment.	· Provide technical inputs on all aspects of IAS management, including biocontrols

3. Gender Equality and Women's Empowerment

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

FAO's country gender assessment of agriculture and the rural sector in Indonesia (2019)[1] has highlighted the important role women play in agriculture and natural resources management in the country. Women often play a significant role in resource management, including the collection and harvesting of natural resources, and thus their experience and expertise may mean women are more knowledgeable about IAS impacts and possible management practices. In the BTS landscape, the women of the indigenous Tengger communities participate fully in farming and livestock management activities, as well as collection of foods, medicines etc. from the surrounding environment. In the BB landscape, women have played an important role in local community programs for the utilization of non-timber forest products, including for example the Samaenre Village Forest Farmer Group, which focuses on mushroom cultivation and uses some of its profits from the sale of these products to support a nursery that is used to replant degraded forests and other areas. As such, women's livelihoods are also affected by the IAPS in these landscapes as they block waterways and displace native plant species and aquatic organisms. Involving women in the IAPS related activities will significantly contribute to the success of IAPS management in these sites.

During project preparation, a full gender analysis and gender disaggregated assessment will be undertaken to determine: the differentiated impacts of IAS on women; the different knowledge base of men and women; strategies for mainstreaming gender into IAS management; and strategies for optimizing the opportunities for women to participate in and benefit from IAS management activities during the project and more generally.

The following gender dimensions have been identified and will be further analysed during project preparation.
· **Policy/regulatory frameworks:** With regard to the regulations and procedures on IAS management, the project will make sure that potential gender impacts are taken into account. The potential inclusion of gender-sensitive indicators in the NISSAP will also be explored.
· **Landscape approach:** The project will ensure that the IAPS management plans for the two project landscapes are gender sensitive. Furthermore, the project will ensure that (i) it coordinates with women's groups in the two project landscapes; (ii)) it engages a significant percentage of women for the community participation in IAS management activities; and (iii) it provides opportunities for women to benefit from the productive uses of IAPS.
Knowledge and awareness: The project will ensure that women's views and knowledge are incorporated in the project efforts to document and use local / traditional knowledge and wisdom regarding IAS impacts and IAS management options.

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[1] http://www.fao.org/3/ca6110en/ca6110en.pdf

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

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

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

generating socio-economic benefits or services for women. Yes

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

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

At present, there are no significant on-going public-private partnerships for IAS management in Indonesia. The project will seek to develop such partnerships, for example by engaging private companies through the Conservation Partnership Scheme being promoted by the government, and by working with private sector partners with Corporate Social Responsibility (CSR) programs (which are well-established in Indonesia) that could support IAS management actions. In particular, the project will seek such partners among companies that may contribute to IAS spread (e.g. agriculture / food product companies; tourism / transport / trade companies) and/or be negatively impacted by IAS (e.g. agricultural / food product companies; water supply and hydropower companies; cement companies), in particular in the two project target landscapes. The project also will engage with the private sector in exploring possible Payments for Ecosystem Services (PES) schemes (see Output 1.3.1). For example, the state-owned water company (PDAM) and private sector agricultural interests will be engaged in the management of IAS (*Salvinia molesta*) in Ranu Pani Lake at the Bromo Tengger Semeru NP project site, and the possibility of a PES scheme where PDAM will support management of IAS so as to secure its water supplies will be explored. Similarly, tourism operators will be engaged as partners on IAS education and awareness for visitors to both National Parks, and the possibility of financial contributions from these operators to support IAS management (and thereby preserve the tourism attributes of the parks) will be explored. The project also will work to strengthen existing regulations for national park management to increase opportunities for park administrations to participate in private sector partnerships. Finally, the project will investigate opportunities to train local residents in IAS control activities with the goal of creating local pools of private contractors to carry out such activities during the project and after project implementation. During the PPG, opportunities for involving private sector actors responsible for the import and spread of IAS in Indonesia, as well as private sector actors at the site level (involved in agriculture, tourism, water supply, etc.), will be explored further. This will be done through bilateral meetings and the organization of private sector forums, which will be carried out under the guidance of a PPG consultant focused on private sector engagement.

5. Risks to Achieving Project Objectives

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

The project presents an overall "moderate" level of risk. During full project preparation, a socio-environmental risk analysis, including climate risks, will be developed.

Risk	Level	Management Strategy
Reluctance of national ministries / agencies to coordinate on IAS management	M	The adoption of Indonesia's NISSAP has provided a roadmap and framework for inter-institutional collaboration on IAS, and this project's activities to convert the NISSAP from a policy document to an action plan with targets, budgets and timetables will help to further solidify cooperation. In addition, the establishment and operationalization through this project of a Biosecurity Task Force within KEMENKO MARVES will create for the first time in Indonesia a central node / office, with dedicated staff and budget, to coordinate multi-agency efforts and provide technical support and information to various ministries and other stakeholders
Potential reluctance of provincial and district governments and production sector agencies (e.g. FMU managers) to promote IAS control and eradication.	M	Project partners have already consulted FMU managers about engaging in IAS management activities, including in collaboration with local PA managers. In addition, the project will develop site-based cost-benefit analyses to show the high social and economic costs of IAS, and will conduct outreach with local officials, resources managers and communities to build support for IAS management interventions.
Insufficient funding to continue necessary IAS management after the project ends	M	Governmental support for biosecurity and IAS management in Indonesia has increased in recent years as awareness of the economic / environmental impacts of IAS has grown. The project will contribute to this dynamic by developing and disseminating cost benefit analyses and other information that demonstrates the urgency of improved IAS management and can guide decision making on new investments. The project also will develop new financial incentives / mechanisms to support IAS management, such as funding through payments for ecosystem services.
Climate change may increase the likelihood and severity of IAS impacts, for example by increasing the frequency/severity of fires, floods, erosion, etc. and thereby decreasing ec	M	The Project will work to address the anticipated negative impacts of climate change by reducing the threat of IAS and so increasing resilience of the ecosystems. Climatic parameters will be included in the project's risk analysis activities, and risk assessments will be periodically updated to ensure that they reflect any changes to IAS pathways, species and ecological impacts due to cha

osystem resilience and creating conditions where invasive species can more easily become established		nging climatic conditions. During the PPG phase, the recommendations of the climate risk screening (see separate annex in the Documents section of the Portal) will be followed, including carrying out an in-depth climate analysis and incorporating climate change considerations into various project elements under Components 1 and 2.
Impacts on project implementation from restriction measures established by national and local authorities related to the Covid 19 pandemic	M	In response to the Covid-19 pandemic, the project will develop measures to increase the flexibility of project management, taking account of the possible continuation (or reinstatement) of Covid-19 containment measures. For example, FAO may sign letters of agreement with CSO / NGOs who have field staff in areas targeted by the project to carry out various project activities, which can help to mitigate restrictions on the mobility of staff of FAO, MoEF, and other partners. FAO will also assist the project team, and key project partners, in developing, planning and executing virtual meetings and working groups as needed, and in otherwise working effectively if containment measures are in effect and travel and in-person consultations are not possible. In addition, under Component 1, the project will look in detail at capacity building measures to assist the Biosecurity Task Force within KEMENKO MARVES as well as MoEF in managing for Covid 19 impacts over the longer term. Finally, the project design will include contingency planning for the possibility of changes in baseline and/or co-financing resources due to Covid-19 impacts on budgets. Additionally, during PPG the project design team will seek opportunities to support Indonesia's National Economic Recovery Program through investment in green recovery.

The project has been screened against environmental and social risks and has been rated '*high risk*' in line with FAO's Environmental and Social Safeguards (see certification in annex). The project is not designed or intended to impact negatively any protected area or dependent people. Instead, it is expected to improve the health of the protected areas by addressing the spread of invasive alien species and thus improving the ecosystem services. The project, however, is classified as high risk mainly because of the three risks factors below that can entail potentially significant, irreversible and/or cumulative negative environmental and social risks and/or impacts.

1. The project is located in critical habitats where project implementation can potentially impact negatively on ecosystem functions.
2. The project will demonstrate landscape-level approach to invasive alien plant species (IAPS) management which requires a precautionary approach as the Environmental and Social impacts of the IAPS control need to be properly assessed and managed. The limited experience, technical capacities and scientific resources for addressing IAS management challenges at the country level also exacerbates this risk.
3. The project area includes Indigenous peoples. Their economic, social, and legal status frequently limits their capacity to defend their rights to, and interests in, land, territories and natural and cultural resources, and may restrict their ability to participate in and benefit from development projects.

A full environmental and social impact assessment (ESIA, for high risk) will be carried out by an independent external expert and a process of Free, Prior and Informed Consent (FPIC) will be followed (with an Indigenous People Plan if a substantial number of beneficiaries are Indigenous Peoples) during the PPG phase. The risks will be systematically screened during that phase and the mitigation measures will be identified. The risks identified and mitigation measures proposed will be incorporated into the project, and systematically monitored during project implementation to reduce the indirect, cumulative and associated impacts of the potential risks.

Please refer to *Section 9. Environmental and Social Safeguard (ESS) Risks* and Annex 'IAS Risk Certification' for more details on the risk certification.

6. Coordination

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

Project Institutional Structure

The GEF Implementing Agency for the project will be the Food and Agriculture Organization (FAO) of the United Nations. The project will be led at the national level by the Ministry of Environment and Forestry (MoEF) as the Lead Executing Agency, and within MoEF by the Directorate of Biodiversity Conservation within the Directorate General of Natural Resources Conservation and Ecosystems (KSDAE). MoEF also will take the lead role in executing project activities under Component 2, while execution of activities under Components 1 and 3 will be the joint responsibility of MoEF and the Coordinating Ministry for Maritime Affairs and Investment. In the two target landscapes under Component 2, IAS committees will be formed with the participation of representatives of provincial / district offices of MOEF, MOA, MMAF, as well as NGOs, community groups, private sector representatives, local universities, and the Indonesian Science Institute (LIPI). These committees will guide project activities to support: mainstreaming of new / revised national IAS policies into local regulations and plans; technical guidance in developing and disseminating information to increase local understanding of IAS issues; and capacity building for local communities on how to develop IAS prevention and management measures at the local level.

Relevant GEF-financed Projects and Other Initiatives

The Project will be coordinated with other on-going GEF financed initiatives in Indonesia and the region. Notably, the project will coordinate closely with the GEF-WB "Strengthening of Social Forestry in Indonesia" project, which is designed to support a national Social Forestry Program (supported by Presidential Regulation 86/2018 on Agrarian Reform), that is intended to address systemic poverty by selecting, demarcating, and registering lands in forest areas as community-managed, and by providing poor Indonesians with long-term leases (35 years, with options for 5-year renewals) covering an areas of approximately 14 million hectares of forest land. The Government of Indonesia aims to use the SFP to enhance forest management and restoration in the buffer zones of critical protected areas. Therefore, the proposed project will work with the GEF-WB social forestry project to jointly enhance the management and conservation of forests within the two project landscapes (both of which include areas designated for the SFP) by managing IAPS threats / impacts in these areas and ensuring that IAPS are not utilized in the SFP. In addition, the project will coordinate with the GEF-UNEP project "Strengthening forest and ecosystem connectivity in RIMBA landscape of central Sumatra through investing in natural capital, biodiversity conservation, and land-based emission reductions", and the GEF-UNDP project "Transforming Effectiveness of Biodiversity Conservation in Priority Sumatran Landscapes", through the sharing of information and strategies for managing IAS impacts in protected landscapes.

The proposed project's approach to managing IAPS at the broader landscape level will build on a number of results achieved under the completed GEF 4 project "Removing Barriers for Invasive Alien Species Management in Production and Protection Forest of Southeast Asia" (the FORIS project). In Indonesia, the FORIS project supported the development of a national list of IAPS as well as the NISSAP and other national policies and procedures on the detection and management of IAS; developed capacities on IAS management through pilot interventions, for example with _Acacia nilotica_ in Baluran National Park, the Sugar Palm (_Arenga obtusifolia_) in Ujong Kulon National Park, and the flowering vine (_Merremia peltate_) in Bukit Barisan Selatan National Park; developed new tools guidelines and information materials on risk analysis, Early Detection and Rapid Response (EDRR), plant identification and awareness raising; and disseminated information on

IAS distribution, impacts, and management. As described in the Alternative Scenario, the proposed project will build on a number of these achievements, such as supporting actual implementation of the NISSAP; extending the training developed for PA staff at the landscape level to include other resource managers and local stakeholders; developing additional tools for IAS management (e.g. an improved phone app for reporting IAS), etc.

The project will coordinate with the KfW-funded project "Forest Programme V: Social Forestry Support Programme", a 5-year project with a budget of US$12,869,500 that is being implemented by MoEF and includes activities in East Java in the region of the BTSNP. Social forestry is a national priority in Indonesia's National Medium-Term Development Plan (2015-2019) and a signature initiative of the current government to reduce poverty, promote equitable distribution of income, contribute to biodiversity conservation, and support the reduction targets of the country's national climate strategy. The proposed project will work with the Social Forestry Support Programme to investigate the potential benefits of enhanced IAS prevention and control for forest areas with the programme, including integrating IAS management into social forestry policies, management and information systems, and capacity building activities. The project can also build on past and current programs of the Japan International Cooperation System (JICS) in Indonesia. A recent JICS-funded project in the BBNP focused on assessing IAPS threats, developing nursery and planting programs for native species, removing IAS (e.g. *Salvinia molesta*), and control of sedimentation / land degradation processes. JICS is now supporting additional land rehabilitation using native plant species in the BBNP.

In addition to the above projects in Indonesia, the project also will seek to learn lessons and best practices from other GEF projects focused on IAS. As noted under Output 3.1.1, this will include GEF-funded project in Mexico "Enhancing National Capacities to manage Invasive Alien Species (IAS) by implementing the National Strategy on IAS", including its awareness raising programs focused on PA visitors as well as for sectors responsible for IAS entry into the country, as well as its other approaches and strategies to addressing IAS at points of entry and in the context of protected areas. The project will also explore learning opportunities from the GEF-funded project in Argentina "Strengthening of Governance for the Protection of Biodiversity through the Formulation and Implementation of the National Strategy on Invasive Alien Species (NSIAS)", in particular regarding the development and implementation of an effective national strategy for IAS management.

7. Consistency with National Priorities

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

Yes

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

- National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC
- National Action Program (NAP) under UNCCD
- ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury
- Minamata Initial Assessment (MIA) under Minamata Convention
X National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD
- National Communications (NC) under UNFCCC
- Technology Needs Assessment (TNA) under UNFCCC
- National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD
- National Implementation Plan (NIP) under POPs
- Poverty Reduction Strategy Paper (PRSP)
- National Portfolio Formulation Exercise (NPFE) under GEFSEC
- Biennial Update Report (BUR) under UNFCCC
X Others

The proposed Project is directly aligned to, and directly contributes to, the implementation of several national priority strategies and policies related to biodiversity, invasive species and protected areas:

· The National Invasive Species Strategy and Action Plan (NISSAP), which sets priorities, identifies objectives and establishes roles and responsibilities of stakeholders with regards to managing, containing, preventing and eradicating invasive species. This proposed project will contribute directly to the implementation of the NISSAP by developing targets, budgets and timetables for the priorities identified in the NISSAP.

· The National Mid-term Planning (RPJMN) 2020-2024, which includes IAS management as a priority

· The *Indonesian Biodiversity Strategy and Action Plan* (IBSAP, 2015-2020), which includes the following national priorities for biodiversity management:

o National Target 9: Implementation of prevention and eradication programs for invasive alien species

o Management Action Plan (Table 7.3, Activity 5): IAS control through mapping of distribution, regulation, implementation and eradication

· *Indonesia's 5th National Report to the CBD* (2014), which identifies IAS as one of the 5 major threats to Indonesia's biodiversity.

· The Ministry of Environment and Forestry national strategic priorities for Forestry and for the Environment in Indonesia. For environment, the ten stated priorities include "preparing a complete national inventory of invasive species (and their impacts)", while for forestry, the ten stated priorities include "addressing the threat from IAS that is threatening almost all protected areas".

8. Knowledge Management

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

As described in the Alternative Scenario above, the proposed project will establish tools and mechanisms to systematically collect data, document lessons learnt, and consolidate this information so that important data and key lessons are shared with national, regional and international partners. The Biosecurity Task Force within KEMENKO MARVES will act as the central node for technical knowledge on IAS issues in Indonesia, and will work to incorporate more information and data on IAS in Indonesia into existing international databases. In addition, other information management systems managed by MoA, MoEF, MMAF and other partners (e.g. SEAMEO BIOTROP) will be supported to update / enhance their existing IAS databases and establish data sharing protocols / mechanisms, while the existing Indonesia Biodiversity Clearing House Mechanism, managed by Directorate of Conservation Area Designation and Information under the MoEF, will provide a mechanism for disseminating information on the project results, including information to support reporting on the achievement of national objectives under Aichi Target 9. Products derived from training modules and curricula on IAPS management will be disseminated in order to build awareness and understanding of IAPS pathways and of the ecological and economic costs for local inhabitants from IAPS impacts on ecosystem services. Under Component 3, the project will carry out public awareness initiatives to increase the general public's awareness and understanding of IAS issues and impacts, including documenting, using and disseminating local / traditional knowledge and wisdom regarding IAS impacts and IAS management options. In addition, the project will develop and implement a strategy to disseminate information products on IAS management developed under Components 1 and 2 (in particular under Output 1.2.3) through publications, news features and other reporting both within Indonesia and at the regional / international level (e.g. through the Asian Centre for Biodiversity and/or the Asia-Pacific Forest Invasive Species Network).

9. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
High or Substantial			

Measures to address identified risks and impacts

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

The project has been screened against environmental and social risks and has been rated 'high risk' in line with FAO's Environmental and Social Safeguards (see certification in annex). The project is not designed or intended to impact negatively any protected area or dependent people. Instead, it is expected to improve the health of the protected areas by addressing the spread of invasive alien species and thus improving the ecosystem services. The project, however, is classified as high risk mainly because of the three risks factors below that can entail potentially significant, irreversible and/or cumulative negative environmental and social risks and/or impacts.

1. The project is located in critical habitats where project implementation can potentially impact negatively on ecosystem functions.
2. The project will demonstrate landscape-level approach to invasive alien plant species (IAPS) management which requires a precautionary approach as the Environmental and Social impacts of the IAPS control need to be properly assessed and managed. The limited experience, technical capacities and scientific resources for addressing IAS management challenges at the country level also exacerbates this risk.
3. The project area includes Indigenous peoples. Their economic, social, and legal status frequently limits their capacity to defend their rights to, and interests in, land, territories and natural and cultural resources, and may restrict their ability to participate in and benefit from development projects.

A full environmental and social impact assessment (ESIA, for high risk) will be carried out by an independent external expert and a process of Free, Prior and Informed Consent (FPIC) will be followed (with an Indigenous People Plan if a substantial number of beneficiaries are Indigenous Peoples) during the PPG phase. The risks will be systematically screened during that phase and the mitigation measures will be identified. The risks identified and mitigation measures proposed will be incorporated into the project, and systematically monitored during project implementation to reduce the indirect, cumulative and associated impacts of the potential risks. An initial management strategy of the main risks is summarized below.

ESS Risk	Level	Management Strategy
1. The ESS standard on protected areas, buffer zones and natural habitats is triggered as the project will be implemented within legally designated protected area.	H	It is not anticipated that the project interventions would negatively impact protected areas, critical habitats and ecosystem functions; in fact the project is specifically designed to reduce negative impacts on ecosystem functioning and biodiversity within protected areas by preventing and mitigating the spread of Invasive Alien Species (IAS) into PA sites, as well as controlling selected IAS within those sites. Also, there will not be any displacement of people, loss of livelihoods etc. resulting from the project interventions. However, an environmental and social impact assessment will be conducted and detailed mitigation measures identified during the PPG phase.
2. The project may involve access to genetic resources for their utilization and/or access to traditional knowledge associated with genetic resources.	L	Further consultations will be held during PPG and local communities, including indigenous communities, will be involved in the decision-making and their traditional knowledge and cultural practices for environmental management will be integrated into project design. The project will ensure that the principles of access and benefit sharing and prior informed consent will be duly respected.
3. Presence of indigenous peoples in the project area where activities will take place.	M	The landscape of the Bromo Tengger Semeru National Park (one of two project sites) is home to the Tengger indigenous group, who inhabit two villages (Ngadas and Ranupani) within the NP and another 15 villages in the surrounding landscape. More detailed analysis and consultations will be carried out during PPG. A Free, Prior and Informed Consent (FPIC) process will be implemented during project preparation and implementation.
4. Potential presence of cultural resources in the project area.	M	A number of cultural resources exist in the project area, including several cultural tourism sites (Luhur Poten temple and Rondo Kuning temple; the Pitu Well / Lava Cave; and several sites of ancient inscriptions). More detailed analysis and consultations will be carried out during PPG. Mitigation measures will be put in place to ensure that cultural resources are preserved and any damage is avoided.

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
_IAS Risk Certification 674044	

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

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

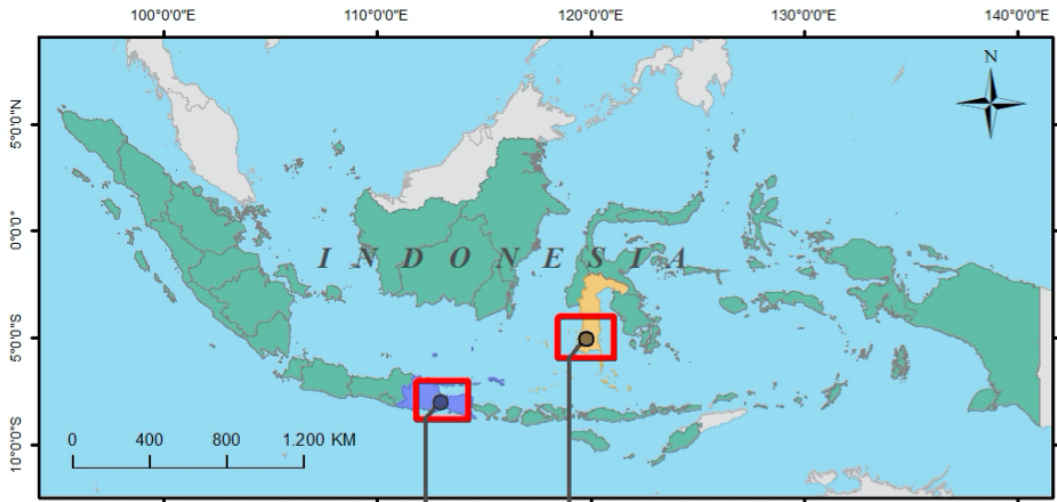| Name	Position	Ministry	Date
Ms Laksmi Dhewanthi	GEF Operational Focal Point	Ministry of Environment and Forestry	

ANNEX A: Project Map and Geographic Coordinates

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

Geographic Coordinates

· Bantimurung Bulusaraung National Park (BBNP) is located between 119 °34 '17 "- 119 ° 55' 13" East Longitude (BT) and between 4 ° 42 '49 "- 5 ° 06' 42" South Latitude (LS).

· Bromo Tengger Semeru National Park (BTSNP) is located between 7 ° 54 '- 8 ° 13' South Latitude and 112 ° 51 '- 113 ° 04' East Longitude.

Maps of Bantimurung Bulusaraung and Bromo Tengger Semeru National Parks

STRENGTHENING CAPACITIES FOR PREVENTION, CONTROL AND MANAGEMENT OF INVASIVE ALIEN SPECIES (SMIAS) IN INDONESIA