GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title:	Integrated Management of Peatland Landscapes in Indonesia (IMPLI)		
Country(ies):	Indonesia	GEF Project ID:[1]	9239
GEF Agency(ies):	IFAD	GEF Agency Project ID:	
Other Executing Partner(s):	Ministry of Environment and Forestry (MOEF) Peatland Restoration Agency (BRG: Badan Restorasi Gambut) Local Government Agencies	Submission Date: Resubmission date Second resubmission Third resubmission: Fourth resubmission: Fifth resubmission:	2015-07-31 2015-08-21 2016-07-25 2016-08-30 2016-10-04 2017-08-24
GEF Focal Area(s):	Multi-focal Areas	Project Duration (Months)	60
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐		Corporate Program: SGP ☐
Name of parent program:	[if applicable]	Agency Fee ($)	439,878

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES[2]

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in $)	
		GEF Project Financing	Co-financing
BD-1 Program 1	GEFTF	1,208,629	3,500,000
BD-4 Program 9	GEFTF	1,372,830	5,300,000
LD-3 Program 4	GEFTF	356,064	3,900,000
CCM-2 Program 4	GEFTF	623,111	5,000,000
SFM-3 Program 8	GEFTF	1,335,238	3,000,000
Total Project Cost		4,895,872	20,700,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To sustainably manage peatland ecosystems, conserve biodiversity and reduce GHG emissions in Indonesia

Project Components	Financing Type[3]	Project Outcomes	Project Outputs	Trust Fund	(in $)	
					GEF Project Financing	Co-financing
1. Scaling up implementation of the national regulations on protection and management of peatland ecosystems	TA	**Outcome 1:** Institutional capacity, frameworks, technologies and partnerships for scaling-up of peatland restoration operational	1.1 Key government institutional actors and principal stakeholders capacitated to implement peatland policy at landscape scale 1.2 Strategies approved for management of priority PHU in Project provinces 1.3 Multi-stakeholder	GEFTF	1,687,913	7,619,048

[1] Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.
[2] When completing Table A, refer to the excerpts on *GEF 6 Results Frameworks for GETF, LDCF and SCCF*.
[3] Financing type can be either investment or technical assistance.

			Partnerships for sustainable peatland management in target areas			
2. Integrated management of Giam Siak Kecil Peatland Landscape in partnership with private sector and local communities.	TA/INV	**Outcome 2:** Integrated management plan and restoration of Giam Siak Kecil-Bukit Batu landscape implemented	2.1 Assessment, and planning of Giam Siak Kecil-Bukit Batu Peatland Landscape 2.2 Key stakeholders trained in sustainable peatland management. 2.3 Sustainable community peatland use and livelihood programme initiated 2.4. Water management and fire prevention in plantations and community lands enhanced 2.5. Management capacity for GSK-BB Biosphere Reserve enhanced	GEFTF	2,495,420	10,045,952
3. Scaling up best practice through knowledge management and market options	TA	**Outcome 3:** Peatland management knowledge accessible and exchanged	3.1. Documentation and dissemination of best practices for peatland planning and management 3.2. Appropriate technology and markets for sustainable use of peatlands promoted	GEFTF	479,402	2,000,000
			Subtotal		4,662,735	19,665,000
			Project Management Cost (PMC)[4]	GEFTF	233,137	1,035,000
			Total Project Cost		4,895,872	20,700,000

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount ($)
Recipient Government	Government of Indonesia	In kind	5,300,000
Recipient Government	Government of Indonesia	In cash	5,000,000
Donor	European Union (EU) and Germany	Grants	7,700,000
GEF Agency	IFAD	Grants	500,000
GEF Agency	IFAD	In Kind	200,000
Private Sector	various	In Kind	1,950,000
Intergovernmental agency	ASEAN Secretariat	In Kind	20,000
CSO	various	In kind	30,000
Total Co-financing			20,700,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS [a)]

[4] For GEF Project Financing up to $2 million, PMC could be up to10% of the subtotal; above $2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

GEF Agency	Trust Fund	Country / Regional / Global	Focal Area	Programming of Funds	(in $)		
					GEF Project Financing (a)	Agency Fee (b)[b)]	Total (c)=a+b
IFAD	GEFTF	Indonesia	Biodiversity	(select as applicable)	2,581,459	231,936	2,813,395
IFAD	GEFTF	Indonesia	Climate Change	(select as applicable)	623,111	55,984	679,095
IFAD	GEFTF	Indonesia	Land Degradation	(select as applicable)	356,064	31,991	388,055
IFAD	GEFTF	Indonesia	Multifocal	SFM	1,335,238	119,967	1,455,205
Total GEF Resources					4,895,872	439,878	5,335,750

Refer to the Fee Policy for GEF Partner Agencies.

E. PROJECT PREPARATION GRANT (PPG)[5]

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: US$164,250					PPG Agency Fee: US$ 14,250		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in $)		
					PPG (a)	Agency Fee[6] (b)	Total c = a + b
IFAD	GEFTF	Indonesia	Biodiversity	(select as applicable)	79,091	7,514	86,605
IFAD	GEFTF	Indonesia	Climate Change	(select as applicable)	19,091	1,814	20,905
IFAD	GEFTF	Indonesia	Land Degradation	(select as applicable)	10,909	1,036	11,945
IFAD	GEFTF	Indonesia	Multifocal	SFM	40,909	3,886	44,795
Total PPG Amount					**150,000**	**14,250**	**164,250**

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS[7]

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	*1,200,000 ha of peatland landscapes (700,000 ha – Giam Siak Kecil BR, and 500,000 ha from selected provinces)*
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	*705,000 Hectares* in Giam Siak Kecil peatland landscape
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy,	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	*Number of freshwater basins*

[5] PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to $50k for PF up to$2m (for MSP); up to $100k for PF up to $3m; $150k for PF up to $6m; $200k for PF up to $10m; and $300k for PF above $10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

[6] PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

[7] Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	*Percent of fisheries, by volume*
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO_{2e} mitigated (include both direct and indirect)	*3,829,000 metric tons* of CO_{2e} *mitigated*
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	*metric tons*
	Reduction of 1000 tons of Mercury	*metric tons*
	Phase-out of 303.44 tons of ODP (HCFC)	*ODP tons*
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	*Number of Countries:*
	Functional environmental information systems are established to support decision-making in at least 10 countries	*Number of Countries:*

PART II: PROJECT JUSTIFICATION

1. Project Description.

1) Global environmental problems, root causes and barriers that need to be addressed

The majority of peatland forests in Indonesia have been logged for their valuable timber, land cleared and drained for agriculture, plantations and other developments. Key drivers include increasing global demand of palm oil and pulp and paper; increasing population in peatland regions including transmigrant resettlement; lack of recogition of value of peatland ecosystems and poor institutional capacity on peatland management. Peatlands in the country have unsustainably used in the past with less than 20% in relatively pristine form. Large areas have been severely degraded leading to high GHG emissions and loss of biodiversity. These excessive land conversion, land and forest burning, as well as, over exploitation of timber and other non-timber forest products have turned 13 million hectares of peatlands to highly degraded landscapes prone to fire and subsidence. Lack of knowledge, awareness and technical expertise in terms of ecosystem characteristics and ecological principles as well as lack of stakeholders' participation has contributed to degradation of peatlands in Indonesia.

In Indonesia, peatlands cover about 21 million ha, primarily within three islands, namely Sumatra, Kalimantan and Papua. Most of the areas are covered with mixed forests, secondary forests of logged-over areas, shrubs and swampy grasslands.

With regards to the peatlands of northern Riau Province, major problems have been encountered over the past 15 years. Large-scale illegal clearing of peat swamp forest and burning of forests and peatlands have affected more than 100,000 - 150,000 ha in the districts of Dumai, Bengkalis and Siak and have led to dense smoke haze which has increasingly impacted Malaysia and Singapore in recent years. Dense smoke clouds from peatland burning have seriously affected air quality with an Air Pollution Index (API) of more than 3,000 being recorded in Indonesia in 2015 (compared to less than 50 for good air quality). This has led to serious economic, social and environmental impacts including API readings over 400 in Singapore and 750 in Malaysia. The clearance and drainage of peat swamp forests in Riau and associated fires are one of the major sources of emissions of GHG in Indonesia. There are 4 million ha of peat swamp forest in Riau which is approximately 20% of all peatland in Indonesia. More than 2 million ha have been cleared and burnt in the last 20 years for development of oil palm and pulp and paper plantations.

The Giam Siak Kecil Peatland Landscape (see further information in Annex 1) covers more than 700,000 ha in Northern Riau in Bengkalis and Siak Districts. 705,271 ha of the area has been declared as a Man and Biosphere Reserve (Giam Siak Kecil – Bukit Batu Biosphere Reserve) in 2009 and contains two significant government

designated conservation areas i.e. Bukit Batu and Giam Siak Kecil Wildlife Reserves. Other portions of the core landscape were initially allocated for development of Industrial Tree Plantations (Hutan Tani Industri, HTI) but have since been designated for conservation – linking the formal conservation areas. These constitute the core zone of the Biosphere Reserve covering 178,722 ha. Surrounding this is a buffer zone of 222,426 ha and a transition zone of 304,123 ha where sustainable utilisation is promoted. The buffer zone of the biosphere reserve is mainly in the concessions of Sinar Mas Forestry while the core zone is under the responsibility of the Riau provincial administration. The buffer zone is mostly owned and managed by local smallholders as small-scale plantations of oil palm, rubber and other agricultural products. The site provides key ecosystem services for biodiversity conservation, water supply and also carbon storage. The Giam Siak Kecil landscape has been identified as a global priority for biodiversity conservation[8] and one of only three large relatively intact peatland ecosystems remaining in Sumatra. However, large-scale encroachment through land clearing and burning and significant habitat degradation continues in the transition zones and also, even in the core zone despite the designation of Biosphere Reserve. This needs to be addressed through an integrated multi-stakeholder approach.

2) Baseline scenario or any associated baseline projects

The baseline scenario is the on-going government's efforts in peatland management, particularly around the National Regulations on Protection and Management of Peatland Ecosystems (PP71/2014 which were approved in September 2014 and then revised through PP57/2016 in December 2016). PP71/2014 and PP57/2016 is expected to function as the main tool to manage peatland ecosystems in Indonesia by establishing an improved water management and sustainable-use regime for peatlands throughout Indonesia. In February 2017, three new sub-regulations were approved by the Ministry of Environment and Forests, notably:

a) P.14/MOEF/2017 Proceedures fro inventory and determination of functions of peatland ecosystems
b) P.15/MOEF/2017 Procedures for measuring groundwater levels in selected points in peatland ecosystems
c) P.16/MOEF/2017 Technical guidelines for restoration fo peatland ecosystem functions.

The baseline situation is provided by the establishment of the Directorate for Peatland Degradation Control under the Directorate General of Pollution Control and Environmental Degradation in the new Ministry of Environment and Forestry in June 2015. The baseline strategy will also increase the current staffing from three in the previous peatland unit in the Ministry of Environment to 25-30 staff in the Directorate for Peatland Degradation Control.

Following the massive peatland fires in July-November 2015 the President of Indonesia established in January 2016 a special purpose agency under his authority – the Peatland Restoration Agency (BRG: Badan Restorasi Gambut) - with a remit to oversee the restoration of 2 million ha of priority peatland in 7 provinces in Indonesia (Riau, Jambi, South Sumatra, West Kalimantan, Central Kalimantan, South Kalimantan and Papua) by 2020. This new institution will work in partnership with the Directorate for Peatland Degradation Control and provincial and local government to guide and facilitate peatland restoration measures especially in areas impacted by large scale fires. This is envisaged to involve a large scale multipartner effort which will see significant engagement of private sector, civil society, local government and other stakeholders. With a core staff of about 100 personnel and offices in the targeted provinces – this agency will be requiring significant support to reach its target (see Annex 2 for further details).

Given the comprehensive nature of the new PP71/PP57 regulation – significant effort will be needed to ensure implementation throughout Indonesia to cover 21 million ha of peatlands and about 25 million ha (which is larger than the size of the United Kingdom) of Peatland Hydrological Units (PHUs) which include the peatlands and adjacent land areas. The institutional complexity of this challenge is startling in its magnitude. Not only is the institutional framework quite new and implementation arrangements largely untested, but the move toward utilizing peatland hydrological units as the basis for management – globally, a new and progressive approach – will require the vertical and horizontal organization and articulation of multiple sectors and stakeholders from the local levels to the PHUs and, then to the Provincial and national levels. There is ample reason for concern that without the

[8] http://pixelrauschen.de/wbmp/media/map10/map_10_05.pdf
http://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/155719/1/ssh_126.pdf

strategic support provided through the project, there will be major challenges to the implementation of the regulation and introduction of the PHU-based approach and its associated land-use zoning and improved management of the country's peatlands.

Learning and experience from around the world in water resources and watershed management indicates that it is the work of a decade or more to organize and set in place a functional, intersectoral, multi-stakeholder framework. Once in place, it requires the commitment to, and capacity for, permanent learning and adaptation in order to be successful over the long term. The effective and efficient development of these institutional and implementation capacities will, for its part, call for a systematic and structured learning process. Riau Province and the Giam Siak Kecil Man and the Biosphere Reserve provide an area of high priority both nationally and globally for such a process.

Declared in 2009 as a Man and the Biosphere Reserve, Giam Siak Kecil comprises a peatland landscape that has suffered significant degradation around its northern, western and eastern borders. The peatland degradation and fires have led to serious impacts on the reserve and loss of significant biodiversity. Unless concerted action, based on the type of multi-stakeholder and participatory approach implied by GOI's new institutional framework and PHU-based approach, is taken now, significant further degradation of the site in inevitable. Coming online in 2018, the proposed project would provide both a vehicle and a further laboratory for fully deploying and further refining the institutional and technical gains and learning developed through GEF 4 and 5 and the Global Commodity IAP child project for oil palm. More specifically, this would support the roll out of the operational model to be replicated across all peatland PHUs.

Since the designation of the biosphere reserve, management efforts have been mainly focussed on assessments and research to better document the biodiversity and characteristics of the reserve; as well as establishing the coordinating structures and allocating responsibilities to different agencies. Additional activities were also undertaken to address the problem of illegal loggging and to enhance the livelihood of local communities. However these efforts did not lead to complete protection of the site and numerous fires occurred in the transition and buffer zone in 2012-2015 as a result of active clearance of land and development of plantations - particularly by external and migrant groups. Approximately 3000- 5000 ha of forest in the core zone and buffer zone were cleared and destroyed by fire at this time. Organised external groups have occupied significant portions of the forest concessions of Sinar Mas and cleared and converted them to oil palm especially in the north west portion of the site where new access roads were developed by the migrant groups.

Other efforts in 2013-2015 included work by the GEF-supported ASEAN Peatland Forests Project (APFP) to test and showcase options for enhancing community fire prevention and control groups in Tanjung Leban and Sepahat villages in the north-east portion of the buffer zone. Good progress was made in enhancing capacity of the community groups for communication, patrolling and controlling peatland fires and pilot blocking of ditches and canals in village areas was undertaken. However these positive results need to be scaled-up to cover the remainder of the buffer zone and the larger transition zone. While the provincial government has allocated resources for some equipment for the village fire teams – there are not enough resources for the operation of the teams and for prevention measures such as blocking of the numerous drainage channels that cut through the peatland landscape.

3) Proposed alternative scenario, GEF focal area strategies and expected outcomes and components of the project

An effective approach for intersectoral coordination and multistakeholder engagement is necessary in order to address the major threats to Indonesia's peatland ecosystems in an integrated and participatory fashion. GEF financing will enable the testing and putting in place of the Government of Indonesia's new and innovative Peatland Hydrological Unit framework for sustainable peatland management and for scaling-up proven methodologies tested under the IFAD/GEF ASEAN Peatland Forests Project (APFP). A major focus will be to scale up implementation of Indonesian National Peatland Regulations (PP71/2014 – PP57/2016) to reduce peatland degradation and GHG emissions; enhance integrated management and biodiversity conservation and community livelihood in the Giam

Siak Kecil Peatland Landscape in Riau Province; and benefit from, and contribute to local, national and regional knowledge exchange and dialogue.

Under the GEF-5 period, the PIF for Sustainable Management of Peatland Ecosystems in Indonesia (2017-2020) was developed by IFAD and the Ministry of the Environment and approved in April 2014 for a total GEF financing of US$ 4,766,756. The project received CEO Endorsement in May 2016 and is under implementation. The GEF 5 resources and associated cofunding will be insufficient to support all the required activities to manage 25 million ha of PHUs throughout Indonesia. As a result, the government has planned two separate GEF projects (one under GEF-5 and another under GEF-6) given the urgency of providing support to implementation of PP71/2014-PP57/2016 which is a key tool for the Indonesian government to achieve the targeted reductions of GHG emissions from peatlands to meet its overall goal of a 26% reduction in GHG emission intensity by 2020. The main role of the GEF-5 project is to build capacities of relevant national agencies to obtain technical skills to manage peatlands and enhance institutional arrangements to effectively implement latest and new government regulations; to harmonize and coordinate peatland-related national budgets allocated to various agencies; to enhance fire prevention methodologies and its system, and reduce fire in targeted districts in southern Riau Province; and to showcase integrated peatland planning and management at the level of the Sungai Kampar–Sungai Indragiri Peatland Hydrological Unit through partnership and livelihood development. Under the GEF-5, partnerships with the private sector are to be developed for the co-management of the peatland hydrological unit, especially in and around the land concession areas. The focus of the proposed GEF-6 project will be to implement national policy and regulations based on the relevant agencies' capacities and technical learning that are generated/enhanced through the GEF-5 and, articulate these in a test of the Peatland Hydrological Unit framework across all levels[9]; to increase national budget allocation for peatland management at national level through agreeing on the mid- and long-term investment framework; to implement integrated peatland management in northern Riau Province focusing on the Giam Siak Kecil Peatland Landscape; and to establish partnership frameworks for the protected peatland ecosystem areas/reserves through knowledge management and sharing (see Table on the comparison between GEF-5 and GEF-6 under Section 4 Incremental/additional reasoning).

The primary project objective is the following: To sustainably manage peatland ecosystems, conserve biodiversity and reduce GHG emissions in Indonesia

Project sub-objectives

- Implementation of the National Regulations on Protection and Management of Peatland Ecosystems (PP71/2014-PP57/2016) and strengthened national institutional framework and institutions and resource base for peatland management
- Integrated management of Giam Siak Kecil Peatland Landscape in partnership with government, private sector and local communities
- Improved knowledge management and exchange for joint action on sustainable peatland management, explicitly targeting key national and provincial institutional stakeholders to facilitate replication across the 26 million hectares of Peatland Hydrological Units.

Targeted outcomes

- Effective implementation of the National Regulations on Protection and Management of Peatland Ecosystems with cross-sectoral support
- Mid- and long-term institutional and investment framework for sustainable peatland management with the roles and responsibilities for Peatland Hydrological Unit-based planning and management agreed among key stakeholders and institutions at all levels

[9] From: (i) the national-level, with principal national and provincial stakeholders for overall peatlands planning, policy, legal framework and incentives; (ii) provincial-level with principal regional stakeholders for PHU planning and implementation of policy, legal framework and incentive programs; (iii) PHU-level with local and provincial stakeholders for land use planning, zoning and implementation of water management, fire prevention and restoration works and; (iv) local-level with participatory planning, BMPs and site designs.

- Enhanced, integrated management of Giam Siak Kecil Peatland Landscape through multistakeholder partnerships
- Enhanced knowledge management and exchange on sustainable peatland management and reduction in peatland fires and GHG emissions through strengthened peatland fire prevention programmes and investment frameworks

Project Components

Component 1: Implementation of the National Regulations on Protection and Management of Peatland Ecosystems (PP71/2014-PP57/2016)

Targeted outcome: Enhanced capacity, resources and multi-stakeholder partnerships at national level to implement PP71-PP57 (through the Peatland Hydrological Unit framework[10]) with approved strategies to accelerate adoption of low emission peatland management practices in at least one province and enhanced cross-sectoral support and financing for PP71 - PP57implementation

Outputs and activities:

- Inventory/Mapping: Support initiation of assessment of peatlands and zoning of conservation and utilisation areas of peatland hydrological units in selected provinces following the strategies and methodologies defined through the GEF-5 project. The target provinces will be selected during the PPG phase.
- PHU-based planning and management: Develop at least three (including one for Riau) provincial-level land-use plan for protection and management of Peatland Hydrological Units (PHU) including participatory planning for conservation and utilisation
- Capacity building for implementation: Build capacity in the areas of planning, community and other stakeholder mobilisation, supervision of implementation including fiduciary oversight, and monitoring and evaluation related to the implementation of sub-regulations of PP71 - PP57 in at least two (including Riau) provinces using the Peatland Hydrological Unit-based planning and management. Training will be provided at the provincial-level, including district level staff, in one priority Peatland Hydrological Unit in each of the selected provinces.
- Improved multi-stakeholder partnerships: Increased role of private sector and Civil Society Organisations to implement PP71-PP57 including development of strategies for Peatland Hydrological Units and monitor the progress of implementation.
- Institution building and medium-term investment framework development: Provide support to defining the institutional and implementation roles and responsibilities of: i) provincial peatland restoration agencies; ii) MOEF/BRG district technical implementation units; and iii) community facilitators. Facilitate the integration of these institutions/actors into the local government structure in selected provinces using the PHU-based planning and management framework. The institutions building will be complemented with the development of medium-term financing plans that demarcate public financing from national and provincial levels, private sector finance, development cooperation finance, and environment/climate change finance for implementation of sub-regulations of PP71- PP57at district, provincial and national levels.

Component 2: Support development and implementation of integrated management plans for Giam Siak Kecil Peatland Landscape

Targeted outcome: Integrated landscape management and restoration of Giam Siak Kecil landscape by government, private sector, and community; Enhanced effectiveness of management of Giam Siak Kecil-Bukit Batu Biosphere Reserve (GSKBR); and significant decrease in GHG emissions from i) improved water management and fire prevention in plantations, and ii) increase in area of certified sustainable production area in the landscape.

[10] See description of indicative framework for stakeholder engagement in PHU management in section on Innovation, Sustainability and Potential for Scaling-up.

Outputs and activities:

Enhanced zoning and planning of the Giam Siak Kecil peatland landscape

- Assessment and zoning of the Giam Siak Kecil Peatland Hydrological Unit(s) covering 700,000 ha in accordance with PP71-PP57 regulations and sub-regulations including use of LiDAR Technology to generate accurate digital terrain models to enable effective hydrologic modelling and water management and a comprehensive telemetry system that monitors real-time water level.
- Management Plan for the GSK-BR reviewed/updated through developing i) an overall water management plan for the entire peatland hydrological unit and ii) a biodiversity conservation and monitoring plan, particularly for the endangered and protected species and in line with the Indonesia Biodiversity Strategy and Action Plan (IBSAP) 2015-2020, leading to the formalization of the Giam Siak landscape as a Key Biodiversity Area (KBA)
- Revised management strategy for Giam Siak Kecil Peatland Landscape covering 700,000 ha including water management, collaborative fire management and forest rehabilitation plans developed and implemented by government, private sector and local communities.

Capacity building for implementation of the management plan

- Strengthen capacity of local government and communities to work together with private sector to generate income streams from sustainable management activities implemented under the management plan. The community engagement and empowerment of the private sector engagement in accordance with the GEF 2020 Strategy, can be enhanced and better planned with the support of GEF on better targeting, detailed design of progress phases, appropriate resource allocation and enhanced monitoring of outcome, as confirmed in the case of Sungai Kampar Indragiri Peatland Hydrological Unit (SKI-PHU) during the GEF-5 PPG phase.
- Expand capacity of prevention and control groups to significantly reduce peatland fires and associated GHG emissions
- Knowledge-sharing and training at the provincial level for developing implementation priorities for the IBSAP 2015-2020. In 2014, the role of management and conservation of biodiversity was taken back from the district level to the provincial level.

Implementation of management plans

- Implementation of water management plans in at least 10,000 ha based on hydrological units and in partnership with all land management agencies, private sector concessions and local communities, targeting to increase the water level in 10,000 ha by an average of 20 cm.
    - Enhancing partnership with local communities – scaling up the experience under the APFP project in two communities to involve a significant portion of the 53 villages in the Biosphere reserve. Details of the interventions, such as installation of water-level monitoring sensors, water-level management database system installation, canal blocking, and peatland rewetting will be determined during the PPG stage. Considering that water management practices in the buffer zone are generally poor and a root cause of fires, special focus will be devoted to improving the water management regime in the buffer zone.
    - Developing mechanisms for longer term resourcing and sustainability of the reserve management (including from private sector contributions and incentives)
- Collaborative fire management and prevention in at least 5,000 ha through improving or introducing water supply points for fire supression, development of community-based fire prevention schemes, provision of firefighting equipment, and improvement of the early warning and hot spot monitoring system. This activity will identify and build on similar initiatives such JICA's new initiative on fire prevention in Indonesia. Fire prevention in forest and planatations by private sector and communities will also be enhanced to improve sustainability and reduce GHG emissions.

- Income generation will include options such as development of appropriate district regulation, scaling up of paludiculture options[11] identified through the IFAD/GEF ASEAN Peatland Forest Project (APFP) and GEF SMPEI project for haze-free farming, and off-farm inome generation activities developed under the IFAD grant to CIFOR, thus avoiding forest conversion in at least 2,000 ha. Linkages to village development funds or generation of funds from climate change mechanisms such as REDD+ and NAMAs will be established as a means to achieve scale.
- Strengthen implementation/certification of use of the Indonesian Sustainable Palm Oil (ISPO) standards in smallholder plantations surrounding the reserve
- Support implementation of actions of IBSAP 2015-2020 which are prioritized by the Riau government and introduction of alternative indigenous tree species for use in the forest plantations and buffer zones

Component 3: Scaling-up best practice through knowledge management and developing market options for sustainable use of peatlands

Targeted Outcome: Best practices for peatland management adopted by key stakeholders in Indonesia; reduction in peatland fires and haze in targeted areas; and improved markets for products linked to sustainable use of peatlands

Outputs and activities:

- Documentation and sharing of Indonesia's best practices at national and regional workshops, meetings and exchange programmes.
- Enhancement of knowledge management mechanism including collaborative regional approaches to common and transboundary issues.
- Peatland fire prevention programme and regular capacity audits undertaken at national and targeted provincial levels
- Policy dialogue at district, provincial and national levels on the use of the PHU-based planning and management approach that facilitates the channeling of public, private and development financing and the rationalization of institutional structures for improved efficiency
- Policy dialogues and pilot activities for regional market development for sustainable peatland management products undertaken
- Developing market options for products linked to sustainable use of peatlands such as certified sustainable palm oil and pulp and paper products and fire/haze free products through policy dialogues and pilots in target areas. Market options for the sustainable production of palm oil will draw lessons learned or best management cases from the proposed GEF IAP project on *Taking Deforestation out of the Commodity Supply Chain*, and a similar approach will be adapted to the sustainable pulp and paper products or other haze free agricultural products. Option of direct incentives for the private sector will be provided through: i) reduced risks of subsidence and fire damage, ii) differential permit approvals or fees and permit requirements iii) minimized reputational risk. These activities are to be undertaken in partnership with Private sector associations, RSPO, Regional policy centres etc.

The main envisaged engagement with the private sector across the project will be as follows:

- The refinement and promotion of the National Regulations will involve multi-stakeholder consultations including with the private sector. It will not be possible to achieve the objectives of PP71 - PP57 without leveraging significant support from actors who are credible within the private sector. To that end, the project must seek to facilitate effective collaboration with companies that have recognized that their

[11] Paludiculture (agriculture and plant cultivation in wet conditions) can be considered a responsible management option for peatland management. Paludiculture produces biomass from wet and rewetted peatlands under conditions that maintain the peat body, sustain ecosystem services and may facilitate carbon accumulation. Besides producing traditional agricultural commodities such as food, feed, fibre and fuel, paludiculture can also generate other raw materials for a variety of purposes, including industrial biochemistry. Around 400 species, including Jelutung (a latex producing tree), Melaleuca spp (for timber, pulp and aromatic oil), gemor (medicinal plants), have been identified as potential commercial opportunities (see *Paludicaulture in Indonesia*, Wetland International: http://archive.wetlands.org/OurWork/ClimateMitigation/Paludiculture/PaludicultureinIndonesia/tabid/3469/Default.aspx)

social license to operate and do business globally requires clear corporate policies, commitments and programs that actually impact business practices and supply chains on the ground. The proposed mid-to long-term investment framework for sustainable peatland management will thus be prepared with an intentional and targeted approach to engendering effective collaboration with influential private sector firms that are recognized as meeting the highest standards in their industries[12].

- A major role for the private sector is also envisaged in component 2 – especially Sinar Mas Forestry which manages plantations in a significant portion of the buffer zone of the GSKBR. This company has committed significant parallel-financing and in-kind contributions to implement activities under Component 2. Wilmar International, one of the world's largest traders of palm oil, has agreed in principle to partner with the project to explore market based mechanisms for discouraging the use of fire for land development and ensuring use of best practices for oil palm cultivation on peat. This will contribute to activities in the transition zone of GSKBR and also to Component 3 activities on markets.

Conformity with GEF strategies

The project is aligned to and conforms to the following GEF strategies:

- *BD-1 Program 1. Improving Financial Sustainability and Effective Management of the National Ecological Infrastructure* – The project will improve the financial sustainability of the Giam Siak Kecil Bukit-Batu Biosphere Reserve through support for generation of resources from the private sector (including Sinar Mas Forestry and Wilmar International), to support activities within the core, buffer and transition zones. It will also support the development of options for securing climate-related financing e.g. related to REDD+, NAMAs or INDC targets. The private sector engagement will provide a model for financing for other protected areas. With regard to enhancement of the management effectiveness the focus will be on the strengthening of multi-stakeholder engagement and support for management of the reserve – in particular the engagement of the local communities in the forest protection and prevention and control of peatland fires. The targeted area meets the requirements of global significance (in Annex 3 of the GEF FA strategy) in that the targeted area is a key habitat for at least five endangered mammal (Tiger, elephant and tapir), bird (milky stork, masked finfoot) and fish (Asian arowana) species as well as a broad variety of rare and threatened plant species.
- *BD-4 Program 9. Managing the Human-Biodiversity Interface* – The project will focus on managing the human-biodiversity interface in the Giam Siak Kecil peatland landscape in line with GEF6 priority to focus efforts on conserving globally significant biodiversity. In this key landscape, the project will work to reduce GHG emissions and slow peatland degradation in *Acacia* and oil palm plantations on peat by introducing or scaling-up the use of improved water management practices and, increase the provision of environmental services, especially biodiversity and hydrologic services, through establishment of eco-hydro buffer zones between plantations and conservation areas and introduction of alternative indigenous tree species for use in the forest plantations and buffer zones. In addition the project will work with local communities to enhance the standard of management of oil palm plantations to seek certification under the Roundtable on Sustainable Palm Oil (RSPO) or Indonesian Sustainable Palm Oil (ISPO) standards.
- *LD-3 Program 4. Scaling-up sustainable land management through the Landscape Approach* – The project will support the scaling up of sustainable land management through the landscape approach by supporting the integrated management of the Giam Siak Kecil landscape covering 700,000 ha as well as through support for rolling out Indonesia's new and innovative framework for delivering an intersectoral, multistakeholder approach for planning and management of peatlands (Peatland

[12] One example of such a company is Wilmar International. It is the first major palm oil player to have stepped up and committed to ensuring its supply chain is de-linked from any forest destruction and human rights abuse. It did so in 2013 when it committed to a No Deforestation, No Peat & No Exploitation Policy for both its own operations and third party suppliers. It committed to cease the purchase from suppliers who cleared forest, drained peat land, or exploited locals. Preliminary analysis estimates that Wilmar's commitment will eliminate more than 1.5Gt CO_2 emissions in total by 2020. In 2015, Wilmar won the Special Recognition Award at the Singapore Apex CSR Awards 2015 organised by the Global Compact Network Singapore, Singapore Business Federation and The Business Times.

Hydrological Unit). Focus will be on developing and implementing integrated water resource management plans that can adopted and adapted across the 25 million hectares within the country's Peatland Hydrological Units. This will include the development of a comprehensive digital elevation model (DEM) using LiDAR to enable design of water management zones and identify critical areas for adjustment of drainage systems to reduce subsidence, flooding or fire risk. The project will also work with local communities especially those like Tanjung Leban and Sepahat villages in the GSKBR buffer zone where poor peatland management and overdrainge have led to frequent fires.

- *CCM-2 Program 4. Promote conservation and enhancement of carbon stocks in forest, and other land use, and support climate smart agriculture* - The project is fully aligned with Program 4 to promote conservation and enhancement of carbon stocks in forest, and other land use, and support climate smart agriculture. The project will aim to reduce GHG emissions related to drainage and burning of peatland forest, plantation and agricultural systems both in the GSKBR landscape and at national levels through implementation of PP71-PP57 and other related regulations as well as documenting and promoting best practices for fire prevention and control, including lessons and learning on long-term investment frameworks and incentives for their adoption at scale.
- *SFM-3 Program 8. Integrating SFM in landscape restoration* – The project will support the restoration of forest lands in the GSKBR including those that have been impacted by fires especially within the core zone and the buffer between plantations and natural forests. The engagement of private sector and local communities in the restoration of peat swamp forests will be enhanced through technical support and incentive mechanisms.

4) Incremental/additional cost reasoning

Without GEF support, co-funding and other leveraged assistance, the degradation of peatlands in Indonesia will continue, leading to degradation, disrupted hydrology, loss of biodiversity, and annual fires and associated large scale GHG emissions.Targeted interventions from the project are expected to significantly enhance multi-stakeholder partnership approaches linking the national, provincial and local governments from different sectors, communities and private sector to develop and manage peatlands in a sustainable integrated manner.

In the business-as-usual (BAU) scenario, government efforts related to peatland fires will likely continue to focus mainly on fire suppression and control rather than fire prevention – in other words the symptoms rather than the causes. Enforcement will continue to be ineffective in preventing fires and government expenditure on fire-fighting will continue to be allocated too late to prevent large-scale fires and degradation. The PP71-PP57 regulations will likely be revised and implementation initiated, but the scale, scope and effectiveness may be limited; particularly in the absence of support for the systematic organization and implementation of the new Peatland Hydrological Unit framework for delivery on policy and regulatory goals. While clearly an extremely important step towards achieving landscape scale impacts through an intersectoral and multistakeholder, participatory approach, it is also an institutionally challenging and complex task to accomplish. By bringing global best practices and learning from the more mature water resources and watershed management experiences around the world and supporting the rolling out and implementation of this new framework, its succesful establishment can be nurtured and encouraged. Doing so would provide the otherwise missing institutional mechanism for achieving long term policy goals across Indonesia's 20 million hectares of peatlands. At Giam Siak Kecil, the peatland landscape will continue to degrade with increasing incursions and encroachment of the core zone and expanding forest and biodiversity loss from fires.

With the support of the GEF 6 resources it is envisaged that enhanced levels of engagement and cooperation between stakeholders will take place and there will be more efective implementsion of PP71-PP57 and more focus on prevention of peatland degradation and fires at provincial, district and local levels. The Giam Siak Kecil landscape will be more effectively managed with less encroachment and fires and improving biodiversity conservation status and reduced emissions. Overall with the GEF support, a more effective sustainable peatland management regime can be engendered.

Private sector co- finance is expected mainly from Asia Pulp and Paper (APP) group which is working actively in the Giam Saik Kecil-Bukit Batu Biosphere Reserve landscape and has agreed to actively work with MOEF and the local government to support the enhanced protection and management of the areas.

The GEF intervention allows for a multi-stakeholder, multi-level approach to integrated peatland management, involving several sectors. It will also ensure that lessons learned from demonstration and pilot testing will help scale up national, provincial and local land management activities as well as regional activities and training programs to ensure that the benefits from integrated peatland management be incorporated into a wider framework, including policies and plans that relate to forests and other land-related resources.

The project will effectivly build on to earlier GEF investments in peatland management. The GEF-4 supported ASEAN Peatland Forests Project (APFP) was a regional project implemented between 2010-2014 through the ASEAN Secretariat and executed in Indonesia through the Ministry of the Environment. This project helped with the updating and dissemination of the National Strategy on Peatland Management in Indonesia and promoting it at national and provincial levels and development opf masterplans for peatland management in Riau and West Kalimantan. It also contributed to development of the National Regulations on Protection and Management of Peatland Ecosystems (PP71/2014 - PP57/2016) which was adopted in September 2014. In terms of action at the field level, the project undertook a broad range of pilot and demonstration activities in three separate provinces – namely Riau, West Kalimantan and Central Kalimantan Provinces. The results of the project demonstrated that:

a) the involvement of local community and private sector was critical for advancing sustainable management of peat and reducing the extent of peatland fires
b) Improving water management and blocking of abandonned drains is key at local level to prevent fires and peatland degradation
c) In order to be sucessful it was necessary to concentrate actions across a peatland landscape rather than fragmenting efforts across many different sites and provinces. This landscape-based approach is the key element of the new PP71/PP57 regulations which requires water and land management to be integrated using a landscape approach
d) It is also critical to have cross-sectoral engagement of government agencies from different sectors (eg agriculture, forestry, environment, water resources, etc.) as well as different levels (national, provincial and district).

These expereinces and lessons learned have been incorporated in the design of the GEF5 and GEF 6 initiatives. The APFP has positive expereince working with the private sector, local communities and local governments in two districts in Riau Province – Indragiri Hilir in southern Riau and Bengkalis in northern Riau – this has been one of the reasons to focus on these areas in the scaling up activities to be supported by GEF-5 and GEF-6.

The below table provides an outline of the activities in indonesia in the GEF-4 APFP and a comparison between GEF 5 and 6 projects.

	APFP (GEF-4 Regional)	GEF-5	GEF-6
Project Executing Partner	Sub directorate of Terrestrial Ecosystem Degradation, Ministry of the Environment	Directorate of Peatland for Peatland Degradation Control, Ministry of Environment and Forestry (same national implementation partner, same project director, same project staff for GEF-5 and GEF-6 but different district and local government partners)	
Objectives	1) Capacity building for peatland management through implementation of national action plan, awareness raising and developing options for financial mechanism; 2) Degradation of Indonesian peatlands minimized	1) National-level capacity building for the new regulations and in support of the latest institutional changes – to be done intensively during 2016; 2) Fire prevention methodologies and strategies established; and 3) Integrated management in the Sungai Kampar Indragiri Peatland (of which large areas are under the concession areas of the private sector)	1) Implementation of the National Regulations on Protection and Management of Peatland Ecosystems (PP71/2014 - PP57/2016) through the Peatland Hydrological Unit-framework; 2) Integrated management of Giam Siak Kecil Peatland Landscape in partnership with private sector and local communities; and 3) Improve knowledge management

			and exchange for joint action on sustainable peatland management
GEF Project Financing	US$ 1,200,000	US$ 4,766,756	US$ 4,872,831
Target Area	Small scale pilot and demonstration sites in Peatlands of: - Riau - West Kalimantan - Central Kalimantan	Sg Kampar- Indragiri Peatland Hydrological Unit, southern Riau Province (850,000ha) Districts of Indragiri Hilir, Indragiri Hulu and Pelalawan	A total of 1,200,000 ha comprising of i) Giam Siak Kecil Peatland Hydrological Unit, northern Riau (700,000 ha) including the districts of Siak, Bengkalis and Dumai, and ii) selected provinces (other than Riau) scaling-up improved peatland management (500,000 ha) – the selection of provinces will be made through PPG considering BRG target areas
Key activities	• Revision of NAPP • Development of Master Plan on Peatland for Riau and West Kalimantan • Refinement of FDRS • Capacity building and awareness programme on BMPs of peatland management including water management and agro-forestry practices • Peatland Hydrological Unit map was developed • Pilot and demonstration site activities	• National Peatland Regulations (PP71/2014 - PP57/2016) promoted, and mechanisms and capacity for implementation developed at national and provincial/district levels enhanced to oversee the implementation of PP71/2014 - PP57/2016 • Supporting the initial development of sub-regulations (ministerial-level regulations) for the implementation of PP71/2014 - PP57/2016 • National steering committee for peatland management fully functioning to plan, implement and monitor peatland-related activities and to harmonize the use of national budget allocated for peatlands • Reduction of peatland degradation and fires through assessment of potential GHG emission reductions from targeted peatlands; strengthening National Peatland Fire Prediction, Monitoring, and Warning Systems and enhancing their usage; encouraging zero-burning land clearing techniques;. • Integrated sustainable management of the 850,000ha Sungai Kampar Indragiri Peatland Hydrological Unit in southern Riau	• Completing the development of supporting the implementation of sub-regulations (ministerial-level regulations) for the implementation of PP71/2014 - PP57/2016 • Enhance capacity and close key capacity gaps of the government and other key stakeholders in the implementation of PP71 and enhance capacities for implementation of sub-regulations • Awareness raising across government sectors and private sector to increase national budget allocation and investment in sustainable peatland management • Policy dialogue for broader consensus on approaches and technologies for sustainability of improved peatland management • Scaling-up best practices through documenting and sharing evidence-based knowledge and through developing market options for sustainable use of peatlands • Integrated management of the 700,000 ha Giam Siak Kecil Peatland Landscape in partnership with the private sector
Implement-ation period	2009-2014 (4.5 years)	2017-2021 (4 years)	• 2018-2023 (5 years)

As part of the focal sector for climate change, environment and disaster management of the ASEAN-EU Cooperation Programme 2014-2020, EU has approved a project for the Sustainable Use of Peatlands and Haze Mitigation in ASEAN (SUPA) with the total funds of EUR 20 million. SUPA is being planned with two objectives – i) to strengthen regional co-operation through provision of technical and material support to regional institutions on sustainable management such as extablishing the ASEAN Coordinating Centre for Transboundary Haze Pollution Control (ACC); and ii) to strengthen community's organization and capacity on sustainable management and use of peatlands through non-state actor participation. Both GEF-5 and GEF-6 projects will maximize the knowledge management opportunities through ACC which is expected to be hosted in Indonesia starting 2018, and will emphasize the capacities and arrangement of national institutions and harmonization of policies, regulations and actions at national, provincial and village levels in order to monitor and ensure a participatory approach for the long-term sustainability. Within this regional project, ASEAN Member States will also implement national activities

under the guidance of ASEAN Task Force on Peatlands (ATFP) and ASEAN Secretariat (ASEC). The resource allocation among ASEAN countries and national priority actions has not yet decided. According to the EU delegation to ASEAN, this will be done during the project implementation phase after the overall regional project framework is endorsed in mid-2017. Because the EU-funded national priority actions in Indonesia will be designed almost simultaneously with the PPG phase of the proposed GEF-6 project in 2017, the design of priority activities both EU and GEF-6 projects will be harmonized under the coordination of ASEAN Secretariat and guidance of ATFP as this has been done during the implementation of GEF APFP and EU SEApeat project (through organizing supervision mission together and co-organizing knowledge sharing sessions).

In close collaboration with EU-SUPA, the German Ministry of Environment (BMUB) is designing the "Strengthening Regional Experiences on Sustainable Peatland Management in ASEAN" (ASEAN-REPEAT) Project to be implemented from 2016 to 2020[13]. The ASEAN-REPEAT with financing of EUR 4 million will be implemented by GIZ in partnership with ASEAN Secretariat, and governments of Indonesia and Malaysia. With an aim to protect and promote biodiversity and carbon storage of selected peatlands and to maintain ecosystems of Indonesia and Malaysia as a contribution to the implementation of APSMPE and APMS 2006-2020, the majority of BMUB budget will be committed to the ground implementation activities in two pilot sites. Those activities will include: a) technical assistance of long-term & short-term experts; b) equipment needed for carrying out pilot activities and trainings with local partners; and c) small grants to the local partners for carrying out local activities.. National coordination and steering mechanism, selection of pilot sites and annual operation plans have not yet been developed and will be prepared under the guidance of ASEAN Task Force on Peatlands and in close collaboration with IFAD. There will be close coordination between IFAD, GIZ, ASEC and Government of Indonesia to ensure these activities are complementary.

5) Global environmental benefits

Peatlands act as the most important global terrestrial ecosystem for carbon storage which can store twice as much carbon as the biomass of all the world's forests combined. Tropical peatlands are naturally waterlogged forests underlain by thick layers of undecomposed organic materials or peat. Ten percent (10%) of the world's peatlands are in the tropics and, of that, more than 60% of these are in Southeast Asia (25 million ha). Indonesia has the largest tropical peatland area, of 21 million hectares which comprises of approximately 50% of world's tropical peatlands. In Indonesia, it is estimated that approximately 500 million tons of CO_2e are emitted annually due to degradation of peatlands and concomittant fires. This constitutes a significant percentage of Indonesia's annual GHG emissions, and contributes to making Indonesia the 3rd largest GHG emitter following China and the USA.

The peatlands of Giam Siak Kecil Biosphere Reserves (GSKBR) include more than 300,000 ha of peat swamp forest and represent one of only three relatively large peatland forest ecosystems in Sumatra that has a high chance for long term conservation. The ecosystem based on such rich biodiversity plays a critical role in the economy and ecology of the region by providing timber and non-timber forest products, water supply, flood control , support significantly to the livelihoods of substantial number of people, including many poor community groups that live in and around peatlands. The interventions through the project will be significant in safeguarding this globally significant biodiversity. The project is expected to directly mitigate at least 3.8 million metric tons of CO_2eq from the Giam Siak Kecil Biosphere Reserve (see table below). There will be additional emission reductions from improved peatland management in other selected provinces (in addition to Riau) through the activities of Component 1 at national level. These additional GHG reduction benefits will be quantified during the PPG phase when the target provinces and their peatland characteristics are defined during the design stage.

Projected GHG Emission Reductions from Giam Siak Kecil Biosphere Reserve

Mitigation measures	**Ha** (more details of targeted areas will be prepared in PPG stage)	**Emission reduction tCO_{2eq}/ha**	**Total**	**Assumptions**

[13] This was presented at the 1st meeting of the ASEAN Peatland Task Force, 23 June 2015.

Fire prevention	5,000 ha estimated as 20% reduction in extent of fires around GSKBR	300	1,500,000	300 tons CO_2/ha is a conservative estimate based on RSPO default values for peatland carbon stock of 7.05tC/cm[14]of peat depth * 3.67tCO2/tC *zero burning of 15 cm of peat depth/ha.
Improved water management	10,000 ha comprising 5% of 200,000 ha of plantations within GSKBR	36.4	364,000	Estimated avoided CO_{2e} emissions by raising water levels on average by 20cm over 2 years on 10,000 ha.10,000 ha * 0.91 tCO_2/ha/cm [15]drainage * 20 cm drainage * 2 years = 364,000 tCO_{2e}
Avoided forest conversion	2,000 ha estimated as 20% reduction in area of forest cleared 2012-2015 of 10,000 ha	982.5	1,965,000	Avoiding Above Ground Biomass carbon stock loss of 300 tons CO_2/ha, plus avoided emission from drainage of 75cm X 0.91 tons CO_2/cm x 10 years
TOTAL			**3,829,000**	

This amount of CO_{2eq} mitigation is substantial with regard to the envelope of financing, but more importantly, it will help further develop the approaches and techniques for scaling-up sustainable peatland management nationally, thereby making a significant contribution in assiting the country meet its emission reduction targets. The potential emission reductions will be refined further during the PPG period and indirect emission reductions will also be calculated.

The expected value-added of the GEF6 intervention is securing the global environment benefits related to the reduction in the rate of peatland degradation leading to improved ecosystem services related to biodiversity, carbon storage and climate regulation. The targeted peatlands of GSKBR contain a broad range of plant and animal species which are recorded in the core area and listed as a protected and endangered species including two species of birds (Great hornbill *Buceros bicornis* and Milky Stork *Mycteria cynerea*), four mammals (honey bear *Helarctos malayanus*, tapir *Tapirus indicus*, Sumatran elephant *Elephas maximus*, and Sumatran tiger *Panthera tigris sumatrae*), two reptiles (false gharial *Tomistoma schlegelii* and estuarine crocodiles *Crocodylus porosus*) and one endangered fish species *Scleropages formosus*, also known as the Asian bony-tongue or arwana[16]. 29 out of the total number of 189 recorded plant species in this area are categorized as a protected species under Appendix 1 and 3 of CITES (detailed description is provided in Annex 1). IUCN has launched the new Global Standard on Key Biodiversity Areas (KBAs) identification in September 2016 to identify and document *areas of particular importance for biodiversity* according to standardised criteria. While KBAs identifed to date include Important Bird and Biodiversity Areas (IBAs), Alliance for Zero Extinction (AZE) sites, Important Plant Areas (IPA), etc., the new identification standards will allow identifying KBAs beyond taxonomic groups. The GSKBR is already recognized as an IBA, and the project will support the GSKBR to be recognized as a KBA under the new standard as well. It is clearly qualified as a KBA as one of the largest remaining intact peat swamp forest ecosystems in Sumatra with a broad range of rare and endangered species as well as restricted range and endemic species. It meets the new KBA criteria in the categories of Threatened Species and Geographically Restricted Biodiversity. The detailed classification will be elaborated in the PPG stage.

The project will contribute to the following Aichi targets:

Target 1. Awareness of the values of biodiversity increased by 2020

Target 2. Biodiversity integrated into national and local development and poverty reduction strategies and planning process

Target 4. Government/business/stakeholders taken steps to achieve/implement plans for sustianable production and consumption within safe ecological limits

[14] Roundtable on Sustainable Palm Oil (RSPO). RSPO GHG Assessment Procedure for New Plnatings. Version: August 2016. Page 20. RSPO, Kuala Lumpur. Here the default value of the carbon stock per ha of peatland is 2,115tC/ha assuming the peat depth of 3m. This means peatland carbon stock of 7.05tC/cm per ha (2,115tC/ha * 1/300 = 7.05 tC/cm).

[15] Hooijer *et al* 2010. Current and future CO2 emissions from drained peatlands in Southeast Asia. *Biogeosciences* 7: 1505-1514). Table 1. pg 1508. This emission factor has been adopted in 2011 by the Emission Reduction Working Group (ERWG) of the Roundtable on Sustainable Palm Oil (RSPO) as the main factor to calculate the GHG emissions from drainage in oil palm plantations.

[16] Ecological characteristics of GSK-BB, UNESCO. http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/asia-and-the-pacific/indonesia/giam-siak-kecil-bukit-batu/

Target 5. The rate of loss of all natural habitats is at least halved by 2020
Target 7. By 2020, areas under agriculture, aquaculture and forestry managed sustainably, ensuring conservation of biodiversity
Target 11. By 2020, at least 17% of terrestrial and inland water, especially areas of particular importance for biodiversyt and ecosystem services are conserved/managed effectively
Target 14. By 2020, ecosystems that provide essential services are restrored and safeguarded taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
Target 15. By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced
Target 20. By 2020, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources should increase substantially from the current level

With regard to sustainable land management benefits, the project will focus on enhancing integrated water management systems for the entire GSK peatland landscape through implementation of the requirements of PP71/PP57 (incl. regulation of water levels) and development of an overall masterplan for water management and specific plans for different management units especially the plantation units. The project will also assist in the promotion of sustainable land management approaches for local communities especailly in the buffer zone. This water management will support to maintain carbon pools in peat soils and subsequently reduced peatland fire will decrease atmospheric CO_2 and global warming. This will act as a key SLM model for the peatlands across Indonesia.

6) Innovation, sustainability and potential for scaling up

One of the main innovative aspects of the project will be the pursuit of multi-stakeholder engagement in developing integrated approaches for addressing peatland degradation issues. The engagement of private sector, civil society and local communities working in partnership with government agencies will be more effective compared to conventional sectoral approaches. At the local level the committed resources of the larger private sector plantation companies for CSR can help with sustainable management of adjacent areas.

The introduction of the peatland hydrological unit (PHU) as the key unit for planning and management is critical to ensure the long-term sustainability of the peatlands, since maintaining the integrity of the PHU is essential to prevent fire and minimize drying and degradation. The importance of this new and innovative approach for peatlands protection and management should not be underestimated. It is the functional equivalent of the move to the watershed scale for sustainable land and water resources management of past decades. If faithfully implemented, this framework would allow a vertical and horizontal organization and articulation of multiple sectors and stakeholders from the local levels, to the PHUs and upwards to provincial and national levels. It would enable participatory planning and policy making and decentralized implementation of national policies, with forward and backward linkages among and between stakeholders at all levels; as well as facilitating the sharing of knowledge and lessons learned among a well-identified group of key stakeholders for achieving broader goals of replication and scaling up of good practices.

The proposed institutional framework for management of “Peatland Hydrological Units” borrows from extensive global experiences with watershed management. As one moves from the national-scale, with its specific policy objectives and broad set of institutional stakeholders, to the individual land manager with their specific objectives for their plot or parcel of land (and *vice-versa*), not only do objectives change but also, so do the relevant stakeholders and their interests (stakes) and the instruments and incentives for management. Thus, to articulate and translate national policy into local action (individual and collective) there is a general need for a framework that can reasonably engage key stakeholders at all levels and provide a platform for aligning local action with national policy, and national policy with local realities. Table 1 below provides an example of an idealized institutional and implementation arrangement for so doing. As currently posed, PHU management would comprise national, provincial and PHU-level organizations. The value-added of the project support would be to support broader stakeholder engagement within the PHUs (at the more local scales, using existing administrative and organizational boundaries) as well as the PHU-level and above.

Table 1. Peatland Hydrological Units: Idealized organizational scheme for their management across scales

Peatland Hydrological Unit Planning/ Implementation Scales	Primary Stakeholders	Typical Management Focus/Instruments
Local (village, community)	Farmers, Farmer/Producer Organizations; Community Groups; Village/Community authorities and committees	Participatory planning; site design; BMPs; fire fighting; rehabilitation
Sub-District	Local authorities with principal local stakeholders	Land use, planning; land, water resources & stakeholder management.
Regency/District	Sub-district with principal local and regional stakeholders	PHU-based land use & water resources planning; stakeholder management; regulations & incentives
Peatland Hydrological Unit (PHU)	Multi-Regency/City with principal regional stakeholders	PHU-based zoning; land use & water resources planning; stakeholder management; policy, norms, regulations & incentives
Province	Multi-PHUs with principal PHU stakeholders	PHU planning; coordination between districts, stakeholder management; policy, legal framework & incentives; investment frameworks; enforcement
National	Multi-province with principal provincial & PHU stakeholders	PHU planning; stakeholder management.; policy, legal framework & incentives; investment frameworks; enforcement

It is also expected that the project will change the way rural people invest, produce and manage their assets through scaling up the innovative income generation methods and alternative agricultural practices. The practices of the community forest management, seedling buy-back, Green Contract[17] system and Buying a Living Tree Scheme (BLTS)[18] were introduced to the local communities through the APFP and SEApeat projects. The proposed project will scale up the proven approaches and technologies, and pilot test the promising practices piloted outside Indonesia.

The project will enhance institutional and financial sustainability for the sustainable management of peatlands in Indonesia through the following:

Institutional Sustainability

a) Working to support the finalization of the sub-regulations and procedures to implement the Government Regulations on Protection and Management of Peatland Ecosystems (PP71/PP57).
b) Building capacity of the newly established Directorate of Peatland Degradation Control and associated interagency coordination mechanisms

[17] Green Contracts established between the U Minh Thuong National Park (UMTNP), Viet Nam and local communities living in the buffer zone, enabled them to enhance their livelihoods cropping on 3 of 5 ha allocated per household. This eliminated the need to harvest resources from within the park, and decreased pressures on the park. Also, the households became custodians of the park by monitoring poaching and fire hazards. The arrangement was successful and led to an increase in income of approximately 50%, and also, an absence of fire.

[18] Buying Living Trees System (BLTS). BLTS is a conditional cash transfer approach pioneered in Kalimantan that engages local communities in reforestation activities over a period of 4 – 5 years for ensuring optimal seedling survival. An area for reforestation is demarcated and individuals or households are assigned specific and equal subplots within the area. Each participating household can choose a mix of tree species for planting his/her subplot without any land clearance and preparation. Every 3 months the participating member together with a certifier/technician counts the number of surviving seedlings and a payment is made according to the number of trees remaining alive. Dead seedlings are replaced and they are accounted for in the next round of verification. This approach has proven effective in peatland forest restoration in Kalimantan (Limin et. al. 2006) and through the APFP was replicated in the Philippines through a national environment-based conditional cash transfer programme via a collaborative approach of the Department of Interior and Local Government, Department of Environment and Natural Resources and the Department of Social Welfare and Development.

c) Enhancing capacity of the provincial and district level agencies related to peatland landscape management in Northern Riau
d) Linking closely with the implementation and review of the Indonesian national policies and strategies for CBD, UNFCCC and UNCCD
e) Supporting the collaborative work between Indonesia and other ASEAN Member States in the framework of the ASEAN Peatland Management Strategy 2006-2020 and its proposed extension to 2030

Financial Sustainability

a) Mainstreaming sustainable peatland management into the mid-term and long term national development planning frameworks as well as the internal budget planning processes of related ministries and agencies
b) Development of investment plan for sustainable peatland management
c) Demonstrating effectiveness and efficiency of fire prevention and sustainable peatland management approaches at a landscape level in contrast to high current expenditures and economic losses on ineffective peatland firefighting
d) Linking with strategies, investment plans and capacity development related to the Nationally Determined Contributions (NDCs) for emission reduction for 2020-2030 under the Paris Agreement of UNFCCC

Scaling-up those efforts of GEF-5 and GEF-6 at the national level (beyond specific landscape) in Indonesia will require substantial resources and highly coordinated actions because the sheer size of peatlands in Indonesia is massive – ex. peatland hydrological units cover approximately 25 million ha. This is why it is critical to design project activities in partnership with government agencies, private sector and other donors (eg EU/Germany). The project is part of an important sequence of progressive development and scaling up of efforts which started with the strategy development and demonstrations by the GEF-4 APFP which contributed to development of the national regulations on peatlands. The GEF-5 project will help refine the regualtion a nd sub-regulation and support initial assessment and mapping of peatland ecosystems and build capacities of relevant institutions to develop sub-regulations and methodologies. This GEF-6 project will apply the strategies and methodologies defined through the GEF-5 project in at least 5 provinces (beyond Riau) and support implementation of sub-regulations in northern Riau and develop a mid- and long-term investment framework to secure sufficient national budget for long term sustainable peatland management. GEF-supported institutional capacity building, legislation, methodologies (at national level) and best practices in Riau will provide a foundation for co-financed activities to successfully expand the current efforts to other provinces and elsewhere in the ASEAN region through the mechanism of APSMPE. As a result, it is estimated at this stage that the project will lead to improved management of peatland landscapes covering 1.2 million hectares, including at least 700,000 ha in the Giam Siak Kecil landscape and 500,000 ha in other peatland landscapes through the scaling-up and co-financed activities. The details of the targeted landscapes for the 500,000 ha will be determined during the PPG phase when the priority areas for Government and donor cofinancing are finalized.

***2. Stakeholders*. Will project design include the participation of relevant stakeholders from civil society and indigenous people? (yes ☒ /no☐) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation.**

The main stakeholder groups to be involved will be:

- National Agencies (including MOEF, BRG, Ministries of Agriculture, Public Works, Villages, and Home Affairs)
- Provincial and District Government Agencies in Riau Province and Bengkalis and Siak Districts
- Private sector plantation (oil palm, pulp and paper) companies

- Local communities in Bengkalis and Siak Districts (primarily malay communities but also some Batak and Javanese migrants in 53 villages – further target group assessment and description will be conducted during the PPG phase)[19]
- International, national and local NGOs/CSOs working on the issue of peatland management at national and local levels including Association of Palm Oil and Pulp Paper, Wetlands International, Global Environment Centre, Flora and Fauna International, WWF, Yayasan Mitra insani, Yayasan Belantara, Yayasan Helang, etc.

These key stakeholders have already been involved in extensive consulations over the last 24 months in the development of the project. Dialogues have been held at the national, provincial and local level to identify strategies for multi-stakeholder and integrated approaches to peatland management. Preliminary work was undertaken with key stakeholders in Northern Riau through the earlier GEF-Supported ASEAN Peatland Forests Project (APFP) which have helped test options for community engagement on peatland management around the Giam Siak Kecil Peatland Landscape that will be scaled up through this project. Meetings with more than 300 community members from three districts have been organised in October 2014-May 2015 to identify options to enhance village level peatland fire prevention and control mechanisms which will be supported through the project. Meetings have also been held between the government and a number of private sector companies to develop a partnership for the management of the Giam Siak Kecil landscape. Further dialogue and meetings will be held with the stakeholders during the PPG process in order to develop a more comprehensive Stakeholder Engagement Plan in line with requirements in GEF's Public involvement policy.

3. Gender Considerations. **Are gender considerations taken into account? (yes ☒ /no☐). If yes, briefly describe how gender considerations will be mainstreamed into project preparation, taken into account the differences, needs, roles and priorities of men and women.**

Project preparation will ensure that gender consideration becomes an integral part of the proposed project strategy. From the implementation of the earlier APFP and SEApeat projects, women have been involved in an equitable manner in participating in implementation of the precursor APFP in the targeted peatlands in northern Riau such as through training and community livelihoods programmes e.g. sustainable organic agriculture, fire prevention and management, as well as awareness events such as rehabilitating degraded peatlands by replanting and other project activities.

The project will use the community participatory approaches in planning income-generating activities for communities, and as part of this, the project will clarify gender roles and vulnerabilities associated with a gender differentiated approach. The project will promote the participation of women in the decision-making process in project activities by ensuring the participation of women at the local, provincial and national levels in planning and consultation mechanisms. Due to the better integration of women into the new social organizations, their opinions will be better reflected in the short and long-term decision-making for the sustainable management of peatland ecosystems. Gender analyses will be included as part of the socio-economic assessment at the PPG stage and a gender responsive results framework will be developed by the time of the CEO endorsement.

4. Risks. **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).**

[19] Preparatory surveys and consultations have indicated that there are no indigenous peoples in the targeted GSKBR project area – however in case such communities are confirmed during the PPG stage an FPIC process will be applied to ensure effective consultation and engagement.

Risk	Level	Mitigation Measure
Weak enforcement of policies and regulations related to peatland management	Medium	• Awareness-raising on the impacts of peatland degradation • Enhancement of monitoring and enforcement measures through capacity building of responsible government units and clarifying the roles and responsibilities in the governance structure of multi-stakeholder • Significant progress has been made in 2016 in enforcing regulations related to prevention of peatland degradation and fires through the establishment of Joint enforcement actions in 750 fire prone villages in 7 provinces involving participation of police, army, Ministry of Environment and Forestry, local government, village leadership and NGOs. • The current President, H.E. Joko Widodo, has set clear targets and requirements for law enforcement.
Lack of political will or poor governance	Medium	• The current president (first term till October 2018) has emphasized strong action to enhance sustainable peatland management • Linking project activities closely with national policies and regulations (e.g. PP71/PP57, Target to reduce GHG emission, APSMPE) and addressing issues prioritized by the national and provincial governments
Potentially slow implementation of multi-stakeholder integrated management strategies mitigation measures	Low	• Careful selection of project partners (this will include local government agencies with demonstrated commitment to addressing peatland issues as well as private sector with sincere interest to contribute to sustainable management) and through close monitoring and guidance of project activities • Organization and establishment of intersectoral, multistakeholder planning and management framework for Peatland Hydrological Units will draw on global best practices and lessons learned. • New regulation requires integrated management strategies involving multiple stakeholders. • New Peatland Restoration Agency has been established to drive multi-stakeholder engagement.
Climate change risk including intensification of the periodic El Nino drought is anticipated to occur at some time during implementation of the project and could affect some aspects of project achievement	Low	• Fire prevention by sustainable peatland management and community stewardship, combined with better drought prediction and fire prevention and fire prevention measures • Focus on enhancing resilience of peatlands to future climate change scenarios • The chance of a severe El Nino drought during the project period is relatively low as such an El Nino occurred in 2015-16 and is not expected again till 2022-2023. • The project will work closely with the Agency for Meteorology, Climatology and Geophysics (BMKG), to detect any early warning signs of El Nino and use the information to adjust the planning of activities especially in the fire prone regions to minimize disruption

5. Coordination. **Outline the coordination with other relevant GEF-financed and other initiatives.**

The project will be led by the Ministry of Environment and Forestry (MOEF), and multi-stakeholder engagement will be facilitated by the National Steering Committee for Peatland Management and related provincial coordination committees. The Directorate for Peatland Degradation Control under the Directorate General of Pollution Control and Environmental Degradation of MOEF will act as the project manager. Project management units will be established at provincial and local levels. Details of the institutional structures and roles and responsibilities will be detailed during the PPG design stage. Component 3 will be coordinated with national and regional programmes related to knowledge management for sustainable management of peatlands including the ASEAN Secretariat and other ASEAN Member States.

The project will link with and complement a number of planned and ongoing GEF activities including, "The Sustainable Management of Peatland Ecosystems in Indonesia" Project (GEF 5 – IFAD). The GEF-5 project is supporting the initial implementation of PP71/2014-PP57/2016 starting in mid-2017 focusing on methodologies for peatland assessment and mapping and assessment of a peatland hydrological unit in Southern Riau whereas the GEF-6 project will focus on scaling up implementation of PP71/2014 - PP57/2016 at national level including zoning of peatland hydrological units according to utilisation and conservation zones and supporting biodiversity conservation and fire prevention and control in Northern Riau starting in mid-late 2018. The GEF-6 project will work to scale up the best practice being generated by both the GEF-4 ASEAN Peatland Forests Project (APFP) and GEF-5 project. The GEF-5 and GEF-6 funded projects will be harmonized through the adoption of the same implementation modalities for leveraging economies of scale.

Furthermore, the project will coordinate with other ongoing/planned GEF-supported activities including:

- *The RIMBA Project (GEF 5 – UNEP-WWF)* started implementaion in 2016 which includes a component on community based peatland management and rehabilitation in the Berbak National Park in Jambi Province as part of the establishment of an ecological corridor. Experiences and lessons learned can be shared.

- *The Strengthening Community Access Reform (SCAR),* a pipeline project for GEF 6, being developed by MOEF and World Bank. The SCAR is expected to focus on transfer of large areas of forest lands to community management throughout Indonesia and will benefit from the specialist experience on community-based peatland management in the current project.

- *The GEF6 financed Integrated Approach Pilot (IAP) on Taking Deforestation out of the Commodity Supply Chain* identifies palm oil as one of the commodities to be reckoned with. The IAP Program Framework (PFD) document identifies the existing stakeholder dialogue around commodity issues – ex. PISAGRO in Indonesia which is an industry-led initiative and Indonesia Palm Oil Platform (InPOP)- which is a government-led multi-stakholder initiative- as an instrument to design and deliver assistance to smallholders while quality demand for the end products of palm oil is not high and the lowest prices have long been preferred. Although the current child project descriptions do not specify the exact nature of planned activities in Indonesia it is envisaged that it will relate to the access to finance and markets by the Indonesian Oil Palm industry. It is understood through child projects to be implemented in Indonesia, the IAP aims to i) support agricultural development in suitable production areas conserving forests and safeguarding the rights of forest-dependent communities; ii) increase commitments for and uptake of "reduced-deforestation commodities"; advance the policy tools for reduced deforestation commodities; raise awareness and promote reduced-deforestation commodities in demand markets; and iv) advance transparency and decision support tools to accelerate commitments. While the IAP provides a larger scale effort for sustainable palm oil including peatlands, the proposed GEF-6 project will focus on the specific regulations and technical requirements for sustainable production on peatlands. Thus lessons learned from the IAP will be fed into the GEF-6 on peatlands and the GEF-6 knowledge products can be taken up by the overall sustainable production approaches of the IAP. As well, based on the lessons learned from the IAP, the GEF-6 project can initiate the similar approach for the pulp and paper industry which is not currently covered under the IAP

but is an important stakeholder in peatland management. Based on the scope of the activities developed in the coming year under the IAP – the mechanism of linkages with the current project will be refined in the PPG stage.

- *ASEAN-European Union (EU) Programme on Sustainable Use of Peatlands and Haze Mitigation (2017-2020)* which is being funded (Euro 20 Million) by the EU to support all eight eligible ASEAN Member States in sustainably managing peatlands in the region. The EU programme will be guided by the ASEAN government mechanisms related to peatlands (ASEAN Programme for Sustainable Management of Peatland Ecosystems 2014-2020 – APSMPE) for its coordination and administration mechanisms. This Programme will provide co-finance to the current project. There will be close collaboration in the PPG stage to ensure harmonisation of respective activities.

- *Strengthening regional experiences on sustainable peatland management in ASEAN (ASEAN REPEAT)* being finalized as a a $4.4 million project funded by Germany with focus on Indonesia and Malaysia. The project proposed to be implemented from September 2017 to April 2021 and will be closely integrated with the EU financed SUPA as well as the APSMPE. This Project will provide co-finance to the current project. There will be close collaboration in the PPG stage to ensure harmonisation of respective activities.

- *World Bank Fire Prevention, Landscape Approach and Social Forestry Initiative* - The World Bank in Indonesia has been undertaking a Fire Prevention Policy Initiative since October 2014. The draft policy concepts are now available and closely align with the proposed activities being proposed under the GEF6 project. Furthermore, the World Bank previously worked in collaboration with the BP REDD Agency, but with the recent integration of that Agency with the Ministry of Environment and Forestry, it is now engaging with MOEF.

- *GIZ FORCLIME Initiative* - The GIZ FORCLIME is a long-term forest governance, management and support program, funded until 2020. The focal areas are: National and subnational regulatory framework (advisory services on forestry and climate policy); Development of Forest Management Units (FMU's); Sustainable forest management in cooperation with the private sector; Integration of biodiversity protection and development (Green Economy); and Support for training institutions.

- *USAID Landscape initiatives (LESTARI project in Aceh, Kalimantan and Papua)* - The USAID LESTARI program is a 5-year, circa USD $40 million initiative planned to start in 2016 to improve biodiversity conservation and forest management in three provinces (and approx. 6 districts). The LESTARI project is aimed at a wide landscape scale approach and is cross cutting in technical and governance approaches. LESTARI is working in other provincial locations where peatlands are prevalent, and the GEF5 and 6 peatlands work could share best practice and knowledge with the LESTARI project.

- *The JICA Community based forest & peatland fire prevention and peatland restoration programme* - JICA has been undertaking a series of longer-term engagements in Community Based Fire Management. Following the implementation of the project on forestry and fire project in West Kalimantan and Riau in 2010-2015, JICA is currently designing a new technical cooperation project for 2017-2022 and selecting a target province while avoiding overlap with the GEF6 IMPLI project areas. The GEF6 IMPLI project will collaborate with the JICA particulary for scaling-up of the real-time water level management based on a telemetry system introduced through the previous JICA projects in Indonesia and for knowledge-sharing of livelihood development activities.

***6. Consistency with National Priorities*. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions?** (yes ☒ /no☐). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

Indonesia's second national communication to UNFCCC (Jan 2011) considered peat and LULUCF sector as main contributors of GHG emissions, and recognized peatland management an important area of work for the GHG emission reduction and list relevant legal instrument designed to control peatland fire. Since then, more strengthened regulations including PP71/2014 - PP57/2016 and moratorium on issuance of new permits for peatland conversion have been announced. Meanwhile, Indonesia's Technology Needs Assessment (TNA) for Climate Change Mitigation 2012 clearly mentions of the importance of peat as a source of carbon emissions. For the forestry and peat sector, the following three priority technologies are identified: (1) carbon measurement and monitoring; (2) peat re-mapping; and (3) peat water management. The barriers in the Technology transfer and diffusion (TTD) process for the peatland sector were identified as (1) lack of a reference project of viable, credible and reliable integrated forest-peat carbon measurement while mitigation requires a complete and updated unified peatland mapping system; (2) a lack of data and spatial information for low carbon peatland management; (3) lack of reference data to impede the effectiveness of water management for low carbon peatland management. The TNA report calls for establishment of a national demonstrator project to develop the above mentioned three priority technologies and of a collaborative learning program for technology diffusion. The project will support the implementation of the National Action Plan on GHG Emission Reduction and contribute to the targeted reduction of 41% of GHG emissions through reduction of peat fire and integrated water management by 2020 compared to a business as usual (BAU) strategy.

Indonesia's National Action Plan for UNCCD was developed in 2002 when the understanding of peatlands was less widespread. However policies on forest fire and zero burning land clearance, and their relevant sub-measures, including soil erosion mapping, identification and classification of degraded land and rehabilitation of degraded lands and forests provide early guidelines to development of the current peatland policies and in line with the sustainable land management approach of the peatland management.

The project is in line with the National Strategy and Action Plan on Peatlands as well as other national plans related to the Convention on Biological Diversity such as the Indonesia Biodiversity Strategy and Action Plan (IBSAP 2003-2020) and the National Wetland Strategy. The IBSAP, which was written in 2004, identified peatlands as one type of the wetlands ecosystem and described the importance of wetlands in Indonesia for a high level of biodiversity, regulation of water and nutrients cycles and various recreational and tourism benefits. As specified in Indonesia's 5th National Report to CBD (2014), Indonesia highlights the importance to control GHG emission from peatland degradation to minimize global warming impact through enhanced ecosystem resilience and contribution of biodiversity to carbon stocks which is developed as one of the main objectives of the project.

The Project will also link to the National REDD+ Strategy, particularly as regards the SFM/REDD focal area to achieve multiple benefits from the improved management of peatland forests. It will provide for SFM/REDD-1 linkages through forest fire management, enforcement of forest and peatland-related policies, and biodiversity value improvements. Also, through its support for the establishment of an enabling environment to reduce GHG emissions from deforestation and forest degradation and to enhance carbon sinks from LULUCF activities, it underpins SFM/REDD-2 objectives. Within the partnership framework established between the GEF-5 funded Sustainable Management of Peatland Ecosystems in Indonesia (SMPEI) project and the Directorate-General of Climate Change, which is responsible for measurement, reporting and verification (MRV) of emissions, the Project will expand the MRV capacity building support to districts in the Giam Siak Kecil Peatland Landscape to improve monitoring and reporting of encroachment and forest cover loss (as an input to GHG monitoring).

Government cofinancing will be provided mainly through the Ministry of Environment and Forests but also from the Peatland Restoration Agency (BRG), the Ministry of Agriculture and the Riau provincial government. The project will also contribute to achieving the targets set by the ASEAN Programme on Sustainable Management of Peatland Ecosystems (APSMPE).

7. 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.**

The project has the following three knowledge management (KM) objectives:

- To influence national policies to increase financing to scale up peatland management activities
- To strengthen project implementation through the capacity building of staff of newly created peatland unit and through harmonizing activities of implementation partners including co-financiers sharing project practices
- To enhance knowledge of local communities particularly on sustainable peatland management

The KM approaches of the project and specific measures are the following:

- To establish a functioning M&E system to enhance the project's knowledge to manage: Monitoring of biophysical indicators and an effective GIS system to be incorporated into the data and information requirement of the M&E system
- To develop and implement a KM and communication plan based on agreed goals and objectives of the project's KM activities: Building on the good KM process established through the ASEAN Peatland Forests Project 2010-2014 which included active documentation of project sites and activities through a) photos and video records, b) organization of peer learning and experience exchange for local community groups and government officials, c) multi-stakeholder workshops, d) biannual project sharing and technical meetings, etc. This will be linked with the on-going APSMPE efforts of the ASEAN Peatland Task Force which will facilitate knowledge exchange at the regional level.
- To monitor and continuous upgrade the KM and communication plan reflecting any evolution of the project and project changes: The project will be guided to prepare an Annual Work Plan and Budget including the KM plan. Weaknesses or gaps in the information being obtained from the M&E system will be evaluated and opportunities for new or different KM productions will be recommended during the supervision missions.

Anticipated KM products include policy briefs, project briefs, and technical guidelines including infographics on peatlands issues, articles (ex. PP71/2014 - PP57/2016 and its new sub-regulations). The knowledge products will be shared with key stakeholder through printed media such as newsletters, magazine articles, and via electronic media using mobile technology and websites. Further products will be identified during the PPG phase and as part of the project activity of developing KM and communication plan.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT[20] OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Ms. Tuti Hendrawati MINTARSIH	Operational Focal Point	Ministry of Environment and Forestry	06/03/2015

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies[21] and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date *(MM/dd/yyyy)*	Project Contact Person	Telephone	Email
Margarita Astralaga, Director, Environment and Climate Division, IFAD	Margarita Astralaga	08.24.2017	Roshan Cooke	+39 (0)6 5459 2160	ro.cooke@ifad.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required **GEF Project Agency Certification of Ceiling Information Template** to be attached as an annex to the PIF.

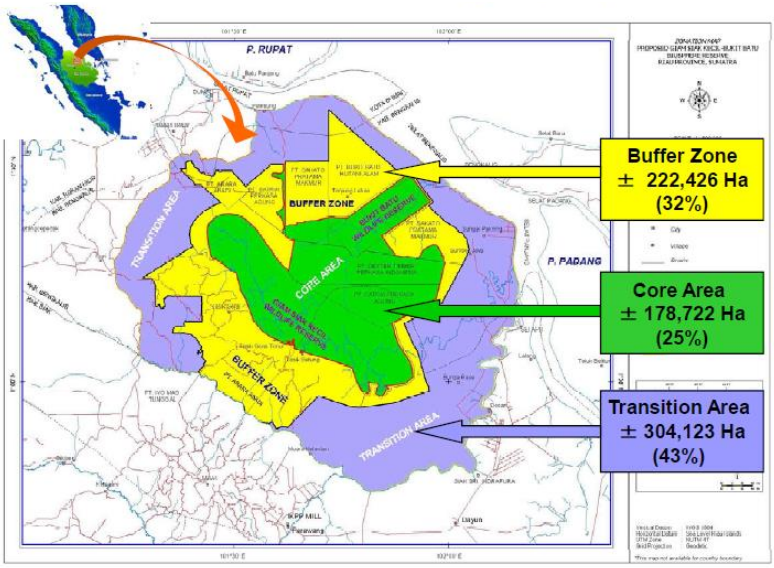
[20] For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

[21] GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

Annex 1

Proposed Project Site Description - Giam Siak Kecil- Bukit Batu Biosphere Reserve (Giam Siak Kecil Peatland Landscape) in Indonesia

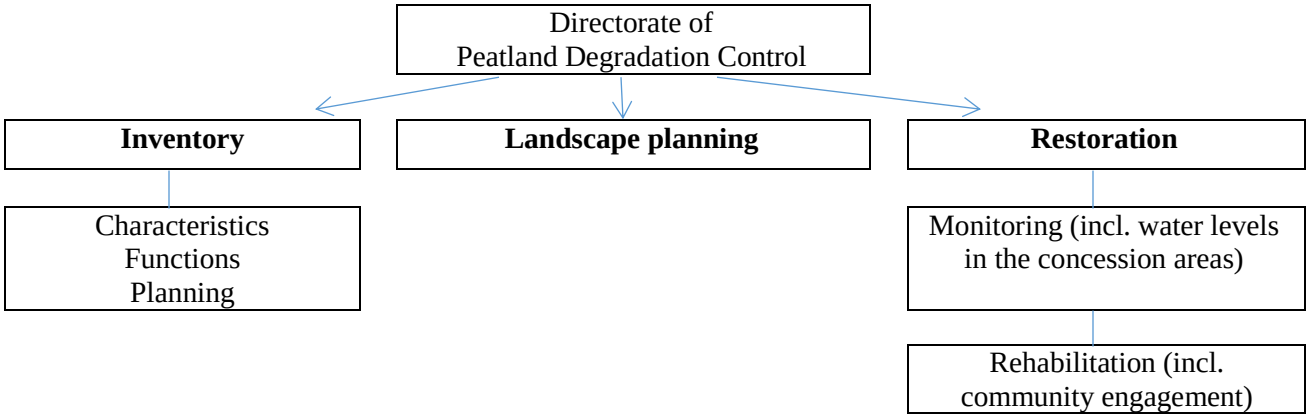
Name of Site	Giam Siak Kecil-Bukit Batu Biosphere Reserve (GSKBR)
Category	Protected Area- Biosphere Reserve
Country	Sumatra, Indonesia
Location	Latitude: 01.45-02.15º S Longitude: 103.45-104.30º E Riau Province
Total Area	705, 271 ha
Background of site	 The Giam Siak Kecil Peatland landscape covers more than 700,000ha in northern Riau Province, Sumatra. It is one of only three relatively intact large peat domes remaining in Sumatra. The majority of the area is in the Giam Siak Kecil- Bukit Batu Biosphere Reserve which was declared in 2009. It contains more than 230,000ha of peat swamp forest surrounded by a landscape of forest and oil palm plantations and agricultural land. The central peat dome plays a critical role in supply of water to the surrounding agricultural and plantation lands. It is the first biosphere reserve in the world nominated and co-managed by the private sector (Sinar Mas Forestry).
Significant values of site	About 189 plant species, consisting of 59 families and 113 genera have been recorded in this area. 29 of the plant species are categorized as a protected species under Indonesian Law and Appendix 1 and 3 of CITES. Nine protected species found in this area include *Dyera costulata*, *Ganua motleyana*, *Grammatophyllum speciosum*, *Knema* sp., *Koompassia malaccensis*, *Nephentes* spp., *Palaquium leiocarpum*, *Palaquium burckii*. The core area is dominated by peat swamp forest types. The plant species have been recorded in this area including *Gonystylus bancanus* (ramin), *Palaquium leiocarpus (N*yatoh), *Durio carinatus* (durian burung), *Shorea teysmanniana* (meranti bunga), *Tetramerista glabra* (punak). 45 mammal species are recorded in the core area with more than a third listed as a protected and threatened species including the endangered Sumatran elephant *Elephas maximus*, Sumatran tiger *Panthera tigris sumatrae, and* tapir *Tapirus indicus;* and the vulnerable Malayan sun bear *Helarctos malayanus.* More than 150 species of bird have been recorded including the endangered milky stork *Mycteria cynerea* and near threatened Great hornbill *Buceros bicornis.* 58 species of reptiles and amphibians have been recorded at the site including the vulnerable false gharial *Tomistoma schlegelii*. Thirty fish species including one endangered fish species *Scleropages formosus*, also known as the Asian bony-tongue or arowana. The site has some of the best remaining peat swamp forests in Sumatra as well as open lakes and riparian forests. The carbon store in the peat and biomass is estimated as 500 million tonnes, There are 53 villages in and around GSKBR with an estimated total population of 100,000 consisting of ethnic malay inhabitants and Javanese and batak migrants. The villagers have long relied on the peat swamp forest for their livelihoods including harvesting of jungle rubber, cultivation of oil palm and rice, complemented by fishing,

	hunting and collection of timber and non-timber forest products.
Designated use (status / legal classification)	• Core area- 178,722ha made up of Giam Siak kecil Wildlife reserve (84,967ha), Bukit Batu Wildlife reserve (21,500ha) plus a 72,255ha forest concession area of Sinar Mas forestry lying between and connecting the two wildlife reserves which the companies had agreed to forgo the right to develop. Activities within the core areas include conservation, fisheries, and non-timber forest product collection • Buffer Zone- 222,426ha consisting of production forests which are commercial pulpwood plantations managed by Sinar mas and partners – which serves as a protective ring around the core area • Transition Area- 304,123ha This area is mainly consisting of oil palm plantations, agriculture and settlements which are primarily managed to cater to the social and economic needs of the local population and private sector. 
Major Issues	There is large scale encroachment into the transition and buffer zones for cultivation of oil palm and extensive peatland fires in the transition zone. There is illegal logging and also poaching in buffer zone and portions of the core zone. The water management practices especially in the transition zone are generally poor and this is a root cause of the extensive fires.

Annex 2

Organizational structure of peatland management functions in Indonesia

The Directorate of Peatland Degradation Control under the Directorate-General of Pollution Control and Environmental Degradation, Ministry of Environment and Forestry was established in 2014 to perform the following key three functions: i) inventorization of peatlands in Indonesia, ii) landscape-level planning based on peatland hydrological unit, and iii) restoration of degraded peatlands.



In 2016, Peatland Restoration Agency (BRG) was established by the Presidental Decree to restore 2 million ha of peatlands in 7 provinces in five years (until 2020). As of July 2016, BRG is in the process of establishing provincial teams (Tim Restorasi Gambut – TBRGs) which will work as a multi-stakeholder platform inviting universities, local government and NGOs. The role of BRG is to empower local government to implement the PP71/2014 - PP57/2016 but BRG is also authorized to conduct rehabilitation activities when capacity gaps are recognized or support is requested.

The concept of restoration applied in the establishment of BRG has three aspects: hydrological restoration, vegetational rehabilitation (of degraded areas) and socio-economic rehabilitation. To cover all three restoration aspects, each BRG at the national and provincial levels has the following functional units: i) planning and monitoring; ii) supervision (of rehabilitation activities); iii) infrastructure; iv) communication and partnership; v) community empowerment; and vi) alternative commodities.

The focus areas of work for BRG in 7 provinces is highlighted below: