



## REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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### PART I: PROJECT INFORMATION

Project Title: Sustainable Management of Peatlands Ecosystem in Indonesia (SMPEI)			
Country(ies):	Indonesia	GEF Project ID: <sup>1</sup>	5764
GEF Agency(ies):	IFAD	GEF Agency Project ID:	
Other Executing Partner(s):	Ministry of Environment and Forestry, CIFOR	Submission Date:	11 November 2015
		2 <sup>nd</sup> Submission Date:	28 January 2016
		3 <sup>rd</sup> Submission Date:	19 February 2016
		4 <sup>th</sup> Submission Date:	26 April 2016
		5 <sup>th</sup> Submission Date:	10 May 2016
GEF Focal Area (s):	Multifocal Area	Project Duration(Months)	48
Name of Parent Program (if applicable):	SFM/REDD+	Project Agency Fee (\$):	452,841
	<ul style="list-style-type: none"> <li>➤ For SFM/REDD+ <input checked="" type="checkbox"/></li> <li>➤ For SGP <input type="checkbox"/></li> <li>➤ For PPP <input type="checkbox"/></li> </ul>		

#### A. FOCAL AREA STRATEGY FRAMEWORK<sup>2</sup>

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount (\$)	Cofinancing (\$)
LD-3	Enhanced cross-sector enabling environment for integrated landscape management	Integrated land management plans developed and implemented	GEF TF	2,621,716	8,237,000
CCM-5 (select)	Restoration and enhancement of carbon stocks in forests and non-forest lands including peatland	Forests and non-forest lands under good management practices	GEF TF	953,351	6,913,000
SFM/REDD+ - 1	Good management practices applied in existing forests	Forest area (hectares) under sustainable management, separated by forest type	GEF TF	953,351	4,739,444
SFM/REDD+ -2	Enhanced institutional capacity to account for GHG emission reduction and increase in carbon stocks	National forest carbon monitoring systems in place	GEF TF	238,338	1,855,556
<b>Total project costs</b>				<b>4,766,756</b>	<b>21,745,000</b>

<sup>1</sup> Project ID number will be assigned by GEFSEC.

<sup>2</sup> Refer to the [Focal Area Results Framework and LDCF/SCCF Framework](#) when completing Table A.

## B. PROJECT FRAMEWORK

<b>Project Objective: to promote sustainable peatland management, secure carbon stocks, and conserve biodiversity while improving the living standards of local communities</b>							
<b>Project Component</b>	<b>Grant Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Grant Amount (\$)</b>	<b>Confirmed Cofinancing (\$)</b>	
Component 1: Capacity building and institutional strengthening for implementation of policies and regulations for sustainable peatland management	TA/INV	Capacity and institutional framework enhanced for implementation of National Peatland Regulations (PP71), and National/ASEAN Peatland Management Strategy at all levels	Output 1.1: Strengthen policy, regulations and institutional mechanisms for sustainable peatland management Output 1.2: Strengthen capacity and knowledge management for sustainable peatland management Output 1.3: Develop Peatland Hydrological Unit (PHU) maps for management zoning in selected provinces	GEF TF	1,766,000	7,270,000	
Component 2: Monitoring peatland degradation, fires and GHG emissions.	TA	Community-based Integrated Fire Management approach demonstrated in Riau and GHG emission reduction monitored	Output 2.1: Strengthen national peatland fire prediction, monitoring and warning systems Output 2.2: Assessment of GHG emission reductions from targeted peatlands	GEF TF	625,000	5,969,000	
Component 3: Landscape level sustainable management of peatlands	TA/Inv	Functioning multi-stakeholder partnership established for integrated sustainable management of Sungai Kampar - Indragiri Peatland Hydrological Unit (SKI-PHU) and enhanced community livelihoods	Output 3.1: Develop and implement an integrated sustainable management plan for Sungai Kampar - Indragiri Peatland Hydrological Unit (SKI-PHU) Output 3.2: Community livelihood from sustainable peatland management enhanced	GEF TF	2,075,756	7,106,000	
Subtotal						4,466,756	20,345,000
Project management Cost (PMC) <sup>3</sup>				GEF TF	300,000	1,400,000	
<b>Total project costs</b>						<b>4,766,756</b>	<b>21,745,000</b>

<sup>3</sup> PMC should be charged proportionately to focal areas based on focal area project grant amount in Table D below.

**C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)**

Please include letters confirming co-financing for the project with this form

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount (\$)
National Government	Ministry of Environment and Forestry	In-kind	950,000
National Government	Ministry of Environment and Forestry	Cash	14,000,000
GEF Agency	IFAD	Cash	495,000
GEF Agency	IFAD	In-kind	2,000,000
IGO	CIFOR	In Kind	1,500,000
CSO/NGO	Wetlands International	In-kind	600,000
CSO/NGO	Global Environment Centre	Cash	500,000
CSO/NGO	Global Environment Centre	In-kind	1,500,000
Beneficiaries	Local community	In-kind	200,000
<b>Total Co-financing</b>			21,745,000*

\* The local Government of Riau indicated that they will confirm their co-financing by the time of a start-up workshop in March 2016 (given the on-going process of administrative structural reform and budget planning). The estimated co-financing from the local government amounts to US\$ 7,410,000 which is not included in the total co-financing amount at the CEO endorsement request stage. Furthermore, co-financing will be leveraged from the private sector during implementation.

**D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in \$)		
				Grant Amount (a)	Agency Fee (b) <sup>2</sup>	Total c=a+b
IFAD	GEF TF	Land Degradation	Indonesia	2,621,716	249,063	2,870,779
IFAD	GEF TF	Climate Change	Indonesia	953,351	90,568	1,043,919
IFAD	GEF TF	Multi-focal area	Indonesia	1,191,689	113,210	1,304,899
<b>Total Grant Resources</b>				4,766,756	452,841	5,219,597

<sup>1</sup> In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

<sup>2</sup> Indicate fees related to this project.

**E. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No**

(If non-grant instruments are used, provide in Annex D an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/NPIF Trust Fund).

## PART II: PROJECT JUSTIFICATION

### **A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF<sup>4</sup>**

#### A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

The National Strategy on Sustainable Peatland Management in Indonesia was finalized under the implementation of ASEAN Peatland Forests Project in 2012. Indonesia has developed NAMAs Framework for the country where peatland is included under the LULUCF programme. Relating to NAMAs, Indonesia has not registered any LULUCF programme as yet. A consultation process was undertaken between the Ministries of Agriculture, Forestry, Industry, Energy and Mineral Resources, Public Work and Environment coordinated by the National Planning Agency (Bappenas). With the reorganization of the climate related agencies in 2014-15 it is not clear as yet who is responsible for development of NAMAs and the process is currently in limbo. A draft NAMA on Sustainable Peatland Management in Indonesia was prepared in 2011-12 with support by Japan but was not implemented.

#### A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities: NA

#### A.3 The GEF Agency's comparative advantage:

As of September 2015 IFAD has established a Country Office in Jakarta replete with a Country Director, Country Programme Officer and support staff. It is envisaged that this office will become a regional hub servicing South East Asian and the Pacific countries and will be staffed accordingly. The establishment of an Indonesia Country Office provides IFAD with the ability for hands-on implementation support and oversight, as well as, engagement in critical policy dialogue and institutional reform processes. Under the IFAD and Government of Indonesia Country Strategic Opportunities Programme (COSOP) currently being developed efforts are being taken to mainstream environment and climate change concerns into the IFAD investment portfolio. In this regard, sustainable peatland management issues will be fully mainstreamed into IFAD's country operations.

#### A.4. The baseline project and the problem that it seeks to address:

The size of relatively intact peatland forests in Indonesia has decreased from 25 million hectares (approximately 50% of worlds' total tropical peatlands) to 15 million ha between the period 1980 - 2011. Much of the remaining peatlands continue to be degraded by logging, drainage, and burning. At the macro level peatland degradation in Indonesia is driven by the following: i) increasing demand for palm oil for food, industrial and biofuel sectors; ii) increasing demand for pulp and paper, and timber; iii) growing population and shortage of alternative agricultural land in peatland regions; iv) poor inter-agency coordination, weak governance and inadequate enforcement; and v) climate change.

The expansion of plantations for oil palm and pulp and paper, and the associated drainage of peatlands, has been the primary cause of deforestation, biodiversity loss, and peatland subsidence. The drying out of peatlands due to drainage has made peat forests extremely susceptible to fire; this is further exacerbated by El Niño drought effects. Peatlands in Indonesia store an estimated 80 billion tons of carbon equivalent to approximately 5% of all global soil carbon. Assuming 30-50 cm of peat is burnt, peatlands can release up to 1,000 tCO<sub>2</sub>/ha. Decreasing water levels by 70 cm can cause subsidence rates of more than 5 cm/year and consequent emissions of 70 tCO<sub>2</sub>/ha/yr. From peatland degradation alone an estimated 2 billion tons of carbon dioxide (CO<sub>2</sub>) is released per annum (equivalent to 5-6% of global emissions from fossil fuels).

In the past 15 years an estimated 3 million ha of peatland in the country have been burnt. The ensuing fires have led to massive biodiversity loss, depletion of carbon stocks, and premature deaths from respiratory diseases among other negative impacts. The 1997/98 peatland fires contributed the equivalent of 13-40% of the mean annual global carbon emissions from fossil fuels during the fire season. The regional impact of transboundary smoke haze pollution cost the region US\$9 billion during this disaster. Peatland fires are an annual occurrence effecting the health and economy of some fifty million people in five countries in the region.

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<sup>4</sup> For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter “NA” after the respective question.

Drained or degraded peatlands create negative impacts on: i) the regulation and maintenance of hydrological balance in dry and wet seasons, which is critical to prevent flood and drought in surrounding areas; ii) biodiversity conservation of endemic flora such as Jelutung (*Dyera polyphilla*), and Meranti (*Shorea* spp) and various fauna including orangutan (*Pongo abelii*), False Gharial (*Tomistoma schlegelii*), Sumatran Tiger (*Panthera tigris sumatrae*), Honey Bear (*Helarctos malayanus*), Tapir (*Tapirus indicus*), White Winged Wood Duck (*Cairina scutulata*) and the Lesser Adjutant (*Leptoptilos javanicus*), which are designated as threatened and endangered species; and iii) loss of high value timber such as “ramin” (*Gonistylus bancanus*) and non-timber forest products such as sap of Jelutung, and rattan.

At the national level, Indonesia has set targets to significantly reduce wildfires, reduce GHG emissions, and eliminate smoke haze from peatlands compared to “business as usual”. The Government of Indonesia (GoI) committed in 2009 to reduce its national GHG emissions by 26% below the Business as usual (BAU) scenario by 2020 (or by 41% with international support). Considering that peatlands contribute over 60% of Indonesia's GHG emissions, fundamental changes are necessary with regard to peatland conservation and management if GoI is to meet its commitments.

The Indonesian Government has recognized the negative environmental impacts of conversion of peatland forests and has implemented a moratorium on new permits for conversion of peatlands and intact forests into oil palm and pulp and paper plantations since 2011 (now extended to May 2017). However, this ban is envisaged as a temporary measure while Indonesia establishes institutional and regulatory measures to control exploitation of peatlands. Indonesia has also initiated a Plan of Action (POA) to address frequent peatland and forest fires and associated transboundary haze. The Ministers of Environment from the 10 ASEAN member states including Indonesia adopted the ASEAN Peatland Management Strategy (2006-2020) (APMS) in 2006. Subsequently, Indonesia prepared a National Strategy and Action Plan on Peatlands in 2008 which was reviewed and updated in 2012.

The baseline scenario is as follows: it is expected that the government of Indonesia will support specific activities through different sector Ministries and departments. The Ministry of Environment and Forestry (which was formed through the merger of, respectively, the Ministries of Forestry and Environment in October 2014) will continue to enforce (within their existing capabilities) regulations related to avoiding use of fire for land clearance, provide support for fire suppression by provincial environmental agencies and monitor the changes in air quality and environmental degradation. It will allocate resources for the management of peatland forest areas under its jurisdiction, and minimize fire occurrence through equipping forest fire fighting teams. They will also start to implement the new Government regulation on Peatland Ecosystem Protection and Management (PP71) which requires the detailed assessment of peatland areas and preparation of formal zoning maps for peatland use and protection.

The Ministry of Agriculture will continue to implement its regulations related to the cultivation of oil palm (e.g. Indonesia Sustainable Palm Oil Regulation) and to promote the use of zero burning techniques. It is also planning to strengthen fire control in agricultural and plantation areas. The Provincial and local governments will (according to their capability) enforce the local regulations related to land development and approval of new developments. It is envisaged that the bulk of government financing will be directed to these activities.

Based on past and current experience however, it is expected that these activities by the different agencies will be implemented in a piecemeal manner with coordination and synergy building receiving scant attention. A significant portion of the allocated national resources will focus on monitoring and controlling peatland fires, and providing support and services to those communities negatively impacted by the fires and haze (for example in October 2015, 20,000 armed forces personnel were assigned for fire-fighting duties and budget resources were transferred from peatland restoration and management to purchase of fire-fighting equipment). As such, resources will be less available for, translating national laws into provincial and local level action plans; adopting a landscape level approach to sustainable peatland management; clarifying jurisdictional responsibilities for fire prevention and management; building multi-stakeholder coordination mechanisms at different levels; engaging smaller-scale oil palm planters; articulating approaches for scaling out the Fire Danger Rating System (FDRS) nationally; mapping hydrological units and hotspots; rehabilitating abandoned palm oil plantations on peatlands; engaging a broader group of peatland research institutions; and maintaining political and community interest in haze management, to name a few.

Considering that land clearance by burning for agriculture is one of the key causes for forest fires, an IFAD grant of approximately half a million is embedded within the SMPEI. SMPEI’s strategy to reduce the use of fire for land clearance by smallholder farmers is to engage smallholders in most, if not all, elements of an integrated sustainable

management of peatlands approach (described in section A.5). SMPEI's Component 3 has two sub-components: (i) developing and implementing an integrated sustainable management plan for the Sungai-Kampar Indragiri (SKI) Peatland Hydrological Unit (PHU); and (ii) enhancing livelihoods of peatland-dependent communities from sustainable peatland management. The second activity is fully funded by an IFAD country grant titled Haze Free Sustainable Livelihoods Project (HFSLP) and will focus on promoting several models of on-farm and off-farm peatland friendly livelihood opportunities. This sub-component focuses on the differing needs and capabilities of households, including those that are economically marginalized or disadvantaged, such as recent immigrants, female-headed households, and youth. The Center for International Forestry Research (CIFOR) will be implementing this sub-component in full harmony with SMPEI and under the overall oversight and guidance of the MOEF.

A. 5. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

Without GEF support, co-funding, and other leveraged assistance, peatlands in Indonesia will lead to continued degradation, subsidence, annual fires, associated GHG emissions, and serious transboundary haze. Targeted interventions from the SMPEI will seek to enhance multi-stakeholder partnership approaches linking national, provincial, and local government from different sectors, communities, and the private sector to develop and manage peatlands in a more sustainable integrated manner at the landscape level, as opposed to the current fragmented sectoral approach. 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. Through SMPEI, efforts will be taken to engage all relevant stakeholders in a coherent framework of sustainable peatland management actions that include protection of intact peatlands, fire prevention, and regeneration of degraded peatlands, while lifting poor communities out of poverty.

The expected value added of the proposed GEF intervention would secure global environment benefits related to the reduction in the rate of peatland degradation, thereby leading to improved ecosystem services related to biodiversity, carbon storage, and reduced emissions. It will also help support the implementation of the ASEAN Peatland Management Strategy (APMS) and the National Peatland Strategy (NPS) and national regulations on peatlands, further contributing to the sustainability of peatland management initiatives. SMPEI allows for a multi-stakeholder, multi-level and cross-sectoral approach to integrated peatland management.

**The overall goal** of the SMPEI is to *enhance sustainable peatland management and reduce GHG emissions from target peatland areas*. **The objective** of SMPEI is to *sustainably manage peatlands at a landscape level for improving local livelihoods and reducing peat fire and GHG emissions*.

Comparison of baseline and GEF-funded activities is summarized in the table below:

**Table 1 Comparison of baseline and GEF-funded activities**

Baseline	GEF-funded activities (incl. co-financing)
<b>Component 1 Capacity building and institutional strengthening for implementation of policies and regulations for sustainable peatland management</b>	
<b>Policy and Regulations:</b> Regulation on Protection and management of Peatland Ecosystems adopted September 2014 (PP71) but no sub-regulations and significant contradictions with other policies	Relevant policies and procedures updated and harmonized. Sub regulations articulated, adopted and implemented in partnership with a range of stakeholders
<b>Capacity:</b> New institutions established e.g.: Ministry of Environment and Forestry through mergers but limited capacity building of personnel; <i>ad-hoc</i> sectorally-based capacity development.	Targeted capacity development activities based on a needs assessment; integrated capacity building approach involving multiple stakeholders; building on national and regional best practice.
<b>Peatland Mapping:</b> Peatland mapping undertaken by MOEF	Peatland mapping undertaken through combination of field

by consultant teams undertaking ground surveys; limited sharing of information with other agencies/sectors.	assessments and latest technology (e.g. LIDAR, radar and optical satellite sensors), integration and data sharing between government, private sector and research community.
<b>Component 2; Monitoring peatland degradation, fires and GHG emissions</b>	
<b>Peatland Fires:</b> Focus of efforts on Peatland Fire suppression and control through use of expensive water bombing and ground fire control teams (in the current 2015 fires 20,000 army personnel also have been mobilized for firefighting)	Focus of fire management efforts on prevention through cost effective enhanced water management, control of development expansion; and multi-stakeholder collaboration with adoption of guidelines at national level and demonstration at province and local levels.
<b>GHG:</b> GHG emission data is unavailable due to lack of an agreed upon quantification methodology and limited capacity at provincial and local levels for data gathering.	GHG emission data collected through updated GHG emission quantification methodology and data sharing with the central level and between sectors and provincial and local agencies in Riau Province.
<b>Component 3: Landscape level sustainable management of peatlands</b>	
<b>Management of Peatland Hydrological units (PHU):</b> Limited capacity among provincial and local staff for working with a PHU management methodology. As such, it is anticipated that fragmented management by sectoral departments, local governments and private sector is inevitable.	Integrated multi-sectoral approach to develop and implement a landscape-based approach for the 850,000 ha Peatland Hydrological Unit in Southern Riau Province.
<b>Community development:</b> scattered and fragmented community development - often conflicting with sustainable peatland management.	Integrated community development with support from multiple financing sources (project, government, private sector) to enhance livelihoods and community welfare linked to sustainable peatland management.

### Project Components, Outputs and Activities

The SMPEI takes an integrated sustainable management of peatlands approach that includes the following key elements:

- (i) PHU based approach adopted at all levels by relevant agencies
- (ii) Maps agreed to by all stakeholders and widely disseminated
- (iii) Optimal peatland conditions (defined by national regulations) understood by multi-stakeholders
- (iv) Conservation of peatlands
- (v) Water management
- (vi) Fire prevention in concession, agriculture and protected areas
- (vii) Fire hot spot monitoring
- (viii) Restoration/rehabilitation in reserved and concession areas
- (ix) Sustainable use of peatlands in concession and agriculture areas

The following three components detail the main lines of action for operationalizing an integrated sustainable peatland management approach:

- (i) *Capacity building and institutional strengthening for implementation of policies and regulations for sustainable peatland management* - provides training opportunities for the staff of relevant agencies to obtain necessary technical skills to manage peatlands, and enhance institutional arrangements to effectively implement the new government regulations by developing mechanisms and tools to manage and monitor peatlands (the integrated sustainable peatland management elements i, ii and iii).
- (ii) *Reducing peatland degradation, fires and GHG emissions* - focuses on assessing and reducing GHG emissions in Indonesia through enhancing the national-level fire prevention system and preventing fire in selected districts/sub-districts of Riau (elements vi and vii) ; and
- (iii) *Landscape level sustainable management of peatlands* - will demonstrate the techniques and approaches, including the building of essential partnerships with key stakeholders, for achieving integrated management of peatlands within a Peatland Hydrological Unit (PHU) (all elements).

## **Component 1: Capacity building and institutional strengthening for implementation of policies and regulations for sustainable peatland management (GEF grant US\$ 1.766 million and co-financing US\$7,270,000)**

Recently there have been major changes in national and regional policy, and institutional arrangements for peatland management, which require significant efforts to operationalize. The outcome of Component 1 would be *capacity and institutional framework enhanced for implementation of National Peatland Regulation (PP71), and National/ASEAN Peatland Management Strategy at all levels*. To address the significant opportunities and challenges as a result of the above mentioned changes, Component 1 will generate the following:

- 1.1 Strengthen policy, regulations and institutions for sustainable peatland management
- 1.2 Strengthen capacity and knowledge management for sustainable peatland management
- 1.3 Develop Peatland Hydrological Unit (PHU) maps for management zoning in selected provinces

### Sub-component 1.1: Strengthen policy, regulations and institutional mechanisms for sustainable peatland management

The recent changes in the national and regional policy and institutional arrangements for peatland management require operational protocols and procedures for achieving sustainable peatland management. For instance, PP71/2014 which was approved in September 2014 and became effective immediately is the first specific regulation on peatlands in the country. The PP71/2014 requirements for managing peatlands are the following:

- a) Requiring, within a maximum of 2 years (i.e. by September 2016) that all peatlands in Indonesia to be mapped within respective Peatland Hydrological Units (PHU) which include all areas of peat soil and adjacent lands to the respective rivers and coast throughout Indonesia (covering more than 20 million ha);
- b) Requiring, within a maximum of four years ( i.e. by September 2018), all PHUs to be surveyed to enable peat depth maps to be prepared and functional classification of the PHU to be undertaken;
- c) To establish zoning of all PHUs into Protection and Utilization Zones with a minimum of 30 percent of protection of the total area of the PHU, including the center of the peat dome and its surroundings. Additional protection is also given beyond the core 30 percent of PHU if the following are found:
  - Peat with a depth of 3 meters or more;
  - Specific or endemic genetic resources;
  - Protected species based on current laws; and
  - Peatland that is already protected in existing spatial plans and conservation areas
- d) Requiring the development and implementation of Integrated Protection and Management Plans for each PHU; and
- e) Requiring average water levels to be maintained at no more than 0.4 m below the surface in the utilization zones to minimize subsidence and reduce fire risk.

In order to implement the PP71 a number of sub regulations need to be prepared and enforced. To ensure that these sub-regulations are effectively implemented a consensus needs to be arrived at among the different stakeholders. Other important policy and regulation adjustments which are needed, include:

- a) Reviewing the National Strategy on Sustainable Peatland Management to ensure that it is compatible with the new peatland regulations and changes in government institutions and also to take into consideration changes in the related APMS.
- b) Reviewing the compatibility of other regulations with PP71 – e.g. the water level requirements under the Indonesian sustainable palm oil standard (ISPO) and facilitating harmonization.

The expected result from this sub-component is *an effective partnership approach taken to oversee the implementation of PP71 and to develop and promote sub-regulations of PP71 and other relevant policies*. The SMPEI will facilitate this by enhancing the capacity and level of engagement of a range of stakeholders (central, provincial and local government, research institutions, CSOs, communities, and the private sector) in the promotion and implementation of regulation PP71 and in the protection of designated peatland conservation zones. Early engagement of these stakeholders in the implementation of the regulation will engender a sense of ownership over the process and outcome, and set the stage for an effective and efficient implementation.

The following participatory interventions will be supported by GEF funds of US\$560,000 and the co-financing (CF) of US\$1,550,000:

- Support the development of Ministerial Regulations for the implementation of Regulations for Protection and Management of Peatland Ecosystems (RPMPE or PP71/2014) including:
  - i. Methodology for delineation of PHUs and inventory and assessment of peat ecosystems to support zoning (GEF/CF)
  - ii. Format and guidelines for preparation of Protection and Management Plans including the determination of peat ecosystem function as protection and as utilization area within PHU, and criteria for the recovery of peatland.(GEF/CF)
  - iii. Methodology for measurement of water levels in peatland hydrological units (GEF/CF)
  - iv. Develop guidelines and protocols for monitoring, and development and implementation of a monitoring system for peatland degradation (GEF/CF)
- Support the establishment of Institutional mechanisms to oversee the implementation of the RPMPE through:
  - i. Development of guidance and TOR for institutional mechanisms at national, provincial and district levels to oversee peatland management (GEF/CF)
  - ii. Establishment and operation of a National Interagency Steering Committee on SPM (CF)
  - iii. Establishment and operation of National Technical Working Group on SPM (CF)
  - iv. Establishment and operation of Provincial Steering committee(s) for Riau and other key provinces (CF)
  - v. Organize regular meetings of the respective groups (CF)
- b) Review and revise National Strategy on Peatlands and other sectoral regulations as appropriate taking into consideration PP71
- c) i. Update the National Strategy on peatlands with regard to requirements under PP71 and APMS; update the institutional arrangements and roles; as well as identify areas where additional or revised regulations as well as clear indication of the role of relevant agencies and their contribution of budget towards the implementation of peatland-related regulations (GEF/CF)
  - ii. Review of other related policies and regulations that may conflict with PP71 (eg drainage depth in Indonesian Sustainable Palm Oil Regulations (ISPO) or drainage at the border of concession) to enable harmonization and areas for synergy to be identified (CF)
- Prepare annual plans and progress reports on the implementation of the National Strategy on Sustainable Peatland Management in Indonesia, RPMPE/PP71 and associated regulations, and ASEAN Peatland Management Strategy and APSMPE (CF)
- Prepare selected strategic studies on policy and planning measures including use of technical workshops particularly on water management requirements for peatland utilization, peatland restoration techniques and costs, and sustainable community livelihoods on peat (GEF)

#### Sub-component 1.2: Strengthen capacity and knowledge management for sustainable peatland management

There is a major need to enhance the capacity of stakeholders at national, provincial and district levels considering that many of the staff of the newly established MOEF have not worked on peatland issues before, and that they need to be trained in multi-stakeholder partnership development and integrated peatland management. Key stakeholders and target groups include: local communities; NGOs and community organizations; staff of the new peatland directorate; staff of new sections in the MOEF dealing with peatlands; members of national and provincial steering committees and working groups; staff of other government agencies related to peatlands including Ministries of Agriculture, Public Works, Home Affairs, Health, provincial and district governments etc.; research institutes; and private sector. For the provision of

strategic technical advice and capacity building a consortium<sup>5</sup> of technical expert organizations coordinated by the Global Environment Centre<sup>6</sup> will be established as the Technical Working Group.

The following activities will be supported by the GEF funds (GEF) of US\$831,000 and the co-financing (CF) of US\$3,120,000:

- Develop capacity development programme to support implementation of the RPMPE and associated regulations including: (GEF)
  - i. Facilitate capacity needs assessment for MOEF and other key stakeholders and identify and prioritise capacity gaps and identify opportunities
  - ii. Workshop with stakeholders to confirm assessment and develop capacity building plan
  - iii. Development of capacity development programme
- Capacity development for core staff of Peatland Directorate and other related units in MOEF, Peatland Rehabilitation Agency (PRA) and Riau Government (GEF)
  - i. targeted individual training
  - ii. Technical workshops and visits in Indonesia, ASEAN and elsewhere
  - iii. On-job training and mentoring
- Promotion of PP71 and related sub regulations as well as sustainable peatland management and rehabilitation options to various stakeholders at national and provincial/district level (CF)
  - i. Appointing experts/sub contracts to prepare information, awareness and training materials
  - ii. Organisation of TOT workshops and seminars for different stakeholder groups at national and provincial levels
  - iii. Organise public and social media campaigns toward best management practices on peatlands
  - iv. establish and maintain websites and other outreach mechanisms
- Support capacity for related agencies to effectively participate in the ASEAN processes related to peatlands including APMS, AATHP and APSMPE, ASEAN Task Force on Peatlands and TWG/MSO on Haze (GEF)
- Document and share experiences and best practices in relation to sustainable peatland management including (GEF/CF):
  - i. Identification, delineation and assessment of peatland hydrological units
  - ii. BMPs for integrated planning of land management and use in PHUs including agriculture, forestry, plantations, conservation, water management, infrastructure development, fire prevention and control
  - iii. BMPs for oil palm and industrial tree plantations including socializing new principles and criteria for sustainable oil palm, (RSPO 2013) to small and large growers within the PHU
  - iv. Develop best practice guidelines and provide technical support for community based rehabilitation of peat swamp forest
  - v. Collate, document and share experiences and lessons learned from current project
- Undertake training and peer learning on BMP for sustainable peatland management including: (GEF/CF)
  - i. Development of training modules for best practices
  - ii. Establishment and documentation of BMP sites
  - iii. Organisation of peer learning and technical visits
  - iv. Organise Training of trainer (TOT) workshops
  - v. Targeted training sessions
- Provide strategic technical advice to support the implementation of the SMPEI project at different levels and linkages to other national and regional initiatives (GEF/CF)

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<sup>5</sup> In addition to national and regional expert institutions, the consortium will draw on experience of regional and international expert organizations such as FAO, UNEP, CIFOR, IUCN, Wetlands International and GIZ.

<sup>6</sup> Global Environment Centre (GEC) is the Technical and Operational Support Partner of the ASEAN Peatland Management Strategy and ASEAN Programme on Sustainable Management of Peatland Ecosystems 2014-2020 (APSMPE) and has been working with ASEAN Member States including Indonesia to support implementation of regional and national projects on sustainable peatland management since 2002.

- d) Develop a knowledge management (KM) strategy that focuses on leveraging behavioral change at the local level, coordinated action at district and provincial levels, and evidenced based policy development (GEF/CF)

### Sub-component 1.3: Develop Peatland Hydrological Unit (PHU) maps for management zoning in selected provinces

The SMPEI will conduct surveys to develop more detailed maps of individual hydrological units in Riau Province for demarcating the units of management that would be governed by PP71. This will be done based on the following existing maps and methodologies: i) baseline maps developed by Wetlands International and the Bogor Soil Research Institute in 2002-2006; ii) maps refined between 2010-2013 as part of the National REDD+ Strategy Development (ICCC and National Council on Climate Change); iii) REDD+ One Map System; iv) maps used for monitoring the Forest and Peatland Moratorium; and v) the initial PHU outline maps developed by the Ministry of Environment in 2011. The detailed survey results will generate maps that will form the basis for land use planning and will guide the future conservation and sustainable use of each hydrological unit.

The following are the key activities supported by the GEF funds (GEF) of US\$375,000 and the co-financing (CF) of US\$3,100,000:

- Develop a demonstration PHU Map and functional classification of the targeted Kampar-Indragiri PHU (the project site) and Pulau Bengkalis in Riau at a scale of 1:50,000 using existing MoEF methodologies (CF)
- Undertake aerial surveys of peatlands along the coast of western Sumatra using LIDAR and analyze the results to determine location and nature of peat domes (CF)
- Organize workshops to share experience and lessons learned from the above two activities. This will also serve as an opportunity to review and refine the approach and develop a cost-effective methodology for scaling up assessments of PHUs to achieve the 2018 target of all peatlands being surveyed. (GEF/CF)
- Based on the enhanced methodology undertake mapping and assessment of Giam Siak Kecil PHU in Northern Riau and other areas at national level (CF).
- Develop and test efficient and cost effective methodologies for measurement, monitoring and reporting of water levels and other characteristics of peatlands and peatland degradation as required under PP71 (GEF/CF)

### **Component 2: Monitoring peatland degradation, fires and GHG emissions (GEF grants US\$ 0.625 million and co-financing US\$5,969,000)**

The focus on reducing haze in Indonesia for the past 18 years has been dominated by fire suppression efforts, which has not succeeded in reducing fire extent and impacts. Top-down approaches such as "Zero Burning" have also had limited impact beyond large plantation companies. As such, a paradigm shift is required that focuses more on prevention rather than suppression, and one that adopts an Integrated Fire Management (IFM) approach at the national level and a Community-Based Fire Management (CBFiM) approach at the village level. CIFOR's tropical forest risk study<sup>7</sup> also confirms this finding by stating that there is no strict line of command for forest fire management in normal daily activities and that a range of legislation in response to large fires only emphasize fire control and suppression rather than addressing the underlying causes. The study concludes that the authorities seldom involve relevant stakeholders in formulation of the legislation such as prohibiting the use of fire for land clearing. Local communities have not been consulted, nor traditional knowledge on the use of fire in agriculture, or provision of incentives for local communities and other stakeholders for non-use of fire were not considered, resulting in the failure of implementation of fire management regulations.

The previous Indonesian administration developed a draft "National Standard Operating Procedure for Fire Prevention", which was called POSNAS. POSNAS was signed by 4 of the 5 necessary ministries to enact it as a law, but unfortunately was not finalized before the end of the last government. Currently MoEF is considering a review of the core elements of POSNAS as a mechanism of introducing fire prevention more strongly into the National, Provincial

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<sup>7</sup> Herawati, Hety and H. Santoso. Tropical forest susceptibility to and risk of fire under changing climate: a review of fire nature, policy and institutions in Indonesia. Forest Policy and Economics, Volume 13, Issue 4, April 2011 page 227-233.

and District institutional structures. It is proposed that SMPEI will advance national efforts to develop and promulgate a law that is similar in construct and alignment with POSNAS.

### Sub-component 2.1. Strengthen national peatland fire prediction, monitoring and warning systems

The SMPEI will support capacity building for fire prediction, use of early warning systems, and improvement of the available tools and systems for peatland fire prediction and monitoring in Indonesia. The main existing tools and systems for peatland fire prediction and monitoring in Indonesia currently include: (i) fire danger rating systems based on weather stations supplemented by satellite-based rainfall monitoring; and (ii) hotspot monitoring<sup>8</sup> using satellite data input, and dissemination of hotspot data to national agency web sites and others. These systems need to be enhanced through improvement of validated data sets, shift to real-time data collection, especially from fire-prone peatlands; upgrading of fire risk prediction products including Fire Danger Rating System (FDRS) and hotspot monitoring and notification (see [www.kebakaranhutan.or.id](http://www.kebakaranhutan.or.id)); and most importantly the development and implementation of standard operating procedures (SOPs) for specific fire control measures once a fire has started.

SMPEI will work to improve the analysis and dissemination of timely information, including data from automated weather stations and weather satellites for data generation to run the FDRS. The Project will use near real time fire hotspot data from analysis of NOAA and MODIS satellite data sets. Also, analyses using VIIRS and recently launched satellites that have increased resolution capacity (including a thermal imaging system), down to 30m pixels (compared with 1000 m for NOAA) will be explored.

Agencies slated to be involved in this work include the ASEAN Specialized Meteorological Centre in Singapore, the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG), the Indonesian Space Agency (LAPAN), and IPB who has developed a fire risk projection system. SMPEI will work to enhance the use and dissemination of such information for fire prevention and control at local level through the use of mobile technology, social networking, radio and TV.

SOPs for the use of the FDRS at local level, and demarcation of hotspot geospatial coordinates will be developed and disseminated. This will increase the effectiveness of changes on the ground of community and company activities to prevent fires as well as assist to create the procedures of what to do when a fire occurs. Feedback will also be generated from local levels to enhance the accuracy of the prediction and monitoring systems. SMPEI via the creation of an IFM and linked CBFiM framework will also work to better clarify jurisdictional responsibilities for fire management and provide training at local levels on SOPs and the use of the FDRS fire hotspot, fire risk assessment and yet to be developed monitoring tools.

The following are the key activities supported by GEF funds (GEF) US\$350,000 and co-financing (CF) of US\$4,969,000:

- Validate hotspots and improve fire detection using the following technology options in collaboration with BMKG, LAPAN, and partner agencies through the following possible measures: i) airborne (plane or drone based) thermal imaging (FLIR) cameras, ii) high resolution satellite based thermal imagers (a newly launched satellite is delivering 30m resolution data, including a thermal imager, but as yet this is untested in Indonesia); iii) satellite based application from VIIRS satellite which can measure live and smoldering fires down to a 50-100 m accuracy on-ground; and iv) Feedback from site-based observers and fire suppression teams. (GEF/CF)
- Refine algorithms and tools for hotspot detection, and also, enhance warning and monitoring reports using hotspots (linked to MOEF Sipongi system) as well as FDRS warning tools in support of work by BMKG and

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<sup>8</sup> ASEAN Haze Action Online: <http://haze.asean.org>. BMKG have a hotspot interface along with ASMC and the newly created Si Pongi and KMS web site hosted by MoEF along with the Global Forest Watch web site. It must be stated that all these hotspot web sites use the same satellite data from NOAA and MODIS and the only possible variability is via the interpretive algorithm. While some attempts to confirm whether hotspots are real or not has taken place, better methods and systems are needed.

MOEF Land and Forest Fire Directorate (LFFD) - measures include local language smartphone apps and SMS notifications, social media, and print and electronic media. (GEF/CF)

- Develop and refine Standard Operating Procedures (SOPs) in collaboration with LFFD for response at national, provincial and district levels to different FDRS warning categories and hotspot occurrence and density. Disseminate and test SOPs at different levels and with different agencies. (GEF/CF)
- Develop a guideline and information/training materials on Integrated Fire Management. In order to introduce the Integrated Fire management concept it will be necessary to develop national guidelines and training materials on the system in partnership with key national stakeholders led by the LFFD. (GEF/CF)
- Implement enhanced peatland fire prevention and control measures in Riau Province including promoting and demonstrating the IFM approach at provincial level and in selected districts. (CF)

### Sub-component 2.2. Assessment of GHG emission reductions from targeted peatlands

GHG emissions in targeted peatlands will be assessed against a baseline. The proposed assessment will build on methodologies already being used or developed in Indonesia – such as those proposed for the Monitoring Reporting and Verification (MRV) of emissions under the National REDD+ Strategy. In addition, SMPEI will draw on guidelines recently published by IPCC<sup>9</sup>. SMPEI will focus primarily on documentation of activity data (i.e. area of drained, burnt or rewetted peatland, etc.) for the project areas and support for refinement of emission factors linked to planned project activities (i.e. rewetting, fire prevention, improved water management). This can help verify emission reductions as a result of the Project as well as contribute to ongoing work by the REDD+ Unit of the MOEF and other agencies to develop appropriate MRV methodologies for peatlands (especially for fire-related emissions).

The following key activities will be pursued, supported by GEF funds (GEF) of US\$275,000 and the co-financing (CF) of \$1,000,000:

- Organize technical workshops bringing together key players involved in GHG emission MRV work for establishing an appropriate MRV methodology for peatlands (especially for fire related emissions) suitable for use in the target pilot sites. GHG monitoring will include two main aspects: (i) refinement of peatland GHG assessment methodologies to measure change over time; and (ii) monitoring of encroachment and forest cover loss in the Sungai Kampar-Indragiri PHU (which is an input component to the GHG monitoring) via the use of airborne or satellite sensors. Considerable work has recently been put into forest cover monitoring as part of the One Map initiative<sup>10</sup>, and this Project aims to leverage that knowledge. (GEF/CF)
- Develop a GHG emission baseline to determine current and projected emissions, and undertake an ex-post assessment of pilot sites to measure changes in fire occurrence and extent ( fire scars/hotspots), in water table level in protection (through rewetting and canal blocking) and utilization zones (through enhanced water management), in rate of clearing and extraction of forest resources and peatland rehabilitation. Compute and document changes in GHG emission and trends. (GEF/CF)

### **Component 3: Landscape level sustainable management of peatlands (GEF grant US\$2,075,756 and co-financing US\$7,106,000 )**

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<sup>9</sup> The IPCC has issued (with inputs from APFP) a 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands, which provides guidance for quantification of GHG emissions from peatlands. The report provides “updated emission factors and methods for both drained and rewetted organic soils including for off-site carbon dioxide (CO<sup>2</sup>) emissions via waterborne carbon losses. Guidance on methane (CH<sup>4</sup>) emissions from rewetting of organic soils, ditches on drained inland organic soils and CO<sup>2</sup>, CH<sup>4</sup> and carbon monoxide (CO) emissions from peat fires”.

<sup>10</sup> The Indonesia one-map policy, as stipulated in Law No. 4/2011 on geospatial information has been implemented to help resolve disagreements resulting from the use of different data and maps that often cause land disputes and overlapping permits for plantation and mining operations. The process is led by the Geospatial Information Agency (BIG) and includes preparation of a basic geospatial information map (IGD) alongside several thematic maps (IGT) that comprise a national land-cover map. Basic maps were released in December 2014 – but additional work is underway to complete the process.

Riau Province in Sumatra covers 8.8 million ha, of which about 4 million ha are peatlands. The most serious peatland degradation and fires in recent years have taken place in Riau. Riau is undergoing rapid development for agriculture and plantations. Since 2011, new permits for conversion of peatlands and intact forests to oil palm and forest plantations have been banned. Still, more than 150,000 ha of peatland burnt in June 2013 in northern Riau due to medium and small-scale operations and illegal land conversions. The national government has recently been successful in legal action against one company in violation of the moratorium; however, such action takes significant time and effort.

The large-scale violation of the moratorium is connected to the lack of capacity or political will at district and local levels to enforce the moratorium. In order to address this problem, it is necessary to work at both district and sub-district levels through support to fire prevention and alternative development strategies which maintain the integrity of the peatland hydrological units. This needs to be implemented in partnership with central, provincial, and local government, private sector, and local communities. Support is also needed at sub-district and village levels to establish fire/haze free villages, where fire is no longer used for land clearing and where there is local capacity to prevent and control fires that occur.

The Sungai Kampar-Indragiri Peatland Hydrological Unit (SKI-PHU) covers an area of about 850,000 ha in southern Riau Province. The current management practice is more sectoral, and this is one of the main challenges to tackle in order to reduce continuing degradation of the system. The project aims to introduce a multi-stakeholder integrated approach to peatland management, including the development of common strategies and master plans for the entire peatland hydrological unit. Using the PHU as the unit of operation allows for a landscape approach to ecosystem management based land-use zoning that includes, improved water management, biodiversity conservation, land rehabilitation, sustainable natural resource use, and sustainable livelihoods. Lessons learned from the APFP and other project experiences on integrated peatland management (e.g. community-based management) will guide the establishment of demonstration sites for facilitating large-scale protection and rehabilitation efforts.

For successful integrated sustainable peatland management, multi-stakeholder partnerships need to be established bringing together the private sector, government administration and local communities with clearly defined rights, roles and responsibilities. Although the private sector and local communities are responsible for the clearance, burning, and degradation of the region's peatlands, there are opportunities to engage their active participation in sustainable peatland management through development of appropriate controls and incentives to encourage wise stewardship of the peatlands. Lessons learned from these experiences will be documented to inform scaling up at the regional and national levels. CSOs, including Mitra Insani Foundation, Jikalauhari (Riau Forest Protection Network), Roundtable on Sustainable Palm Oil (RSPO), and the Global Environment Centre (GEC), will help build partnerships between the private sector, local administration, and communities in the SKI-PHU, and support capacity building for sustainable peatland management, fire prevention, community development, and conservation and rehabilitation of intact peatlands.

Furthermore, a heightened focus needs to be placed on fire prevention to encourage the development and implementation of this mostly overlooked feature of fire management. Integrated Fire Management (IFM) and Community-Based Fire Management (CBFiM) plans and activities that leverage the core features of "prevention, preparedness and response" will be developed in a participatory manner. IFM and CBFiM will link horizontally and vertically across the landscape. At the District (*Kabupaten*) level a Fire Management Coordinating Committee will be supported for bringing together the land and disaster management agencies, communities and private sector for facilitating the sharing of knowledge, capacity, resources, and training for achieving a coherent response to fire management. An IFM plan will be developed at the sub-district (*Kecamatan*) level as this is the right scale with areas of about 100,000 - 300,000 ha per sub-district. Village (*Desa*) level CBFiMs will also be developed, which will facilitate the integration of community knowledge and input to orient and ground-truth the IFM. The IFMs will be aggregated for inclusion in the integrated sustainable management plan for the SKI-PHU.

The outcome from the Component would be a *functioning multi-stakeholder partnership established for integrated sustainable management of Sungai Kampar - Indragiri Peatland Hydrological Unit (SKI-PHU) and enhanced community livelihoods*. The scaling-up strategy will be based on the Integrated Management Plan prepared for the PHU as well as effective demonstration of Community-Based Fire Management (CBFiM) plans at the village levels, which are scaled up to sub-district Integrated Fire Management (IFM) Plans, which after successful demonstration can be replicated in other districts and provinces.

### Sub-component 3.1. Develop and implement an integrated sustainable management plan for Sungai Kampar - Indragiri Peatland Hydrological Unit (SKI-PHU)

About half of the peatland in SKI-PHU has been developed for oil palm, coconut and pulp and paper plantations, and other areas are under community agriculture. The amount of degradation and fires in the peatlands is less than in the northern portion of Riau Province, but the trend of such problems is increasing as more areas are coming under development. Based on a number of recent stakeholder dialogues, the PHU has been identified as one where there is high potential to establish a partnership between the district administration, private sector plantations, and the local communities to promote sustainable peatland management approaches. Some large regional plantation companies, including Sinar Mas, APRIL, and Sime Darby, which have a combined area under management of more than 250,000 ha in the PHU, have agreed in principle to join such a partnership to enhance peatland management and prevent fires and degradation (this has been communicated in writing by some partners). In addition, a successful model of village development without use of fire has been pioneered in Harapan Jaya Village in INHIL the southern portion of the PHU through the APFP/SEApeat project.

The following key activities will be undertaken supported by the GEF funds (GEF) of US\$2,075,756 and co-financing (CF) of US\$4,976,000:

- Develop and implement an Integrated Sustainable Management Plan for SKI-PHU through undertaking the following sub-activities: i) Ecological assessment of peatland areas and preparation of zoning maps for protected peatland areas and use; ii) Classify the degradation status of the PHU, and define rehabilitation actions under the different categories of degradation (including rapid assessments to identify priority areas for protection and rehabilitation and development of a protection and conservation plan); iii) develop an overall hydrological management plan for the SKI-PHU through the articulation of sub-plans; and iv) develop sub-plans for integrated fire management (see points below), and community livelihood development (see sub-component 3.2). The approach of developing sub-plans is to ensure full buy-in from the respective sector departments in charge of water, land, and forests. The articulation of sub-plans will be done collectively to facilitate synergy building and to clearly define roles and responsibilities of each agency. (GEF/CF)
- Implement Integrated Fire Management Plan (IFMP) in target sub-districts through the merger of Community based Fire Management Plans (CBFiMP) and hydrological sub-plans, as well as, through developing a mechanism for pooling fire prevention/suppression resources from the various departments, operationalizing FDRS and hotspot monitoring early warning systems and SOPs, enhanced measures for fire prevention and control by all private companies in PHU including support for fire prevention and control on adjacent community lands, and activating government and private sector incentive schemes. Also, support the establishment and/or operationalization of district level Fire Management Coordination Committees for harmonized fire prevention/suppression action. (GEF/CF)
- Develop and test public and private incentive mechanisms to be deployed at targeted sub-district and village levels for sustainable peatland management and fire prevention. Monetary incentives could include increased finances for community development funds for haze-free villages, conditional cash transfers to fire prevention groups, better paid plantation labor opportunities, interest free investment credit for transitioning to peat-friendly agricultural practices or establishment of off-farm business ventures, establishing value chains with a premium for haze-free products, and student scholarships, to name a few. Non-monetary incentives could include a monthly basket of food for meeting food security needs during the transition to peat-friendly agriculture systems, firefighting equipment, national awards to haze-free villages etc. (GEF/CF)
- Undertake forest protection and rehabilitation measures within PHU, including: i) enhanced protection of 120,000 ha of Kerumutan Wildlife Reserve (including increased aerial and ground patrols, partnership with local communities on forest protection, control of illegal logging, development of ecotourism); ii) improved protection of estimated 150,000 ha of remaining forest in PHU protection zone (existing forested land to be protected under PP71); iii) coordinated management of conservation areas within separate industrial tree plantation concessions; and iv) rehabilitation of 3000 ha of abandoned *Acacia* plantation back to natural forest

adjacent to the conservation zones (including removal of *Acacia*, blocking of drainage canals, support for natural regeneration and replanting of indigenous species, fire prevention and monitoring). (GEF/CF)

- Promote the implementation of best management practices (BMPs) including PP71 requirements by oil palm, pulp and paper and coconut plantations (large scale and smallholders) within PHU. Specific co-investments will be provided to the following: inventorying all land and concession owners in the PHU; development by each concession of operational management plans for all management entities within PHU; develop pilot plan for community owned plantations; review of plans by experts and approval by government; implementation by land owners of water management, fire prevention and other measures in plans; monitoring and evaluation of implementation of plans; facilitate compliance audit of the responsible parties (private sector and local government) within PHU (including within protection and development area) in managing peatland area. (GEF/CF)
- Develop in partnership with local government and conservation CSOs viable opportunities for community engagement in peatland and forest conservation and management. Investments will be made for establishing and training (on different peatland management activities<sup>11</sup>) of community forest protection and rehabilitation groups to work in various areas including forest conservation areas managed by industrial tree plantation concessions, and to be supported through incentive schemes discussed above. Exposure visits will be undertaken to APFP demonstration sites for facilitating replication of good practice on canal blocking and peat rewetting and agroforestry activities in Sepahat, Tanjung Leban, Pelintung, Guntung, and Mumugo and peer-to-peer learning. Community groups will be supported to establish financing mechanisms to be utilized for peatland rehabilitation, fire prevention and livelihood development. (GEF/CF)
- Operationalize the MRV methodology developed under Sub-component 2.2 through, among others: i) monitoring changes in forest and land cover through remote sensing and periodic aerial surveys; ii) implementation of water level monitoring system and management (0.4 m below surface) through installation and data collection from in-situ piezometers and other instrumentation; and iii) monitoring effectiveness of management measures. (GEF/CF)
- Develop and promote implementation of a long-term financing strategy for implementation of the Integrated Sustainable Management Plan for SKI-PHU through mainstreaming sustainable peatland management activities into district and provincial plans and annual national budget allocations. (GEF/CF)

### Sub-component 3.2: Community livelihood from sustainable peatland management enhanced

Lessons learned globally about practices of peatland management confirm that it is important for communities to gain social and economic benefits for managing peatlands sustainably. As such, it is important to develop peat-friendly sustainable livelihoods and incentive mechanisms that facilitate the sharing of benefits from improved peatland management. Subsequent to the merger of the Ministry of Environment with Forestry (MOEF), a greater emphasis has been placed on working with communities to avoid land clearance using fire and to adopt more peat-friendly livelihoods. Preliminary economic and financial analysis indicates that alternative crops and green employment opportunities provide good incentives for facilitating a shift away from practices that contribute to peatland destruction. For example, in comparison to the highest return from current agriculture (maize) generating IDR 5 500 250 (at current exchange rates US\$395), the alternative chilli crop provides a return of IDR 6 420 000 (US\$462). With regard to green employment opportunities such as canal blocking, the wage rate is higher considering the semi-skilled nature of the work as opposed to farm labour. It is estimated that for undertaking canal blocking for the PHU a total of approximately IDR 14.4 billion (US\$1,034,762) can be generated in wages (see Appendix 8 in PDR for more details).

The significant difference between locations and communities in terms of peatland structure and depth, local capabilities, distance to markets, transport costs etc, are key criteria that need to be considered for facilitating a successful shift to peat-friendly livelihoods. In consideration of the site-specific nature of the alternative income generating activities, for each of the target villages, a "village profile" will be developed including an analysis of

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<sup>11</sup> E.g. patrolling conservation area boundaries, reporting on illegal logging and harvesting as well as land clearing and encroachment; blocking drains and canals, establishment of forest nurseries, forest rehabilitation and maintenance

potential peat-friendly income generating activities. The analysis will focus on on-farm peat-friendly crops and agricultural systems, poultry and livestock, and off-farm activities such as non-timber forest product (NTFP) collection such as gum from Jelutong (*Dyera costulata*), wild honey, mushrooms, reeds, rattan and fruits, to name a few. Also, further analysis will be undertaken to map-out green employment opportunities and capacity building needs for ground-truthing remote sensed data, canal blocking, tree seedling nursery establishment, forest rehabilitation, basket weaving, broom manufacture, and sewing etc.

In Indonesia women's role as agricultural producers is as important as their domestic activities. Their role in agricultural production is mostly focused on crop operations such as weeding, harvesting, threshing and storage, and on small livestock production, as well as, small-scale trading. Depending on the availability of time after women's household and farm work, women also get involved in paid-employment in agriculture or other sectors depending on the opportunities available. Generally women are not given equivalent access to land, credit or extension services. Restricted access to land has implications for access to credit as women are far less likely than men to have collateral for loans; although some survey results show that women often did not consider the limited access to land as a barrier because household decisions are generally made jointly. In meetings held in Riau province about the potential impact of a pulpwood plantation on forests and agricultural lands, men dominated the discussion, and of the women present, none were provided an opportunity to voice their opinions. A similar dynamic was observed during community discussions as well. There is however a nascent movement of women coming together to contest the destruction of peatlands and to demand action on haze pollution as many children are suffering from respiratory disease and early childhood mortality. This provides an opportunity for SMPEI to provide targeted support to empower these groups so that they may be more effective in advocating for sustainable peatland management (see B.2 below and Working Paper 7 for more details).

Considering IFAD's experience in working with smallholder farmers, an IFAD grant of US\$495,000 will support the development of sustainable peat-friendly livelihoods. Additional resources amounting to more than US\$10 million will be leveraged from the local government and private sector during the course of implementation for incentivizing smallholder farmers to shift to more peat-friendly livelihood activities (commitments have been made in principle).

The main objectives of the sub-component 3.2 are the following:

- To support communities in identifying and adopting livelihood activities that meet local development needs that are peat-friendly, comply with available government programs and policies, and integrate private companies' land use management plans such as community livelihood plantation.
- To provide technical services and knowledge management of livelihood options and facilitating community group formation, including women's self-help groups (SHG), for promotion of peat-friendly livelihood activities.
- To enable community groups working on livelihood activities to actively participate in multi-stakeholder partnership processes involving local government, private sector and communities, as well as, engaging in firefighting and advocacy for haze free villages.

This sub component will provide the following key activities in support of SMPEI:

The following key activities are supported by the IFAD funds of US\$495,000 and other co-financing (CF) of US\$1,635,000:

IFAD-funded activities (US\$495,000):

- *Development of models for sustainable on-farm and off-farm income generating activities for adoption by households in target villages:*
  - Socio-economic profiling of villages to identify income sources, poverty levels, constraints for livelihood development, community structure, organization and facilities
  - Documentation of impacts/conflicts (if any) with adjacent plantation or development activities as well as nature of cooperation/community development activities with plantation companies

- Identification of existing and planned development activities to be supported by funding from District, Ministry of Villages or other sources
  - Review of existing and potential livelihood activities related to sustainable peatland management
  - Models and demonstration plots/activities and site-specific economic and financial analyses for:
    - i) on-farm community options that synergize with peatland conservation and restoration strategies; and
    - ii) off-farm income generation focusing on creating green jobs related to peatland conservation and rehabilitation efforts, such as training in construction of canal blocks, seedling nursery management, repair of fire management equipment, and ground-truthing for hydrogeological mapping, as well as, handicraft production and ecotourism
- *Community-based producer organizations and business developed and capacitated:*
    - Develop value chain analyses of potential peat-friendly commodities linked with community on-farm and off-farm activities, and a strategy for community uptake of these commodities.
    - Form Common Interest Groups (CIGs) and Women's Self Help Groups (SHGs) for enabling access to conditional credit via a revolving fund capitalized by the government/private sector financing committed for SMPEI, and/or access to social forestry licenses (HKM and or HTR) (for more detail see sub-component 3.2 in the Project Design Report).
    - Training and business partnership facilitation with community-based producer organizations. The participation of these organizations in the SMPEI project's multi-stakeholder partnership platforms will be facilitated.
    - Produce knowledge products such as a web portal, videos, policy briefs, newsletters, guidebooks and scientific articles (the KM work will be complementary to that of the SMPEI).

Co-financed activities (US\$1,635,000)

- Technical support and guidance
- Capitalization of group revolving funds
- Provision of tools and other necessary inputs for enabling a shift to peat-friendly income generation activities, and fire prevention and fighting equipment
- Small-scale infrastructure works such as community meeting halls, livestock sheds, collection points for agriculture and other produce, minor access roads and culverts, improved or new market centers etc.
- Support to reforestation of social forestry plots

*Global Environmental Benefits*

**GHG emission reductions:** The Project will contribute to significant reductions in GHG emissions from targeted peatlands, through enhanced water management within the hydrological unit and adoption of integrated fire management. According to estimates of carbon emissions from drained peatlands, if a 10% reduction of drained area could be achieved in Riau province, a reduction of CO<sub>2</sub> emissions between 10-57 million tons annually could be achieved. Currently, the emissions from the degradation of peatlands in Indonesia are estimated to be around 1.5 - 2 billion tons annually due to drainage of peatlands and decomposition of peat as well as from peatland fires. This constitutes a significant percentage of Indonesia's annual GHG emissions and contributes to mark Indonesia as the third largest GHG emitter following China and the USA. In 2009, the Indonesian government pledged to reduce its emissions by 26 percent below the business-as-usual levels by 2020, and as much as 41 percent, if international funding support was forthcoming. The SMPEI will help the country achieve such targets by mitigating between 8-14 million tons of CO<sub>2e</sub> through improved peatland management as shown in table below:

<b>Estimated avoided emissions from</b>	<b>Lower Estimate (tCO<sub>2</sub>)</b>	<b>Higher Estimate (tCO<sub>2</sub>)</b>
1. Drained/rewettered soil (Value a)	6,151,600	9,519,000
2. Reduced Fire (Value b)	409,480	818,960

3. Avoided Deforestation (Value c)	1,835,000	3,670,000
Total (a+b+c)	8,396,080	14,007,960

This means at least 30% of reduction in the area burned in the target site compared to the baseline in 2014-15. Further details of GHG emission reduction benefit assessment are provided in Appendix 7 of the PDR.

**Land Degradation and Sustainable Forest Management:** The key global environmental benefits will arise from the protection, rehabilitation, and sustainable management of key peatland forests which play a critical role in the economy and ecology by providing timber and non-timber products, regulating water supply and flood control, supporting livelihoods of community groups living in and adjacent to the peatlands. There are various rare flora under threat and many yet to be discovered. The project will contribute to integrated sustainable management of 1,000,000 ha of peatlands in Indonesia including at least 600,000 ha of peatlands in Riau under an integrated peatland management regime. This will contribute to achieving the GEF global targets of 120 million hectares under sustainable land management and 300 million hectares under improved management of landscapes and seascapes.

The project will also generate other global environmental benefits. The tropical peat swamp forests of Indonesia feature some of the highest freshwater biodiversity of any habitat in the world and are home to the largest remaining populations of orangutan (*Pongo abelii*), among other fauna. The targeted Project site of SKI-PHU supports global significant biodiversity including Tiger (*Panthera tigris sumatrensis*), Sun Bear (*Helarctos malayanus*), False Gharial, (*Tomistoma schlegelii*) and Storms Stork (*Ciconia stormii*). Preventing the degradation of peatlands and encouraging rehabilitation, conserving globally important biodiversity, and taking action to promote sustainable land and forest management will contribute towards the fulfillment of Indonesia’s obligations under the CBD (Aichi targets).

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

Risks have been identified and corresponding mitigation measures have been proposed as shown in Table 2 below:

**Table 2**

Risk	Risk Level	Mitigation Measures
<b>Weak enforcement of policies and regulations related to peatland management</b>	Moderate	<ul style="list-style-type: none"> <li>• Awareness-raising on the impact of peatland degradation</li> <li>• Awareness-raising amongst the key departments and stakeholders of the new peatland regulations</li> <li>• 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-stakeholders</li> <li>• Creation of new peatland restoration agency on 6 January 2016 with a target to restore 2 million ha of peatland by 2020 is a sign of the government’s strong commitment</li> </ul>
<b>Lack of political will or poor governance</b>	Low	<ul style="list-style-type: none"> <li>• Linking project activities closely with national policies and regulations and addressing issues prioritized by the country/province</li> <li>• The risk is low because strong political will has been exhibited by the current President and his respective Ministers particularly following the large scale fires and haze associated with the 2015-16 El Nino event. Actions taken include suspension and cancellation of</li> </ul>

		licenses of companies found burning land, freezing of further development for peatlands even for existing license holders; allocation of funds for peatland rewetting and rehabilitation etc.
<b>Potentially slow implementation of multi-stakeholder integrated management strategies</b>	Moderate	<ul style="list-style-type: none"> <li>Careful selection of project partners (this will include local government agencies with demonstrated commitment to addressing peatland issues) and through close monitoring and guidance of project activities. The requirement for integrated management of peatlands is mandated in the national peatland regulation (PP71/2014) and this will support the proposed implementation of the integrated management strategies through the project.</li> </ul>
<b>Private Companies collaborating with SMPEI engage in activities in violation of policies and laws relating to the protection and management of Peatland Ecosystems in Indonesia</b>	High	<ul style="list-style-type: none"> <li>During the IFAD's due-diligence process to formalize partnership with private sector entities, a risk alert was flagged by a third party risk assessment provider. It was pointed out that some of the identified co-financiers had been involved in land clearance using fire and their licenses were suspended. SMPEI therefore will not seek direct co-financing from the private sector for implementation of the project, and any private sector funds will be channelled directly to communities.</li> <li>IFAD and the UN however recognizes the importance of working with private companies to facilitate improved business practices, corporate governance, and implementation of national and local regulations. To encourage such good practices, SMPEI will conduct a risk assessment at project start-up on potential collaboration with private companies in consultation with key stakeholders. During the assessment the following will be defined: nature of risks, how often the identified risks will be reviewed, the process for review and who will be involved; who will be responsible for which aspects of risk management; and how the status of the risks will be reported and to whom. Any private companies engaging in the SMPEI multistakeholder platforms will be requested to participate in a grievance mechanism. This grievance mechanism will ensure that community members and project affiliates have a safe means of reporting to Government and IFAD any incidents or concerns about working with the private companies.</li> </ul>
<b>Climate change risk, including intensification of the periodic El Niño droughts which are a key root cause of extensive peatland fires. There is a possibility that an El Niño drought will occur at some time during implementation of the Project; this could affect some project achievements.</b>	Moderate	<ul style="list-style-type: none"> <li>Fire prevention by sustainable peatland management and community stewardship, combined with better drought prediction and fire prevention measures.</li> <li>Focus on enhancing resilience of peatlands to future climate change scenarios.</li> <li>The project will work closely with the Agency for Meteorological, Climatological and Geophysics (BMKG) of Indonesia to detect any early warning signs of El Niño and use the information to adjust the</li> </ul>

		planning of activities, especially in the fire-prone regions, to minimize disruption.
<b>Reputational risk, including being drawn into politically and socially sensitive issues</b>	Moderate	<ul style="list-style-type: none"> <li>• Focus on rehabilitation of abandoned peatlands and best management practices adopted in existing plantations. The project will not engage with illegal new plantations and inform the appropriate authorities if such are identified.</li> <li>• Conduct extensive risk assessment through the consultation of diverse stakeholder at the start-up. A written agreement outlining the areas of partnership will also be prepared among IFAD, the government of Indonesia and private sectors.</li> </ul>
<b>Increasing demand for industrial and biofuel sectors (including pulp and paper, timber, palm oil) in the global market</b>	Moderate	<ul style="list-style-type: none"> <li>• Enforcement of peatland-related policies and regulations to ensure commodities produced are done in a sustainable manner. Establish links with key players in the commodity sector to mainstream peatland protection and management requirements.</li> </ul>
<b>Poor level of engagement and support by local communities</b>	Moderate	<ul style="list-style-type: none"> <li>• Active engagement with local communities, village facilitators and sub-district technical facilitators. Support for livelihood from sustainable peatland management. Facilitation support from government agencies through District Coordinators. Provision of incentives for leveraging behavioural change.</li> </ul>

#### A.7. Coordination with other relevant GEF financed initiatives

The SMPEI will be coordinated with other relevant GEF Financed initiatives as follows:

- a) **The RIMBA Project (GEF 5 – UNEP-WWF)** is expected to start implementation in 2016 and includes a component on community based peatland management and rehabilitation in the Berbak National Park in Jambi Province, Sumatra as part of the establishment of an ecological corridor. There is no overlap between the target areas in these projects. Experiences and lessons learned will be shared.
- b) **Integrated Management of Peatland Landscapes in Indonesia (IMPLI) (GEF6 –IFAD)** This project has been conceptualized as program support for sustainable peatland management in Indonesia to complement and scale-up the current SMPEI project and is currently under discussion with GEF Secretariat. While SMPEI focuses on the following - i) building capacities of relevant national agencies to obtain technical skills, ii) rationalizing peatland-related national budgets, iii) enhancing fire prevention methodologies and systems, and iv) showcasing integrated peatland management through the Sungai Kampar-Sungai Indragiri PHU - IMPLI will focus on - i) utilizing enhanced capacities developed under SMPEI for scaling up implementation of PP71 at national level, ii) increasing national budgetary allocations for sustainable peatland management, iii) scaling up integrated peatland management in northern Riau province (i.e. Giam Siak Kecil Peatland Landscape), and iv) establishing partnership frameworks and dissemination of best practice for improved management of protected peatland ecosystem areas/reserves.

In addition the project will coordinate with other ongoing/planned GEF-supported activities including:

- c) **The Strengthening Community Access Reform (SCAR)**, a pipeline project for GEF 6, is 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 experience on community-based peatland management under SMPEI.

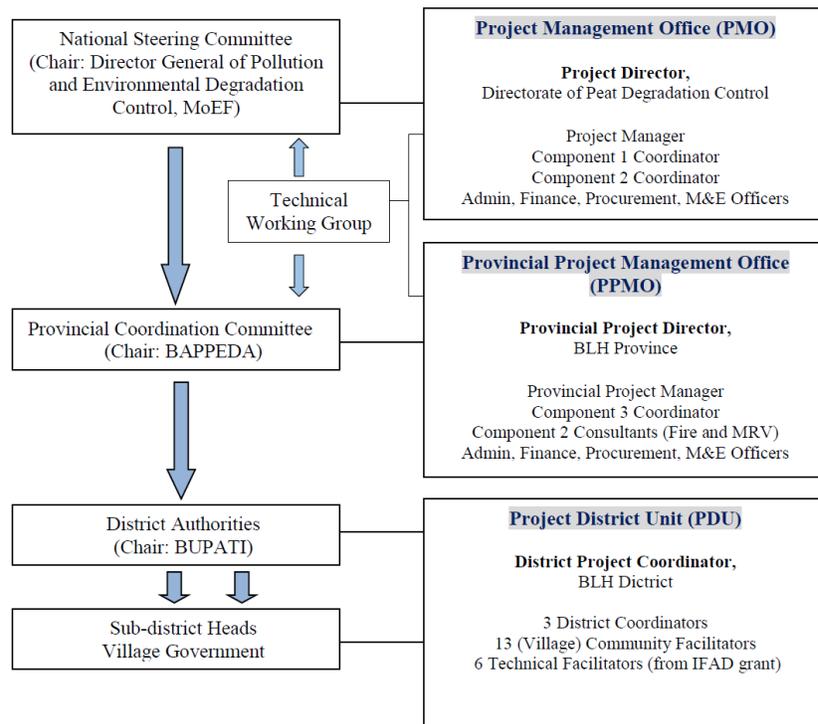
- d) **The GEF6 financed Integrated Approach Pilot (IAP)** on Taking Deforestation out of the Commodity Supply Chain identifies palm oil as one of the commodities to be reckoned with. The IAP Program Framework (PFD) document identifies the existing stakeholder dialogue around commodity issues – ex. PISAGRO in Indonesia which is an industry-led initiative and Indonesia Palm Oil Platform (IPOP) - which is a government-led multi-stake holder initiative- as an instrument to design and deliver assistance to smallholders. 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 access to finance and markets by the Indonesian Oil Palm industry. While the IAP provides a larger scale effort for sustainable palm oil in all land types, SMPEI focuses on peatlands. Thus, lessons learned from SMPEI can be fed into the IAP for replication of participatory approaches for landscape level management of oil palm plantations within a mosaic of other land uses.

**B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:**

**B.1 Describe how the stakeholders will be engaged in project implementation.**

Project implementation and management structure

SMPEI will be implemented through a cross-institutional and sectoral partnership involving central, provincial and district government institutions, as well as, private sector, and communities. The Ministry of Environment and Forestry (MoEF) will be the implementing agency of the GEF grant and will delegate implementation responsibilities to the different levels. The Project Management Office (PMO) will be located in MoEF, and will be headed by a high-level National Project Director and supported by a National Project Manager fully versed in peatland management issues. The implementation of the IFAD country grant (for Output 3.2) will be fully integrated with the overall project management of the GEF grant. The Annual Work Plan and Budgets for both the SMPEI and IFAD grant will be harmonized at the provincial level and approved by the National Steering Committee (NSC). The following figure shows the proposed project implementation and management structure:



National level: The overall guidance, advice and coordination will be done through the National Steering Committee (NSC), which will be created by a Ministerial decree to ensure that all relevant sectors and Chairperson of the Provincial Coordination Committee (PCC) are represented in the NSC. The NSC will be chaired by the Director General of Pollution

and Environmental Degradation Control, MoEF. The NSC will oversee the overall project implementation and coordination through an annual planning meeting and an annual progress review meeting. The NSC will be supported by a Technical Working Group (TWG) chaired by the Director of Peat Degradation Control. The NSC planning meeting will provide technical input, guidance and approval of the project's annual work plan and budget (AWPB) developed by PMO, and the review meeting will focus on the project progress review and guidance on follow-up actions. The overall results of the NSC meetings will be communicated to the Provincial Coordination Committee (PCC) through the PMO, and a summary will be provided by the Chair of the PCC. The NSC will also serve as the forum for policy dialogue and for advocating best practice emanating from the community and provincial levels.

Provincial level: Work at the provincial level will be overseen by the Provincial Coordination Committee (PCC), which will be established by a Decree of the Riau Governor. The PCC will be chaired by the head of the provincial planning agency (BAPPEDA) and meet twice per year respectively for planning and implementation progress review purposes. The PCC will provide technical input, guidance, as well as, approve the SMPEI Component 2 and 3 activities for inclusion in the AWPB. A Provincial Project Management Office (PPMO) will be established to support the implementation of provincial and district level activities and will support the development of the AWPB for PCC consideration. The national level TWG will also provide guidance to the PCC, especially with regard to policy dialogue and scaling up good practice.

The Project Management Office (PMO) will be responsible for timely delivery and cost-effective implementation of all activities of the SMPEI, and will have sole implementation responsibility for Component 1. The PMO will delegate responsibilities to execute and report on provincial-level activities (particularly Component 2 and 3) to the PPMO and also, provide overall supervision, implementation guidance, and financial and operational management support to the PPMO. The PMO will consolidate documents combining provincial-level documents prepared by PPMO with those of the national level, such as, AWPB, annual progress reports, withdrawal applications (WA), annual financial statements, audit reports, and other reports/documents required by IFAD and the government.

The PMO will undertake a training needs assessment and prepare a human resources development plan in PY1, recruit community facilitators in coordination with PPMO, manage procurement of consultancy contracts etc. and evaluate the performance of the consultants and NGOs, and establish and supervise the M&E including GEF reporting. The PMO will also be responsible for coordinating the IFAD supervision and implementation support missions, facilitating effective inter-agency coordination, prepare and disseminate knowledge management products and media materials, and put in place and monitor the grievance mechanism.

In Riau province, the PPMO will be headed by a Provincial Project Director who will be the head of the Provincial Environment Agency (BLH)<sup>12</sup>. The PPMO will work under the guidance of PCC and the overall direction of NSC through the PMO. The PPMO will be responsible for the following: i) consolidating the districts' AWPBs and preparing the provincial AWPBs (P-AWPB), including inclusion of IFAD grant financed activities, and submit the P-AWPB to the PMO in a timely manner; ii) supervise, monitor and evaluate the district and provincial project activities and manage M&E; iii) manage the recruitment of community facilitators with assistance from the PMO; iv) consolidate the district reports and prepare the provincial semi-annual and annual progress reports for submission to PMO in a timely manner; v) consolidate the district financial reports, records and accounts for provincial expenditures and prepare the quarterly financial reports for submission to the PMO; vi) provide training needs assessment to PMO; vii) produce knowledge management products and media materials; viii) assist in organizing meetings for sharing project experiences at the provincial level for scaling-up; ix) support IFAD implementation and supervision missions; and x) facilitate coordination among district coordinators by holding regular meetings.

At the district level three Project District Units (PDU) will be established manned respectively by a District Coordinator, village community facilitators and technical facilitators. The District Coordinators (one per district) will work under the direct supervision of the Provincial Project Manager and in close collaboration with Component 2 and Component 3 Coordinators at PPMO. The District Coordinators will be responsible for the overall project implementation at the district level, including: i) refining the selection of the target communities based on the agreed criteria; ii) manage all project activities implemented at the village and district levels such as development of Community-Based Fire Management

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<sup>12</sup> The recently established Peatland Restoration Agency is anticipated to have an office in Riau and will play a strategic role in the project implementation. this will be clarified before the start of the project or in the inception period

(CBFiMs) plans etc.; iii) receive village plans and activity proposals from community facilitators working on target villages and consolidate them as the district work plans and budgets for submission to PPMO for review and approval; iv) operate the M&E systems, and prepare semi-annual and annual progress reports for submission to the PPMO; (v) ensure that technical guidance and implementation support are provided to all target villages; (vi) coordinate all the activities of the service providers; (vii) quality assurance of training of community facilitators and carry out annual evaluation; (viii) assist in organizing meetings of the PPMO and keep accurate records of the minutes of meetings; (ix) establish consultation process and operationalize IFAD's grievance redress mechanism.

Combined project management modality between GEF-5 (SMPEI) and GEF-6 (IMPLI) projects: The same National Steering Committee and Provincial Steering Committee (of Riau), supported by the same Technical Working Group, will oversee both GEF-5 and GEF-6 Indonesia projects. At national level, the same PMU including the same Project Coordinator and Project Manager will implement both GEF projects. At provincial level, the same PPMU including the same Provincial Project Coordinator and Provincial Project Manager will be responsible for project implementation. The expected additional project management needs under GEF6 are the following although this will be refined during the GEF6 design process: i) an additional Project District Unit (for the new project target areas added under the GEF-6 project) created and operated by GEF-6 grants; ii) additional staff (particularly for M&E, KM, financial management and admin support) recruited at the PMU and PPMU levels under GEF-6; and iii) project management costs taken over by the GEF-6 project once the GEF-5 project is completed.

Stakeholder engagement

The main stakeholders (government and non-government institutions) engaged in the area of peatland management and their envisaged roles are summarized in the Table 3 below [updated from the PIF]:

**Table 3**

<b>The main stakeholders</b>	<b>Envisaged roles</b>
Ministry of Environment and Forestry (MOEF)	Lead national Ministry for management and conservation of peatlands, GHG emission reduction and fire prevention and control; leading project implementation and coordination at national level as well as overseeing refinement of the national regulations on peatlands and their implementation. MOEF was established in October 2014 through the merger of the Ministry of Forestry and Ministry of the Environment. Its creation has led to significantly increased allocation of personnel to work on peatland management through the newly created Peatland Directorate. It has also led to an enhanced and integrated approach to fire management with balanced emphasis on fire prevention and control for land and forest fires (compared to the earlier focus mainly on fire control in conservation areas). MOEF will provide the overall leadership of the project and directly lead components 1 and 2.
Ministry of Agriculture, Ministry of Public Works, Ministry of Home Affairs	Supporting the project implementation and coordination, including responsibility for the documentation and promotion of best management practices  Participating in the coordination of peatland related policies, strategies and national workplans and the endorsement of related key decisions through the National Steering Committee.

Peatland Restoration Agency (PRA)	New agency established on 6 January 2016 under the office of the president to coordinate the rewetting and rehabilitation of peatlands with a target of 2 million ha of rewetting by 2020. This agency will work in partnership with MOEF and provincial governments to lead blocking of drainage canals and rewetting of peatlands to reduce peatland fire risk. Initial priority provinces are Central Kalimantan and South Sumatra which was severely impacted by the El Niño linked fires in July-November 2015. It is expected to be a key partner in project implementation especially at the provincial level
Riau Provincial government	Leading project implementation at the provincial level including facilitation of work at district level and supporting work for fire prevention in peatlands province-wide.
District governments of Indragiri Hilir, Indragiri Hulu and Pelalawan	Facilitating development and implementation of plans for integrated management of the targeted SKI-PHU at the district level and for guiding fire prevention and control at district, sub-district and village level.
Local communities including subgroups such as farmers, women and youth	Key participants in the implementation of the project activities at village and local levels. Project implementation in pilot sites
Private sector	<p>Private sector partners include forest plantation companies such as Sinar Mas Forestry/APP, and Riau Andalan Pulp and Paper (APRIL Group) which have extensive plantations in SKI-PHU and oil palm plantation companies such as Sime Darby Plantations.</p> <p>The companies will support the promotion of integrated management of peatland areas and establishment of multi-stakeholder partnerships for peatland management. They will also support fire prevention and assistance to local communities to implement zero-burning land preparation and adoption of good management practices for peat and water management.</p>
CSOs	<p>Facilitating the engagement of local communities and development of fire/haze-free villages. Facilitating partnerships and links between community, private sector and local government.</p> <p>Scaling up actions at pilot sites.</p> <p>CSOs include Mitra Insani Foundation, Jikalahari (Riau Forest Protection Network). ARPAK (Aliansi Rakyat Pengelola Gambut) and community based organizations such as village fire prevention and control organizations.</p>
Global Environment Centre	Technical and operational support partner of the ASEAN Programme on Sustainable Management of Peatland Ecosystems. It will coordinate a consortium of experts that will provide strategic support to the project.
CIFOR	The Center for International Forestry Research is based in Bogor, Indonesia. They have entered into a grant agreement with IFAD to implement Sub-Component 3.2
Roundtable on Sustainable Palm Oil (RSPO)	Encouraging the active participation of the RSPO member companies in the project activities and providing tools and guidance for GHG emission reduction through the RSPO Emission Reduction Working Group.

Research institutions and universities	<p>Input and technical support for the national and provincial level activities, Technical support and backstopping to the local agencies and assisting in monitoring, reporting and evaluation.</p> <p>Research institutions will include CIFOR that will implement Sub-component 3.2 as well as other research institutions that will be involved in Component 1 such as the Bogor Agricultural University, University of Riau, ICRAF, Tanjung Pura University, Palangkaraya University, and Forestry Research Agency.</p>
Development cooperation partners and international NGOs.	<p>Key development cooperation partners such as World Bank, ADB, FAO, UNDP, UNEP, GIZ, IUCN, and Wetlands International will be engaged during project implementation for policy discussions, development of GHG emission reduction methodologies and other policy and institutional reform processes.</p>

The stakeholder engagement strategy of SMPEI includes the four following aspects:

- 1) Capacity building – The target stakeholders for capacity development are: local communities; NGOs and community organizations; staff of the new peatland directorate; staff of new sections in the MOEF dealing with peatlands; members of national and provincial steering committees and working groups; staff of other government agencies related to peatlands including Ministries of Agriculture, Public Works, Home Affairs, Health, provincial and district governments etc.; research institutes; and private sector. The Technical Working Group will be the primary body providing technical advice and training, including development of training materials.
- 2) Policy dialogue and peatland programme progress review platform - At national and provincial levels, a National Steering Committee (NSC) and a Provincial Coordination Committee (PCC) will function as the stakeholder engagement platforms facilitating linkages with related projects and programs. Private sector, provincial decision makers, community facilitators, community group representatives will participate in NSC to discuss key peatland management policies and regulations, review progresses of various projects and develop annual work plans for SMPEI. At regional level, as there are several other projects and programs related to peatlands, it is also important for the project to interact with them and facilitate information flows among them. The project will link with many of them through the framework of the ASEAN Programme on Sustainable Management of Peatland Ecosystems 2014-2020 (APSMPE), which will facilitate linkages and exchange between different projects, programs and stakeholders working on peatland in the ASEAN region. At international level, links will be established with international organizations such as the International Mire Conservation Group (IMCG), Scientific and Technical Review Panel of the Ramsar Convention, IUCN, Wetlands International, ICRAF and CIFOR.
- 3) Community working group formation – for community-driven peatland management, community groups (CIGs and SHGs) will be formed and supported by SMPEI community facilitators. Community groups will have three functions of peatland rehabilitation and monitoring, fire prevention/suppression and livelihood development. Community facilitators in close collaboration with district authorities and technical service providers will facilitate community groups’ needs assessment, provision of technical services, linkages to village development fund, value chain development, green jobs for peatland management, best management practices, off-farm income generation, etc. The main responsibilities of village community facilitators are to explain project activities, organize and facilitate village meetings, prioritize project activities, organize trainings in collaboration with technical facilitators (recruited through CIFOR), facilitate implementation of project interventions, and monitor financial management of community working group funds.
- 4) Public-Private Partnership – Subsequent to undertaking a risk assessment, the project will engage with the private sector plantation companies that operate more than 4 million ha of oil palm and pulp and paper plantations in peatlands in Indonesia. These companies will need to comply with the requirements under the new peatland regulation (PP71) as well as requirements for fire prevention and control. The project will support the government in effectively engaging with the private sector and enhancing the implementation of the regulations. In addition, in the 800,000 ha targeted project site of Sg Kampar Indragiri Peatland Hydrological Unit (SKIPHU) there are an estimated 12 companies operating industrial tree plantations, 20 companies operating oil palm plantations and one company operating a large coconut plantation. The project

will help facilitate the engagement of these companies in the development and implementation of the Integrated Management Plan for the SKIPHU. Companies will also be guided to enhance their management practices to reduce subsidence, fire and GHG emission as well as maintain and enhance natural forest areas within their concessions.

B.2 Describe the socio-economic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

The project will support at least 20,000 beneficiaries (at least 50% women) to be made less vulnerable to climate change and benefiting from reduced risk of peatland degradation and fires. During the socio-economic profiling of villages special attention will be paid to identifying the specific challenges faced by women with regard to livelihoods and specific activities will be designed for addressing those challenges. At least 1,000 direct beneficiary households will benefit from enhanced income from sustainable livelihoods options. An estimated 10,000 beneficiaries will have opportunity to engage in 3 large-scale and a number of small-scale demonstration plots for learning approaches and techniques for adopting peat-friendly livelihood options. Furthermore, households will benefit from access to two models of credit schemes developed in support of on-farm or off-farm livelihood activities, and a number of green jobs associated with sustainable peatland management will be generated.

Special emphasis is being placed by the project on engaging women in sustainable peatland management activities. There is a nascent women's movement of vocal defenders of peatlands who also have been actively involved in conservation, rehabilitation and advocacy activities. As such, the project seeks to socially and economically empower women through the formation of SHGs for pursuing peat-friendly income generation activities as a means for strengthening their voice. Once the SHGs are fully established and functioning, the project will provide training and materials on sustainable peatland management to the SHGs for enhancing their advocacy efforts. It will be mandatory for the multistakeholder partnership forums to engage women in the decision making process so that their needs and concerns are effectively addressed (See Working Paper 7. Framework to mainstream gender and empower women).

More extensive benefits are envisaged for the communities at large through increases in both public and private financing for community development, better health outcomes through the reduction of child mortality rates due to exposure to smoke inhalation and associated respiratory and eye diseases, and greater resilience to climate change impacts.

Without putting in place alternative livelihood options, and provision of necessary training and financial support, leveraging behavioral change at the community level will not be possible. The above incentives are key for achieving targeted CO<sub>2</sub> reductions, improved land and water management, and protection of peatland ecosystems and biodiversity.

The enhancement of normative frameworks, implementation capacity, fire management approaches and tools, and resource rationalization will enable a more robust framework to be established at the national level for addressing sustainable peatland management and reduction of haze. This will strengthen the national level to effectively implement sustainable peatland management regulations and procedures for facilitating the reduction of fires and haze over the longer term.

B.3. Explain how cost-effectiveness is reflected in the project design:

The vast size of peatlands and intensifying peat fires in Indonesia require a more holistic response that focuses on fire prevention rather than suppression. To facilitate this paradigm shift a core set of activities need to be financed for supporting the enhancement of the normative frameworks that govern peatlands and to strengthen capacities at all levels for sustainable peatland management. One of the key underlying objectives is to rationalize the use of scarce national, external, and private sector resources for meeting the challenge of peatland degradation and fires. In this regard, GEF financing is supporting this core set of activities with a view to achieving a cost-effective and long-term solution to alleviating peatland degradation and fires. As mentioned earlier, the socio-economic costs are significant with increasing child mortality, respiratory and eye diseases, and massive economic losses such as that experienced during the 1997/98 haze crisis, amounting to an estimated loss of US\$ 9 billion across Southeast Asia. It is anticipated that the 2015/16 haze crisis is going to be socio-economically even more harmful than the 1997/98 crisis. In this regard, the

GEF financing is catalytic for strengthening the enabling policy, regulatory, institutional, and implementation capacity and environment to achieve a cost-effective response to meeting the challenge of making a shift to sustainable peatland management at the landscape level.

To ensure cost effectiveness of GEF-funded activities, it is important to analyze the gaps of knowledge and barriers to successful peatland management and provide services in a strategic way linking policy and regulations with actions needed on the ground. This allows for building a synergistic response that brings the key actors under an integrated peatland management framework designed to sustainably manage the PHU. This framework enables the pooling of human, financial, and equipment assets of government, private sector and local communities in an efficient manner. The baseline approach would have been to work along sectoral lines with overlap of departmental responsibilities and a continued focus on fire suppression leading to large-scale resource inefficiencies. As a means to improve cost-effectiveness and resource use efficiencies, SMPEI incorporates several functions under a single project activity. Examples of cost-effectiveness measures include the following: i) the National Steering Committee and Provincial Steering Committee function as both project oversight mechanism and also, as the policy dialogue platform that brings together key stakeholders; ii) the Technical Working Group will provide technical advisory services for guiding the enhancement of normative frameworks, development of training programs, and overseeing the deployment of integrated actions on the ground; iii) community groups organized around both livelihoods improvement and fire prevention; iv) reorienting the public and private fire management budgets from suppression towards fire prevention; and v) low-cost and small-scale structural measures (canal blocking) for increasing the water level. Furthermore, knowledge management is a key element of this project that will enable the exchange of best practice among the different state and non-state actors, as well as, among development cooperation partners. Through the sharing of best practice the SMPEI will enable improved peatland management not only in Indonesia but also, in the Southeast Asia region as a whole through the ASEAN Peatland mechanisms.

### **C. DESCRIBE THE BUDGETED M&E PLAN:**

The PMO will establish a Monitoring and Evaluation (M&E) and information management system, satisfactory to IFAD, within six months of project effectiveness. The M&E system will be connected to all levels and will track the effects/impacts of project investments on all project beneficiaries, key stakeholders, and ecosystem services. The M&E system will include the reporting requirements of the Government of Indonesia, IFAD and GEF, including GEF tracking tools and financial and physical reporting. The M&E system will include a key set of indicators – derived from the logical framework – and assessed against baseline data for facilitating adaptive project management, monitoring achievement of targets, and identification of best practice for informing policy dialogue and scaling up. The project's M&E activities will include the following: (i) annual participatory monitoring and evaluation by the beneficiaries; (ii) routine reporting by the PMO to the government and IFAD; and (iii) surveys, impact evaluations and reviews.

The PMO will carry out a baseline survey in PY1 with assistance from a qualified consulting firm. The baseline will include all logframe indicators. The baseline survey will also include relevant indicators from IFAD's Results Information Management System (RIMS), and will disaggregate data by gender, age, and ethnic group. The results and methodology used in the baseline study will provide important reference points for the mid-term outcome survey and the project completion impact survey.

Participatory Monitoring and Evaluation. The community groups will monitor project activities at community and household levels through monthly meetings of community groups. The community groups, with assistance from the Community and Technical Facilitators, will conduct periodic M&E of project activities. Members of community groups responsible in conducting monitoring will receive training in participatory M&E methods and tools and will be provided with simple templates for data collection and reporting. Using the agreed participatory M&E templates, the community groups will collect information on the progress of activity implementation, problems met, and follow-up activity. The Community Facilitators will consolidate monitoring reports from the community groups and submit to the PDU biannually.

The AWPB will form the basis for assessing progress at activity level. Each executing entity will be responsible for reporting on a quarterly basis on their specific planned activities under the AWPB. Output delivery will be closely monitored against established annual targets, and will be analyzed both quantitatively and qualitatively. The logical

framework contains a core set of indicators harmonized with GEF focal area indicators. The indicators are defined in such a way that the data can be collected easily and does not require separate activities or special effort.

In terms of impact/outcome monitoring, the project team would assess at the outcome and impact levels, using both quantitative and qualitative methods. The quantitative indicators are specified in the Logframe. Outcome-level evaluation will be conducted from mid-project implementation against the baseline, and impact-level evaluation will be undertaken at project closure.

The overall coordination and management of the M&E system is the responsibility of the M&E team under the PMO which will also provide guidance to the provincial and district M&E Teams to ensure that the M&E functions effectively and remains operational. The M&E Officers from all levels will meet quarterly during the project Coordination and Consolidation Meetings to report on the progress of their work, including constraints and possible solutions.

### Project Reporting, Reviews and Studies

All agencies implementing projects funded by the government and or donors are required to submit monthly and quarterly reports to the government. However, the formats of the reports required by the government and donors are not similar, creating difficulties in preparing project reports to the project implementing units. To minimize these difficulties, the two reporting formats and the project databases need be synchronized as much as possible, with the government reporting formats given priority whenever possible. This will reduce the time needed to assemble and tabulate information and avoid duplication of effort. The project reports will cover the status of project expenditures, by project component and category of expenditure, and include comparisons with the AWPB and appraisal targets. The financial and physical information will also be reconciled on cumulative basis.

PPMO will develop and maintain a unified project database to include information about all project activities at the village, district and provincial levels such as number of CBFiMs developed, number of canal blocks installed and water level, area rehabilitated, number of fires suppressed etc.. In addition to this, household and project related gender disaggregated data will also be collected such as on the number of persons trained, and households supported for transitioning to sustainable farming. The database will be updated quarterly and the updated data submitted to the PMO. The provincial M&E Team will consolidate and analyze the village and district data when preparing their progress reports in compliance with the Government and IFAD reporting requirements. The M&E officer of PPMO will submit the progress reports to the PMO following an agreed upon reporting schedule. The PMO which will maintain a master project database.

The province will prepare biannual provincial progress reports that evaluate the progress of project activities at village, district and provincial levels, and identify any major issues that require course corrections. Also, they will report on activities being implemented by any collaborating agencies or other partner institutions as a means for building synergy. The reports will follow the Government and IFAD reporting templates and requirements.

National Reporting. The PMO will consolidate the provincial reports and district reports include national level activities and provide an overall assessment of the project and report to the Government and IFAD in line with the agreed reporting formats and schedule. The PMO will submit bi-annual progress reports respectively by 31st July and the annual progress reports by 31st January each year. The reports will be analytical and follow the prescribed formats required by the Government. The report will include an analysis of the core set of indicators being monitored. The PMO will submit a mid-year and year-end report to IFAD, if necessary, with enhancements to the Government template.

Financial reports will be prepared every three months. The PMO will prepare consolidated financial statements of the operations, resources and expenditures related to the project in respect of each Fiscal Year for submission to IFAD within three months of the year end.

Annual Results, Impact and Monitoring Surveys. Beneficiary surveys will be implemented annually under supervision of the PMO. The PMO will prepare an annual report for IFAD using the agreed project indicators at output and outcome levels. The measurement of the impact level indicators (pertaining to the MDGs) will form part of the baseline, mid-term and project completion surveys and undertaken by the PMO, with the assistance from a consulting firm.

Mid-Term Review (MTR). IFAD and the Government will recruit an independent evaluation team to carry out a MTR in PY 3. The MTR will review the project's achievements, outputs, outcomes, impacts, and constraints in implementation. The MTR will assess the following: (i) status of development and performance of the project assisted

groups; (ii) project achievements, outputs, outcomes, and initial impact; (iii) performance of Community and Technical Facilitators, and service providers, including the TWG; (iv) performance of the PMO, PPMO, and PDU staff; (v) lessons learned from the project and its contribution to poverty reduction and improved ecosystem services; and (vi) recommendations for implementation improvements.

Project Completion Review (PCR) and Impact Study. The PMO with assistance from a consulting firm will conduct a Project Completion Review at the end of PY 5. This review will assess project activities, outputs and outcomes against the stated objectives. The PCR will include the findings from the final Impact Study conducted in PY 5 and lessons learned. The draft report will be discussed by the government and IFAD and the final PCR Report will be submitted to IFAD for submission to GEF Secretariat.

<b>M&amp;E ACTIVITY</b>	<b>RESPONSIBILITY</b>	<b>BUDGET (GEF financed) US\$</b>	<b>TIMEFRAME</b>
Inception workshop	MOEF, PMO, IFAD	10,000	Q1 of project start-up
Baseline survey	PMO, IFAD	50,000	Q1 of project start-up
Implementation supervision and steering committee meeting	NSC, PMO, IFAD		Annually
Progress reports	PMO		Bi-annually
Mid-Term Review (MTR)	MOEF, PMO, IFAD	30,000	PY3
Project Completion Review (PCR)	MOEF, PMO, IFAD	30,000	PY5
Impact Study	MOEF, PMO, IFAD	20,000	PY5

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

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):**  
 (Please attach the Operational Focal Point endorsement letter(s) with this form. For SGP, use this OPF endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mr. Dana A. Kartakusuma	GEF Focal Point	Ministry of Environment	03/06/2014

**B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Perin Saint Ange, Associate Vice- President, Programme Management Department, IFAD		10 May 2015	Roshan Cooke	+39 06 5459 2156	ro.cooke@ifad.org

**ANNEX A: PROJECT RESULTS FRAMEWORK** (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
<i>Goal:</i>			
The overall goal of the project is to <b>enhance sustainable peatland management and reduce GHG emissions from target peatland areas</b>	<ul style="list-style-type: none"> <li>▪ 1 million ha of peatland in Indonesia zoned for integrated sustainable management</li> <li>▪ At least 8 million tons of CO<sub>2</sub>e mitigated</li> </ul>	<ul style="list-style-type: none"> <li>▪ National report by MoEF</li> <li>▪ National and provincial MRV reports</li> <li>▪ Project technical reports</li> </ul>	A: No significant climatic or economic shocks
<i>Project Development Objective:</i>			
The objective of this project is to <b>sustainably manage peatlands at a landscape level for improving local livelihoods and reducing peat fire and GHG emission.</b>	<ul style="list-style-type: none"> <li>▪ At least 30% reduction in the area burned compared to the baseline in 2014-15 in target site</li> <li>▪ 20,000 beneficiaries (at least 50% women) made less vulnerable to exposure to peatland degradation and fires</li> <li>▪ At least 600,000 ha of peatlands in Riau under integrated peatland management regime</li> </ul>	<ul style="list-style-type: none"> <li>▪ Project technical reports</li> <li>▪ National and provincial MRV reports</li> </ul>	A: Government finding balance between enforcement of regulations and working in partnership with private sector and communities
<b>Component 1 Capacity building and institutional strengthening for implementation of policies and regulations for sustainable peatland management</b>	<ul style="list-style-type: none"> <li>▪ At least 3 sub-regulations of PP71 developed, approved and under implementation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Expert perception survey at the baseline, MTR, and terminal evaluation</li> <li>▪ Key stakeholder survey on adequate understanding of PP71</li> </ul>	A: Continued commitment by government to implement regulation PP71/2014
<p><b><u>Sub-component 1.1: Strengthen policy, regulations and institutional mechanisms for sustainable peatland management</u></b></p> <p><b><u>Sub-component 1.2: Strengthen capacity and knowledge management for sustainable peatland management</u></b></p> <p><b><u>Sub-component 1.3: Develop Peatland</u></b></p>	<ul style="list-style-type: none"> <li>▪ National Strategy on peatlands updated and regular reporting on implementation</li> <li>▪ At least 70% of the capacity needs development plan achieved</li> <li>▪ PHU maps developed for the SKI-PHU and another site (TBD)</li> <li>▪ One additional PHU map developed following the revised methodology</li> </ul>	<ul style="list-style-type: none"> <li>▪ Report to National Steering Committee</li> <li>▪ Project biannual report</li> <li>▪ Post-training satisfaction survey report</li> </ul>	<p>R: Lack of political will or poor governance (Low)</p> <p>R: Weak enforcement of policies and regulations related to peatland management (Moderate)</p>

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
<b><u>Hydrological Unit (PHU) maps for management zoning in selected provinces</u></b>			
<b>Component 2: Monitoring peatland degradation, fires and GHG emissions</b>	<ul style="list-style-type: none"> <li>▪ Monitoring system established for quantifying reduction in degradation, fires and GHG emissions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provincial report on fire incidents</li> <li>▪ Provincial MRV reports</li> </ul>	A: Commitment by government at all levels incl. stricter enforcement and also fire prevention work
<p><b><u>Sub-component 2.1. Strengthen national peatland fire prediction, monitoring and warning systems</u></b></p> <p><b><u>Sub-component 2.2. Assessment of GHG emission reductions from targeted peatlands</u></b></p>	<ul style="list-style-type: none"> <li>▪ At least 20% increase in fire warnings received by stakeholders</li> <li>▪ At least 6 sub-districts fire prevention strategies developed and implemented</li> <li>▪ Consensus achieved on MRV methodology</li> <li>▪ Baseline GHG emissions established and year-round emissions recorded in target sites</li> </ul>	<ul style="list-style-type: none"> <li>▪ Project technical report <ul style="list-style-type: none"> <li>▪ Technical report</li> <li>▪ Project biannual report</li> </ul> </li> </ul>	R: Climate change risk, including intensification of the periodic El Niño (Moderate)
<b>Component 3: Landscape level sustainable management of peatlands</b>	<ul style="list-style-type: none"> <li>▪ An Integrated Sustainable Management Plan (ISMP) for the SKI PHU implemented</li> <li>▪ Multi-stakeholder partnerships established for implementation of the ISMP for SKI PHU</li> <li>▪ At least 20% increase in income from peat-friendly livelihoods</li> </ul>	<ul style="list-style-type: none"> <li>▪ Baseline, MTR and TER studies</li> <li>▪ Multi-stakeholder meeting reports</li> <li>▪ Project M&amp;E report</li> </ul>	A: Main parties finding mutual advantages for actively participating in the partnership
<p><b><u>Sub-component 3.1. Develop and implement an integrated sustainable management plan for Sungai Kampar - Indragiri Peatland Hydrological Unit (SKI PHU)</u></b></p> <p><b><u>Sub-component 3.2: Community livelihood from sustainable peatland management enhanced (financed by IFAD country</u></b></p>	<ul style="list-style-type: none"> <li>▪ An ISMP for the SKI PHU developed</li> <li>▪ At least 50,000 ha of peatlands with enhanced water management measures</li> <li>▪ At least 10,000 beneficiaries adopt peat-friendly livelihood options</li> <li>▪ Two models of credit schemes established to support on-farm or off-farm activities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Baseline, MTR and TER studies</li> <li>▪ Project biannual report</li> <li>▪ Project biannual report</li> </ul>	<p>R: Reputational risk, including being drawn into politically and socially sensitive issues (Low)</p> <p>R: Increasing demand for industrial and biofuel sectors (including pulp and paper, timber, palm oil) in the global market (moderate)</p>

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
<u>grant</u>			R: Potentially slow implementation of multi-stakeholder integrated management strategies (High)

**ANNEX B: RESPONSES TO PROJECT REVIEWS** (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

<b>Review</b>	<b>Comments</b>	<b>Responses</b>
GEF Secretariat	<p>- A short list of risk is included. Please include how IFAD and the GEF will be protected from any reputation risks to work on such sensitive issues.</p> <p>- During the PPG, develop a comprehensive risk assessment.</p>	<p>A more comprehensive risk assessment was undertaken in the PPG and results used to expand risk analysis from that in the PIF.</p> <p>The reputational risk for GEF and IFAD from association with private sector companies involved in peatland development was considered to be moderate. Risks will be mitigated because the companies concerned have committed to sustainable practices and the work of the project was to further enhance their sustainable practices and support for the community and not to expand their plantation area. The project will not provide support for companies that have illegally developed plantations in peatlands – in fact it will work with authorities to terminate such plantations.</p>
GEF Secretariat	<p>-March 26, 2014</p> <p>The PMC have been reduced to \$400,000, or 9.26% of the project grant (the percentage is calculated from the project grant and not the GEF total grant; therefore the percentage given of 8.26% is not valid). It is still high. You would have to provide additional explanation and details to justify such amount in the final project document. The GEFSEC will be in measure to ask for PMC reduction if the justification is not convincing. With this condition, the point is cleared.</p>	<p>The PMC cost is clarified further in the budget tables in Appendix 3 in the PDR. The PMC cost is within the permitted range for GEF 5 projects (less than 10% of the project grant). The PMC cost includes the cost of project personnel at the national, provincial and local levels, costs of travel, project management and coordination meetings at national, provincial and local levels, and the cost for MTR and PCR.</p>
GEF Secretariat	<p>Please utilize PPG period to develop specific outputs that would fill these needs under the UNFCCC and NAMA</p>	<p>Specific outputs have been developed in the PPG period that support implementation of the UNFCCC. Design has been undertaken in collaboration with the new Directorate General of Climate Change Control of the Ministry of Environment and Forests which is responsible for implementation of UNFCCC (including the REDD+ Strategy) and forest and peatland fire prevention and control. The activities under Component 2 and 3 have been fine tuned to bring them in line with National strategies and plans for UNFCCC NAMA and REDD+</p>
GEF Secretariat	<p>Develop how this project fits into the ASEAN Peatland Management Strategy and the associated National Action Plan for Indonesia.</p>	<p>The project is closely integrated with the implementation of the ASEAN Peatland Management Strategy and the associated National Action Plan for Indonesia. Sub-Component 1.1 specifically looks at supporting the implementation of these frameworks and supporting the harmonizing of other policies in line with these frameworks.</p>
GEF Secretariat	<p>Highlight the lessons of the past GEF/IFAD project (SFM Rehabilitation and Sustainable Use of Peatland Forests in South-East Asia, #2751) and adjust the project document to avoid any repetition of actions that were recently financed (e.g. regulation on peatland management</p>	<p>The lessons learned from the previous GEF/IFAD project have been included in para 74/75 of PDR. There are no repetition of actions already undertaken and as such, the focus is on developing sub-regulations to support the implementation of the new peatland regulation (PP71)</p>

	prepared since 2006).	
GEF Secretariat	Provide a comprehensive risk analysis, including reputation risks.	This is included in the PDR para 113-119
GEF Secretariat	- Adequacy of project interventions in reducing the pressures from agriculture will be revisited during CEO-endorsement stage.	Component 1.1 will look at harmonizing the current policy framework for agriculture e.g. Indonesian Sustainable Palm Oil Standard (ISPO) with the requirements under PP71. Component 2 will support work to prevent fires linked to smallholder agricultural development on peat. Component 3 of the project will take a comprehensive approach to management of peatlands in the 850,000ha Sungai Kampar Indragiri peatland hydrological unit (PHU). It will assess all agriculture and plantation activities in the PHU and reduce the impact of agricultural drainage and land clearance within the PHU.
GEF Secretariat	Please, revise the formulation of outputs to be very concrete.	The structure of the logframe has been changed in line with the project Components and sub-components. The sub-components constitute the outputs.
GEF Secretariat	Components 2 and 3, though stated as investment activities are very focused on coordination and building capacity to implement. Please re-focus on implementation and generation of tangible benefits and GEBs directly through the project.	Component 2 and 3 have been reformulated to focus on clear delivery of practical action on the ground to prevent and control peatland degradation, fires and associated GHG emissions.
GEF Secretariat	- Component 2: Please include activities in expected output 2.3, that directly use outputs 2.1 and 2.2 and involvement of communities. As stated in the previous review, the focus of the component needs to be on the use of the tools.	Component 2 has been significantly revised to focus on monitoring for degradation, fire and GHG emissions more broadly. The previous output 2.2 has been integrated under Component 1. Output (now referred to as sub-component) 2.1 has been reformulated to focus on strengthening national peatland fire prediction, monitoring and warning systems. Former output 2.3 has been moved to Component 3 where it fits better under a holistic response to sustainable peatland management. The new sub-component 2.2 is the previous output 2.4.
GEF Secretariat	Please undertake economic feasibility analyses for alternative livelihoods and agricultural practices (generated from the APFP) to be introduced in project areas. Support the financial viability of these approaches using these analyses.	At project inception, economic feasibility analyses will be undertaken for the alternative livelihoods based on the specific contexts of each target community. This will be financed by the IFAD grant under sub-component 3.2.
GEF Secretariat	Similarly, details on incentive schemes to be used to implement zero-burning agriculture will be expected.	In the PDR under para 64 bullet point 4 a list of incentives have been provided. These incentives will be further elaborated upon in the CBFiM plans to be developed at sub district level in sub-component 3.1
GEF Secretariat	Component 3: Please coordinate with the NAMA activity being funded through Japan and also national level MRV activities for peatlands. Please revise or add an output to make explicit linkages with the national level MRV (REDD+).- Detailed analysis of linkages with national REDD+ strategy and how the project will contribute towards it will be expected.	Japan supported a feasibility study for a NAMA project on improved peatland water management in Jambi province in 2011-2012 but it is understood that this has not translated into implementation as yet. There has been close consultation during the design period with the Directorate General of Climate Change Control of the Ministry of Environment and Forests which is responsible for implementation of the REDD+ Strategy. However, with the abolition of the REDD+ Agency in October 2014 and the establishment of a REDD+ section in MoEF only in

		June 2015 – some of the momentum for work on REDD+ has been impacted. Sub-component 2.2 is now focused on "Assessment of GHG emission reductions from targeted peatlands" will be implemented through the Directorate General on climate change control and the three directorates established which are handling REDD+ and MRV related issues. This will ensure effective integration.
GEF Secretariat	For output 3.1, criteria for micro-credit eligibility, measure of performance, and system for performance monitoring will be expected.	Former output 3.1 has been split into 2 and community livelihood has been included under sub-component 3.2 funded by the IFAD grant. Details on credit eligibility and performance monitoring will be determined following the various assessments to be undertaken in the first six months of the project implementation.
GEF Secretariat	Confirm cofinancing.	Co-financing has been confirmed. The total co-financing is slightly less than that specified in the PIF as provincial contributions cannot be confirmed until Q1 2016.
GEF Secretariat	- Provide an M&E program, including for the Global Environment Benefits. For science based monitoring, include the baseline information in the project document	The M&E programme has been described in Part II Section C of this document. The accompanying tracking tool elaborates on the GEBs.
GEF Secretariat	- Please provide full methodology along with assumptions made in estimation of the carbon benefits. Clear comparison between BAU and project scenario is needed.	This is provided in Appendix 7 of the PDR
GEF Secretariat	- Please develop collaboration and coordination with the relevant partners in the country.	10 stakeholder meetings have been organized between October 2014-September 2015 to develop collaboration and coordination with the relevant partners in Indonesia
GEF Secretariat	Confirm partnerships for implementation with NGO/CSO	A number of CSOs have participated in the stakeholder meetings and in separate meetings and partnerships agreements in principle have been reached for supporting implementation.
STAP	1. STAP appreciates the data on carbon sequestration (and greenhouse gas emissions) from peatlands, data on land use change of peatland ecosystems, and information on endemic flora and fauna in Indonesia provided in section A.1. It would be useful to provide references for this information, as well as for other details in other parts of the document (e.g. description of peatlands in Riau Province, output 2.3).	Most of the information quoted in A1 has come from the activities under the previous GEF/IFAD project. Citations have been provided in the PDR.
STAP	2. Given the innovative nature of component 2 (assessment of potential greenhouse gas emission reductions from targeted peatlands) and interest in contributing to the methodologies under development, or currently under use, in Indonesia, STAP offers to assist in developing the assessment. STAP's contributions could include reviewing the methodology and suggesting experts from	The project welcomes this kind offer from STAP and will coordinate with STAP during implementation of this sub-component.

	its network that could contribute to the methodology.	
STAP	3. The proposal is largely focused on the reduction of fire. It appears that the proponents have come up with potentially effective responses to this. However, another big issue causing massive loss of carbon is drainage of peatland for cropping. The issues of subsidence caused by drainage is mentioned, but it is not clear how the proposed sustainable management of peatlands will control these carbon losses due to oxidation caused by drainage	The unit of action under this project is the Peatland Hydrological Unit (PHU) as decreed under PP71. As such, water management is at the forefront of fire prevention. Under sub-component 1.3 which develops the PHU maps the drainage canals will be clearly identified for undertaking canal blocking activities. Sub-Component 3.1 will integrate water management and CBFiM for tackling the key causes of degradation.
STAP	4. Although the proposal mentions deforestation as a major cause of peat loss, and seeks funding from sustainable forest management programme, the strategies described are largely focused on managing peatlands after clearing. There appears to be little effort directed to reducing deforestation. Identifying and promoting sufficiently attractive alternative livelihoods will be a key challenge to managing this most fundamental driver of peatland emissions.	Component 3 will have a significant focus on reducing deforestation of the remaining 300,000 ha of forest in the project area through fire prevention, enhanced water management as well as introducing alternative sustainable livelihoods.
STAP	5. The global environmental benefits aim to improve ecosystem services on carbon sequestration, biodiversity, and water supply (or quality) and flow regulation. STAP recommends identifying indicators for each of these ecosystem services, so the global environmental benefits can be monitored by the project. Monitoring the performance and impact of the project also will contribute to the project's incremental cost reasoning	The project M&E system will include a core set of indicators for monitoring the key ecosystem services. Some of these have already been articulated such as area free from fire, forest cover, area rehabilitated, and water level. The indicator for CO2 mitigation will be defined through the GHG emission reduction methodology discussion.
STAP	6. The project states the "key global environmental benefits will arise from the protection, rehabilitation and sustainable management of key peatland areas." STAP recommends specifying the peatland conditions for each target site, so that restoration strategies are based on their ecological characteristics. For example, restoration of highly degraded peatlands may require different approaches than less degraded sites. Additionally, it will be important that estimates of carbon emission reductions are specific to each site, since more degraded peatlands may take more time to reduce emissions than less degraded areas.	The project will develop an Integrated Sustainable Management Plan for the SKI PHU, which will include the status of peatlands at sub-district level and the responses for protection or rehabilitation. As rightly pointed out this will allow for tailored responses based on the level of degradation, in line with ecosystem management principles.
STAP	7. STAP suggests accounting for the spatial distribution of the costs and benefits of peatland restoration. This information	Para 64 of the PDR provides the project approach for addressing this crucial point. This point will be key discussion point during the inception workshop.

	<p>will help inform decision-making on peatland restoration, and account for a spatial analysis (and valuation) of peatland ecosystem services. Spatially targeting peatland restoration practices is important because the same restoration technique/strategy may not produce the same outcome in all locations due to the biophysical, social and economic characteristics of the peatlands. Thus, a spatial analysis of the flow of ecosystem services can assist in prioritizing the peatland areas that can be targeted to maximize the delivery of ecosystem services (or global environmental benefits), reduce costs and maximize benefits, across multiple stakeholders. The project developers can refer to the following paper outlining a framework for spatially assessing peatland restoration: Glenk, K. et al. A framework for valuing spatially targeted peatland restoration. Ecosystem Services. (In Press).</p>	
STAP	<p>8. STAP suggests that detail be provided on how the estimates of carbon dioxide reduction on page 13 have been derived. This information is critical to quantifying the global environmental benefits the project expects to generate.</p>	<p>This is provided in appendix 7</p>
Germany	<p>1) It would be commendable to clarify methodologies to be used for addressing the key challenge in peatland management. The proponent needs to highlight activities for synergizing efforts between and among institutions at sub-national, national and regional levels responsible for peatland management</p>	<p>Under the <i>Rehabilitation and Sustainable Use of Peatland Forests in South-East Asia</i> (referred to as the ASEAN Peatland Forest Project [APFP]), peatland management guidelines, regional and national policy frameworks such as the ASEAN Peatland Management Strategy (APMS) and National Action Plans were developed. These documents provide the diagnostics of the challenges associated with peatland management, as well as, the options for rehabilitating degraded areas and conserving intact forests. Under the APFP, pilot activities conducted in the field have provided additional insights into community-based approaches for sustainable peatland management. The combination of normative frameworks and field level activities undertaken under APFP provide a sound basis for scaling up good practice, and for testing new approaches.</p> <p>Under the SMPEI the PP/71 regulation provides the guiding framework for undertaking integrated peatland management. The recommendation to work within a Peatland Hydrological Unit (PHU) provides an appropriate scale of operation that allows for proper water management. In addition to this key element the project also, pursues an integrated fire management approach that emphasises prevention rather than control, and peat-friendly income generation activities so as to reduce pressure on the peatlands. The field level work is encompassed</p>

		<p>within activities that enhance the normative frameworks that govern peatlands, refinement of tools and technologies for fire prevention, coordination between the various levels and actors, capacity and institution building, and establishment of multistakeholder partnership platforms that also engages private sector entities.</p> <p>Also, greater emphasis is placed on defining effective implementation modalities from national to local levels that reduce duplication and build synergy. In this regard, effort will be taken to refine roles and responsibilities of the various departments working at the subnational level and for building a more coherent implementation approach. Decentralised implementation modalities will be adopted where fund flow from national to sub-national levels will be made more efficient. The modality used under APFP, where MoU's were established between the national and subnational levels, will be further strengthened.</p>
Germany	2) The proponent should clarify on lacking activity in strengthening law enforcement, which is one among the root problems in addition to human capacity	While strengthening law enforcement has been rightly identified as a key element for better peatland management, this activity goes beyond the scope of the project funding envelope. Given the vast areas of peatlands and remoteness of many of the sites, a law enforcement approach has to be combined with creating the right incentives at the local level for improved peatland management. This project focuses on the latter. Furthermore, based on the government's handling of the 2015 haze crisis, it appears that a greater emphasis is being placed by government on enforcement demonstrated by the arrests of individuals allegedly involved in illegal fire clearance for big corporations.
Germany	3) It is important to highlight the role of sub-national and national planning agencies and how the proposed project will support them in integrating outcomes from previous and proposed activities into the annual planning and strategies. This will demonstrate that the project activities, such as proposed coordination and capacity building are not business-as-usual.	Subcomponent 1.1 and 1.2 are largely focused on engendering coherence in the planning and budgetary allocation process for sustainable peatland management activities. The project pursues a more harmonised approach to shift from an emphasis on departmental interests to a more holistic implementation approach; including a reorientation from fire control to prevention and better water management etc. As such, the institution and capacity building, and coordination activities will see a significant departure from BUA.
Germany	4) Approaches to deal with current overlapping topics (i.e., between ministry of forestry and environment and the REDD+ Agency) should be described including national and regional REDD+ action plans and strategies.	The SMPEI design was undertaken in collaboration with the new Directorate General of Climate Change Control of the Ministry of Environment and Forests which is responsible for implementation of UNFCCC (including the REDD+ Strategy) and forest and peatland fire prevention and control. As such, SMPEI builds on the REDD+ mapping exercise and the Monitoring, Review and Verification (MRV) process.
Germany	5) It is important that the proponent focuses on implementing better management practices through improving	See responses to Q1 and Q2.

	coordination and law enforcement while carrying out scientific and technical approaches for reducing gas emissions and improving local communities.	
Germany	6) The proposal is already mentioning several potential financing mechanisms for village development (e.g., micro-credits, revolving funds, performance bonds, conditional transfers based on progress). Potential incentive systems for private sector engagement should be further elaborated upon.	The focus of Output 3.1 is about building partnerships between private sector, government and community for sustainable management of peatlands. Creating a partnership platform that brings local communities, government agencies and private sector will enable to identify the main causes of peatland fire and approaches for mitigating them. There is already a big incentive for the private sector to engage, as peatland fires have been undermining their sunken investments and investor confidence.
JICA	JICA implemented a project “Wild Fire and Carbon Management in Peat-forest in Indonesia”, ended in March 2014 and this GEF project can be built on the outcomes of JICA project such as MRV methodology in Peatland. Subsequently, since JICA implements a project” Indonesia-Japan Project for Development of REDD+ Implementation Mechanism (IJ-REDD+, duration: June 2013 – June 2016)” and activities are highly relevant to GEF project, it is recommended for IFAD to consult with JICA on technical issues.	We appreciate the guidance JICA has provided and consultation with the projects referred to will be undertaken during SMPEI implementation. SMPEI is keen to learn from the work that has already been undertaken especially with regard to MRV.

**ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS<sup>13</sup>**

A. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:

PPG Grant Approved at PIF: <b>US\$ 100,000</b>				
<b><i>Project Preparation Activities Implemented</i></b>	<b><i>GEF/LDCF/SCCF/NPIF Amount (\$)</i></b>			<b><i>Total to be returned</i></b>
	<b><i>Amount Spent To date (a)</i></b>	<b><i>Amount Committed* (b)</i></b>	<b><i>Sub-total Of expenditure (a+b)</i></b>	
Team Leader and M&E specialist (Design mission)	19,578		<b>19,578</b>	
Senior Peatland Specialist (Baseline studies, Design and Appraisal missions)	27,518	4,560	<b>32,078</b>	
Institutional Development Expert (Baseline studies and Design Mission)	15,000		<b>15,000</b>	
Livelihood and Peatland Management Expert (Baseline studies and Design Mission)	12,000		<b>12,000</b>	
Fire management Specialist (Baseline studies and Design Mission)	15,000		<b>15,000</b>	
Economist (Design and Appraisal Missions)	3,969	760	<b>4,729</b>	
<b>Total</b>	93,065	5,320	<b>98,385</b>	1,615

\* This will be released upon the CEO endorsement of SMPEL.

**ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)**

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/NPIF Trust Fund or to your Agency (and/or revolving fund that will be set up)

NA

<sup>13</sup> If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.