Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility
(Version 5)

STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening:	November 14, 2017
Screener:	Guadalupe Duron
Panel member validation by:	Annette Cowie
Consultant(s):	

I. PIF Information *(Copied from the PIF)*

FULL-SIZED PROJECT	**GEF TRUST FUND**
GEF PROJECT ID:	9239
PROJECT DURATION:	5
COUNTRIES:	Indonesia
PROJECT TITLE:	Integrated Management of Peatland Landscapes in Indonesia (IMPLI)
GEF AGENCIES:	IFAD
OTHER EXECUTING PARTNERS:	Ministry of Environment and Forestry (MOEF) Peatland Restoration Agency (BRG: Badan Restorasi Gambut) Local Government Agencies
GEF FOCAL AREA:	Multi Focal Area

II. STAP Advisory Response *(see table below for explanation)*

Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies):
Minor issues to be considered during project design

III. Further guidance from STAP

STAP welcomes IFAD's proposal "Integrated Management of Peatland Landscapes in Indonesia (IMPLI)". The project aims to improve peatland management in the globally significant biosphere reserve of Giam Siak Kecil-Bukit Batu. The project is innovative by applying a spatial hydrological planning approach, the Peatland Hydrological Unit (PHU), focused on minimizing drying and further degradation of peatlands. Spatial monitoring of the hydrological functions of peatlands can improve the effectiveness of management responses. The use of LiDAR technology to inform water management of tropical peatlands is also welcomed. Sharing the project's learning on LiDAR is encouraged, as STAP details below.

Integration between sectors and organizations, from the community level to the sub-national level, is emphasized in the project. STAP welcomes this emphasis beacuse it can facilitate the implementation of peatland regulations and policies, landscape management (biodiversity conservation and land and water management) in the biosphere reserve, and scale-up best practices and foster knowledge exchange on peatland management.

STAP appreciates the description of the project site (Annex 1), including the detailed map of the biosphere reserve, buffer zone, and transition area. The map is informative and enhances the project context. The description of the global environmental benefits is comprehensive, particularly for biodiversity conservation and climate change mitigation. The project proponents are encouraged to think further about the benefits from sustainable land management, which are less detailed. The description of the incremental reasoning is thorough, which STAP values. The project establishes clear links to previous interventions by building on initial assessments of peatlands in the project area, and enhancing methodologies by focusing on water management in the peatland hydrological area.

STAP is pleased with the scientific and technical rigor of the project concept. STAP encourages IFAD to develop a learning component for the project that also identifies opportunities for publishing the project's contributions to integrated peatland management.

When developing the project, STAP recommends for IFAD to address the issues below:

1. Component 2 focuses on water management plans, and states that possible interventions include canal blocking and peatland rewetting. It would be valuable to specify where the rewetting will occur relative to the oil palm production. STAP recommends conducting a hydrological and economic analysis of oil palm production to inform a land use plan. This will allow the project proponents to consider carefully the trade-offs between the environmental benefits of raising the water table (e.g. reduced carbon emissions) and economic impacts (reduced profits from oil palm production). Careful planning will benefit the project as the analysis will identify where to plant oil palm without further contributing to draining the peat, and where to cultivate plants that require little drainage (e.g. Jeletung and other species mentioned on page 11), while contributing to biodiversity conservation, and ecosystem services. A detailed land use map should be included in the project document.

STAP recommends the following paper on analyzing the hydrological and economic costs and benefits of oil production in peat landscapes: Sumarga, E. et al (2016). " Hydrological and economic effects of oil palm cultivation in Indonesian peatlands". Ecology and Society 21(2):52. http://dx.doi.org/10.5751/ES-08490-210252. STAP refers IFAD to the finding of Sumarga et al (2016), that applying water management practices to maintain high yields from oil palm while reducing greenhouse gas emissions from oxidation of peat will still result in considerable emissions of carbon dioxide (Sumarga et al (2016), page 9), and their conclusion that cultivation of oil palm on peatland is not sustainable in the medium to long term.

2. STAP encourages IFAD to undertake a socio-economic evaluation of the proposed interventions and alternative land uses to ensure that the proposed alternatives are socially and financially viable, and will effectively address the drivers of peatland degradation.

3. STAP encourages the project proponents to develop a knowledge management component with an emphasis on learning. In this regard, STAP suggests defining how learning and adaptive management will be part of the project implementation. For example, the PHU framework will set in place new and multiple partnerships across sectors. How will the implementation of the PHU approach be monitored and assessed, and how will the interventions be adapted based on this learning? Systematic learning will be important in order to meet the project's objective (and achieve multiple benefits), and enhance the sustainability of the Giam Siak Kecil-Bukit Batu Biosphere Reserve.

Secondly, spatial monitoring of the hydrological functions of peatlands can improve understanding of how to manage these complex landscapes. There are gaps in the literature in understanding "…the full spatial heterogeneity of hydrological behavior in peatlands…" (D.J. Luscombe et al. / Journal of Hydrology 541 (2016) 1329–1339). This project has potential to provide new knowledge on the effectiveness of the interventions to raise the water table, the impacts on fire incidence and soil carbon stocks, and on the peatland vegetation. Thirdly, what insights can the project contribute on using LiDAR as a tool to inform hydrologic modelling and data collection for improved water management for peatlands? Insights also are welcomed on the use of LiDAR to map tropical peatlands, and its potential to assess the restoration potential of degraded peatlands. The following paper could be of value: Manuri, S., et al. (2017). "Advanced land cover mapping of tropical peat swamp ecosystem using airborne discrete return lidar". Geoplanning: Journal of Geomatics and Planning, 4(1), 1-8. doi:10.14710/geoplanning.4.1.1-8

STAP encourages the project proponents to identify opportunities to publish their results on applying the PHU approach, and using LiDAR for monitoring and assessment of peatlands' hydrology.

4. Understanding the hydrology (temporally and spatially) of the targeted peatlands can establish baselines that can be used to define the project's restoration activities. STAP recommends describing the characteristics of the peatlands, the data gathering, monitoring and assessment processes (e.g. traits to monitor drainage ditch morphology, drainage density, peat depth, slope morphology, aspect and vegetation composition), to enable a spatial and temporal analysis of the hydrologic behavior of the peatland sites – as well as to assess their potential to be restored, and verify estimates of carbon sequestration.

5. STAP encourages the project proponent to provide further detail about the alternative income generation activities proposed, particularly the paludiculture options: how will the paludiculture sites be selected and managed? The PIF mentions Jelutung and Melaleuca as two possible species (page 11). STAP would like to see further information that supports that these species will be suitable, and financially viable crops.

6. STAP suggests that climate change is a greater risk than the "low" assessment given. The increasing incidence of extreme high temperatures, and the high vulnerability to fire indicates that climate change poses a serious risk. While an El Niño event may not occur during the project period, this does not diminish the fact that droughts are expected to increase in incidence and severity, affecting the sustainability of the project.

7. In Component 2, STAP would like to see some detail of the Indonesian Sustainable Palm Oil (ISPO) standard, and how this compares with other relevant standards (Round Table on Sustainable Palm Oil, Round Table on Sustainable Biomaterials, ISO standard on Sustainability Criteria for Bioenergy).

8. The PIF refers to "the proposed GEF IAP project on Taking Deforestation out of the Commodity Supply Chain". STAP suggests that this statement should be updated to demonstrate the relationship with the oil palm component of the Commodities IAP.

STAP advisory response	*Brief explanation of advisory response and action proposed*
1. Concur	In cases where STAP is satisfied with the scientific and technical quality of the proposal, a simple "Concur" response will be provided; the STAP may flag specific issues that should be pursued rigorously as the proposal is developed into a full project document. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design prior to submission for CEO endorsement.
2. Minor issues to be considered during project design	STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to: (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised. (ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.
3. Major issues to be considered during project design	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to: (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required. The GEF Secretariat may, based on this screening outcome, delay the proposal and refer the proposal back to the proponents with STAP's concerns. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.