BEST PRACTICE GEF-5 SMPEI PROJECT IN INDONESIA

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MINISTRY OF ENVIRONMENT AND FORESTRY
GOVERNMENT OF INDONESIA
24 FEB 2022
BENEFIT:
Forestry,
Flood control and water supply,
Fire risk control,
Eco-tourism,
The livelihoods of local communities (fisheries, agriculture, plantation),
Climate stability,
Biodiversity,
Education and research.

PEATLAND ECOSYSTEM IN INDONESIA

Indonesia has 24.667 million ha of peatland, and becoming the largest tropical peatland ecosystem in the world

46 gigatons of carbon stored in Indonesian’s peatland (equivalent to 8-14% of global soil carbon)
THE MAIN PROBLEM OF PEAT ECOSYSTEMS

- DRAINAGE (Poor Water Management)
- DRY PEAT
- SUBSIDENCE (Land and Water Table)
- LAND DEPRESSION
- LAND and FOREST FIRE
- GHG EMISSION
- FLOODS

Peat is a Complex and Fragile Ecosystem
**THE CONCEPT OF PEATLAND ECOSYSTEM RESTORATION**

*Bring back and preserve the water, bring back and preserve the vegetation, and improve local community livelihoods*

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**Canal blocking either in concession or community areas**

Canal blocking construction is to preserve the peatland water and rewetting the areas prone to forest and land fires. The canal blocking also provides water for fish pond.

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**Rehabilitation of vegetation**

Rehabilitation of vegetation can be carried out by replanting of local timber tree and/or natural succession. Economic value plants can be applied for rehabilitation of vegetation in community areas.

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**Improve community livelihoods**

The canal blocking also provides water for fish pond and peatland friendly agriculture production to improve community livelihood.
DURATION TIME & MILESTONE: 4 years (2017 – 2021)

PROJECT LOCATION: RIAU

GOAL: sustainable peatland management, secure carbon stocks, and conserve biodiversity while improving the living standards of local communities.

Project Objective: promote sustainable peatland management, secure carbon stocks, and conserve biodiversity while improving the living standards of local communities.

Project Outcomes: the Project will have three main outcomes:

- **Capacity Building and Institutional Empowerment** to support the implementation of sustainable conservation and management base on Government Regulation No. 71/2014 and Government Regulation No. 57/2016,

- **Peatland Degradation Monitoring, Forest Fire and GHG Emission and**

- Sustainable peatland management **knowledge expanded and exchanged**
The more canals on peatland, the potential for fires tends to increase. Since 2018-2021, 313 canal blocks have been built in the SMPEI Project area.
Establishing Canal Blocking

Goals to:
1. Improve ground water level
2. Reduce fire risk and carbon emission
3. Reduce size of burned peat areas
4. Retain water on the canals
5. Enhance agriculture productivity
Automatic Fire Danger Rating Sign Boards
GROUND WATER LEVEL MONITORING

IMPROVED GROUND WATER LEVEL AFTER CANAL BLOCKING CONSTRUCTION

Progres TMAT Parit Maju Jaya Titik 4, Desa Rambaian (INHIL) - Januari Desember 2020

Progres TMAT Sekat Kanal Dusun Maju jaya Parit Maju Jaya Titik 5 Tahun 2020
There is an effect of reducing fire risk before and after SMPEI Project intervention.
SIMATAG-0.4M HAS BEEN LAUNCHED BY THE MINISTER OF ENVIRONMENT AND FORESTRY IN ASIA-PACIFIC FOREST WEEK, INCHEON, SOUTH KOREA (JUNED 19, 2019)

INFORMATION PROVIDED:

SiMATAG-0.4m

- Map of PHU
- Map of Peatland Ecosystem Function
- Map of Concession borders
- Map of Canal Blocking
- Map of Ground Water Level Monitoring Distribution,
- Map of Rehabilitation, revegetation
- Information of field verification.

- SUPPORT SYSTEM (SEPAL)

- Vegetation Analysist
- Vegetation Changing Analysist
- Soil Moister Changing Analysist
- Time of Changing (day, date, month, year) of vegetation changing – planting and cutting-
GEF – 5 SMPEI : COMPONENT 1

DEVELOPMENT OF INFORMATION SYSTEM FOR PROTECTION AND MANAGEMENT OF INDONESIA PEATLAND ECOSYSTEM -Integrated System From Field Monitoring and Satellite Imagery-

USES:
1. Peatland Quality Index (IKEG)
2. Peatland Water Level Monitoring (TMAT)
3. Early Warning System Based on Peatland Water Level (EARLY WARNING/FDRS)
4. Water Balance (N-Air)
5. Calculation of GHG Emission reduction (GHG or GRK)
6. Peat Environmental Performance Rating for Concession (PROPER)
7. Compliance and Law Enforcement (GAKUM)
8. Peatland Ecosystem Protection and Management Plan (RPPEG)
9. Main Streaming Gender on Peatland Ecosystem Protection and Management (GENDER)
10. SDGs on Peatland Ecosystem Protection and Management (SDGs)

KEY Parameters FOR FDRS:
1. Ground water level
2. Soil moisture
3. Rainfall

OTHER RELATED DATA BASE:
- SIPONGI
- BMKG

REALTIME WATER LEVEL MONITORING (TMAT _ STATION) (consession & non-consession)

DATA AND INFORMATION ON WATER MANAGEMENT INFRASTRUCTURE (CANAL BLOCKING, ETS)

DATA FORM INVENTORY OF ECOSYSTEM CHARACTERISTIC

MANUAL MONITORING SYSTEM TO DATA CENTER (CONSESSION)

MISCOMMUNICATION TECHNOLOGY:
GSM/radio frequency based

SIPPEG Data Center

INTERNET connection to user

SIPALAGA (non-consession)
<table>
<thead>
<tr>
<th>Evaluated Aspects</th>
<th>Score previous mission July-August 2019</th>
<th>Score current mission May-June 2021</th>
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<tbody>
<tr>
<td>Output of SMPEI Component 1</td>
<td>Satisfactory (5)</td>
<td>Highly Satisfactory (6)</td>
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<tr>
<td>Output of SMPEI Component 2</td>
<td>Moderately Satisfactory to Satisfactory (4-5)</td>
<td>Moderately Satisfactory to Satisfactory (4-5)</td>
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<tr>
<td>Output of SMPEI Component 3</td>
<td>Satisfactory (5)</td>
<td>Moderately Satisfactory (4)</td>
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<td>Implementation progress</td>
<td>Moderately Satisfactory (4)</td>
<td>Satisfactory (5)</td>
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<tr>
<td>Quality of Financial Management</td>
<td>Moderately Unsatisfactory (3)</td>
<td>Moderately Satisfactory (4)</td>
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<td>Disbursement</td>
<td>Moderately Unsatisfactory (3)</td>
<td>Moderately Satisfactory (4)</td>
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<td>Counterpart funds</td>
<td>Moderately Satisfactory (4)</td>
<td>Moderately Satisfactory (4)</td>
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<td>Compliance with grant covenants</td>
<td>Moderately Unsatisfactory (3)</td>
<td>Satisfactory (5)</td>
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<td>Procurement</td>
<td>Moderately Unsatisfactory (3)</td>
<td>Moderately Satisfactory (4)</td>
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<td>Audit</td>
<td>Moderately Satisfactory (4)</td>
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<td><strong>Overall Rating</strong></td>
<td><strong>Moderately Satisfactory (4)</strong></td>
<td><strong>Satisfactory (5)</strong></td>
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LESSON LEARNED FROM THE PROJECT IMPLEMENTATION

1. **ON SITE IMPLEMENTATION**: (1) Share vision with all stakeholders: *appropriate language*, (2) Integrated approach (planning to implementation, policy to action, policy & planning to restoration & rehabilitation, technical to social), (3) Collaborative approach (involvement of all stakeholders at every steps since at the beginning, involvement of all government level –central, province, districts and community –), (4) Dedicated teams works (PMO, PPMO, coordinators, facilitators, working teams-TK-PPEG)

2. **COLLABORATION WITH THE IMPLEMENTING AGENCY AND GEF**: it is, indeed, challenging for both of us and develop mutual respect, mutual trust and mutual benefit based on the Project Implementation Manual is essential in maintaining the collaboration

3. **ACCELERATION OF PEATLAND ECOSYSTEM PROTECTION AND MANAGEMENT**: (1) Enhance national capacity and support in Indonesia positioning as front runner on peatland ecosystem protection and management, (2) provide opportunity to share knowledge – experience and collaboration to other countries with peatland to achieve the global target of peatland ecosystem conservation and sustainable management and its contribution to GHG Emission Reduction.