Solutions – Moving Ahead
Creating a market to finance peatlands restoration in Kalimantan, Indonesia

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Peatlands in Indonesia

Indonesia contains over 45% of the global area of tropical peatland, mostly as extensive domes of woody peat, supporting peat swamp forest that covers vast areas of lowland landscape between major rivers. However, large areas of tropical peatland in Indonesia, however, have been converted to agriculture; and this has led to widespread deforestation and drainage.
Indonesia’s Leadership in restoring Peatlands

• The enactment of Govt Regulations Measures on peatland protection, management & restoration:
  • Govt Reg No. 57 of 2016 on peatland management & protection;
  • MoEF Reg No. P.14/2017 on peatland inventory & determination of peatland ecosystem functions;
  • MoEF Reg No. P.15/2017 on Procedures on measuring water table in compliance points in the peatland ecosystem;
  • MoEF Reg No. P.16/2017 on technical guidelines on restoring peatlands.
• Extended moratorium on primary forest and peatland conversion (Presidential Instruction No. 6 of 2017);
• The establishment of Peatland Restoration Agency (BRG) (Presidential Regulation No. of 20165) with target of restoring a minimum 2 Mha degraded peatland up to 2020
Peatland Restoration Agency (BRG) was established on January 6, 2016 in order to accelerate the recovery of hydrological & vegetation of degraded peatland that caused by peat and forest fires.”

Government Regulation in Lieu of Law No.1/2016
BRG’s Principal Tasks and Functions

**Background**

Established to accelerate the recovery of hydrological & vegetation of degraded peatland that caused by peat and forest fires

**Tasks**

To coordinate & to facilitate the implementation of peatland restoration in 7 (seven) Provinces, namely: Riau, Jambi, Sumatera Selatan, Kalimantan Barat, Kalimantan Tengah, Kalimantan Selatan & Papua

- Implementing coordination & strengthening of the national restoration policies;
- Planning, controlling & collaborating on peatland restoration;
- Mapping out of peatland hydrological units (KHG);
- Establishing the protection and cultivation zones;
- Constructing peat rewetting infrastructures and its supporting devices;
- Restructuring the 2015 ex-burnt areas;
- Implementing socialization and education activities on peatland restoration;
- Overseeing the activities of construction, operation & maintenance within concession areas;
- Other functions given by the President.

BRG’s Principal Tasks and Functions
HEAD OF BRG DECREES ON RESTORATION INDICATIVE MAP

SK.05/BRG/Kpts/2016 released on 14 September 2016.

Divide peatland restoration areas to four categories.

- **Restoration target:** 2,492,527 ha
  - **Protected area:** 684,638 ha
  - **Cultivation area with permit:** 1,410,943 ha
  - **Cultivation area without permit:** 396,943 ha
Peatland Restoration Steps (restoration is a process)

Planning
- Survey
- Analysis of survey data
- Restoration Plan
- Preparatory of restoration

Implementing
- Hydrological functions (R1)
- Revegetation (R2)
- Revitalization of local livelihoods (R3)

Monitoring & Reporting
- Monitoring Sites
- Aspects monitored
- Monitoring Methods & techniques
- Monitoring report

Evaluation (of success)
- Level of success: Success, Partly Success, Failed
- Recommendations for improvements
BRG’s Restoration Measures & Techniques (3Rs Approach)

**3R_s**

- **R1** Rewetting of peatlands
  - Canal Blocking
  - Canal Backfilling
  - Deep wells

- **R2** Revegetation
  - Nursery
  - Seedlings
  - Seedlings transplantation
  - Natural regeneration

- **R3** Revitalization of local livelihoods
  - **Land-based**: Paludiculture (Sago palm, gelam, Jelutong, swamp taro, etc)
  - **Water-based**: Aqua-culture, fishery
  - **Env-Services-based**: Eco-tourism, carbon
Creating a market

A business model in Central Kalimantan
Creating a market for peatlands restoration through a landscape approach

Investing in commodities and service enterprises that can be viable in rewetted conditions

Peatland zonation and examples of economic activities

Primary activities in core zone include:
• Fire prevention
• Canal blocking and backfilling
• Replanting

Estimated cost for ~40,000 ha core zone: USD 15 million.

Investors could comprise:
- Corporate interest in plantations and/or agribusiness investments
- Farmers and community cooperatives
- Microfinance facilities
- Impact investors

Global Peatlands Initiative “Smoke on Water”, p 48
Utar-Serapat peatland landscape in Central and South Kalimantan

Overview of peatland hydrological unit (KHG 25) and jurisdictional boundaries

A conservative estimate indicates a CO2 emission reduction of 600,000 tonnes per year.
Investing in Paludiculture:
Business model design for Gelam products

**Project**

- Situated within a landscape approach for
  (a) protection/restoration of peatland core zone
  (b) development of business models in the utilization zone with sustainable commodities for rural livelihoods,
  (c) Sustainable production of Gelam (*Melaleuca leucadendra*) on rewetted peatlands.
  (d) Optimize potential for peat carbon payments.

- Engage commercial entity to manage Gelam plantations with smallholders

- **Main revenue flows from poles and sawn timber as well as non-timber forest products: natural oil, honey, charcoal + carbon**

- “Creating” and “de-risking” the project and its supply chain (producers/collectors/processors/mills) – using innovative forms of financing in collaboration with the Indonesian government, investors and financial institutions.

**Co-develop with investors, communities and government**

- Seed investment is needed to capitalize project as part of bigger landscape project

- Upfront capital needed for equipment and enterprise structures, and extension services for skills-based training

- Risks to be shared with different parties based on risk reward profile and operational structure entity

- Tenure and policy risks are coordinated with local and national government

- A combination of loans linked with extension services to farmers, to provide training on harvesting techniques and capacity building to support sustainable production and guarantees for off-take agreements

- Figures of total investment size, total value, profit and seed funding ready by early 2018

- Combining economic activity with peatland restoration; engaging private sector and up to 10,000 villagers in community-based plantations;

- Improves security of land tenure, community based enterprises outside the core area of peatland, reducing fire risks, haze events and GHG emissions, generates revenue flows for investors.

**Gelam growing in stands in Indonesia**

- Small poles processed for sale
- Sawn boards from gelam
- Natural hives producing honey from the wild bees that rely on gelam for pollen
Financial solutions and structuring vary at each stage of project development.

**Blended finance for peatland restoration through landscape approach**

**Financing sources**

- **Debt**
  - Credit Lines
  - Project finance

- **Equity**
  - Impact investors
  - Large/smallholders
  - Patient capital

- **Grants** (donors and others)

- **Corporate loans**
  - Traditional project finance

**Peatland Restoration**

**Project development phases**

- **Value**
- **Bankability**

*One size does not fit all*

Approach different types of investors depending on the risk-reward profile of the project.
Using instruments to reduce risks and enhance returns of paludiculture products

- High risk
- Low return
- Green business model but sub-commercially viable
- Has potential for scale

- Lowered risk through financial instrument & project innovation
- Enhanced returns through financial instrument & project innovation (including carbon finance)
- Different parties cover different risks. With appropriate financial structure combining public & private finance and developing instruments in tandem with projects results in project with greater chance of becoming commercially viable. More scope for blended finance.
- Landscape approach, relevant project innovations and government engagement from the start results in greater chance of scaling and transformational policy reform

Financial instruments designed to specifically advance project risks and return profile and move projects closer to bankability
**Landscape approach - public finance builds investor confidence to invest in commodity and service based enterprises**

**Key messages:**
1. Government commitment to restoration is fundamental
2. Partnerships with private investors (large and smallholders) is critical
3. Identify (near) viable economic opportunities and investors early on
4. Parties agree to share risks based on risk/reward profile
5. Identify policy and financial instruments and modalities to share risks and optimize outcome together (include carbon financing, results based payments etc)
6. Financial institutions and service providers play a critical role in financial sustainability

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**Collective effort is needed to reduce risks and scale this business model**

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*Global Peatlands Initiative “Smoke on Water”, p 49*
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