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Solutions – Moving Ahead

Creating a market to finance peatlands restoration in Kalimantan, Indonesia

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Presented at:
"Smoke on Water" Peatlands Session
GLOBAL LANDSCAPES FORUM
Bonn, Germany, 19th December 2017

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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.

Source: Ministry of Environment and Forestry, Ministry of Agriculture, BRG

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 managemnet & 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)

"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 supprting 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.*

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HEAD OF BRG DECREE ON RESTORATION INDICATIVE MAP

SK.05/BRG/Kpts/2016

released on 14 September 2016.

Divide peatland restoration areas to four categories.

(SK.05/BRG/Kpts/2016),
restoration target

2,492,527 ha

684,638 ha

Protected area

1,410,943 ha

Cultivation area with permit

396,943 ha

Cultivation area without permit

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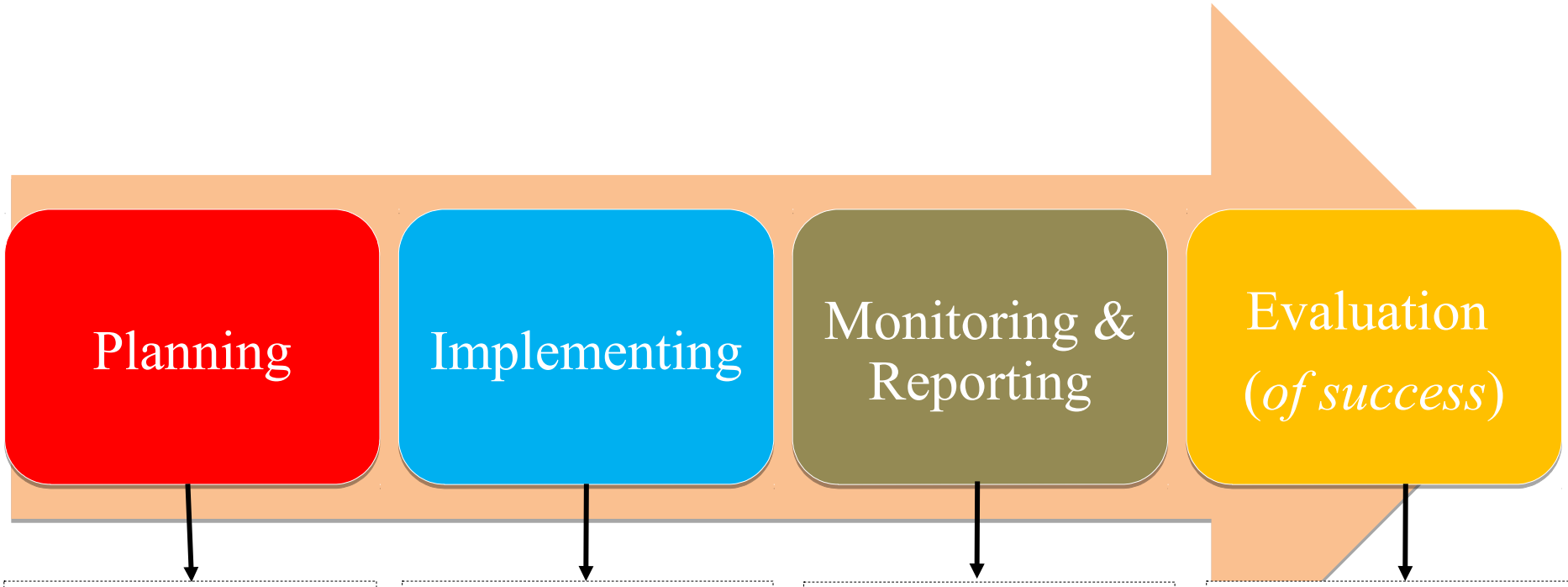
Peatland Restoration Steps (*restoration is a process*)



3Rs

R1
Rewetting of peatlands

- *Canal Blocking*
- *Canal Backfilling*
- *Deep wells*

R2
Revegetation

- *Nursery*
- *Seedlings;*
- *Seedlings transplantation;*
- *Natural regeneration*

R3
Revitalization of local livelihoods-R3

- **Land-based:** Paludiculture (Sago palm, gelam, Jelutong, swamp taro, etc)
- **Water-based:** Aqua-culture, fishery
- **Env-Services-based:** *Eco-tourism, carbon*

BRG's Restoration Measures & Techniques (3Rs Approach)

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Creating a market

A business model in Central Kalimantan

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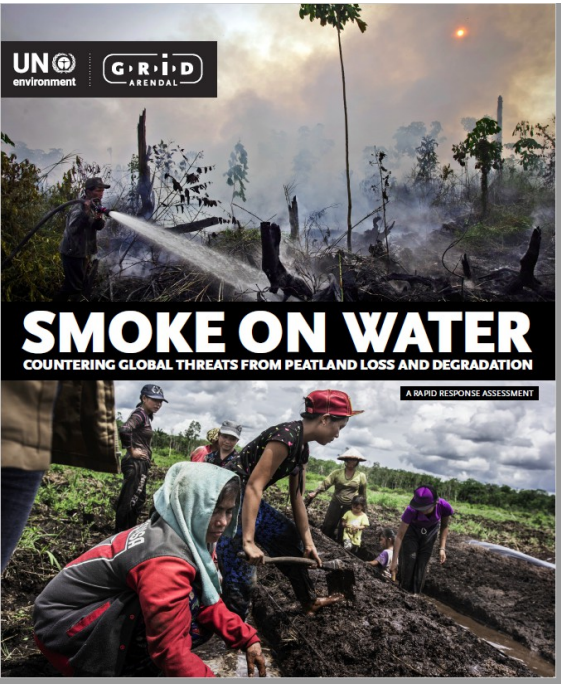
Creating a market for peatlands restoration through a landscape approach



Global Peatlands Initiative
"*Smoke on Water*", p 48

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.

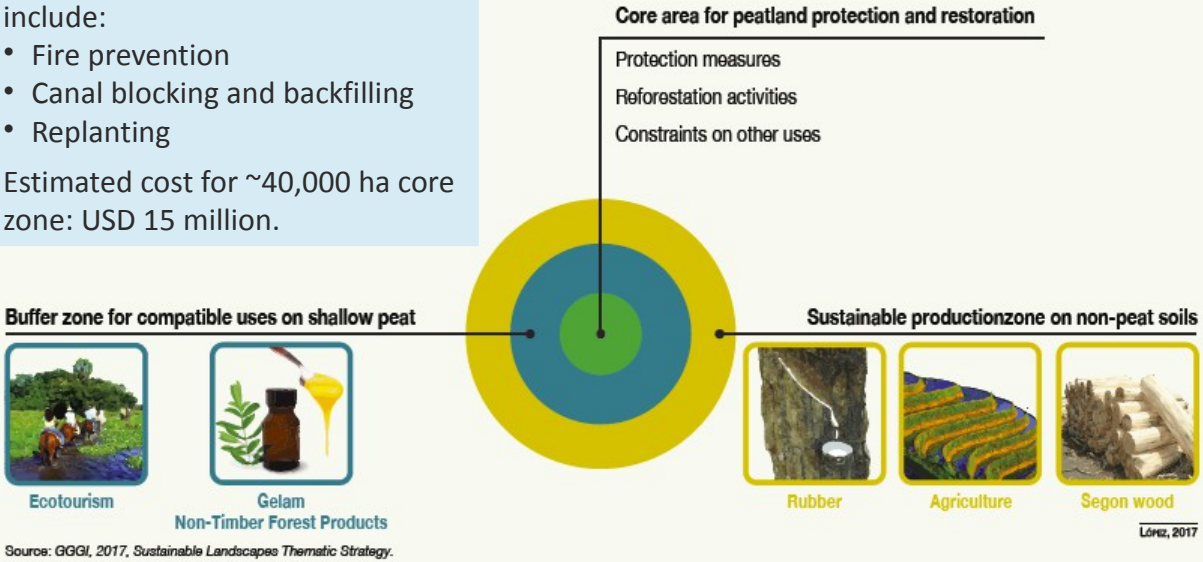


Figure 15. Innovation can be achieved when public and private capital are used to create a common vision for peatland management through a landscape approach.

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

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

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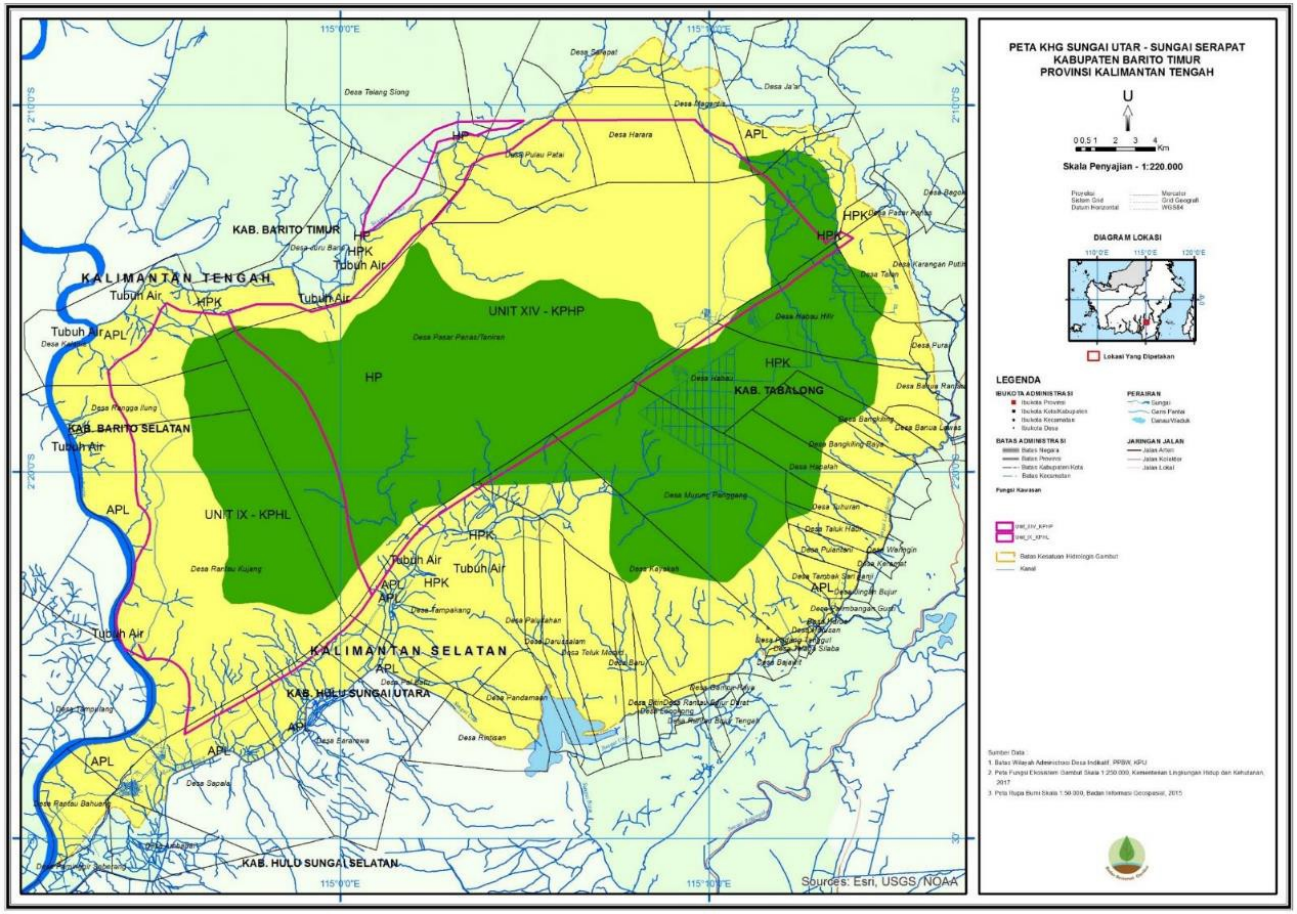
Utar-Serapat peatland landscape in Central and South Kalimantan



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

A conservative estimate indicates a CO2 emission reduction of 600,000 tonnes per year

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Gelam growing in stands in Indonesia

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

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.

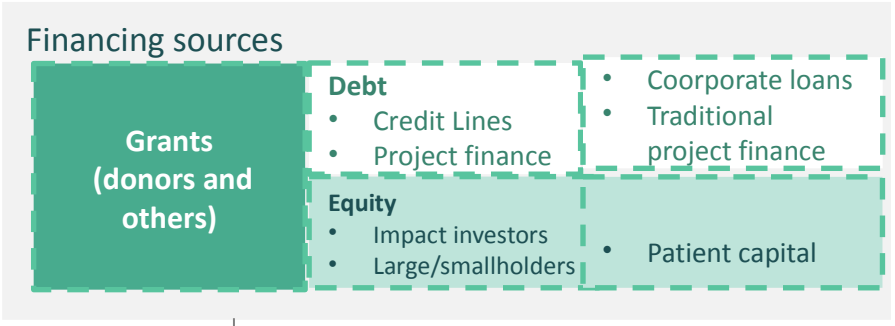
Small poles processed for sale

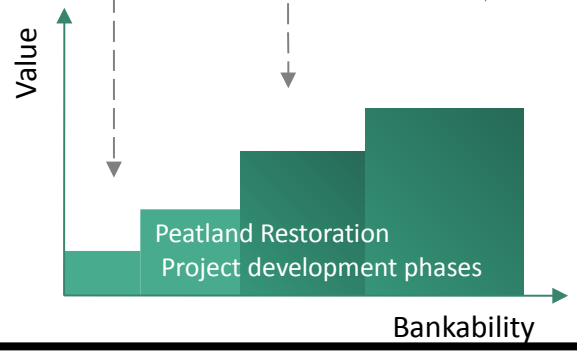
Sawn boards from gelam

Natural hives producing honey from the wild bees that rely on gelam for pollen

Blended finance for peatland restoration through landscape approach

Financial solutions and structuring vary at each stage of project development





One size does not fit all

Approach different types of investors depending on the risk-reward profile of the project

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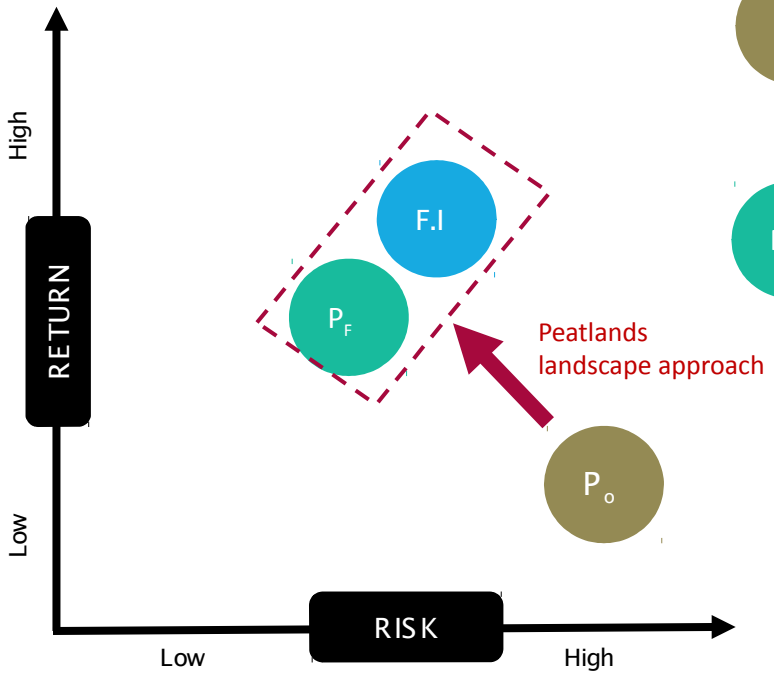
Using instruments to reduce risks and enhance returns of paludiculture products



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

P_F

- 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

F.I

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

Figure 16. The integrated business model in Indonesia where the core zone receives government protection while permitting compatible economic activities in the outer zones.[9]

Global Peatlands Initiative "*Smoke on Water*", p 49

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

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

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Terimakasih

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