

# **Peatland Restoration**

## **Experience GIZ-BIOCLIME South Sumatra: Rehabilitation of Burnt Areas and Landscape Management on Peatland**

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Seminar on Peatland Restoration  
BRG–KIFS

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## Content:

# South Sumatra, Indonesia

### 1. South Sumatra, Indonesia

- Ecosystems
- Peatland
- Deforestation, Degradation

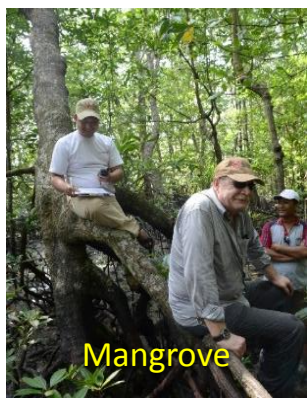
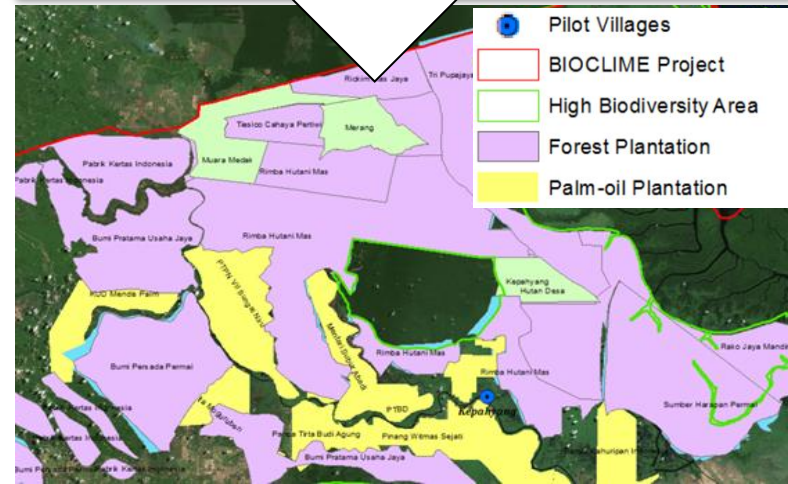
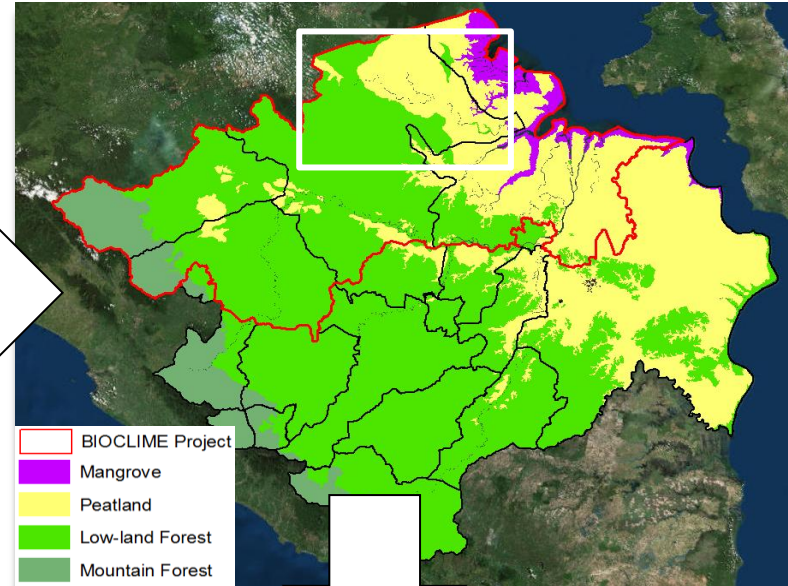
### 2. Challenges of forest rehabilitation on peatlands after forest fires

land and

- Multi stakeholder Approach “Stakeholder’s Commitment”
- “One Map” for Peatland Restoration
- Water Management Design: Participatory Canal Blocking
- Rehabilitation on Peatland – technical aspects
- Community Engagement in Forest Rehabilitation on Peatlands
- Sustainable Use of NTFPs
- FMU Approach to “Forest Landscape Restoration”

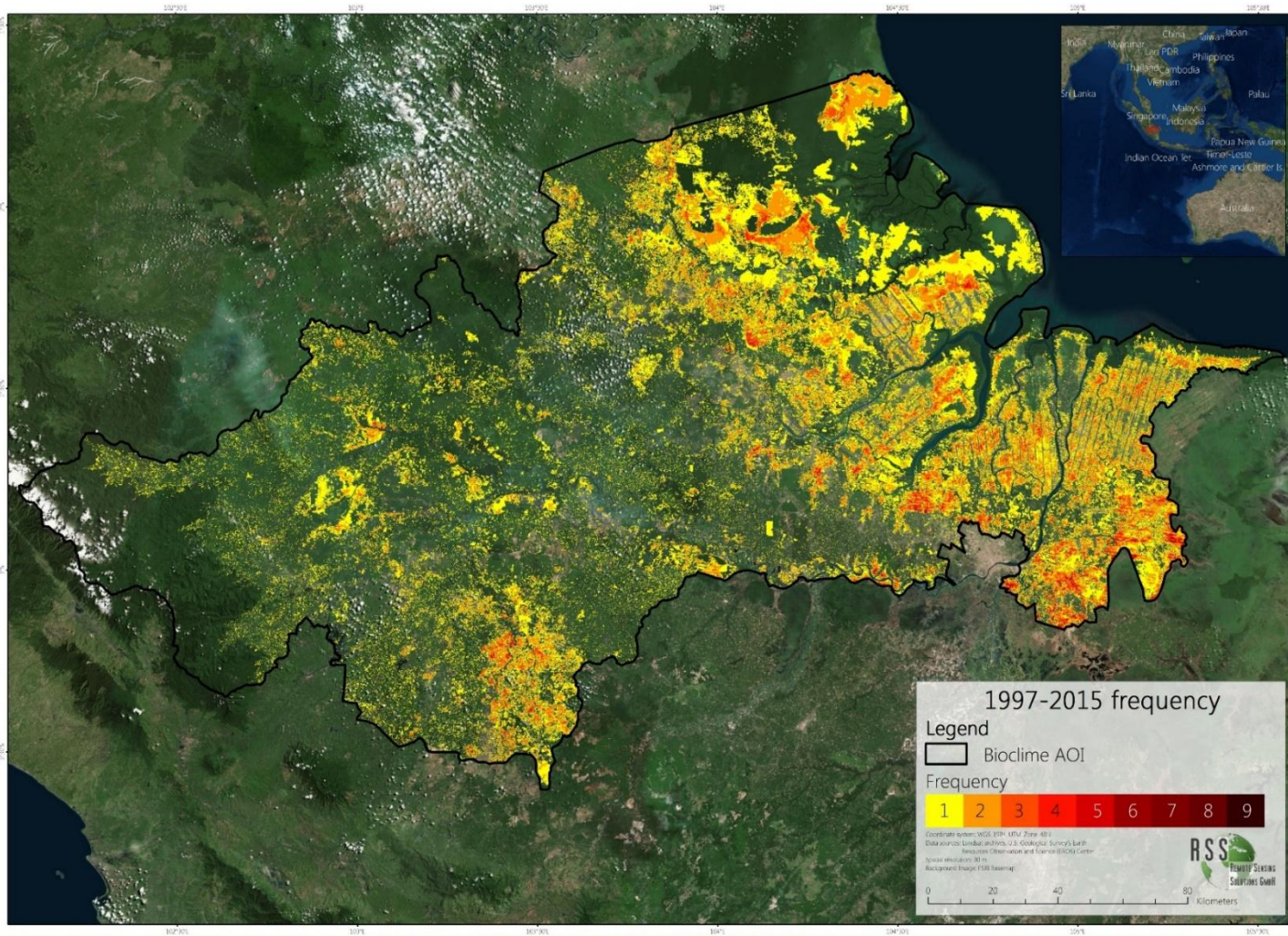


# Pilot Project Area - South Sumatra





# Fire frequency 1997-2015



## Deforestation and Degradation: Peatland in the project area after land and forest fires



**Video: Drone monitoring after peat and  
forest fires:**

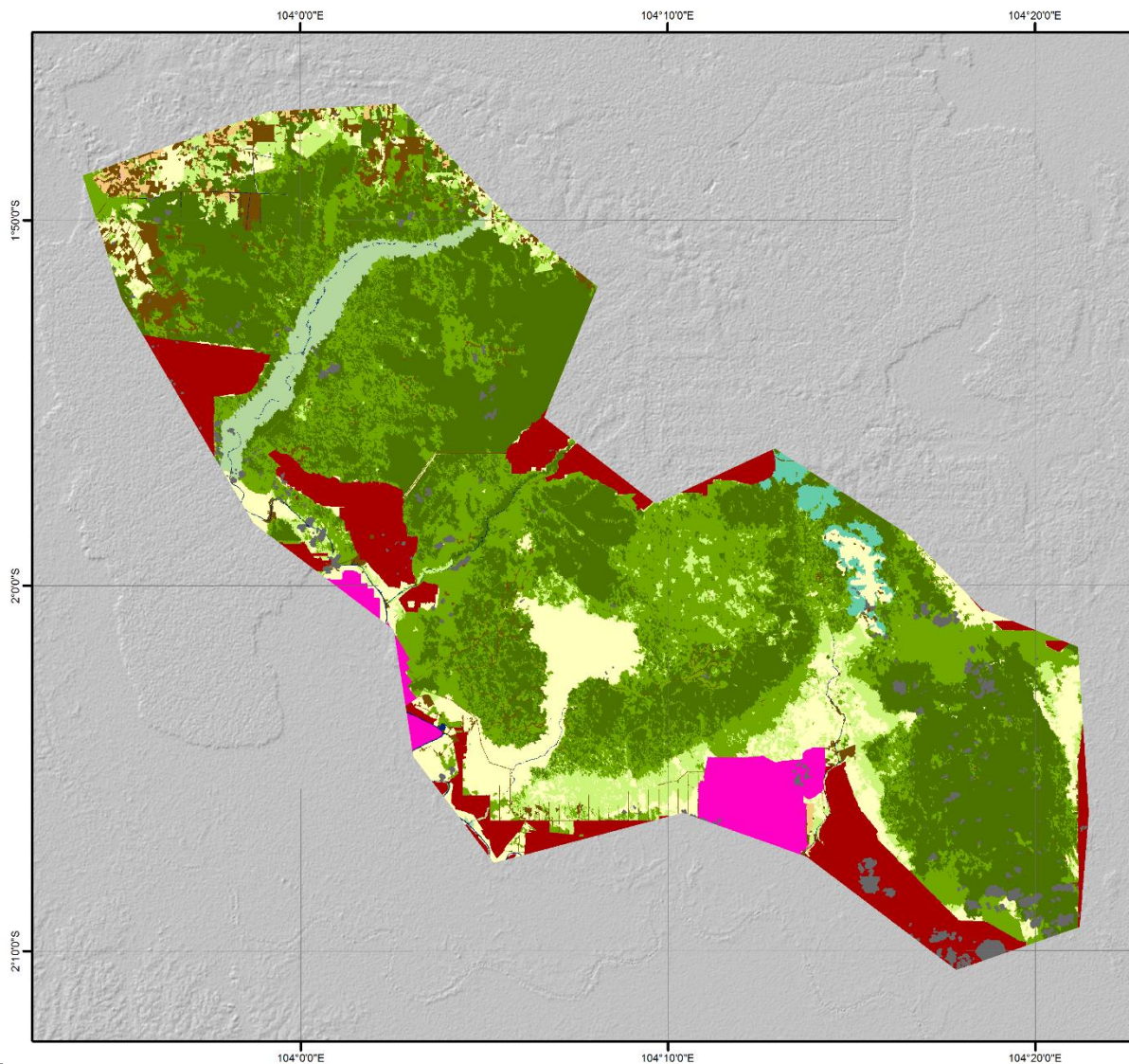
[Link Video](#)

- **Example FMU Lalan (Merang)**
- **FMUs are forest management units at the site level with functions including conducting forestry planning based on the potential and needs of the area, resolving problems encountered at the site level such as conflicts regarding third party claims, and conducting planning and monitoring”**





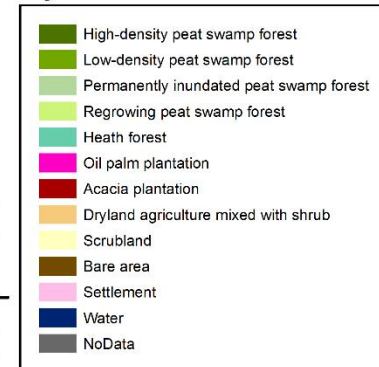
# FMU (KPHP) Lalan Mangsang Mendis



## KPHP Lalan - TS1



### Legend



Coordinate system:  
WGS 1984 UTM Zone 48S  
Image acquisition Date:  
2014.03.28  
2014.07.15  
Satellite:  
RapidEye  
Background:  
SRTM Hillshade

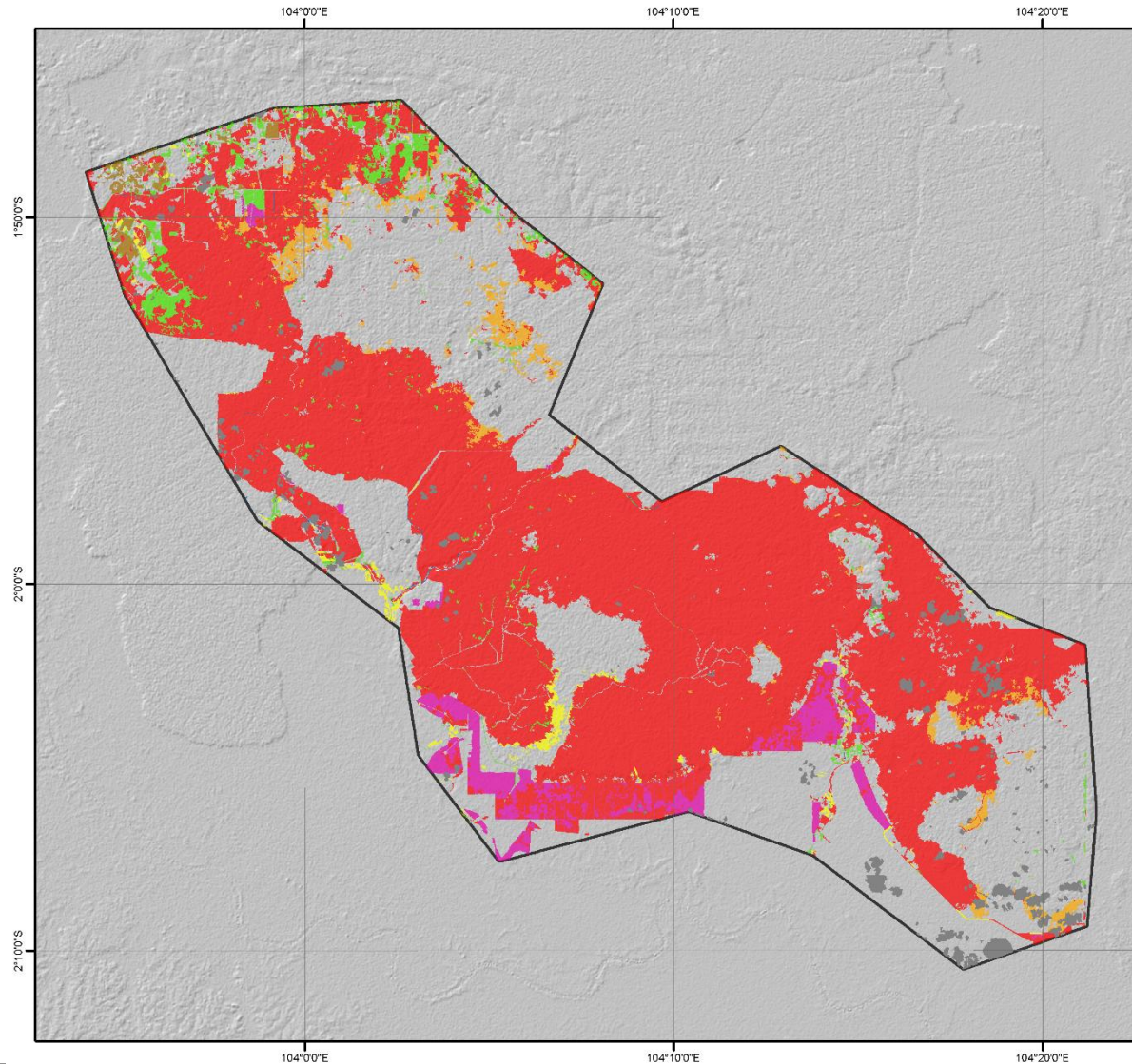








## FMU LALANG 2014 - 2016



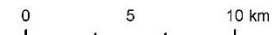
**KPHP Lalan  
Land cover change  
2014 - 2016**



**Legend**

- Deforestation
- Forest degradation
- Agricultural expansion on non-forest
- Plantation expansion on non-forest
- Flooding
- Land clearing
- Regeneration
- No change
- No Data
- District border

Coordinate system:  
WGS 1984 UTM Zone 48S  
Background:  
SRTM Hillshade



## Multi stakeholder Approach “Stakeholder’s Commitment”



- **Political Commitment: Peat Restoration Expert Panel (TRG), Local Regulation on Fire Prevention**
- **Partnership Program on ecosystem based ‘Green Economy Strategy’ with a special focus on degraded areas and forest landscape restoration in line with a Business Plan for Community**
- **Data Management/Data Centre of South Sumatera**
- **Action against illegal logging and canal digging**
- **DTM/Participatory Water Management Design “Different Stakeholders – Different Water Level”**
- **Desa Peduli Api (MPA) in Hutan Desa Kepayang**
- **Partnership with Private Sector: Canal Blocking**

## Green Growth and Biodiversity Conservation

- Efforts to balance economic growth with environmental protection as well as climate change mitigation and adaptation.
- South Sumatra still has areas with high biodiversity (both: flora and fauna) in its landscape. For instance: 2 (two) of 25 endangered species in Indonesia are still living there: Sumatran Tiger (*Panthera tigris sumatrae*) on Peatland as well and Sumatran Elephant (*Elephas maximus sumatranus*).
- It is paramount to protect and increase their population.

South Sumatra will be the first province in Indonesia to design and implement a Green Growth Plan in line with the first Indonesian Biodiversity Strategy and Action Plan (IBSAP) at Sub-National Level.

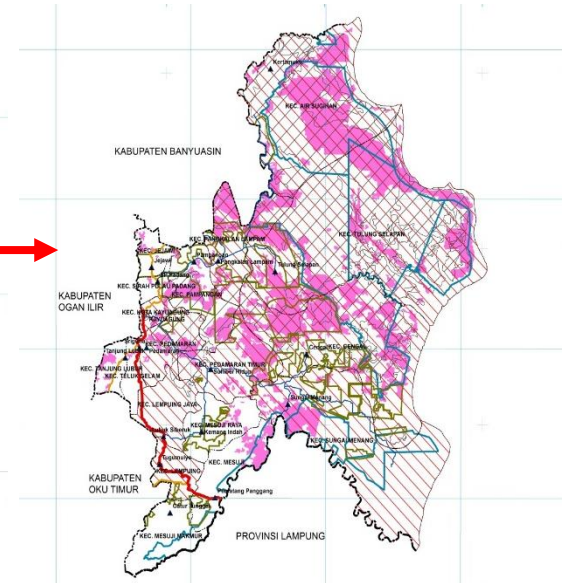
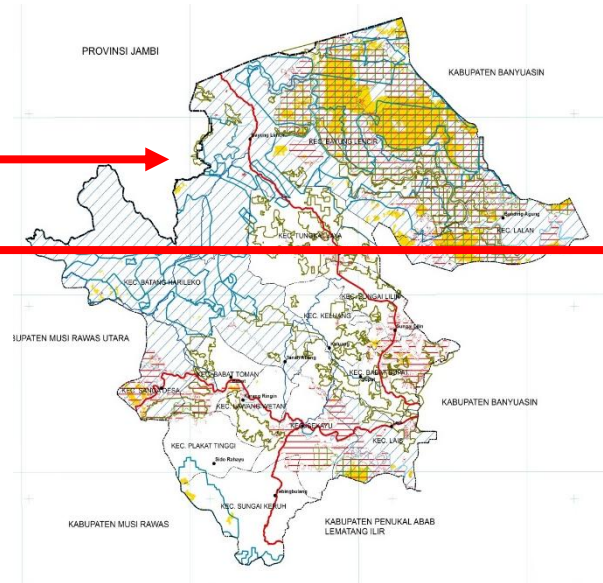


# Challenges of forest rehabilitation on peatlands: Mainstreaming of the One Map Policy in South Sumatra

**4 Peat Hydrological Units  
for Peat Restoration  
as Priority Area**

**Peat Restoration Priority  
Area Musi Banyuasin  
District**

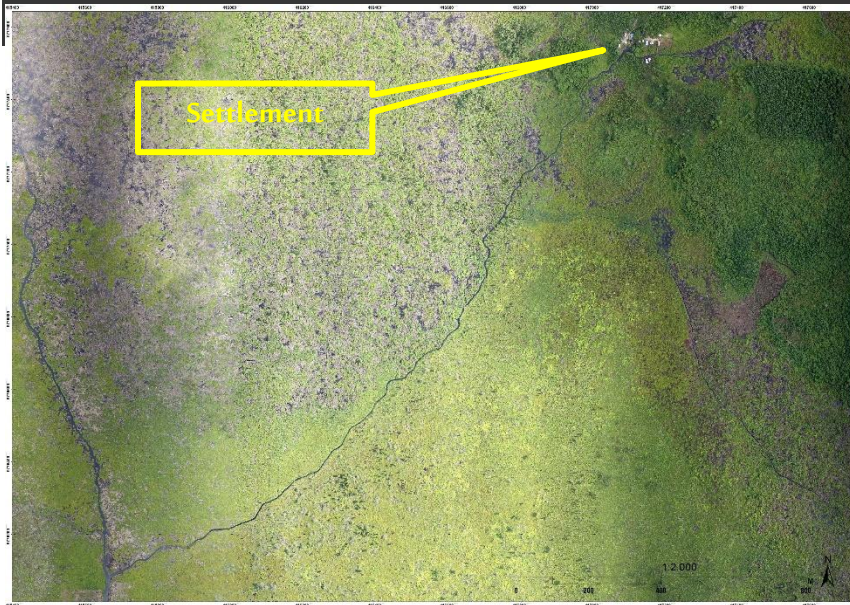
**Peat Restoration  
Priority Area  
OKI District**



**BIOCLIME and TRGD SUMSEL: Development of a Peat Restoration Map  
and Management Model for South Sumatra**

## Participatory Water Management Design: Canal Blocking in Cooperation with Local Communities for Livelihood

**Sub Peat Hydrological Unit in  
Bayung Lencir: Merang Kepayang  
Hydrological Unit (Village Forest)**

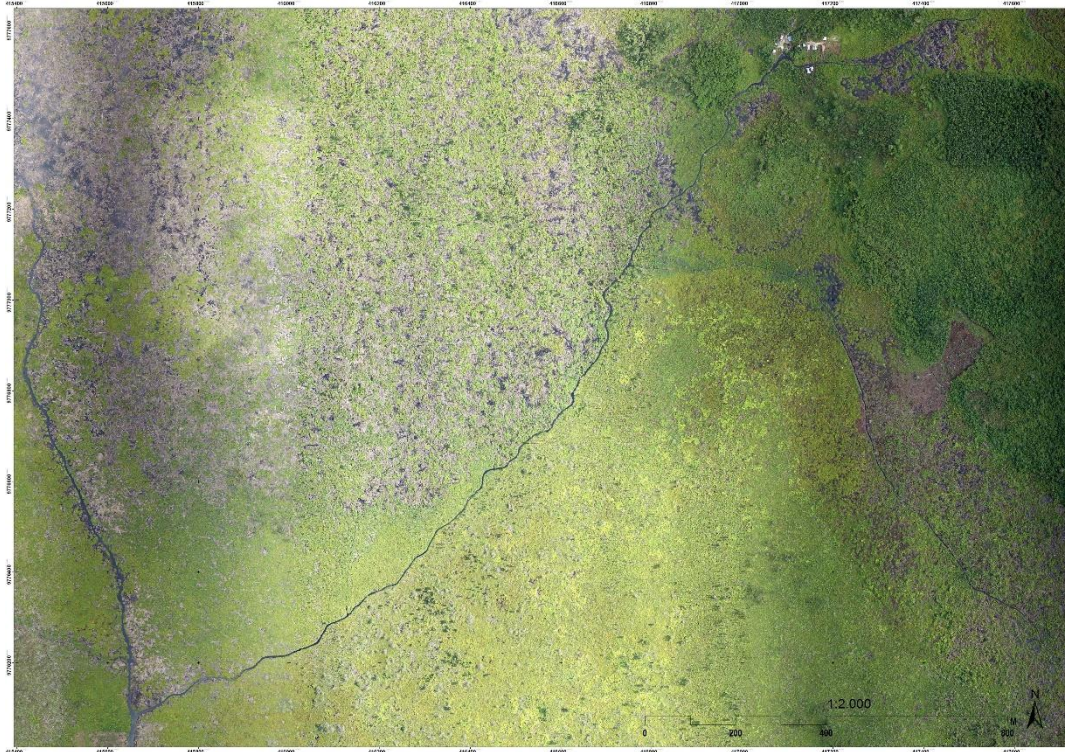


**Canal Blocking with a Community Group in  
Merang-Kepayang Hydrological Unit  
(Small Canal Ex. Illegal Logging Access)**



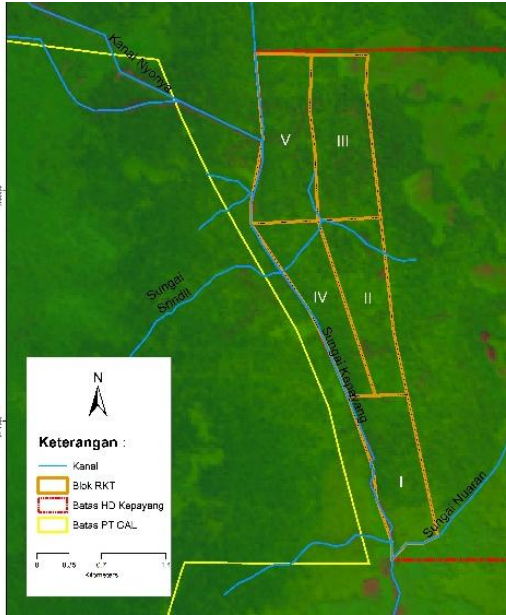
**Canal Blocking in Village Forest Kepayang:  
Rewetting, Rehabilitation, and Support to Community Livelihood**

## Water (Hydrology) Management :



- **Redesigning Peat Hydrological Units: restoration in the protection zone (peat dome), and rehabilitation in the priority zone (Village Forest) utilization zone and buffer zone;**
- **Canal blocking for rewetting of peat and controlling of water level;**
- **Areas with root - and deep peat fires, almost no natural revegetation, must be kept irrigated with a high water level during dry season;**
- **Water management (eco-hydrology) and tenure arrangements for effective peat and forest rehabilitation and sustainable management in the Peat Hydrology Unit.**

# Rehabilitation on Peatland: Technical Aspect



- Selection of endemic and local species, and forest rehabilitation technique at higher water level with paludiculture system;
- Selection of adaptive and high economic values species, and forest rehabilitation technique at wet peat land with agroforestry system;
- How to introduce: 1) Village nursery development, 2) techniques on spreading of seeds (germinated, small and lightweight, fast growing local species and pioneer but not invasive species, adaptive to water).
- Definition of criteria and indicators for performance and success of peat ecosystem restoration and forest rehabilitation.

## Community Engagement: Development of Community Business Plan



- Villagers need to be rewarded for their efforts and engaged in the co-benefit arrangements (payment based on the number of trees, planted and growing).
- Technical support in rehabilitation and management of NTFPs, including production and marketing.
- Support of extension workers and NGOs is required to ensure the success.
- Community Business Plan and Partnership Plan with FMU



## Sustainable Use of NTFPs: Integrated to the Community Business Plan

How to implement sustainable rubber production

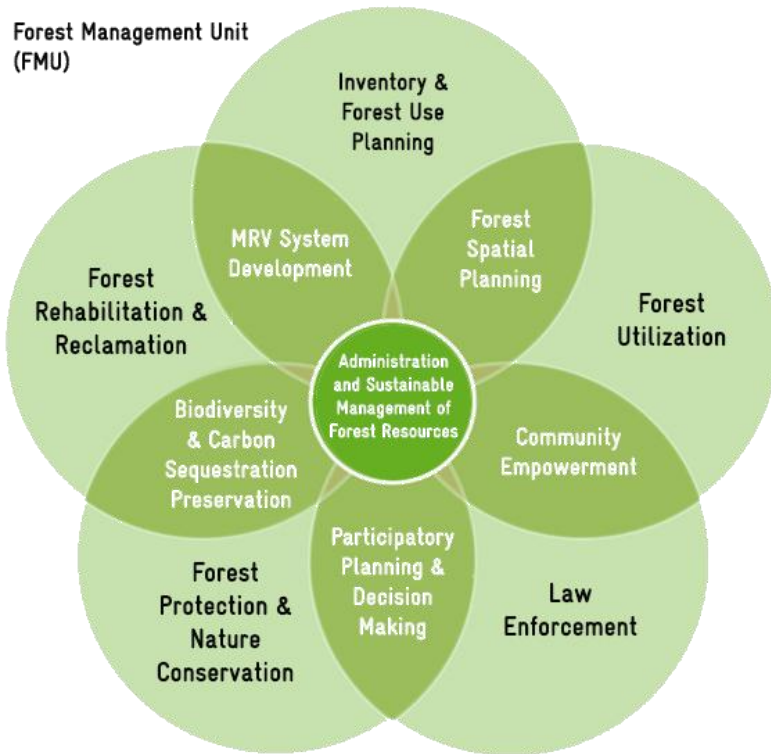


Other NTFPs.

Examples:

- Jelutung (*Dyera polyphylla*)
- Gemor (*Alseodaphne* sp.)
- Perupuk (*Lophopetalum* sp.)
- Suntai (*Palaquium burckii*)
- Nyatoh (*Palaquium xanthochimum*)
- Rotan (*Calamus* sp.)

## FMU Approach:



## Production FMU

- UU 23/2014: “The authority for the forestry sector is closely related to the authority for Forest Management Units (FMU)–Micro Level”
- FMUs are representing the local government.
- The objective is to conserve forests, protect watersheds and peat land, and to improve forest productivity.
- GIZ Project Bioclimate’ Lessons Learned by a “Filling the Gap Approach”



# BIOCLIME



Biodiversity and Climate Change Project

## Thank You

**Biodiversity and Climate Change (BIOCLIME) Project**

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