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Crouching Tiger **Hidden Carbon**

BERBAK PEATLAND FOREST CONSERVATION

A REDD+ demonstration project to conserve a Sumatran tiger landscape

14th March 2014

FREDDI Meeting, REDD+ Agency, Jakarta

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- Presentation Outline -

1. A rationale background to building the case for a Berbak REDD+ Project
2. REDD+ Project Feasibility & Eligibility in Berbak Peat Swamp Landscape
3. Progress and result to date Berbak REDD+ Readiness Project
 - ❖ An enabling environment and designing a landscape-scale REDD+ Project
 - ❖ Building partnership for sustainable, inclusive and low emission development
4. Recommendation and Lesson-learnt
5. Point of Discussion



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- A Rationale Background

26%

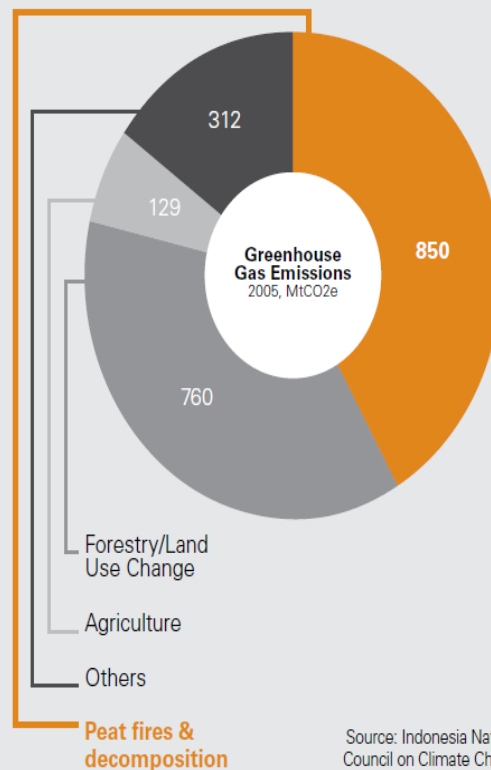
INDONESIA'S 2020
GHG REDUCTION TARGET
(41% WITH EXTERNAL HELP)

41%

OF INDONESIA'S 2005
GHG EMISSIONS WERE
FROM PEATLAND LOSS

INDONESIAN GREENHOUSE GAS EMISSIONS (GHG) FROM PEATLANDS

Nationally, emissions from peatlands amounted to roughly 41% of Indonesia's total GHG emissions in 2005. This makes conserving peat swamp forest one of Indonesia's largest mitigation opportunities.



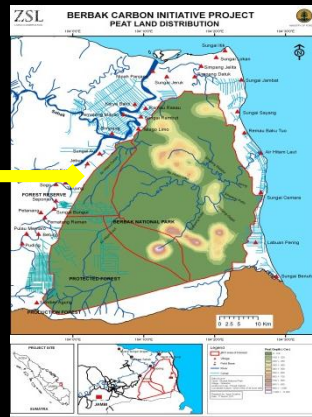
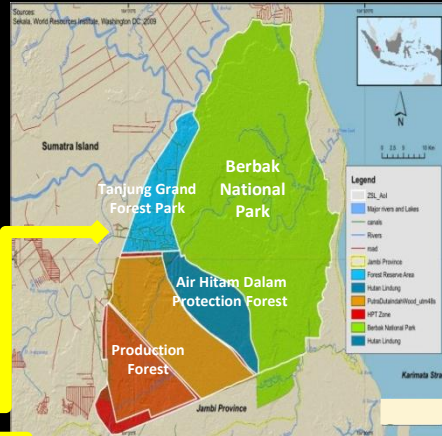
Source: Indonesia National Council on Climate Change

Tropical peatlands are a key global carbon sink – absorbing and storing vast amounts of carbon from the atmosphere.

This sink function is threatened by deforestation, peat drainage, and climate change.

- A Rationale Background – Project Overview

Location



Berbak peat swamp forest landscape located in Muaro Jambi and Tanjung Jabung Timur Sub-districts, Jambi Province, Indonesia. The core area comprises of Berbak National Park with a deep-peat swamp forest. Last remaining intact peat-swamp forest in the Sumatra South Eastern coastal region within the Sunda Land Key Biodiversity Area. A total Berbak Carbon Initiative (BCI) REDD+ Area of Interest (AoI) 238,000 hectares. AoI consisting 4 forest functions Berbak National Park (142,750 ha), Air Hitam Dalam Protection Peat Swamp Forest (18,700 ha), Production Forest (62,000 ha), Tanjung Grand Forest Park. (17,893 ha).

Key Project Partner and Funding Assistance :

Ministry of Forestry, Government of Jambi Province, Gita Buana Foundation, Deltares, IUPHHK-HA PT. Putraduta Indahwood, IUPHHK-HA PT. Pesona Belantara Persada, Jambi REDD+ Provincial Commission, Clinton Foundation, Tropical Forest Conservation Action (TFCA-Sumatra)-USA, DEFRA UK, Panthera Fund, Darwin Initiative-UK, 21 Century Tiger, US Fish and Wildlife Service and Segre Fund.

Project Developer :

Planned Project Design Document (PDD) :

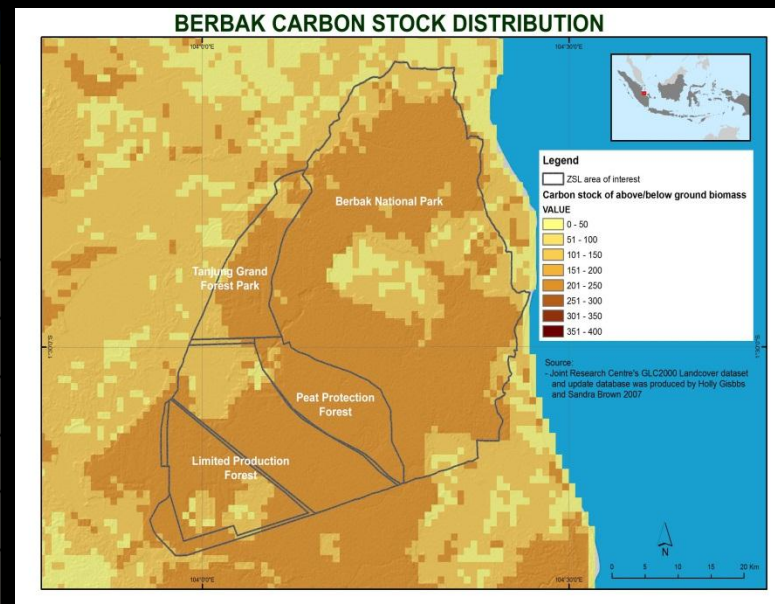
Voluntary Carbon Standards (VCS), Climate, Community and Biodiversity Standard (CCB)

- A Rationale Background – Climate, Biodiversity and Community Benefits



- Berbak peat land stores 45 million tonnes carbon stock with 26 million tonnes in the Berbak National Park alone. GHG potential from the BCI project area are approximately estimated to be ~164 millions cumulative CO₂e with 34,4 millions in the Berbak National Park alone over the entire 30-year period and 149.4 millions MtCO₂e from emissions caused by the peat drainage and subsequent oxidation of peat land. Its make Berbak make a significant impact to climate change mitigation.
- A highly REDD+ project potential for Peatland Restoration and Conservation, included degraded peat land forest rehabilitation and peat land hydrology restoration activities to restoring peat land biodiversity and hydrology and enhancement carbon stock.

Carbon Stocks			
Location	Area (ha)	Range (tC/ha)	Carbon Stock (~tC)
Berbak National Park	140,198	0 - 225	~25,988,500
Protection Forest (HL)	18,705	4 - 225	~4,129,680
Forest Reserve (Tahura)	17,599	5 - 225	~3,377,990
Total Production Forest Zone	62,214	4 - 225	~11,977,620
PT. PIW	33,562	4 - 225	~6,419,260
PT. PBP	20,951	4 - 225	~3,951,400
Total	238,716		~45,473,790



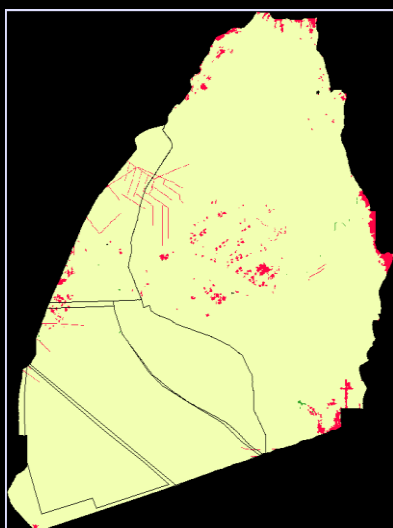
- A Rationale Background – Climate, Biodiversity and Community Benefits

- Berbak peat landscape is a **RAMSAR Convention** wetland site of global importance for water bird biodiversity conservation. It is rich in biodiversity, including being habitat for the Sumatran tiger and 23 other IUCN Red List species.
- Berbak is a **Tiger Conservation Landscape** in Indonesia based on Minister of Forestry Regulation No No. 42/Menhut-IV/2007 regarding Sumatran Tiger Strategy and Action Plan. The Sumatran Tiger is one of priority species on national conservation strategy based on Minister of Forestry Regulation No. 57 Year 2008. Berbak landscape is a part of Global Tiger Recovery Program and Indonesian National Tiger Recovery Program (NTRP) with key strategic goals to double the population of Sumatran tigers by 2022.
- Almost **60,000 people** living around Berbak depend on the peat land forest for food, timber, water and medicines. Berbak peat land landscape provides essential ecosystem services for sustainable livelihoods and climate resilience for poor local communities, through sustainable community based non-timber forest production, peat land conservation and other climate smart agriculture activities.

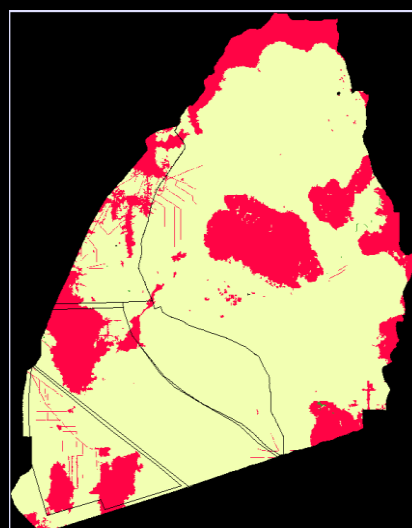


- A Rationale Background - Key Threats Deforestation and Forest Degradation

The Berbak peat swamp forests are threatened by deforestation and forest degradation, caused by encroaching farms, illegal logging, drainage canals and peat fires. The average rate of deforestation was around -1.96 % (1990-2009).



BCI Land Cover 1990



BCI Land Cover 2000



BCI Land Cover 2005



BCI Land Cover 2009

Land Cover Change maps showing *actual* forest / non-forest areas within the Berbak Carbon Initiative Area of Interest.

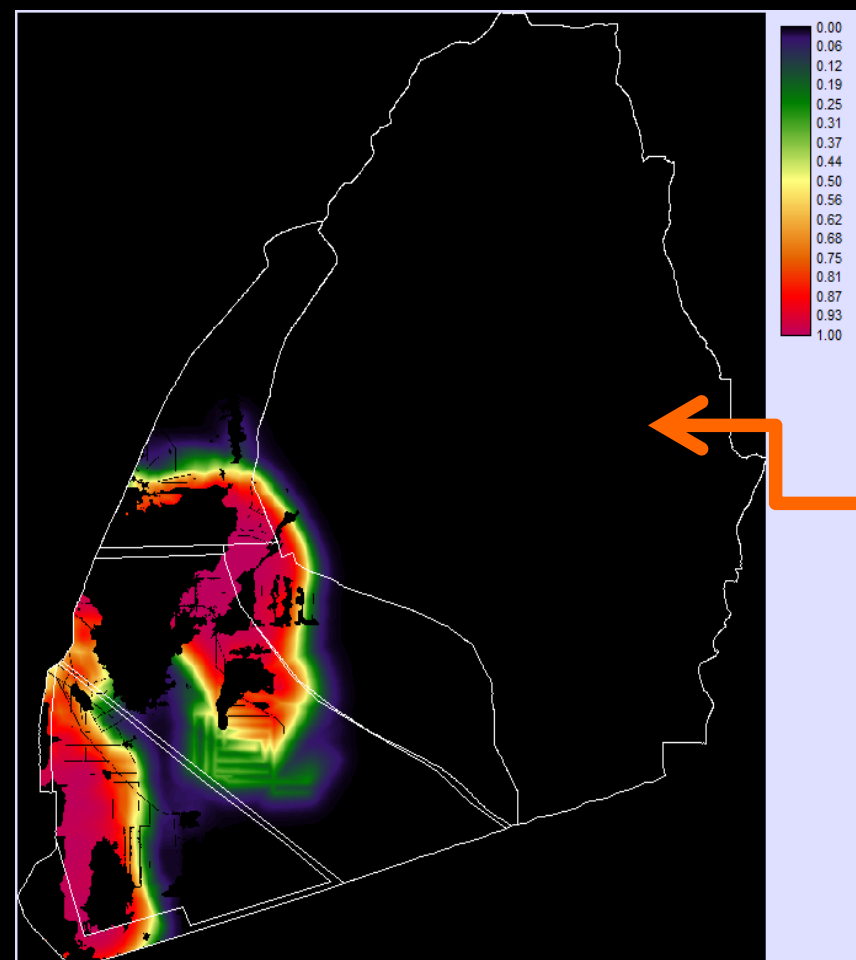


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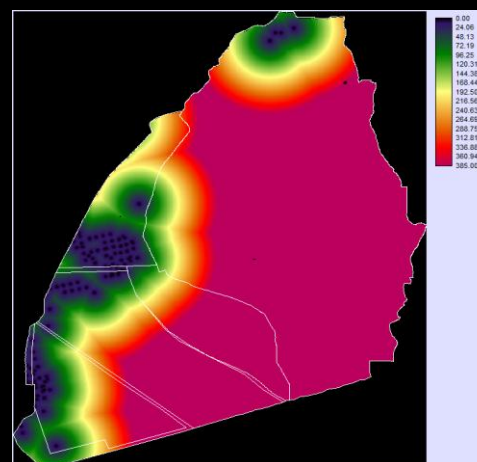
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- A Rationale Background - Key Threats : Deforestation and Forest Degradation

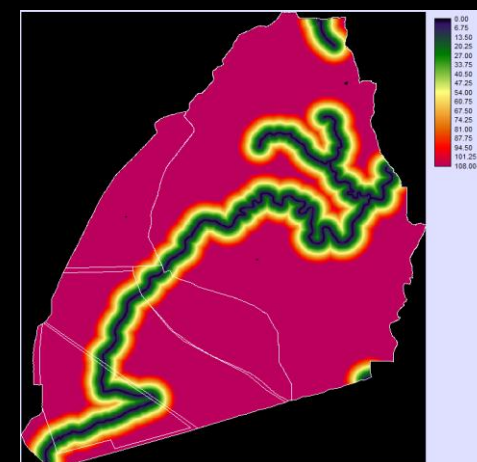


BCI map of overall Driver Map (transition potential).

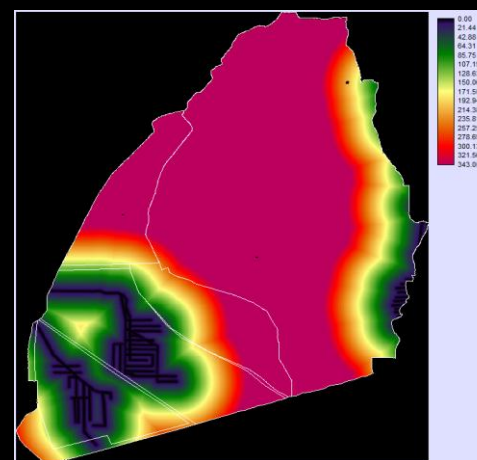
Higher potential infers a greater risk of a forest to non-forest transition. Areas in Black refer to either non-forest areas, or forest areas with no risk. Legend indicates units of probability



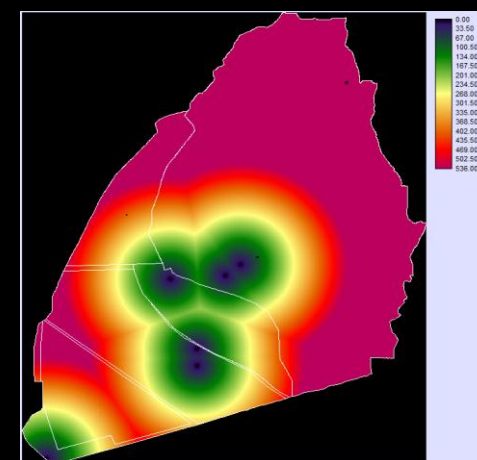
Distance from Fires



Distance from Rivers



Distance from Roads



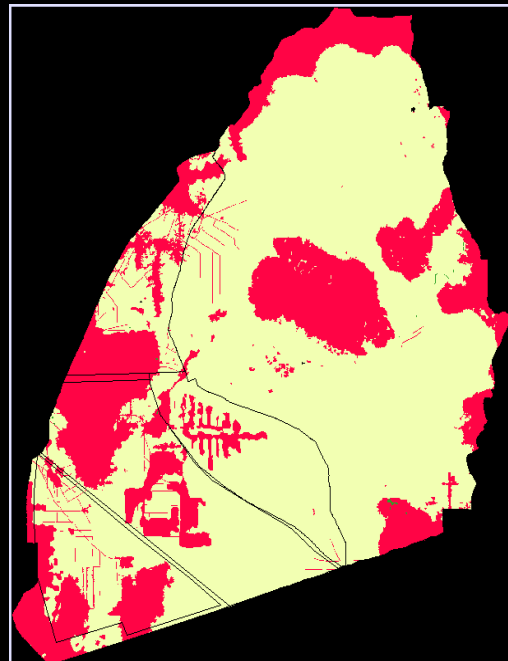
Distance from Villages

BCI Area of Interest LCM MLP Driver Maps.

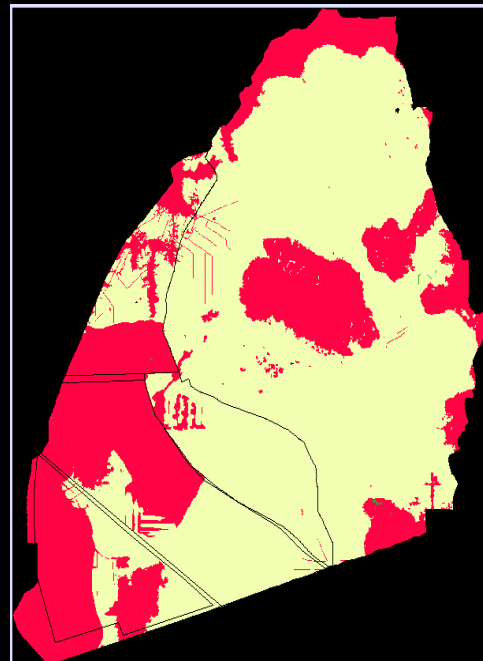
Vulnerability increases from high to low, moving from dark blue to pink

- A Rationale Background – Key Threats : Deforestation and Forest Degradation

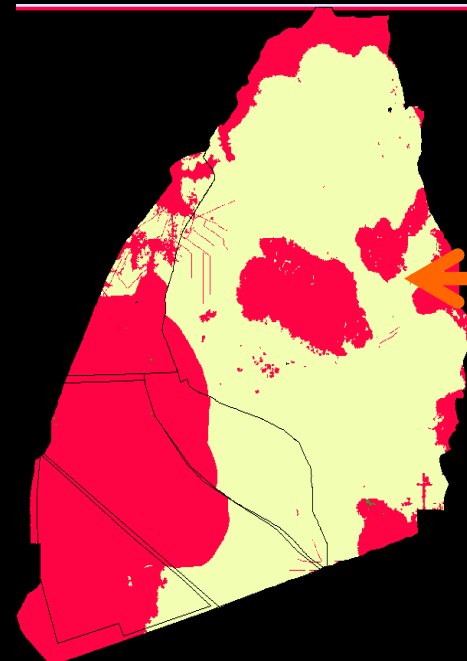
Predicted that 40,863 ha of forest area will be lost between 2008 and 2037 in Berbak and cause climate impact through increasing GHG emissions.



BCI Actual – 2009



BCI Prediction – 2018



BCI Prediction – 2037



REDD+ Project Feasibility & Eligibility in Berbak Peat Swamp Landscapes

Potential climate change mitigation project types recommended for consideration in the BCI AoI follow Voluntary Carbon Standard (VCS) nomenclature and fall into two categories :

1. Agriculture, Forest and other Land Use (AFOLU)

- Improved Forest Management (IFM) : Conversion from conventional logging to reduced impact logging (RIL) –
- Reducing Emissions from Deforestation and Degradation (REDD)
- Avoiding planned deforestation (APD)

2. Peat Rewetting and Conservation (PRC)

- Avoiding peat oxidation through re-wetting and conservation (PRC)

Possible Climate Change Mitigation Project Scenarios in Berbak Peat Swamp Landscape

Location	IFM - Reduced Impact Logging (RIL)	REDD - Avoided Unplanned Mosaic Def. and Deg. (AUMDD)	REDD - Avoided Planned Deforestation (APD)	Peat Rewetting and Conservation (PRC)
Berbak National Park	-	Limited	-	Significant
Protection Forest (HL)	-	Possible	-	Possible
Grand Forest Park	-	Possible	Possible	Significant
PT PIW	Possible	Possible	-	Significant
PT PBP	Possible	Possible	-	Significant

Matrix describes potentially feasible project types for each Forest Management Area

- A Rationale Background – Goal and objective

BCI 's goal

Berbak Carbon Initiative (BCI) goal is to conserve threatened ecosystem by reducing deforestation and forest degradation through creating sustainable financing for long term Berbak peat swamp conservation and protect the Sumatran tiger as a flagship species using financial incentives and multiple benefits for biodiversity and community, created from emerging carbon payments, most likely 'avoided-deforestation' or Reducing Emissions from Deforestation and Degradation (REDD +) schemes.

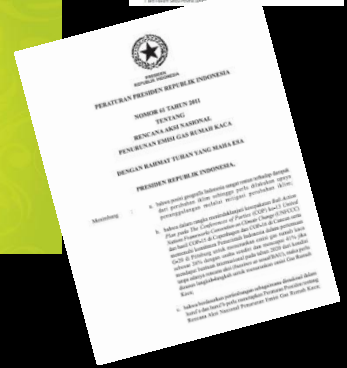
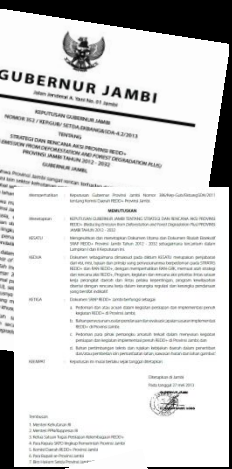
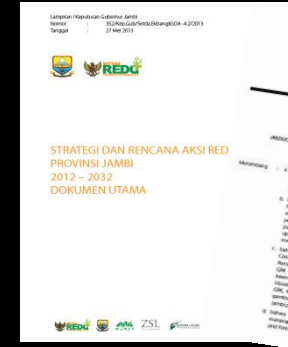
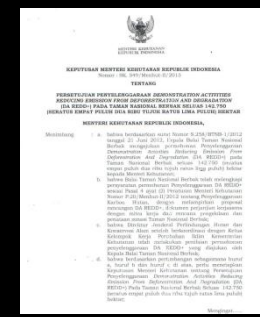
Success of this demonstration at the sub-national scale can further develop tropical peat swamp forests potential to become a major revenue generator, highlighting the synergy between UNFCCC and the Convention on Biodiversity (CBD) objectives by making substantial contributions to biodiversity conservation. The BCI will contribute to a number of CBD objectives, particularly Aichi Targets 11, 12, 14 and 16.



- Progress and Result -A enabling environment and designing a landscape-scale REDD+ Project

The importance of the area for Indonesia's REDD+ demonstration work is now confirmed by Ministry of Forestry Decree No. SK.549/2013, approving REDD+ DA implementation in Berbak National Park with a total cover area 142,750 hectares. BCI also supporting provincial carbon emission reduction targets highlighted and undertake activities listed in the priority project pipeline in the Jambi Province REDD+ Strategy and Action Plan 2012-2032 (SRAP) which is recognized by Jambi Governor's Decree No. 352/2013.

The BCI also contributes to the achievement of Indonesia's GHG emission reduction goals of 26 % by 2020 or (with international support) 41% by 2020. In line with President Regulation No. 61 / 2011 regarding National GHG Reduction National Action Plan and Jambi Province GHG Reduction Action Plan



- Progress and Result – A enabling environment and designing a landscape-scale REDD+

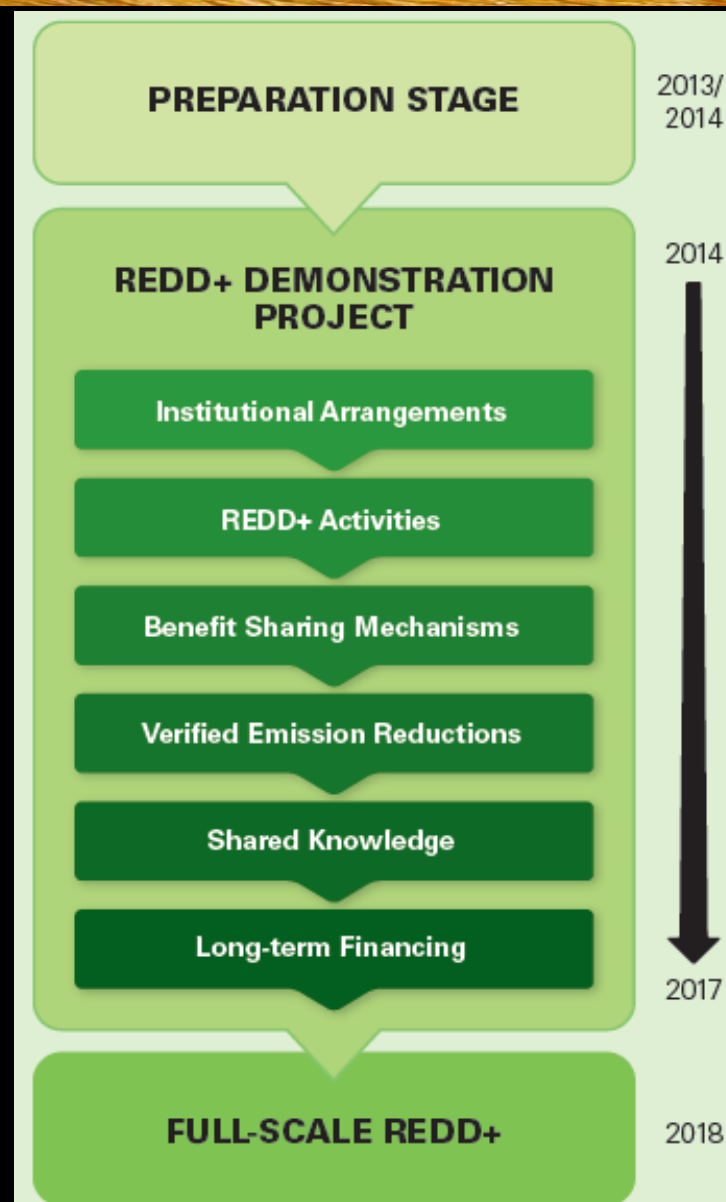
The planned REDD+ Demonstration Project — to run 2014–2017 — will involve five main activities, aimed towards securing long-term financing to scale-up full implementation REDD+ across the whole Berbak's landscape from 2018 :

1. Build institutional capacity:

Establish transparent, independent, and credible REDD+ Measurement, Reporting and Verification at site level and coordinate with MRV effort at provincial level, and a trust fund to receive future REDD+ funds.

2. Design and test ecosystem-based activities:

- Create a fire early-warning system;
- Re-wet peat by community-based blocking canals;
- Replant and rehabilitate degraded forests by paliduculture (silviculture on peat);
- Create community-based enterprises;
- Promote certified and legal timber operations.



- Progress and Result - A enabling environment and designing a landscape-scale REDD+

3. Benefit-sharing mechanisms:

Work with stakeholders to design and test incentives for conservation action and climate-compatible development.

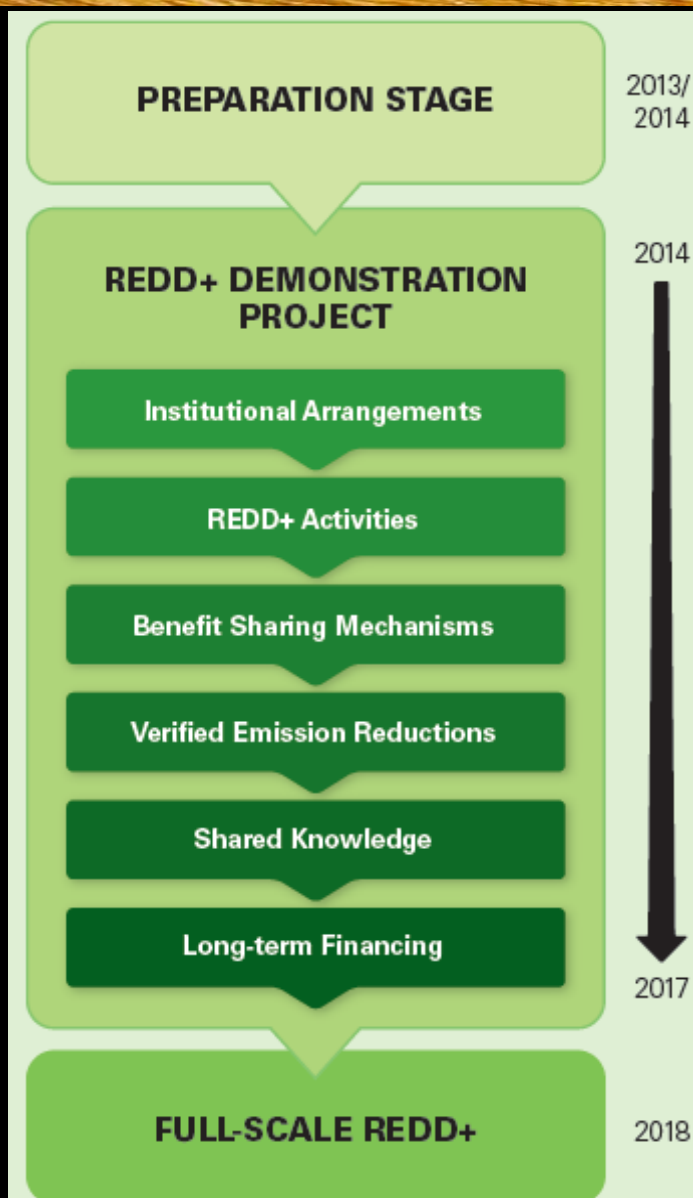
4. Generate verified emissions reductions:

Develop a system to monitor the project's success, in line with the Verified Carbon Standards (VCS), Climate, Community & Biodiversity Standards (CCB) and Indonesian Social and Environmental Safeguards. The site's importance for the Sumatran tiger – and other IUCN Red List species – means that the project will aim to meet the CCB Gold standard.

5. Share knowledge and best practice:

Build local capacity to run the REDD+ project over the long-term and share lessons with national and international REDD+ stakeholders.

6. Creating long-term and sustainable financing for full scale REDD+ implementation



- Progress and Result –Building partnership for sustainable, inclusive and low emission development

Community engagement

With funding assistance from the Clinton Climate Initiative, and Tropical Forest Conservation Action, ZSL and our local NGO partners, Gita Buana Foundation, Ko-Roar Berbak Consortium and KKI-WARSI Association are raising awareness of climate change and testing REDD+ incentive by developing sustainable local livelihoods among the 32 villages surrounding Berbak. This is the first step in a REDD+ consultation process which will strengthen the communities' ability to choose whether and how to engage in REDD+ to create community co-benefits.

Private sector engagement

Globally, deforestation and forest degradation are increasingly being driven by private enterprise. The Berbak landscape is no exception, with planned expansion of timber and oil palm production. ZSL and partners will build capacity among local two local timber operators (Putraduta Indah Wood Co. and Persona Belantara Persada Co.,) and communities, producing certified legal and sustainable timber commodities through sustainable forest management and timber legality verification. The REDD+ project will help enterprises shift to certified sustainable production and create new forest friendly businesses.

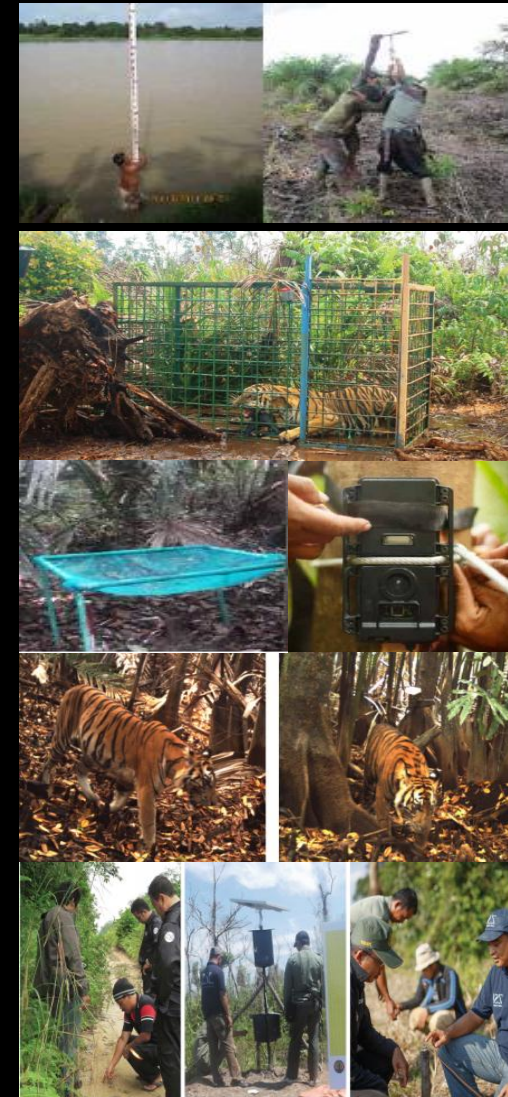
Government engagement

ZSL and BNP office are working in collaboration with two District governments, the Jambi provincial government and the national REDD+ Task Force to ensure that the project is 'nested' within sub-national and national REDD+ legal frameworks and spatial plans. Jambi has been selected as a Pilot Province for the Norway-Indonesia REDD+ Climate Partnership REDD+ Agreement. Indonesia's Minister of National Planning through the Green Prosperity - Millennium Challenge Compact Program has selected Muaro Jambi District and neighboring Berbak National Park as a part of future starter project sites

- Progress and Result –Building partnership for sustainable, inclusive and low emission development

Initial surveys of Berbak National Park (BNP) in 2008 found a substantial tiger population as well as a range of other endangered species. Since then, Berbak has become one of ZSL's key conservation sites, with a field team stationed at a purpose-built forest station supporting the Berbak National Park authority to carry out conservation activities and REDD+ readiness activity, including :

- ❑ Berbak REDD+ Feasibility Study
- ❑ Installation of 150 camera traps for Sumatran tiger occupancy and distribution monitoring
- ❑ Facilitate to empower Forest Ranger on Forest Patrolling System through Spatial Monitoring and Reporting Tool (SMART) Training
- ❑ Established and functioned 2 two) unit Berbak Wildlife Conflict and Crime Response Team (WCCRT) which patrols the borders of the national park to reduce human-wildlife conflict
- ❑ Established Community ranger support units to support the WCCRT's patrol efforts
- ❑ Started REDD+ consultation process in 32 viilages to strengthening the communities' ability to choose whether and how to engage in REDD+ to create community multiple-benefits.



- Progress and Result –Building partnership for sustainable, inclusive and low emission development

- ❑ 3-sites peat swamp subsidence and hydrological monitoring,
- ❑ 3500 trees phenology monitoring and 6 hectares forest litter trap monitoring
- ❑ A pilot project of more than 2 kilometers of solar, tiger-friendly electric fence to resolve tiger-human conflicts
- ❑ Testing REDD+ incentive by developing sustainable local livelihoods among the 11 priority villages surrounding Berbak landscape.
- ❑ Infrastructure development (research station, permanent sampling plot)



- Recommendation and Lesson Learnt

- 1. Conserving tropical peat swamp forests in Berbak Landscape is a vital part of Indonesia's and provincial GHG emission reduction action plan.**
- 2. The Berbak REDD+ Demonstration Project will use climate finance to catalyse green growth. Conserving Berbak Landscape will help Indonesia meet its conservation, development and climate goals.**
- 3. BCI is still in the DA REDD + readiness phase and still needs funding to prepare a stronger foundation toward full implementation of REDD +, in particular completion of the Project Design Document which includes detailed plans for institutional arrangements, Reference Emission Level estimation, MRV and benefit sharing and continue the community consultation planning process in 32 villages.**
- 4. The key to REDD+ success will be harnessing local knowledge, new science and performance-based climate finance to catalyse a green economy delivering multiple benefits in Berbak and beyond.**
- 5. There are significant opportunities for REDD + initiatives to benefit the local community through an early investment program in productive activities, food security improvement, empowering individuals and local institutions in sustainable land use decision making .**



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THANK YOU

