

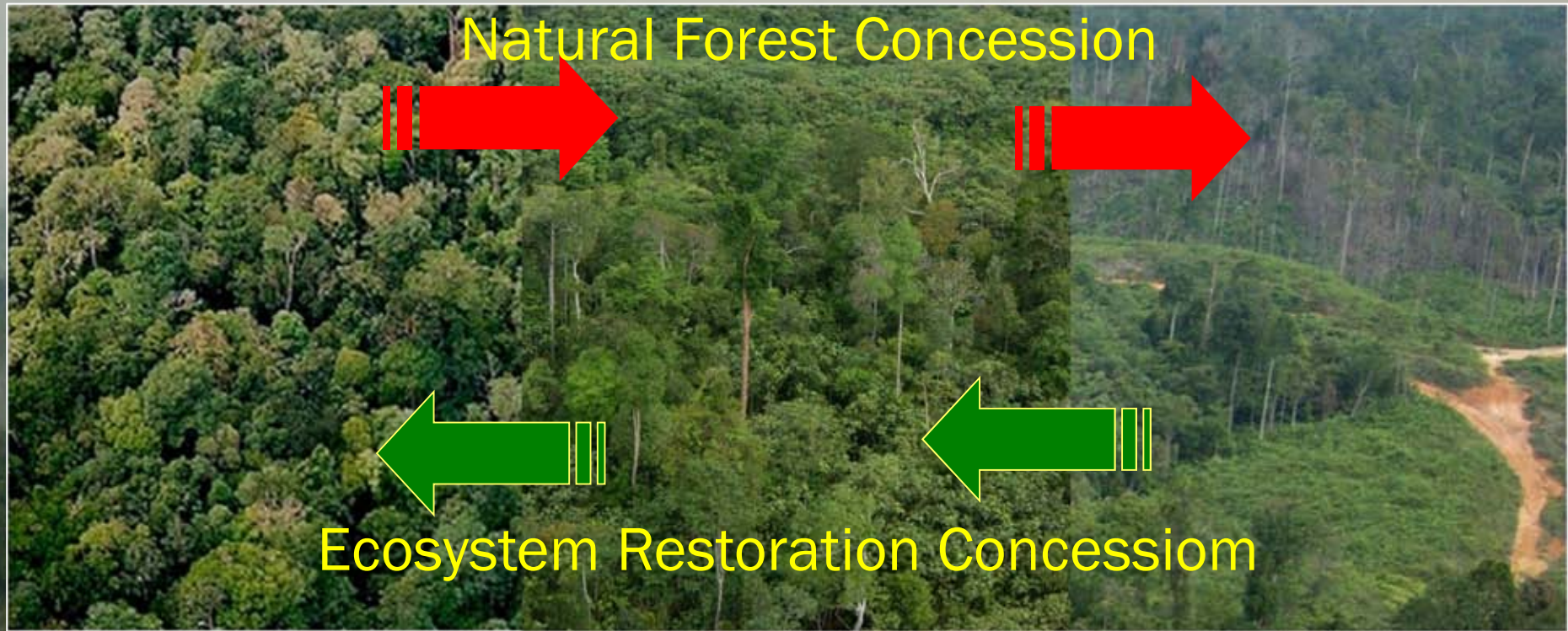
HUTAN HARAPAN

Ecosystem Restoration in Production Forest Areas



THE ECONOMICS OF RESTORATION: EXPERIENCE FROM REKI - HUTAN HARAPAN BUSINESS IN INDONESIA





ERC has the potential to play an important role in bringing deforestation and degradation under control and contributing to Indonesia's emissions reduction targets.

Ecosystem restoration concession (ERC) has the potential to slow down and reverse degradation and deforestation in production forests. ERC mobilizes new resources and offers an alternative approach to addressing long standing issues such as restoration, biodiversity conservation, forest business development and forest governance.



Preventing deforestation and undertaking the restoration of the Hutan Harapan and will avoid the emission/sequester of between 10-15m tones carbon. In addition, contribute significantly to the wider emissions reduction programme in Indonesia and elsewhere in South East Asia.



ERC initiative will contribute to support achievement of Aichi Biodiversity :

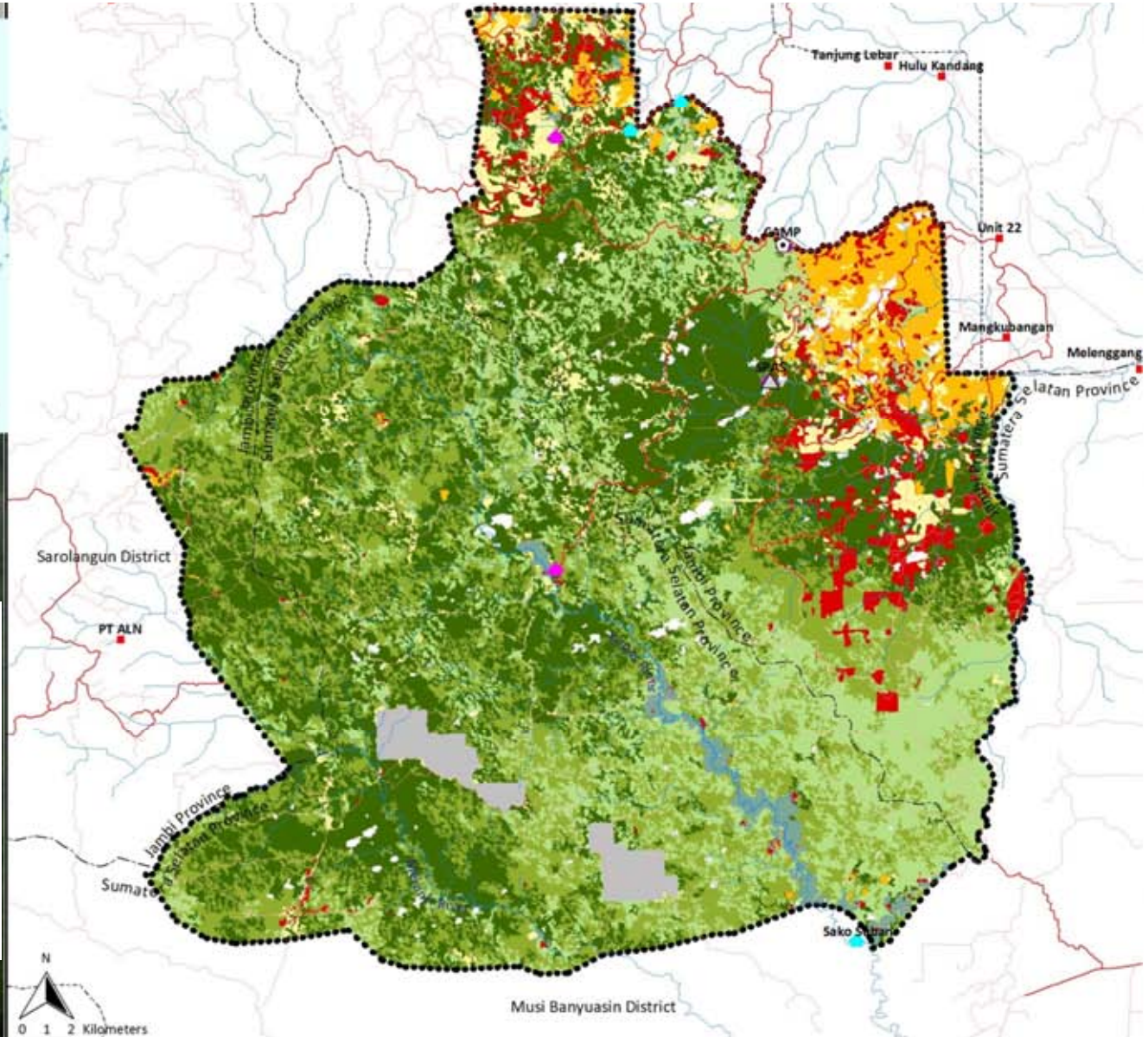
- Reduce the direct pressures on biodiversity and promote sustainable use (target 5)
- To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity (target 11)
- Enhance the benefits to all from biodiversity and ecosystem services (target 14 and 15)



Hutan Harapan Jambi & South Sumatera



- Areas : 98.000 Ha
- Forest logged area
- app.18,500 people living surround area



Biodiversity Value of Site

728

PLANT



Recent surveys suggest that over 738 species of trees. which are dominated by meranti (*Shorea* spp), medang (*Litsea* spp) and balam (*Palaquium* spp. There are **four plant species that are Critically Endangered (the Dipterocarp trees *Hopea mengerawan*, *Hopea sangal* and *Shorea acuminata*, and the smaller *Syzygium ampliflorum*), two Endangered and six are listed as Vulnerable.**

305

BIRD



To date, 305 bird species have been recorded at Harapan, including **nine globally threatened species: the Endangered Storm's Stork and eight Vulnerable species. In addition, a remarkable 66 Near Threatened bird species** have also been recorded.

64

MAMMAL



64 mammal species have been recorded including a remarkable **five primates and seven cat species, including up to 20 Sumatran Tigers. Includes Asian Elephant and the Sumatran Tiger that are Critically Endangered, six Endangered species (Asiatic Wild Dog, Sunda Pangolin, Mitred Leaf Monkey, Agile Gibbon, Siamang and Malayan Tapir), and other ten Vulnerable species**

56

REPTILE



At least, 56 species of reptiles including lizards, tortoise, and various kind of snakes are living in the Harapan

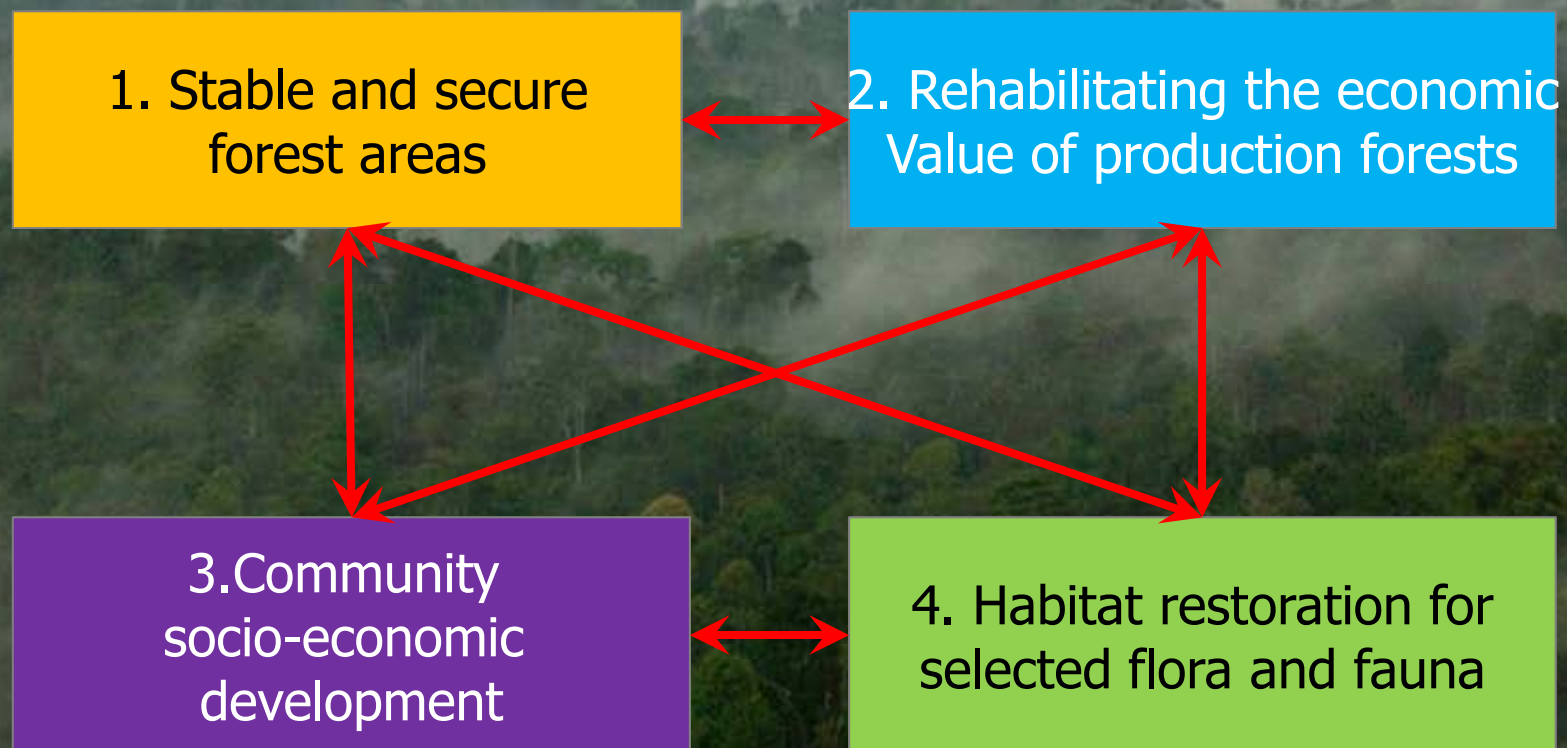
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AMPHIBIAN



In addition, 38 species of amphibians have been identified in HRF. These frogs and toads hold the important role as one of the indicators of environment health.

Framework of ecosystem restoration activities



1. Forest protection is aimed at securing the area from continuous disturbance and to allow natural colonization and succession processes to take place.



Target to be achieved in 2020 among others are:

- The establishment of integrated security system, both in preventive and law enforcement aspect.
- Integrated handling of forest fires with other related parties
- **Boundaries demarcation has respect from surrounding community and other neighboring companies.**
- Acknowledgement, respect and direct involvement over the management of Hutan Harapan from surrounding communities
- **No illegal logging and encroachment land**





2. During the period of restoration, the utilization of forest products will be limited to non-timber forest products. When post-restoration period, the utilization of timber as well as non-timber forest products may become feasible.





ERCs are a viable business model because :

(i) management of concession is based on habitat restoration and rehabilitation;

(ii) with secure land tenure ownership concession management has a legitimate to manage the area;

(iii) monitoring and safeguarding an area from illegal exploitation can be conducted more effectively.

Research and monitoring major activity :

- **Baseline status assessment of species and habitats and long-term monitoring programs**
- To improve our understanding of the ecological requirements of key species to aid their management and conservation as integral parts of a restored landscape.
- Developing the science of restoration ecology as applied to Hutan Harapan
- Landscape ecological studies, particularly those aimed at understanding the distribution of species
- **Quantifying and valuing the ecosystem services**
- **Socio-economic research**
- **Selective thinning, planting, enrichment and maintenance in the area of approximately 35,000 ha**



3. The community partnership element will intensify the collaborative work with local communities and build a mutually beneficial relationship.

Target that will be achieved for community partnership activities are:

- **Collaboration agreement with indigenous people living within and around Harapan Rainforest, as well as with the 6 neighboring villages**
- Participatory boundaries setting with the community
- **Strengthening livelihood sustainability and developing choices of alternative economic for community that has collaborated.**
- Increasing community's role in using allocation of government budget to improve village development.



4. Habitat restoration for key flora and fauna species is aimed at restoring the functions of the degraded ecosystem. The presence a wide range of flora and fauna in a forest ecosystem, is a crucial factor in determining the health of the ecosystem and is especially important in ex-logging areas.

Hutan Harapan will conduct complete inventory of key flora and fauna out of the whole area and will prepare **conservation strategy for key species. Also will restore 40.000 ha of its habitat.** Including conserve more than 300 species of birds, 50 species of mammals, 30 species Amphibian, 50 species Reptile, 122 species of fish and more 728 species of flora.



Summary of Potential Forest Utilization Enterprises for ERC

Environmental Services	Area Use	Non-Timber Forest Products
<ul style="list-style-type: none"> ✓ Use the water flow and water, ✓ nature tourism, ✓ protection of biodiversity, saving and protecting the environment; ✓ absorption and/or storage of carbon 	<ul style="list-style-type: none"> ✓ Cultivation of medicinal plants; ✓ cultivation of ornamental plants; ✓ mushroom cultivation; ✓ bee keeping; ✓ raising animals; ✓ cultivation of swiflets. 	<ul style="list-style-type: none"> ✓ Rattan, sago, palm, bamboo - includes planting, harvesting, enrichment, maintenance, security, and marketing: ✓ Tapping for sap, bark, leaves, fruit or grain; ✓ Gaharu wood - includes harvesting, enrichment, maintenance, security, and marketing

ERC are only licensed to registered company in Indonesia. Just same as all type concession (oil palm, rubber, acacia (PTP) or Logging) are companies.

ERC may develop NTFP, ecosystem services, eco-tourism opportunities for income generation.....but this take time.

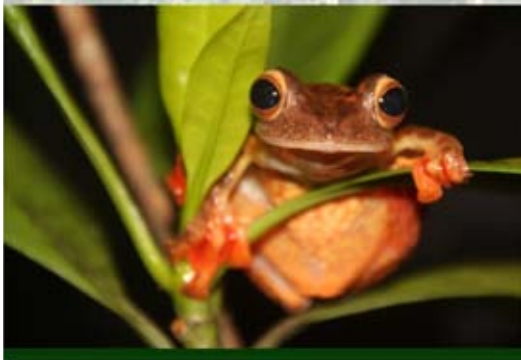
Hutan Harapan's business model is **multi-product approach and international donor organization**. The initiative has already attracted financial support from Singapore Airlines through a trust fund, indicating that there are possibilities for developing innovative funding sources. Efforts are being made to develop markets for a number of NTFPs, but their viability will not be apparent for a number of years. Carbon markets are another potential source of income.



The difference is ERC are not exploiting the forest to generate income for operation, and therefore operations income is not available immediately.

The existing direction of donor dependency is not viewed as sustainable. **Donor fund are limited in :**

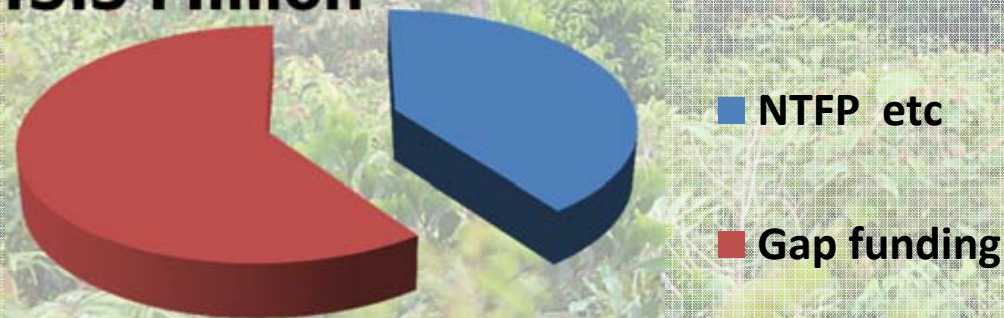
- **Time scale** (3 – 5 years) as compared to the license period (60 – 100 years).
- **Use restriction** in how funds are spent to achieve objectives.
- **Institutional set-up**, funds may not be given directly to a private company, but usually through NGO's.



Hutan Harapan expenditures will be for :

- various restoration activities
- development of institutional capacity
- community development
- various obligations to the state, environmental and social
- company management activities.

The total of cost over the period of 50 years is estimated USD 45.5 Million



And the gap financial will support by international donor organizations, established trust fund and other resources.(proposed to Government)



ERC is initiative that promises **to restore degraded and deforested areas, conserve biodiversity, improve forest management and provide a multi-product approach** to forest resource use while simultaneously contributing to reducing carbon emissions.

ERC investor are a number of business models ready to take advantage of this new opportunity, but :

- the long application process for obtaining licenses,
- **the lack of incentives**
- **difficulties in pursuing alternative revenue streams,**
- **ER regulations to a multi-product approach is far from complete.**



Challenges : facing ERC development requires concerted action by the various stakeholders.

To increase bargaining power, foster alliances with key actors in the finance sector and link with other business groups in the forest supply chain.

Government at the district and national level need to increase knowledge of the benefits of ER to the local economy and ecosystem.

Government needs to further strengthen the enabling environment and make the multi-product forest paradigm a reality

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THANK YOU

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