



United Nations
Educational, Scientific and
Cultural Organization



Indonesian
Fund-in-Trust

SEA for a Resilient Tropical Rainforest Heritage of Sumatra for Climate Change Mitigation and Biodiversity Conservation



United Nations
Educational, Scientific and
Cultural Organization



Sustainable
Development
Goals



Man and
the Biosphere
Programme



PATRIMONIO MUNDIAL
WORLD HERITAGE
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The Project

Building a Resilient Tropical Rainforest Heritage of Sumatra for Climate Change Mitigation and Biodiversity Conservation

- Funding: Indonesian Fund-In-Trust (IFIT)
- Main Goal: To enhance the integrity of the TRHS and protect it from further threats, by providing inputs for management of the property and seek for its removal from the In Danger list.
- Specific Objective: Protect the TRHS from further threats by identifying transportation options for the area through a Strategic Environmental Assessment.
- SEA aims to identify opportunities to improve and maintain the existing legal roads, and propose transport alternatives that will not negatively impact the integrity nor the OUV of TRHS



The Project

3 National Parks: Gunung Leuser NP, Kerinci Seblat NP, Bukit Barisan Selatan NP

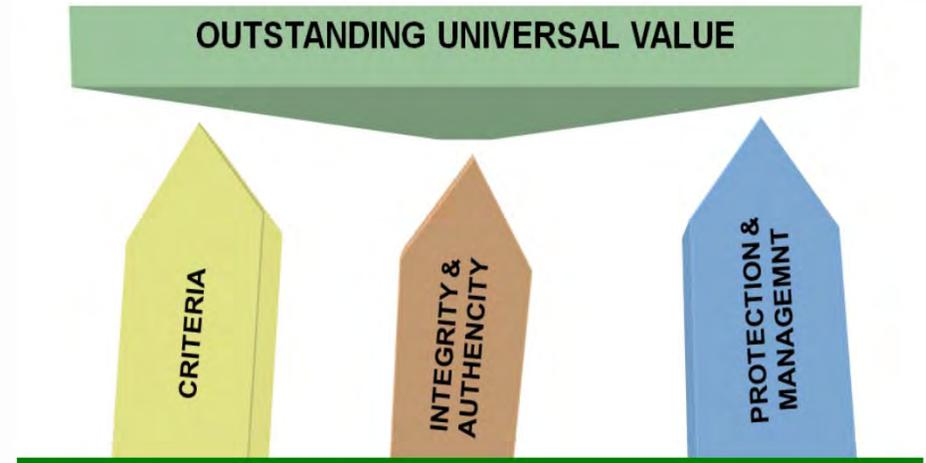
- 2.5 million hectares of protected areas across 7 provinces in Sumatra
- → complex management as a single property
- 2011: TRHS was inscribed on the list of World Heritage in Danger due to long standing threats to the integrity of this site, potential and ascertained danger to its OUV:
- To remove TRHS from In Danger List, in 2013 Government of Indonesia has submitted and agreed:
 - Desired State of Conservation for Removal (DSOCR)
 - Corrective measures
 - Action Plan



The Project

- DSOCR

No new road developments or proposals within the property. Any changes/adjustments to existing roads within the property or in adjacent areas only take place if it is demonstrated that they will not negatively impact on the OUV.



- Corrective Measures

Maintain the policy that prohibits the construction of new roads in national parks, and conduct a **Strategic Environmental Assessment of the road network in the entire Bukit Barisan Mountain Range**, in order to identify transport options and technologies for the region that do not adversely impact on the property's OUV.



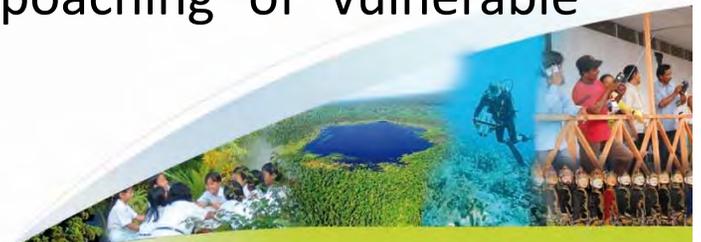
Key Meetings

- Inception workshop, Medan, Sept 2014
- Public consultation on ecological values and socio-economic impact, Jakarta, Mar 2015
- Public consultation on socio-economic study, Muara Bungo - Jambi, July 2015
- Public consultation on ecological study, Sungai Penuh – Jambi, August 2015
- SEA study kick-off meeting, Jakarta, January 2016
- Legal study workshop, Medan, November 2016
- SEA study technical workshop, Jakarta, January 2017
- Final dissemination workshop, Jakarta, May 2017



3 Baseline Studies for the SEA

- **Ecological and Environmental Impacts Assessment (by PT Remark Asia)**
 - Field observations in KSNP, desk studies for GNLP and BBSNP
 - Findings:
 - Majority of TRHS still covered by vegetation and supports a very high diversity of plant species and complete forest vegetation distribution
 - Impact to key species: primarily indirect ones cause by deforestations, habitat fragmentation, reduction of habitat, major land use change.
 - It will entail a deforested are of 14.595 hectares, potentially increase human and wildlife conflict., disturbance to water flow system, traffic-related mortality and poaching of vulnerable species.



3 Baseline Studies for the SEA

- **Socio-Economic Impact Assessment (by RCCC – UI)**
 - Statistical analyses to the relationship between four socio-economic variables (economic diversity, economic evenness, number of cooperatives, and the presence of small-scale loans) and road-related variables.
 - Findings:
 - May increase village economic diversity when the village is connected to a particular land use (e.g. plantation)
 - Economic diversity decreases the further away a village is to the park due to the presence of multiple streams of forest ecosystem-dependent incomes in local livelihoods.
 - Need to examine various benefits, both direct and indirect, that ecosystems in NPs provide for local household economies, and defining the social-economic impact of roads to those benefits.
 - Numerous stakeholders were able to change their perception on the advantages and disadvantages of roads development versus forest conservation during the public consultations confirming the importance of raising awareness towards the stakeholders and the public.



3 Baseline Studies for the SEA

- **Legal Analysis (by Faculty of Law, University of North Sumatra)**

Nationally stipulated in: Law No. 5 of 1990 on the Conservation of Natural Resources and Ecosystems.

Internationally, Indonesia has ratified several international conventions:

- Presidential Decree Number 43 of 1978 on the CITES of Wild Flora and Fauna Endorsement
- Presidential Decree No. 26 of 1989 on the Ratification of the Convention on the Protection of the World Cultural and Natural Heritage
- Presidential Decree Number 48 of 1991 on Ratification of Convention on Wetlands of International Importance Especially as Waterfowl Habitat
- UU number 5 of 1995 on Ratification of United Nation Convention on Biological Diversity

Road development plans and road developments are not permitted because:

- Contrary to the concepts or rules agreed upon in international conventions that have been ratified by Gol.
- Law No. 5/1990, Law 41/ 1999 on Forestry, Government Regulation 27/2012 and Ministerial Decree on Environment 2012 state that the road construction plan must follow the provisions in Law number 26 of 2007



Strategic Environmental Assessment (SEA) of the Cumulative Effects of Road Development Plans in TRHS

- **World Heritage Assessment Principles (by IUCN)**

1. **All proposals that may adversely affect a natural World Heritage Site** must undergo a rigorous Environmental Assessment early on in the decision-making process, whether they are located within or outside its boundaries.
2. **Experts** with World Heritage, protected area and biodiversity knowledge must be closely involved in the assessment process in order to identify the issues that will need to be assessed.
3. **The likely environmental and social impacts** of the development proposal on the site's Outstanding Universal Value must be assessed, including direct, indirect and cumulative effects.
4. **Reasonable alternatives** to the proposal must be identified and assessed with the aim of recommending the most sustainable option to decision-makers.
5. **Mitigation measures** should be identified in line with the mitigation hierarchy, which requires first avoiding potential negative impacts and secondly reducing unavoidable residual impacts through mitigation measures.
6. **A separate chapter on World Heritage** must be included in the Environmental Assessment.
7. The assessment must be **publically disclosed** and subject to thorough public consultation at different stages.
8. **An Environmental Management Plan** must be proposed, implemented and independently audited.



Strategic Environmental Assessment (SEA) of the Cumulative Effects of Road Development Plans in TRHS



Strategic Environmental Assessment (SEA) of the Cumulative Effects of Road Development Plans in TRHS

Findings and Recommendations of the Strategic Environmental Assessment

Findings	Ecological functionality and biodiversity	Direct road development footprint: <ul style="list-style-type: none"> - conflict towards threatened species (elephant, rhinoceros, tiger and orangutan) - lead to loss of habitat in KSNP and BBSNP - risks to the integrity of TRHS OUV highest in these two areas
		Creation of physical barriers within habitats that block interaction between animal populations
		Alteration of population genetics and viability if physical barriers are created
		Visual horizon disturbances
		Physical damage from encroachment
Socio-economic analysis	Upgrading existing roads could bring positive impacts to both people's safety and connectivity for economic development.	
	Induced impacts of upgrading the roads would undeniably affect the outputs from potential economic activities related to the WH value, such as ecotourism, for the local communities.	
Recommended Alternatives	Road developments	<p>No road developments are preferable from the OUV maintenance and sustainability perspective</p> <p>Mitigated Road Upgrade Planning and Execution alternative: development of roads external to the WH site</p>
	Development of evacuation roads	<ul style="list-style-type: none"> - Proposed KSNP 'evacuation' road upgrade is not advised - Emergency evacuation routes are to be located sufficiently outside the boundaries of KSNP (i.e. in consideration of recommended buffer zones) that can be regularized, widened, rerouted (e.g. around urban areas) and upgraded to achieve the same, or better, levels of effective and rapid transfer of people out of danger zones
Mitigation measures	<ul style="list-style-type: none"> - Ecological monitoring and surveys for sensitive planning / engineering - Incorporation of wildlife corridor structures into detailed planning or early engineering - Minimum Environmental Impact Assessment (EIA) execution specification - Road construction management and monitoring requirements - Potential operational management measures to prevent illegal 'contagious' roadside land use and 'Edge Effects' 	



Observations and Way Forward

- Close communication and coordination between stakeholders, particularly the GoI = key determinant
- SEA recommendations are expected to be translated into local legislation
- Examples must be given on how to improve access and communication for local communities without disrupting key conditions of ecosystems, species survival or having to go against the law.
- The case study of TRHS can be introduced as lessons learnt and as a reference for the assessment of interventions in protected areas.





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