

Connecting Tigers' Habitats in A Multi-Use Landscape:

A Case of Sembilang-Dangku Landscape South Sumatra

Asep S. Adhikerana



Summarized by: Fikty Aprilinayati



Connecting Tigers' Habitats in A Multi-Use Landscape:

A Case of Sembilang-Dangku Landscape South Sumatra

- The Sumatran Tiger is listed in the IUCN Red List as Critically Endangered (IUCN, 2008).
- Sumatran tiger population was approximately 1,000 individuals in 1978, and it was estimated at 400 to 500 individuals in 2002 (Borner's study; Sunquist and Sunquist, 2002).
- Several threats: destruction and fragmentation of habitat, loss of important prey species, killings due to human-tiger conflict and illegal hunting for commercial trade for their parts and derivatives.
- In Sumatra selected 12 Tiger Conservation Landscapes/ TCLs (Global Tiger Initiative Secretariat (2012)
- Other areas where pockets of small tiger populations could be found are not considered as TCL, for example Dangku Wildlife Reserve and Hutan Harapan (a restoration concession managed by PT REKI).

400 to 500 individuals – all in these TCL:

Ulu Masen & Leuser ecosystems

Kampar-Kerumutan complex

Bukit Tigapuluh complex

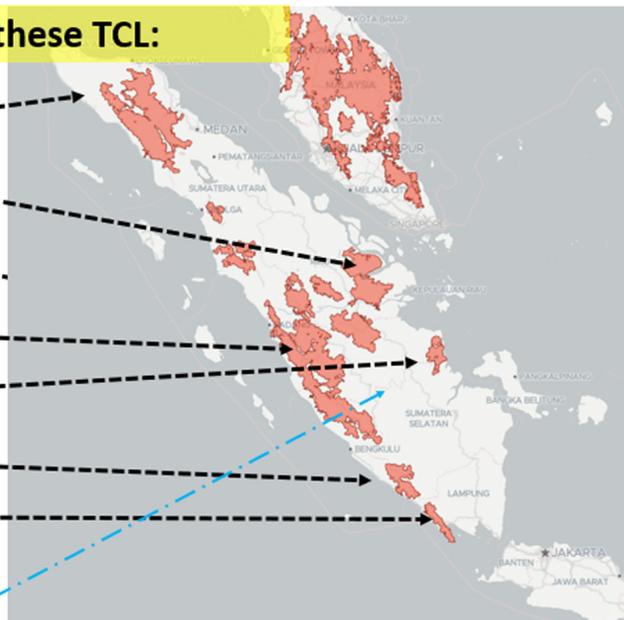
Kerinci-Seblat ecosystems

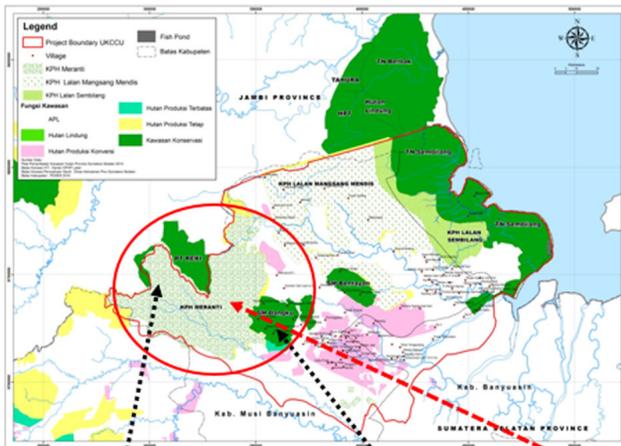
Berbak-Sembilang national park

Bukit Balai Rejang Selatan

Bukit Barisan Selatan

There are spots of species occurrences that need clarified data and conservation actions ... e.g.





Hutan Harapan/REKI
(Ecosystem Restoration
Concession)

Dangku Wildlife
Reserve

Habitat corridor was proposed in 2013

Hutan Harapan/REKI (95,000 ha):

15 individuals in 2014
> 26 individuals in 2015/2016
ca. 30 individuals in 2017

Dangku WR (70,000 ha):

7 individuals in 2014
1 individual (?) in 2015
Not seen its signs in 2016/2017

The Occurrences of Tiger and Its Prey Species and the Existing Land Uses

The activities include:

1. occupancy surveys (June and July 2017 - no sign of tiger)
2. camera trappings
3. ground truth mapping combined with drone mapping in selected areas in the landscape, e.g. riparian ecosystems along Kapas River and Meranti River.

However, there were found five species of potential preys, namely Tapir *Tapirus indicus* (0.47 % of occurrences), Wild Boar *Sus scrofa* (89.83 %), Sambar deer *Cervus unicolor* (8.04 %), Mouse deer *Tragulus sp.* (0.24 %), and Long-tailed macaque *Macaca fascicularis* (1.42 %).

Stakeholders mapping

Public sectors:

1. Dangku Wildlife Reserve
2. Meranti FMU
3. Musi Banyuwasin Gov.

Private Sectors:

1. Sentosa Bahagia Bersama (FP)
2. Pakerin (FP) → Inactive
3. Bumi Persada Permai (FP)
4. REKI (Hutan Harapan) (ERC)

Communities:

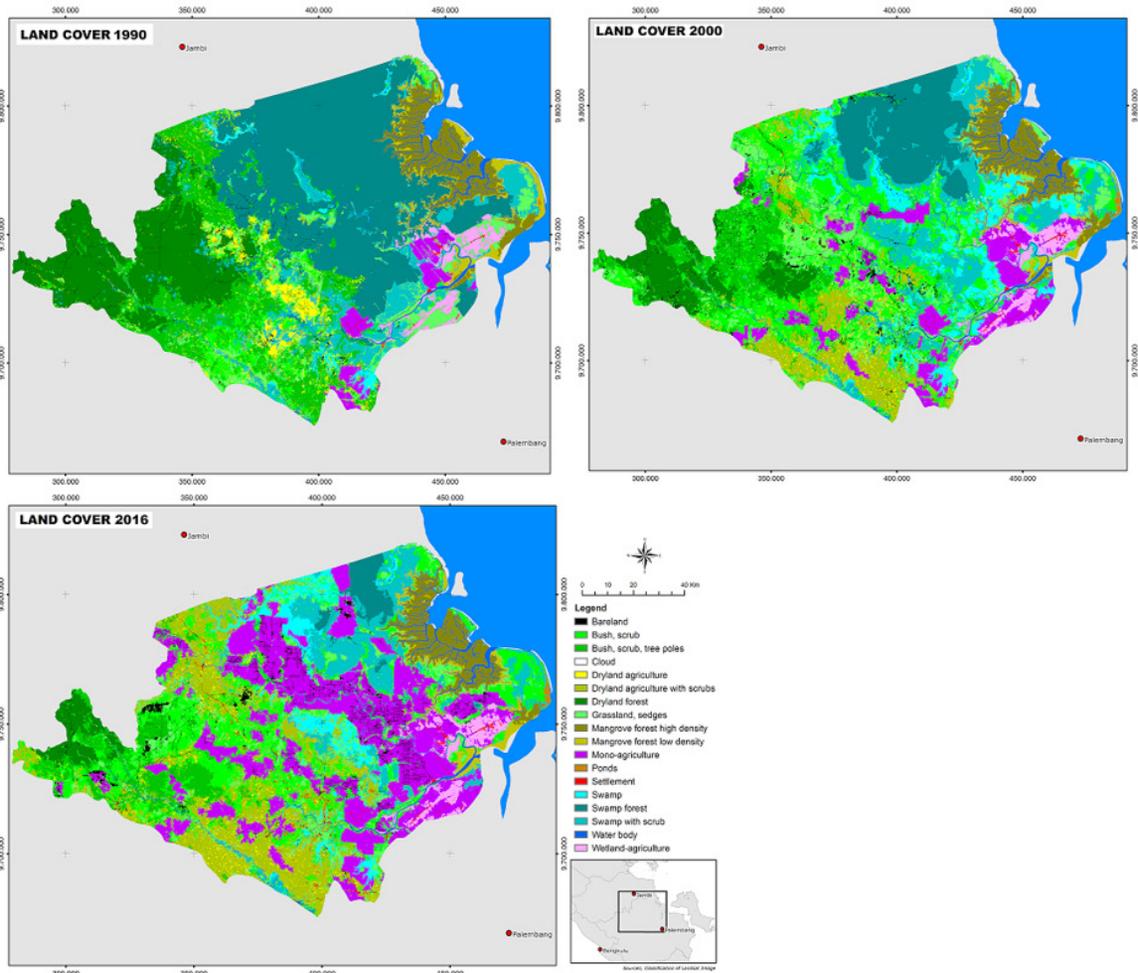
1. Sako Suban village (2500 people)
2. Lubuk Bintialo village (1300 people)

WHAT IS THE CURRENT SITUATION OF MERANTI-HUTAN HARAPAN LANDSCAPE?

Existing Land Cover and Land Use

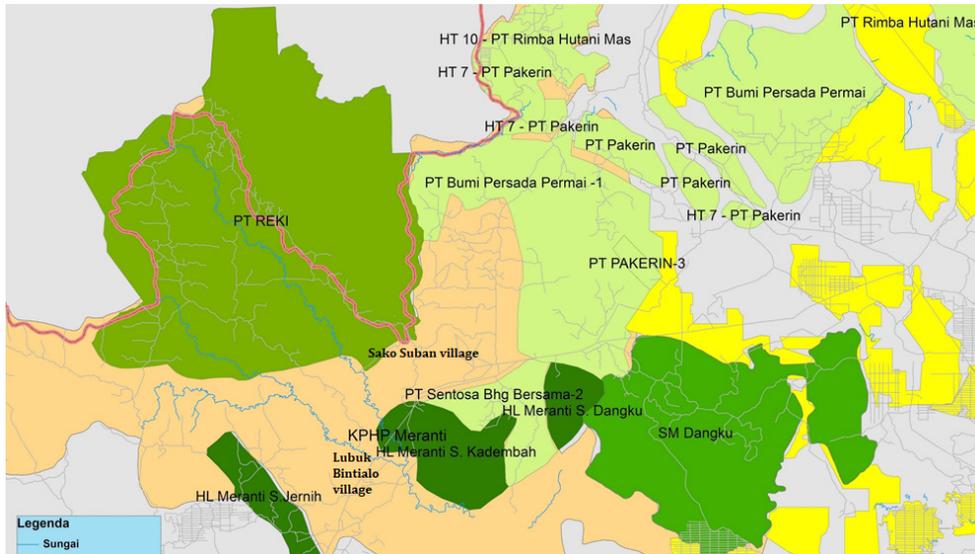
The land covers and land use of Sembilang-Dangku landscape have changed dramatically since 1990. The most dramatic decline occurred on natural forests and land, such as: dry land forest, mangrove forest high density, swamp forests and swampy areas. Grassland (and sedge) and wetland agriculture also experienced slight declines. Most of this decline could be due to

forest/ land conversion to intensive agriculture and forest fire in 2015. The good news is that the area of low-density mangrove forest has undergone a slight increase, which would benefit to the mangrove ecosystem. Apart from Sembilang NP (now Berbak-Sembilang NP), wildlife reserves, and parts of PT REKI areas, the landscape of Sembilang-Dangku is covered with various land uses. In addition to smallholder palm oil farmers, smallholder rubber farmers, and smallholder paddy rice farmers, there are approximately 98 palm oil companies, 24 forestry plantations, and 28 mining companies (only 3 are active). Administratively, there are 215 villages (280,405 households of 1,402,025 people) in the landscape.



Changes in land cover of Sembilang-Dangku landscape from 1990 to 2016 – based on temporary analyses

The concept of Sumatran tiger’s habitat connectivity between Dangku WR and Hutan Harapan has been put forward since 2013, and KELOLA Sendang Project seeks to materialize this concept. Since the landscape between Dangku WR (and Meranti FMU) consists of a number of multi-use land management, a multi-stakeholder collaboration is very crucial for developing the habitat connectivity. A stakeholder analysis in this landscape showed different perceptions among the relevant stakeholders.



Current features of Meranti-Hutan Harapan Landscape.

The government, academics and public sectors unanimously supported the creation of tiger's habitat connectivity between Dangku/Meranti and Hutan Harapan. Amongst the private sectors, it was (and is) only PT REKI, who is managing Hutan Harapan, being supportive to the habitat connectivity. While the other three companies, namely: PT. Bumi Persada Permai (BPP), PT. Sentosa Bahgia Bersama (SBB), and PT. Pakerin (Ex), have been expressing their uncertainty, but yet their involvement in the habitat connectivity creation has been very important. The involvement of communities from Sako Suban and Lubuk Bintialo villages is also regarded as very crucial, but they did not somehow show their interests in being involved. The fact that they are very dependent on forest resources in both Meranti Protection Forest and Hutan Harapan, has been the reason of their unwillingness.

Barriers are defined as the sub-optimal functioning of biodiversity conservation in a multiple-use land management in the landscape. The final endeavor is to institutionalize a multiple-use landscape planning and management model, which brings the management of essential ecosystem areas and connecting landscapes under a common management umbrella.

The project intervention focuses on: the removal of barriers to sustainable management of the project

landscape, while generating additional benefits to adjacent protected areas.

(Barriers = the sub-optimal functioning of biodiversity conservation in a multiple-use land management in the landscape)

The final endeavor: to institutionalize a multiple-use landscape planning and management model which brings the management of essential ecosystem areas and connecting landscapes under a common management umbrella.

However, this will involve multi-stakeholder land management, where a multi-stakeholder partnership in the landscape should aim to ensure:

- a) the conservation of a full range of important ecosystems, habitats, and species in the landscape
- b) the restoration and maintenance of the habitats large enough to conserve priority species such as tiger and its prey species
- c) the promotion of sufficient opportunities for priority species to disperse and migrate
- d) the restoration of the damaged parts of the key environmental systems, such as peat land in the landscape
- e) the prevention of potential threats on those key environmental systems.



KELOLA Sendang will develop an appropriate mechanisms ...

Pivotal Milestones

The milestones for Dangku-Meranti-Hutan Harapan connectivity that need to be completed through KELOLA Sendang Project intervention are as follows.

1. Clarification of land use and land cover, to ensure the main stakeholders who will be involved in the participation processes.
2. Identification of a full range of important ecosystems, habitats, and species (e.g., tiger and its preys) in the landscape and their threats, which will be done through a series of field surveys.
3. Identification of priority areas for species to disperse and migrate across the landscape, which will be supported by map analyses and ground-truth checks.
4. Engagement of all stakeholders in the planning of land use re-arrangement, which should result in the action plans for restoring damaged parts of the key wildlife habitats and ecosystems, and maintaining the habitats large enough to conserve priority species, as well as plans for the prevention of potential threats on those key ecosystems.
5. Engagement of district, provincial and national governments in endorsing the appropriate policies on the land use re-arrangement of Dangku-Hutan Harapan sub-landscape.
6. Promotion of local livelihood improvement in the relevant villages, which are covered by land use re-arrangement processes.

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Proyek **KELOLA Sendang** adalah bentuk kemitraan antara publik, swasta dan masyarakat untuk mewujudkan pengelolaan lanskap yang berkelanjutan. Proyek ini merupakan bentuk dukungan bagi Pemerintah Provinsi Sumatera Selatan untuk mewujudkan visi pertumbuhan hijau (*green-growth*). Proyek bertujuan untuk mendorong kerjasama para pihak dalam menyeimbangkan kepentingan produksi dan konservasi melalui pengelolaan lanskap terpadu. Proyek memfasilitasi perencanaan, kerangka kerja dan aksi kolaboratif untuk melestarikan keanekaragaman hayati dan konservasi hutan, mengembangkan praktik terbaik ramah lingkungan bagi pengelola lahan dari sektor publik dan swasta, serta memperkuat penghidupan masyarakat. Proyek akan berkontribusi bagi upaya mengatasi masalah lingkungan hidup seperti kebakaran hutan dan lahan, degradasi hutan dan keanekaragaman hayati, kerusakan lahan gambut serta mendorong penurunan emisi gas rumah kaca.

Proyek **KELOLA Sendang** diinisiasi oleh *Zoological Society of London (ZSL)* bersama para mitra yaitu *Forest People Program (FPP)*, *Deltares*, *Daemeter Consulting*, *SNV* dan *IDH Trade Initiative*, dan didukung oleh Pemerintah Provinsi Sumatera Selatan, *British Embassy* melalui *UK Climate Change Unit (UKCCU)*, *The Norwegian Government* dan *The David and Lucile Packard Foundation*.

