

## **How palm-oil plantations at Tripa increase disaster risk, contribute to climate change and drive a unique Sumatran-orangutan population to extinction.**

Tripa value, peat swamp forest, Aceh, Sumatra, Indonesia.

### **Executive summary**

Tripa is an area of 61,803 hectares on the West coast of the province of Aceh. Aceh lies at the northern tip of the island of Sumatra, Indonesia. Five large-scale palm oil companies covering most of Tripa are destroying the forest, burning the peat and opening canals to install palm-oil plantations.

The total remaining forest in Tripa now covers 31,410 ha, representing 51% of the initial peat swamp forest cover. The total area planted with oil palms within the concessions is 17,820 ha, and other land uses make up 12,573 ha. The total destruction of Tripa's remaining forest is predicted within less than five years if no action has taken place.

#### **Tripa carbon stock**

Tripa contains huge amount of carbon, between 50 and 100 million tonnes. The total amount of carbon found in the peat (around 1,300 tonnes/ha) far outweighs the quantities stored above ground (about 110 tonnes/ha). This is because the peat is deep (more than three meters) in many places.

Tripa is normally a net carbon store. However, huge quantities of carbon are being released from peat degradation (burning, drainage and oxidation) because of palm-oil plantations. Tripa swamps will release 33 million tonnes of carbon during the next 30 years (by 2038). Even after all concessions are operational, carbon emissions from Tripa will still amount to circa 1 million tonnes per year, as a result of continuing drainage and the resulting oxidation.

#### **Tripa's role in disaster risk reductions and local livelihood**

Tripa acted as an effective buffer zone against tsunami disaster in 2004. Tripa also protects communities from floods as peat swamp forest regulates water flow. Tripa prevents the development of destructive fires by keeping a constant high humidity (above 90%) that keeps ambient air temperature at around 25-26 °C. Tripa provides an essential freshwater reservoir for domestic needs and agriculture during the dry season. The swamp also provides important fish breeding grounds, fresh fish being a major part of the local diet and the main source of protein in the region. Tripa also supplies timber for construction and firewood, and non-timber forest products such as honey and medicinal plants. Finally, Tripa stabilizes the local rainfall and temperature that govern agricultural potential in the area. The highest palm-oil yields in the world are in fact recorded in this very region.

Destruction of the peat swamp forest will lead to the loss of all these ecological functions, putting local people at higher risk of tsunami like disasters, floods, freshwater and food shortage. In addition, peat subsidence due to palm-oil, around five centimetre a year, along the coast will lead to serious problems of salination. This will eventually result in a total loss of agricultural productivity, including palm oil plantations themselves.

#### **Tripa biodiversity value**

Tripa is part of the Leuser Ecosystem, an area established by Presidential Decree for its exceptionally high biodiversity value. The Leuser Ecosystem includes a UNESCO World Heritage Site.

Tripa is one of the six remaining populations for the critically endangered Sumatran orang-utan (*Pongo abelii*). It still hosts around 280 Sumatran orangutans. This is more than 4% of the remaining world population. Tripa also has the highest densities of orang-utans anywhere in the world, which has facilitated a unique culture of tool use within these swamp forests. If Tripa could be allowed to regenerate, the area might once again support

1,000 to 1,500 Sumatran orang-utans as it did before destruction began in the 1990's. This would constitute more than 20% of the remaining world population.

In addition to the orang-utans, two rare ape species, namely the Siamang and the White Handed Gibbon, are also present. Other recorded endangered species include tigers, clouded leopards, sun bears, estuarine crocodile, reticulated python and giant soft-shelled turtles, birds (storms' stork, the white-winged wood duck and the masked duck).

#### **Main actions taken and lessons learned**

In 2007, Bupati of Nagan Raya district questioned the legality of the concessions to the central government. Nagan Raya and Aceh Barat Daya, the two districts that straddle Tripa, signed a Memorandum of Understanding (MoU) with the Yayasan Ecosistem Lesatri (YEL) to find means to save Tripa. YEL/PanEco found that at least 15 policies and laws had been broken. Tripa should be saved for social and environmental reasons. In November 2007, ICRAF-World Agro-forestry Centre and Unsyiah (University Syiah Kuala, Banda Aceh), YEL/PanEco assessed the carbon stock of Tripa, finding deep peat.

In 2007-08, a large consensus to save Tripa emerged. BPKEL (The *Badan Pengelola KEL Wilayah Aceh* - authority for the management of the Leuser Ecosystem in Aceh), the Aceh senators, the United Nations Environment Programme (UNEP), UNESCO, IUCN and even the Governor of Aceh all provided support letters to rehabilitate coastal Aceh peat swamps, including Tripa.

In May 2008, BKEL made public statements in Kompas newspaper questioning the legal status of the plantations in Tripa. 20 June 2008, a broad coalition of organisations from the social and environmental sectors (Eye-on-Aceh, Sawit Watch, Green Peace South-East Asia, Fauna and Flora International, Leuser International Foundation, PanEco Foundation, OXFAM and YEL) sent a join letter to Astra Agro, the owner of the greatest track of primary forest, requesting clarification on its objectives.

Even though a broad consensus to save Tripa has emerged, real action on the ground will need serious coalition to make it effectively happen.

#### **Valorise Tripa as an alternative scenario to its destruction.**

YEL/PanEco is raising local capacity to develop sustainable palm-oil plantations land on adjacent mineral soil according to the Principles and Criteria of the Roundtable on Sustainable Palm Oil (RSPO). This approach has the high potential to relieve pressure on Tripa by boosting local socially and environmentally sound agricultural development. This programme was endorsed in 2006 by RSPO General Assembly.

The UNEP and ICRAF-World AgroForestry Centre, agreed to develop a trade certificate for the store of carbon within the forest. Trading carbon under the forest carbon market, emerging from the concept known as Reducing Emissions from Deforestation and forest Degradation (REDD), would be an enormous opportunity for local people.

At the recent Bali climate conference, the Governor of Aceh became a leading world figure in protecting forests for the sustainable benefit of local people. He signed the "Forests Now Declaration" that seeks to protect rainforest against payment for its carbon value. Since Tripa is by far the largest unprotected carbon stock in Aceh, is important for local people and hosts unique biodiversity, its restoration would be the most appropriate move.

#### **Additional information**

On PanEco website. [www.paneco.ch](http://www.paneco.ch) to download the document, Power Point presentation and pictures of the situation.