



**Developing sustainable conservation and community
livelihood program in the management of Kesatuan
Pemangkuan Hutan Lindung (KPHL) Model Kapuas,
Central Kalimantan Province, Indonesia**

**Proposal from KPHL Model Kapuas, Central Kalimantan
Province, Indonesia**

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1. Executive summary

The purposed VCA is the Kesatuan Pemangkuan Hutan Lindung (Protected Forest Management Unit - KPHL) Model Kapuas. This area located in Block E and Block A of the Ex-Mega Rice Project (EMRP) area. About 75.000 ha of this peat land is found in the north of the site (part of Block E of the EMRP) and contains mostly intact but logged-over forest that is a prime habitat for almost 3,000 Orangutan. Orangutan is listed as endangered species under CITES. In the southern part of the dome, approximately 30.000 ha (part of Block A of the EMRP), where much of the forest had been cleared and degraded due to the establishment of EMRP that converted forest to paddy rice field (KFCP, 2014).

The failure of MRP in 1997 has resulted into forest degradation and deforestation, tenurial conflicts and the widespread unsustainable utilization of the forest by various stakeholders. Additional problem such as illegal logging, high intensity of forest fires, the slow rehabilitation of forest areas, weak forest governance, as well as the low value of the region and its products has also increased in this area. The institution of KPHL Model Kapuas is then formulated and established to address this environmental and social economic problem. The focus of the management of KPHL Model Kapuas is to ensure the sustainability of conservation and local livelihood program in this area. Registration as a VCA is now very important to enhance the future ability of KPHL Model Kapuas to continue the conservation work and sustain the livelihood of forest dependent people around and inside this area.

2. Area characteristic and area manager

KPHL Model Kapuas is located in Central Kalimantan the Indonesian part of the island Borneo, between 114 ° 23 '31.4 " - 114 ° 42'44,5 longitude and 1 ° 51'47,4 " - 2 ° 25' 45.8" latitude (Figure 2), at approximately 35km east of Palangkaraya, and north of Kuala Kapuas and Banjarmasin.

Administratively it is part of the Kapuas District, one of the several regions in the Province of Central Kalimantan. The KPHL Model Kapuas area covers ± 105.372 ha with approximately 9,000 — mostly Ngaju Dayak — residents living in 9 villages and hamlets strung out along the banks of the Kapuas River. KPHL Kapuas is located in the centre of the Central Kalimantan and borders the river Kapuas on the west (KPHL Model Kapuas, 2014).

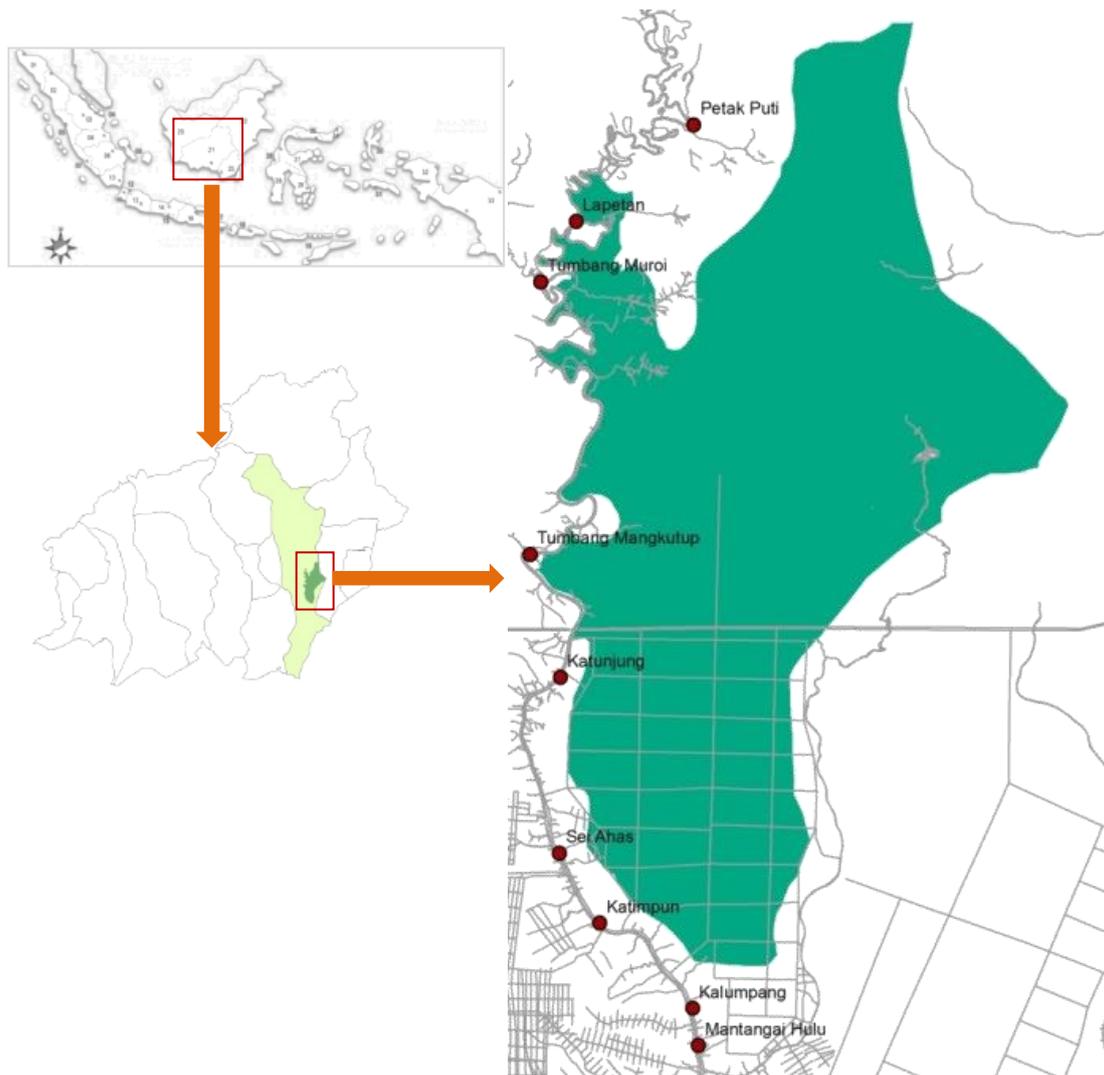


Figure 1. Geographical position of KPHL Model Kapuas

The area of KPHL Model Kapuas was divided by main canal (SP1 and SP2), that is constructed during MRP, into the north and south part. According to forest cover and condition, the north part of the canal still have a good condition of forest cover (secondary peat forest) that is now allocated as conservation zone. Meanwhile, the south part of the canal has heavily degraded and now is allocated for rehabilitation zone. The rehabilitation zone is also capture the area along the main and big canals, since this area is also degraded and prone to wild fires due to the influence of water table from these canals (Graham, et al., 2014).

Along the whole western boundary of the KPHL Kapuas area, parallel to the river, there is a strong human influence on the forests. This is however not surprising since 9 villages are located along the riverbanks bordering the KPHL Kapuas area. The land cover map shows evidence of burning, which may indicate to the slash and burn shifting cultivation system that is used by the local communities and explains the occurrence of fern/grassland vegetation and burnt PSF in this area. Activities like oil palm/cropland cultivation and NTFP/timber collection are likely rare to find in this area. All these human activities have negative influence on the natural state of the forests located on the western border of the KPHL Kapuas area.

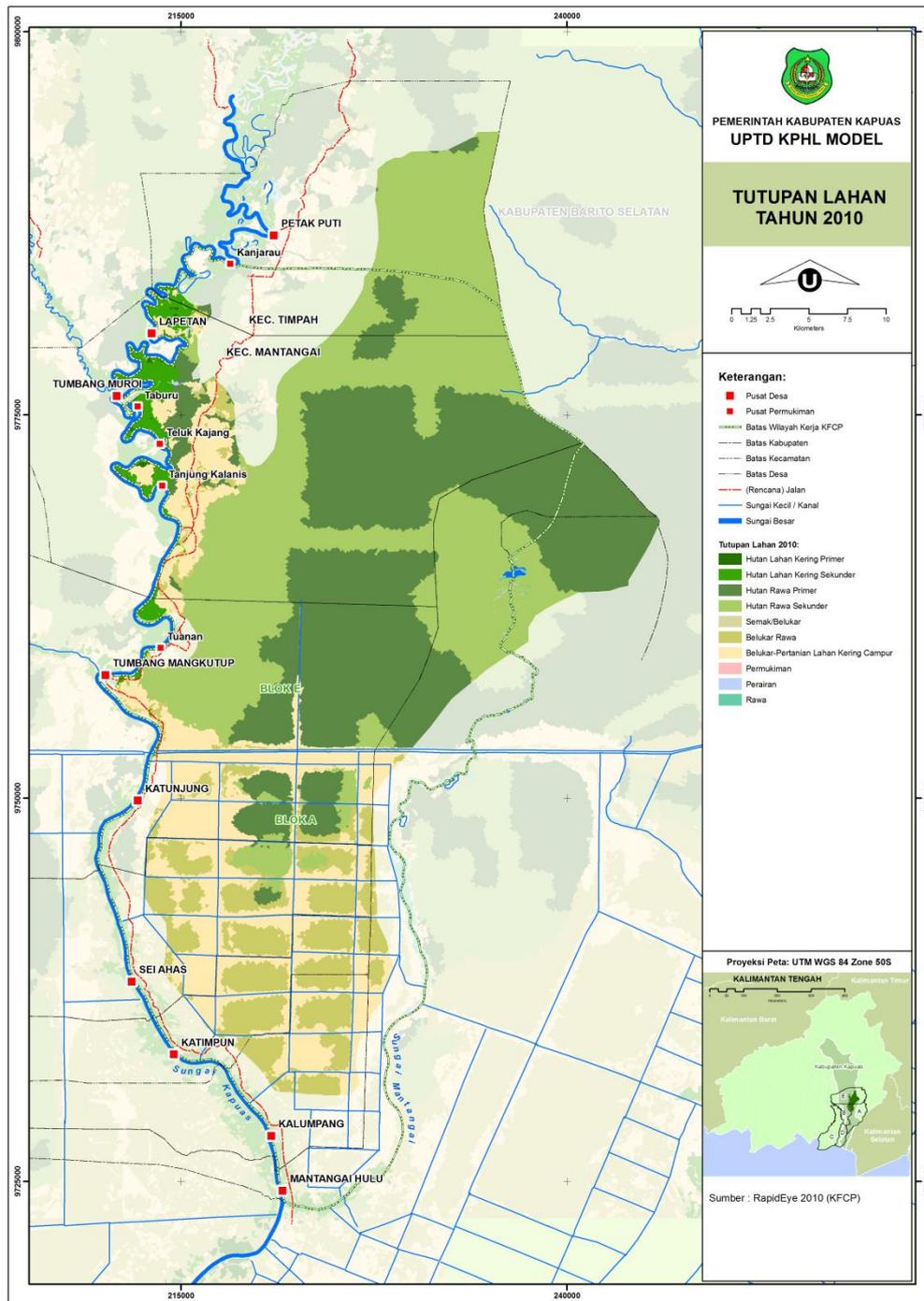


Figure 2. Land cover map of KPHL Model Kapuas (2010)

The dominant vegetation in the KPHL Model Kapuas is tropical peat swamp forest. Peat lands are formed when the rate of input of organic material exceeds the rate of decomposition under waterlogged, anaerobic conditions (Graham, et al., 2014). Under natural conditions, the tropical peat lands are extremely heterogeneous. At a local scale, different forest sub-types occur across individual peat domes in response to change in peat thickness, hydrology, nutrient availability and land use. In their natural state, tropical peat lands have high water tables, just above or below the peat surface for most of the year (Graham, et al., 2014).

There are 14 settlements located along the Kapuas River and adjacent to the KPHL model Kapuas area. These settlements form parts of 9 villages with detail as explained at Table 1.

Table 1. Number of villages, population and households around the area of KPHL Model Kapuas.

No.	Villages	Population	Households
1	Katimpun	854	234
2	Sei Ahas	881	246
3	Katunjung	559	195
4	Mangkutup	320	110
5	Tumbuang Moroi	1300	338
6	Lapetan	662	190
7	Petak Putih	1260	401
8	Kalumpang	1036	252
9	Mantangai Hulu	1832	425

The largest villages are Mantangai Hulu (1917 inhabitants) and Mantangai Tengah (1800 inhabitants), both located in the Southern section, and the smallest village is Mangkutub (320 inhabitants). Most villages are old settlements installed at the beginning of the last century. Each village has a chief who is normally elected and accepted by the villagers and then recognized by the administrative authorities. In most cases, the houses are built along the river giving a linear pattern to the villages.

Most of the income of the people who live in these villages is generated from forest extraction (timber, gemor, rattan, jelutung) and agriculture (swidden rice cultivation, rubber plantation, rattan plantation) (Suyanto et al., 2009). Hence, forest is very important for these local people to secure their livelihood.

There is a research camp inside the area of KPHL Model Kapuas built and manage by Borneo Orangutan Survival Foundation (BOSF). This research camp was developed to conduct a research related with the study of wild Orangutan and forest succession. The research of BOSF has since that time come to embrace a variety of other forest species, and outreach into the local population with veterinary and education programmes (BOSF, 2011).

Management of this area is under KPHL Model Kapuas. KPHL Model Kapuas established in 2011 through Ministry of Forestry Decree No. 247/Menhut-II/2011. Based on their legal status as KPHL Model, the long-term vision of KPHL Model Kapuas is the established as a “KPHL business for Sustainable Peat Swamp Use, contributing to sustainable livelihoods and prosperous communities through equal sharing of benefits”. The missions of KPHL Model Kapuas are defined as: (1) To implement the management of protected forest areas as a source of livelihoods for the local people's welfare; (2). To increase the capacity and participation of stakeholders (public, private and local

community) in managing and utilizing the peat swamp forests; and (3) To enhance the economic level of the surrounding communities through various development activities with minimal greenhouse gas emissions. The head of KPHL Model Kapuas is Mr. Bayu Nugroho and oversees the work of a team of 21 staff, that include the management and field staff.

3. Rapid assessment and analysis

Currently the north part of KPHL Model Kapuas is a fundamentally healthy ecosystem and the forest has a tendency to expand into surrounding grassland given the opportunity. However, that opportunity seldom arises because of various external pressures, especially considering the condition of the south part of this area that is fully degraded. The forest area under KPHL Model Kapuas is under threat of (1) encroachment by local community around the forest edge, (2) forest and wild fire during the drought season that cause the loss of orangutan habitat and (3) illegal logging inside the forest, particularly of high-value trees such as mahoganies which have not yet been completely logged out.

SWOT analysis of conservation management and local economic development of KPHL Model Kapuas

Internal Strengths

KPHL Model Kapuas was established in 2011 by the Indonesian Ministry of Forestry (decree No SK.247/Menhut-II/2011), this should harmonize the input from overlapping government agencies and reduce the chance of potential conflicts with local community;

Due to multiple ecological aspects KPHL Model Kapuas area is well-known among international NGO's and donors (e.g. EMRP devastation, KFCP, Orangutan rehabilitation centre (BOSF) etc.), resulting in long track record of high quality publications and reports;

Livelihood model depends on protection of forest from further degradation since local people primarily rely on fishing and forest extraction of NTFP's such as Rattan, Jelutung and Gemor.

Internal Weaknesses

Development of the KPHL Model Kapuas is in its early stage as a result of limited capacity (both human and budget) to develop concrete business opportunities in the KPHL Model Kapuas area;

A major constraint on standards of living in many of the fourteen communities is the lack of access to road transport. The villages are relatively remote inasmuch as access to the road, between Mantangai Hulu in the Southern section (Block A) and Petak Puti in the Northern section (Block E), is limited;

Limited support from the KPHL Model Kapuas to improve linkages between local communities and markets for rubber and non-timber forest product;

Local communities' role in the value chains is restricted to production, and they generally have limited access to market information/market specifications.

External Opportunities

Development of a model purposeful for KPHL Model Kapuas management strategy to shift the pressure on protected forest areas to an agricultural 'economic' zone through sustainable land-use allocation and restoration of peat land;

There is willingness amongst the local communities to set aside areas for the maintenance or improvement of various ecosystem services through various sustainable land use management systems;

Increase incomes for management activities (e.g. reducing disturbances, fire prevention etc.) recognised by international platform by meeting the criteria of the VCA registry;

Reinforce collaboration between BOSF and KPHL Model Kapuas (MoU) by providing benefits to biodiversity (e.g. Orangutan habitat protection) through reduced disturbance in the relatively intact peat forest area in Block E;

Technical assistance to local communities by providing workshops related to conservation, rehabilitation, sustainable land-use, fire prevention etc.

External Treats

Degraded (and dried out) peat forest land in the rehabilitation zone (Block A) are threatened by forest fires, caused by both natural and human intervention (e.g. clearance for agriculture) resulting in unsafely livelihood conditions in or adjacent to settlements, loss of biodiversity, and CO₂ emissions. Differences in perception of land-use rights and dispute of land tenure may threaten the implementation of conservation approaches by KPHL Model Kapuas (Prasetyo & van der Meer, 2014).

Key stakeholders in the work of KPHL Model Kapuas are as follows:

1. Ministry of Forestry and provincial and district technical unit.
2. Forest research and development agency (FORDA)
3. All district and provincial agencies.
4. Universities (Palangkaraya University, Wageningen University, Van Hall Larenstein University of Applied Science)
5. Local communities
6. NGO (i.e. Borneo Orangutan Survival Foundation (BOSF), CPI, etc).
7. Association of Forest Management Units in Indonesia
8. Local and national companies

Expected conservation outcomes

The work of KPHL Model Kapuas is expected to achieve the benefits of conservation and local livelihood development in this area. These benefits are listed as follows:

1. Secure local livelihood through community forest and village forest.
2. Establish the business model for KPHL Model Kapuas to finance its conservation and development programme.
3. Reduce forest encroachment, illegal logging and the risk of forest fire through active collaboration with local people.

4. Increase local participation on peat restoration and rehabilitation programmes that may include canal-blocking activities.
5. Protect the area of Orangutan (as endangered species) habitat and conserve peat forest biodiversity.

Calculation on potential benefits (both economic, social and environmental) that may be received by local communities and the management of KPHL Model Kapuas can be expressed as the ecosystem services benefits, with local, regional and global beneficiaries. The verifiable indicators and quantitative outcomes that may be achieved through the programme in conservation and local livelihood development is explained in Table 2.

Verifiable indicators	Quantitative outcomes
Increasing local livelihood	Monetary benefits received by local communities (€/ha/yr)
Encroachment around forest edge	Hectares of forest lost p.a. reduces
Community involvement with community forest and village forest programs	Number of community and village forest; area (ha) of community forest and village forest; agreement between communities and KPHL Model Kapuas on right and responsibilities in managing community forest and village forest
Local participation on rehabilitation programme	Number of villages or communities group who get involved on rehabilitation programme
Peat forest health (Quality of Orangutan habitat)	Area (ha) of forest that is allocated for orangutan conservation

Funding

Currently there is no sustainable funding for the area of KPHL Model Kapuas. The district government provides operational budget for KPHL Model Kapuas. However, this budget is way too small and could not cover all activities in this area.

Letter of support

Letters of support to register the area of KPHL Model Kapuas into VCA platform are provided by:

1. Dr. Peter van der Meer (Van Hall Larenstein University of Applied Science)
2. Prof. Lars Hein (Environmental Systems Analysis, Wageningen University, The Netherlands)