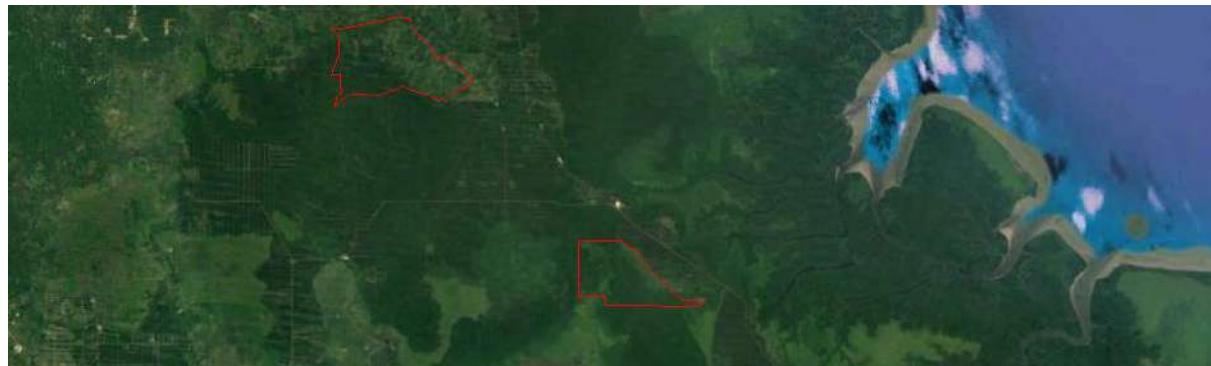


Plan Vivo Project Idea Note



Village Forest Protection and Restoration in Lalan Mendis Forest Management Unit, South Sumatra, Indonesia

Submitted to the Plan Vivo Foundation by The Landscapes and Livelihoods Group (TLLG) and Daemeter Consulting, on behalf of the Hutan Kita Institute (HaKI)

Version 1.0, 27 Mar 2018

Authors: Nicholas Berry and Ellyn K. Damayanti



The
Landscapes and
Livelihoods
Group



Summary Information

Project Title	Village Forest Protection and Restoration in Lalan Mendis Forest Management Unit
Project Location	Musi Banyussin and Banyuasin District, South Sumatra, Indonesia
Project Coordinator	<p>Hutan Kita Institute (HaKI) Jl. Jl. Yudo No.9 H, Lorok Pakjo, Ilir Bar. I, Kota Palembang, South Sumatra Province 30126 – Indonesia Tel: +62 711 5730375 E-mail: haki@hutaninstitute.or.id Web: www.hutaninstitute.or.id</p>
Summary of Proposed Activities	Agroforestry and sustainable management of village forests to restore deforested and degraded peat land and protect remaining forest from fire, illegal logging and encroachment.
Summary of Proposed Target Groups	Agroforestry groups and the broader communities of villages with established village forests (<i>Hutan Desa</i>) in Lalan Mendis Forest Management Unit. Initially Hutan Desa Muara Merang (HDMM) and Hutan Desa Kepayang (HDKP)

Contents

Summary Information	1
Acronyms	4
A Project Aims & Objectives	5
1 Description of project's aims and objectives	5
Problem the project will address	5
Aim and objectives	5
B Proposed Project Area	6
1 Description of project location	6
Location	6
Physical description	7
Land degradation drivers	10
2 Description of socio-economic context	11
Income sources	11
Governance structures	13
C Target Groups & Communities	15
1 Summary of information	15
Demographics	15
Wellbeing indicators	15
Organisational capacity	17
D Land Tenure & Carbon Rights	18
1 Description of land tenure and carbon rights	18
Land tenure	18
Carbon rights	18
E Project Interventions & Activities	19
1 Description of project intervention	19
Proposed project intervention	19
Potential climate benefit	21
F Identification of Any Non-Eligible Activities	23
1 Description of other activities	23
G Long-Term Sustainability Drivers	23
1 Description of sustainability of the proposed project intervention	23

Phase 1 – Forest protection and restoration in agroforestry plots	23
Phase 2 – Extensive forest and peat land protection.....	23
H Applicant Organisation & Proposed Governance Structure	24
1 Project organisational structure	24
Organisational diagram.....	24
Capacity and experience.....	25
2 Applicant organisations.....	28
I Community-Led Design Plan	29
1 Plan for achieving community participation in the project.....	29
Participatory project design plan.....	29
Process for enabling free, prior, informed consent (FPIC).....	30
J Additionality Analysis.....	31
1 Description of how project activities are additional	31
Regulatory surplus	31
Barrier analysis.....	31
K Notification of Relevant Bodies & Regulations.....	33
1 Evidence of notification of relevant bodies and intent to comply with regulations	33
Notification of relevant regulatory bodies	33
Statement of intent to comply with relevant regulations.....	33
L Identification of Start-Up Funding	34
1 Details of funding for project development	34
References.....	35
Annex A – Letter of consent	36
Annex B – Letter of notification	37

Acronyms

BPD	Village Consultative Body (<i>Badan Permusyawaratan Desa</i>)
BPPLHK	Technical implementation unit of the Government of Indonesia Ministry of Environment and Forestry, under Forest Research Development and Innovation Agency, Environment and Forestry Research and Development Office (<i>Balai Penelitian dan Pengembangan Lingkungan Hidup dan Kehutanan</i>)
HaKI	Hutan Kita Institute
HD	Village Forest (<i>Hutan Desa</i>)
HDKP	Kepayang Village Forest (<i>Hutan Desa Kepayang</i>)
HDMM	Muara Merang Village Forest (<i>Hutan Desa Muara Merang</i>)
HP	Production Forest (<i>Hutan Produksi Tetap</i>)
KMPA	Community Fire Control Group (<i>Kelompok Masyarakat Peduli Api</i>)
KPH	Forest Management Unit (<i>Kesatuan Pengelolaan Hutan</i>)
KPHP	Production Forest Management Unit (<i>Kesatuan Pengelolaan Hutan Produksi</i>)
LM	Lalan Mendis
LPHD	Village Forest Management Committee (<i>Lembaga Pengelola Hutan Desa</i>)
LPM	Community Empowerment Institution (<i>Lembaga Pemberdayaan Masyarakat</i>)
MoEF	Ministry of Environment and Forestry
MRV	Measurement, Reporting and Verification
NDC	Nationally Determined Contribution
NTFP	Non-Timber Forest Products
OKI	Ogan Komering Ilir District
REDD+	UNFCCC approach for reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
RKUHD	Village Forest Business Plan (<i>Rencana Kerja Usaha Hutan Desa</i>)
RTRHD	Village Forest Spatial Plan (<i>Rencana Tata Ruang Hutan Desa</i>)
TLLG	The Landscapes and Livelihoods Group
UNFCCC	United Nations Framework Convention on Climate Change

A Project Aims & Objectives

1 Description of project's aims and objectives

Problem the project will address

Lalan Mendis Forest Management Unit (KPH LM) in South Sumatra Province covers a total area of 320,939 ha. Much of the KPH is on peat soils, and land occupation and migration into the area, illegal logging, and expansion of oil palm and rubber plantations, has resulted in high rates of deforestation and peat drainage. Without effective management, the uncoordinated development of areas outside designated concessions is likely to continue, endangering the forest that remains, the biodiversity that depends on it, the supply of ecosystem services to local communities, and the carbon stored in vegetation and soil.

Aim and objectives

The project aims to restore degraded forest and reduce deforestation, peat draining, and ground and forest fires in designated village forest areas within KPH LM. This will be achieved by:

- Forest restoration
 - Establishing enrichment planting and agroforestry plots to restore tree cover and discourage illegal logging, agricultural expansion and peat draining in degraded and deforested areas;
 - Blocking drainage canals and managing water levels to prevent and reverse peat drying;
- Forest protection
 - Working with village, district and provincial authorities to enforce laws and regulations on sale of land, timber extraction and management of plantations within village forests;
 - Conducting regular forest patrol and monitoring activities to detect and respond to activities causing degradation or deforestation;
 - Increasing income from existing livelihood activities and introducing new sources of income to reduce reliance on illegal logging;
 - Introducing agricultural practices to increase productivity in existing agricultural areas and reduce the need for expansion of agricultural fields into forest areas.

The project will also implement activities to develop enabling conditions for sustainable management of village forests by:

- Encouraging government support for, and implementing, awareness raising activities in local communities to increase understanding of the importance of forests, village forest governance and management, and the benefits of sustainable forest management;
- Strengthening village forest management committees to build capacity needed to design and implement effective management and monitoring plans;
- Supporting local fire fighting teams.

B Proposed Project Area

1 Description of project location

Location

KPH Lalan Mendis is divided into two distinct production forest management units: KPHP Lalan Mangsang Mendis and KPHP Lalan Sembilang. KPH LM is located in Bayung Lencir Sub-district, South Sumatra Province, Indonesia, adjacent to Sembilang National Park. Initially the project will focus on two established village forests (*Hutan Desa*; HD) – Hutan Desa Muara Merang (HDMM; 7,250 ha) and Hutan Desa Kepayang (HDKP; 5,170 ha).

Muara Merang Village is divided into three sub-villages (*Dusun*) – Dusun Bakung, Dusun Bina Desa, and Dusun Pancuran. HDMM is located in Dusun Pancuran.

Kepayang Village is also divided into three sub-villages (Dusun 1, 2 and 3). HDKP is in Dusun 1. Within the village forest there is a hamlet of 25 households (Nuaran hamlet).

If successful in these two project areas, the project may scale out through expansion of these village forests or the establishment of new village forests within the KPH. The location of KPH LM and the initial village forests (HDMM and HDKP) are shown in Figure 1.

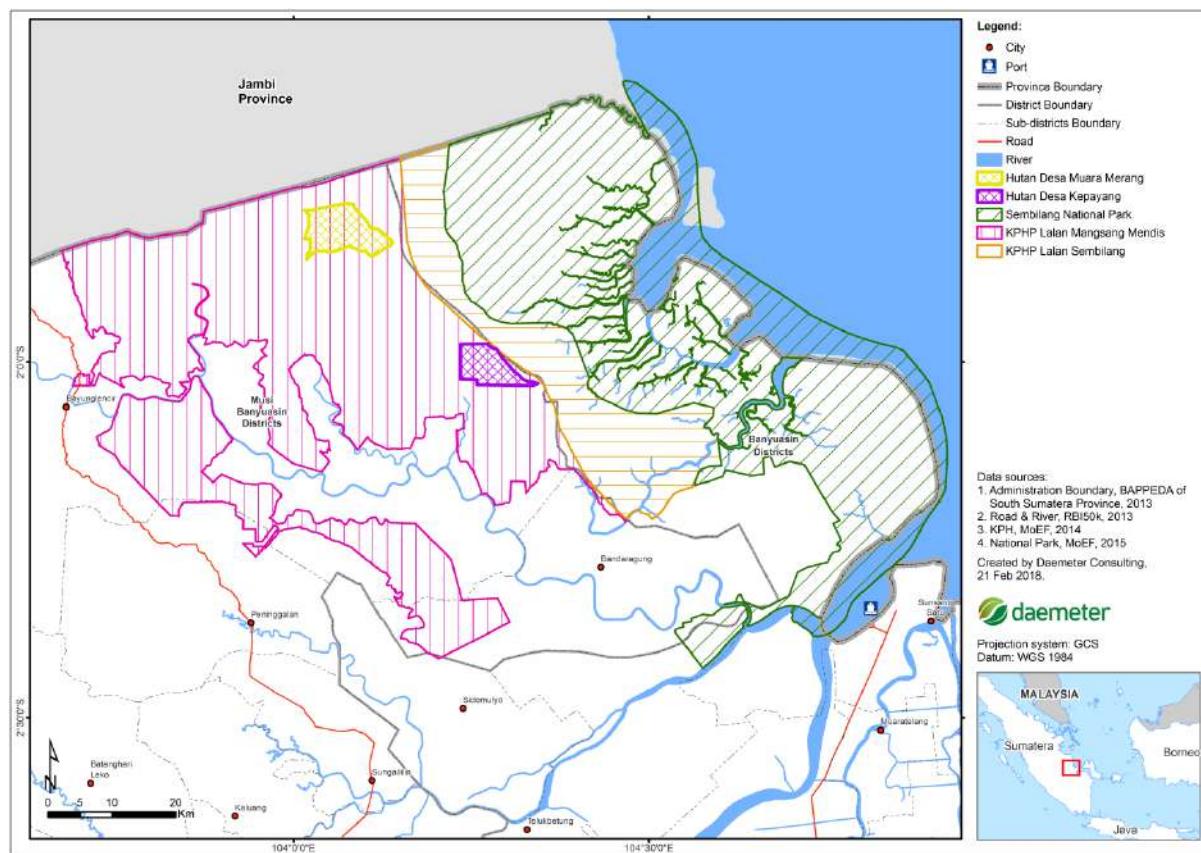


Figure 1 Location of Lalan Mendis Forest Management Unit (KPH LM), Sembilang National Park, Muara Merang Village Forest (HDMM), and Kepayang Village Forest (HDKP)

Physical description

KPH LM is mostly flat with 90 % of land on slopes of less than 8 degrees, and no land on elevations higher than 60 m.a.s.l. The dominant soil type is peat, with a depth that varies from 25m to >200m (see Figure 2). The land cover in KPH LM, HDMM and HDKP is summarised in Figure 3 and Table 1.

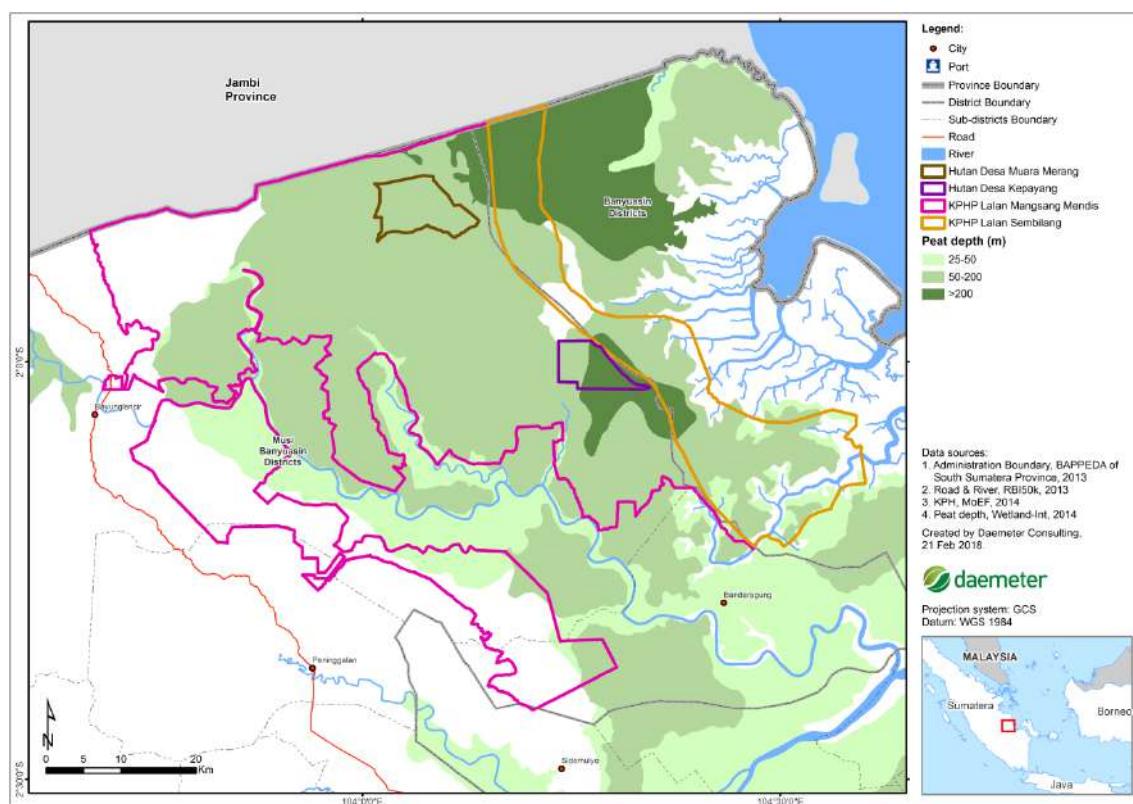


Figure 2 Peat depth in Lalan Mendis Production Forest Management Unit (KPH LM), Muara Merang Village Forest (HDMM), and Kepayang Village Forest (HDKP). Source: Wetlands International (2014)

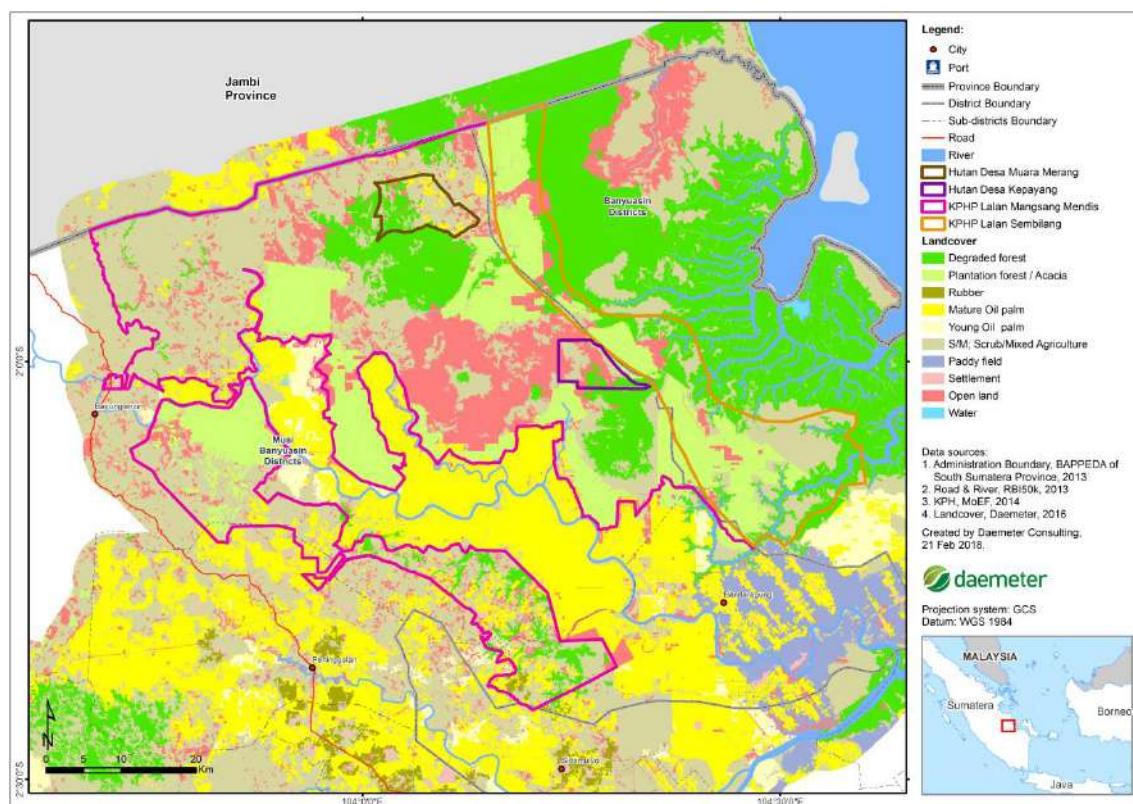


Figure 3 Landcover in Lalan Mendis Forest Management Unit (KPH LM), Muara Merang Village Forest (HDMM), and Kepayang Village Forest (HDKP). Source: Daemeter (2016)

Table 1 2016 Landcover in Lalan Mendis Forest Management Unit (KPH LM), Muara Merang Village Forest (HDMM), and Kepayang Village Forest (HDKP).

Land cover	Area (ha)*		
	KPH LM	HDMM	HDKP
Logged forest	52,026	2,029	981
Scrub/Mixed agriculture	123,135	3,846	1,726
Mature oil palm	13,611	768	0
Young oil palm	210	0	0
Cleared area	52,460	652	1,947
Plantation forest	76,837	0	10
Rubber plantation	485	0	0
Settlement	374	0	0
Water	1,273	0	0
Total	320,412	7,295	4,664

Source: Daemeter (2016)

* Note: Total areas for HDMM and HDKP do not sum to the areas reported in Ministry of Environment and Forestry decrees of 7,250 ha and 5,170 ha respectively because officially recognised boundary maps are not yet available.

KPH LM supports an exceptional diversity of species. Participatory biodiversity assessment in the villages of Merang and Kepayang (Berry and Damayanti 2018) suggest that the village forests of HDMM and HDKP are used by a diverse assemblage of species, many of which are threatened or endangered (see Table 2).

Table 2 Results of participatory biodiversity assessment for Hutan Desa Muara Merang and Hutan Desa Kepayang. Number of species reported as being commonly encountered is indicated in parenthesis.

Taxa	Species present	Red list status*			
		CR	EN	VU	NT
Hutan Desa Muara Merang					
Mammals	53 (22)	2	2 (2)	14 (6)	10 (7)
Birds	68 (50)	0	1	1	6
Reptiles and amphibians	63 (36)	1 (1)	0	4 (4)	1
Fish	48 (43)	0	0	1 (1)	1 (1)
Hutan Desa Kepayang					
Mammals	47 (23)	2	5 (2)	11 (6)	9 (4)
Birds	75 (55)	0	0	1 (1)	10 (6)
Reptiles and amphibians	59 (23)	1	1 (1)	4 (2)	1
Fish	40 (38)	0	0	1 (1)	1 (1)

*CR = Critically Endangered, EN = Endangered, VU = Vulnerable; NT = Near Threatened (IUCN 2017)

Source: Berry and Damayanti (2018)

Endangered species reported as being commonly encountered in the villages forests were Mitred leaf monkey (*Presbytis melalophos*) in both areas, Flat-headed cat (*Prionailurus planiceps*) in HDMM, and Hairy-nosed otter (*Lutra sumatrana*) and Spiny Turtle (*Heosemys spinosa*) in HDKP. The critically endangered Sumatran tiger (*Panthera sumatrae*) and Sunda pangolin (*Manis javanica*) were also reported as occurring, but only being encountered occasionally, in both village forests.

The endangered Milky Stork (*Mycteria cinerea*) was reported as being encountered occasionally in HDMM, and the critically endangered Northern River Terrapin (*Batagur baska*) was reported as being commonly encountered in HDMM and occasionally encountered in HDKP.

Land degradation drivers

Over recent years, South Sumatra has experienced rapid deforestation, devastating peat fires, and social conflict over access to natural resources as forest has been replaced by rubber, timber and oil palm plantations. The current direct causes of deforestation and forest degradation in KPH LM are:

1. Agricultural expansion – mainly for establishment of oil palm, acacia and rubber plantations, involving clearance of forest, and excavation of drainage canals. As well as some forest clearance by local communities, illegal and unregulated sale of land to absentee landlords has also led to deforestation, especially in HDMM, and has fuelled population growth in the area as migrant workers employed in these plantations have established households within the village forest. These households are mostly unregistered and are a potential source of social conflict. Other areas within KPH LM, including HDKP are exposed to the same risks.
2. Forest and land fire – constant efforts are required to prevent and control fires that, once started, can quickly spread and become difficult to extinguish, especially if peat in drained areas begins to burn resulting in ground fires. The use of fire in agricultural fields and plantations, and illegal logging operations both contribute to the risk of wildfires that cause deforestation, degradation and emissions from peat burning.
3. Timber harvesting – all of the remaining forest in KPH LM has been logged under commercial timber licenses and/or by unsanctioned logging. Since the village forests in HDMM and HDKP were established in 2010 and 2013 respectively, commercial logging has not been allowed, but illegal logging has continued by local communities and external parties.

Although village forests, and village forest management committees (LPHD) have been established in HDMM and HDKP, both village forests lack functional management plans, and neither LPHD has the capacity to effectively develop or implement management and monitoring activities. Designation of these areas as village forest may even have contributed to the illegal land sales that have been a major cause of deforestation in HDMM since 2011. There is also a lack of support for sustainable forest management from government and local communities and laws and regulations to prevent land occupation, illegal logging, and uncoordinated development, are not enforced.

In the ten years from 2004 to 2014, 66,265 ha were deforested in KPH LM, including 2,547 ha in the area that is now HDMM and 440 ha in HDKP (see Figure 4).

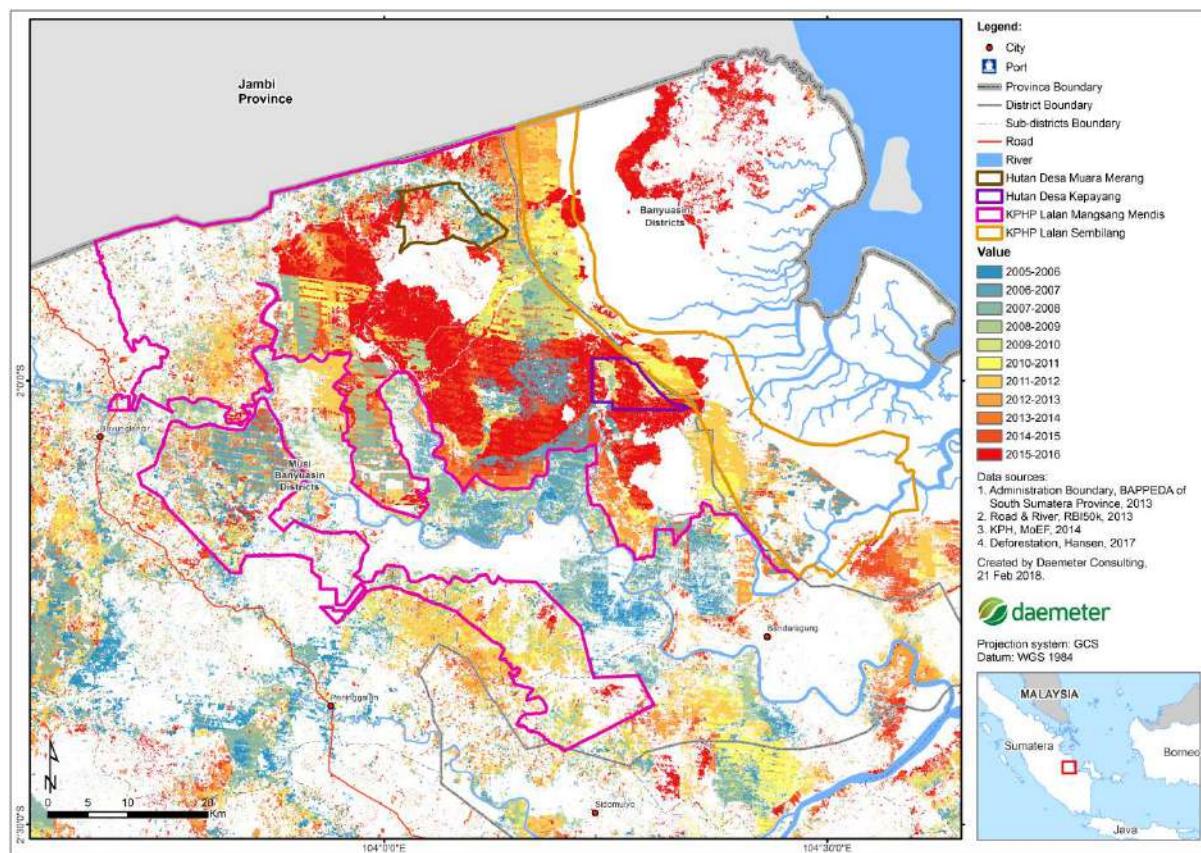


Figure 4 Deforestation in KPH LM and surrounding areas between 2005 and 2016. Source: Hansen et al. (2017)

2 Description of socio-economic context

Income sources

The main income sources of Muara Merang and Kepayang village communities are cultivation of oil palm and rubber, both as farm owners and labourers. Additional income sources are from selling vegetable crops and fish, swiftlet nest cultivation and provision of services such as middlemen, traders, grocery stores and motorbike repair. Table 3 summarises the main income sources in Muara Merang and Kepayang villages, and the sub-village/hamlet where the village forests are located.

Table 3 Summary of principle sources of household income in Muara Merang and Kepayang.

Principle source of income	Muara Merang Village		Kepayang Village	
	All	Dusun Pancuran	All	Nuaran
Farm owner (rubber and/or oil palm)	25%	70%	15%	100%
Non-permanent labour (at rubber farm, oil palm farm, or various other types of labour)	75%	25%	65%	0%
Others (sale of vegetable crops, fish catch, permanent labour, motorbike repair shop, grocery shop, traders, swiftlet nest cultivation, middlemen, other services, timber harvest, NTFP harvest, etc.)	0%	5%	20%	0%

Note: With the exception of households whose principle source of income is from non-permanent labour, households typically have multiple income sources.

Source: Berry and Damayanti (2018)

Community members in Dusun Pancuran, Muara Merang Village own an average of 2 ha oil palm plantation per household, planted with approximately 130 trees per hectare. Oil palm harvesting can be started from 4 years after planting, yielding two harvests per month. Average yield is 1-ton oil palm fruit/ha/month, which is sold for an average price of IDR 1,100-1,300/kg. Households with rubber gardens have approximately 600 rubber trees per hectare. Rubber tapping is done every day, and each tree can be tapped every two days. Typical yield of rubber latex is 50 to 80 kg/ha/month, which is sold for an average price of IDR 6,000-7,000/kg. Wages for paid labour for oil palm harvesting and rubber tapping are around IDR 1,500,000/month.

In the main sub-village of Muara Merang, Dusun Bakung, most people work as permanent or non-permanent labour on oil palm plantations. Oil palm plantation companies nearby Dusun Bakung are PT Pinang Witmas Sejati, PT London Sumatera, PT Mentari Subur Abadi, and PT. Mega Hijau Bersama. Daily wages for labour are IDR 107,000/day for oil palm maintenance (weeding, pruning, spraying pesticide) and IDR 107,000/ton for fruit harvesting. Wages are paid each month, with an average income of IDR 2,000,000/month for each worker.

In Kepayang Village, only 10% of the community are oil palm farmers with plantations of 2 to 5 hectares. Oil palm fruits are harvested every 2 to 3 weeks with yields of 400 to 500 kg/ha. The current price received from sales to middlemen is IDR 1,000/kg, around IDR 200/kg of which is used to pay for labour during harvesting. For households that have rubber, tapping is carried out every day and the latex is collected every 3 days, giving yields of around 60 kg/1000 trees. Wet latex is sold for IDR 5,000-6,000/kg. If labourers are used for tapping, they receive 50% of the latex sale. Most households in Kepayang Village receive income from work as labourers in commercial oil palm plantations that surround the village, e.g. PT Banyu Kahuripan Indonesia, PT Mega Hijau Bersama, and PT Mentari Subur Abadi. Rates paid for labour are the same as for Muara Merang.

There are only 25 households residing and cultivating rubber in Nuaran hamlet. Around 25 households residing in Dusun Aspa (capital of Kepayang Village) also have rubber gardens in Nuaran. There are two swiftlet houses in the rubber gardens belonging to non-residents of Nuaran. Each household in Nuaran has 2 to 5 ha of rubber gardens and individuals work only on their own farms.

Sources of income for the two villages are summarised in Table 4.

Table 4 Summary of income from main sources in Muara Merang and Kepayang.

Income sources	Muara Merang Village		Kepayang Village	
	Yield	Price (IDR)	Yield	Price (IDR)
Agriculture				
Rubber	50-80 kg/ha/month	6,000-7,000/kg	60kg/1000 trees/month	5,000-6,000/kg
Oil palm	700 - 1000 kg/ha/month	1,100-1,300/kg	400-500 kg/ha/month	1,000/kg gross 800/kg net
Non-permanent labour				
Paid labour for individual farmer		1.5 million/month		50% of latex sale
Paid labour for oil palm company		2 million/month		2 million/month
Loading/Unloading				35,000/m ³
Others				
Fishing	50-100 kg/week	25,000-40,000/kg	20 kg/week	20,000-25,000/kg
Goat breeding		Male: 2.5-3.5 million/goat Female: 1-1.5 million/goat		
Swiftlet nest cultivation	300-500 g/month	7-8 million/kg	1,000-8,000 g/month*	9-12 million/kg
Timber harvest**		1-2.5 million/m ³	Up to 10 m ³ /month (for a group of 3 people)	500,000 – 1.5 million/m ³
Non-Timber Forest Products (NTFP)				
Honey harvest	10-15 kg/year	50,000/kg	2.4-6 litre/year	125,000-130,000/litre
Bird hunting***		5,000-5 million/bird		7,000-2.5 million/bird

* Swiftlet houses in Kepayang have been established for longer than in Muara Merang

** Species include: *Meranti*, *Racuk*, *Punak*, *Rengas*, *Petalling*, *Medang*, *Brumbung*, *Kulim*, *Areng-areng*, *Balam*, and *Simpur*

*** Species include: *Punai*, *Kacer*, *Beo*, *Murai batu*, and *Murai Daun*

Source: Berry and Damayanti (2018)

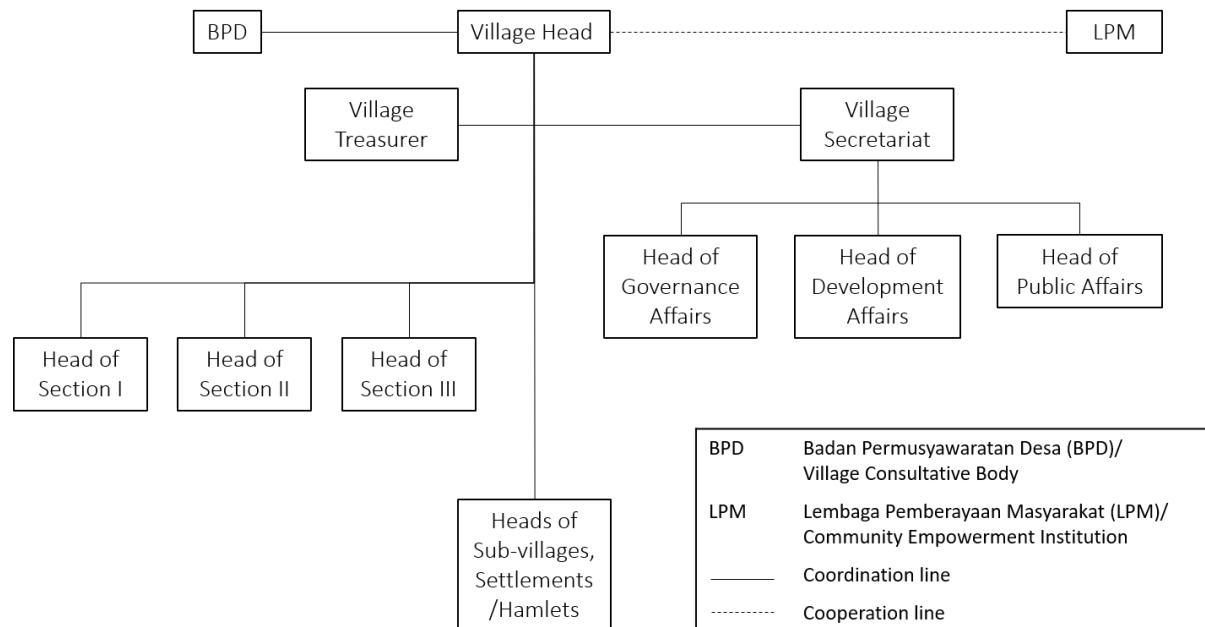
Governance structures

Muara Merang and Kepayang Villages follow the typical administrative and governance structures of Indonesia. Both villages have Village Government and Village Consultative Body (BPD) as the lowest-level governance institutions. These institutions have different roles in village governance. The Village Government facilitates village development, and empowerment of village communities, including planning, implementation, and reporting village activities and budget.

Village Government consists of a village head/chief, supported by a secretary; a treasurer; three village officials dealing with governance, development, and public affairs; three section heads; sub-village heads and heads of settlements/hamlets. BPD approves the plans submitted by the Village Government, receives feedback from the community, conveys the feedback to the Village Government, and monitors and evaluates Village Government activities and reports. Members of BPD are representatives of the villagers and are elected democratically. Village head and BPD members'

tenure is six years after which they can be re-elected a maximum of three times, either consecutively or non-consecutively¹.

In addition to these two institutions, there is a Community Empowerment Institution (LPM). LPM is a partner of the Village Government in empowering the community, planning and implementing village activities and improving community services. All members of the village community have the right to elect, be elected, and/or appointed as village head, village officials, members of BPD and members of village community institutions². The complete structure of Village Governance in Muara Merang and Kepayang is summarised in Figure 5.



¹ Article 55 & 56 of Village Act (UU No. 6/2014 Pasal 55 & 56)

² Article 68 (1d) of Village Act (UU No. 6/2014 Pasal 68 (1d))

C Target Groups & Communities

1 Summary of information

Demographics

The 850 registered households in Muara Merang Village are migrants, or descendants of migrants, from inside South Sumatra province (Melayu people) and other regions of Indonesia. Melayu migrants began arriving from Karang Agung, Musi, Palembang, Kayu Agung, Lubuk Lancang, Tanjung Laga, Pangkalan Balai Banyuasin in the 1950s, and were followed by migrants from Java Island (Javanese), Medan in North Sumatra (Batak ethnic), and Jambi (Melayu ethnic) who came to work at logging and sawmill companies since 1979, and oil palm companies since 1995 (Puter 2017).

Kepayang Village is populated with 800 households, who are also descendants of migrants from inside South Sumatra province (Melayu ethnic) e.g. from Selapan Sub-district in Ogan Komering Ilir District, Palembang, Sekayu, Banyuasin, and Muara Enim who began arriving in the 1970s to work at logging and sawmill companies; and some from Jambi (Melayu ethnic), Medan (Batak ethnic), South Sulawesi (Bugis people) and Kalimantan (Dayak ethnic) (HaKI and FPP 2016). Kepayang was part of Muara Merang Village until 2006, when the population size of Kepayang area was sufficient to be developed into an independent village. The majority of the two village communities are Moslems (Melayu, Javanese, Bugis), and Christians are a minority (only Batak ethnic).

Wellbeing indicators

Using wellbeing indicators designed by the community, members of Dusun Pancuran described the majority of the 300 registered households in the village (75%) as being poor (see Table 5). In addition to these households that have a household registration card, there are also around 700 unregistered households, many of which are inside the village forest.

Table 5 Wellbeing indicators for Dusun Pancuran.

Indicator	Level				
	Very poor	Poor	Medium	Rich	Very rich
Car	No car	No car	No car	1 car (credit)	> 1 car
Motorcycle	No motorcycle	No motorcycle	1-2 motorcycle	>3 motorcycles	> 3 motorcycles
House	No house	Roof: Nypa shingles/flysheet; Wall: waste plank; Pole: wood; Floor: soil	Roof: tin/asbestos; Wall: planed/painted-plank; Floor: cemented	Roof: multiroof; Wall: planed/painted or varnished plank, or brick; Floor: tile	Roof: brick; Wall: brick; Floor: tile
Monthly income (IDR)	< 1 million	1-1.5 million	1.5-2.5 million	5-10 million	> 10 million
Land area	No land	< 2 ha	2-5 ha	5-10 ha	>10 ha
Children's education	No education	No education	Graduate from Elementary School	Graduate from High School	University
Occupation	Labour; non-permanent	Labour; non-permanent	Labour; permanent	Rubber or oil palm farmer	Middleman (visiting places in the village to collect harvested products)
Approx % of HHs	10%	75%	10%	3%	2%

Source: Berry and Damayanti (2018)

According to the wellbeing indicators they defined, the Kepayang community described 20% of households as very poor, 30% as poor, and 40% as medium (see Table 6).

Table 6 Well-being indicators for Kepayang Village.

Indicator	Level				
	Very poor	Poor	Medium	Rich	Very rich
House	No house	Roof: nypa shingles; Wall: tree bark; Stilt-house; Floor: wood	Roof: tin-roof; Wall: planed-plank; Stilt-house; Floor: wood	Roof: tin-roof; Wall: planed-plank or brick; Floor: tile	Roof: clay-tile; Wall: planed-plank or brick; Floor: tile
Occupation	Labour; non-permanent	Daily labour; non-permanent; Fisher	Daily labour; non-permanent; Permanent worker (Labour; Government officials; nurses; teachers; etc.); Planters/farmers (rubber, oil palm)	Trader; Swiftlet nest cultivator	Business
Education (children)	Graduate from Elementary School	Graduate from Elementary School	High School or university	University in Palembang	University outside Palembang
Education (adults)	No education	Graduate from Elementary School	Graduate from Junior/High School	Graduated from high school/university	No education or if go to school up to high school
Owned-vehicle	None	1 bicycle; 1 boat	More than one of these: 1 motorcycle; 1 boat; 1 car ; 2 speedboats	2-3 cars; 1 tugboat	>3 cars; 1 fibre speedboat
Land size	0 ha	<2 ha	2-5 ha	5-10 ha	>10 ha
Approx % of village HHs	20%	30%	40%	10%	<1%

Source: Berry and Damayanti (2018)

Organisational capacity

Organisational structure in Muara Merang and Kepayang Villages follows the Minister of Home Affairs Regulation No. 84, 2015 as described in Figure 5. However, according to village officials in Dusun Bakung, only the Village Government is functioning in Muara Merang, while BPD and LPM are not active, because lack of capacity and funding, even though there have been some trainings to improve the capacity, provided by the Bayung Lencir Sub-District (Berry and Damayanti 2018). Similarly, in Kepayang, both BPD and LPM need capacity building, and support resolving conflicts within the villages, for them to be able to function effectively (Berry and Damayanti 2018).

Both villages had forest management committees (LPHD) established at the time when the village forests were first designated in 2010 (HDMM) and 2013 (HDKP). Neither of these groups are currently active however. Seven farmers' groups have been established in Muara Merang, and group representatives have received training in fire prevention and control, and rubber farming. Similar groups were also established in Kepayang, but they are not currently active.

Dusun Pancuran has an active fire control group (KMPA) that has agreements with surrounding timber and oil palm companies to provide fire prevention and control services. KMPA groups have

also been established in Kepayang Village. The groups are relatively inactive, however, and suffer from a lack of funding.

D Land Tenure & Carbon Rights

1 Description of land tenure and carbon rights

Land tenure

Muara Merang and Kepayang Village communities obtained Minister of Forestry Decrees on allocation of production forest as village forests in 2010 and 2013 respectively³. Both communities have also obtained the rights to manage the village forests from the South Sumatra Governor⁴. The management rights are valid for 35 years and will only expire if one or more of the following conditions occurs⁵:

- The management period (35 years) is reached;
- Management rights are revoked by the Governor as sanctions for violation of the law and regulation;
- Management rights are returned by the holders to the Governor with a written statement before the management period is over; or
- Management rights holders are not fulfilling the obligation as determined by regulations.

The lack of activity in both village forests since their establishment means that management rights are at risk of being revoked, unless management plans are implemented by the communities.

Carbon rights

In 2016, the Government of Indonesia ratified the Paris Agreement and Indonesia's Nationally Determined Contribution (NDC) has been submitted and approved by the UNFCCC. This national emission reduction commitment will be incorporated into national development programs and will be implemented at sub-national level. The Ministry of Environment and Forestry (MoEF) has recently issued ministerial regulations related to climate change mitigation and adaptation programs, including REDD+ Implementation procedures (P.70/2017), national registry (P.71/2017), MRV (P.72/2017), and reporting of inventory of greenhouse gas emission reduction (P.73/2017). These regulations were enacted in the State Gazette & State News at the end of January 2018. Government Regulations on Environmental Economic Instruments (PP 46/2017) were issued earlier and stated that within two years, the subordinate regulations will be in place. MoEF Regulation P.70/2017 is one of these subordinate regulations.

³ SK Menhut No. 54/Menhut-II/2010 dated 21 January 2010 for Muara Merang Village Forest and SK Menhut No. 573/Menhut-II/2013 dated 23 August 2013 for Kepayang Village Forest

⁴ South Sumatra Governor's decrees SK No. 529/KPTS/IV/2010 dated 26 November 2010 for Muara Merang community and SK. No. # dated # for Kepayang community

⁵ Dictum 7 of South Sumatra Governor, through SK No. 529/KPTS/IV/2010

Despite these recent developments, details of who holds the rights to carbon and ecosystem services remain unresolved, however. Carbon rights are not specifically addressed in the MoEF regulations on Social Forestry (P.83/2016), the Implementation of REDD+ (P.70/2017), or Environmental Economic Instruments (PP 46/2017). It is assumed that legal rights to carbon benefits are embedded in the environmental service benefits which communities can access through the establishment of village forests under the Social Forestry regulation (P.83/2016) and will be transferred to the communities. However, it is not clear whether the communities will need to apply for permits for utilising the village forest to access the environmental services benefits, including carbon. The project will closely monitor the development of relevant policy, and lobby for the transfer of all rights to communities as necessary.

E Project Interventions & Activities

1 Description of project intervention

Proposed project intervention

The project will implement two distinct but complementary interventions in the village forests. The interventions will be introduced in two phases. An initial phase will focus on the restoration and protection of degraded forest, and deforested land, by establishing agroforestry plots. A second phase will extend protection activities beyond the agroforestry plots, to broader protection and sustainable use zones within the village forests. The two-phased approach is intended to enable the project to access performance-based support for agroforestry activities that have already started, while allowing sufficient time for developing the capacity of village forest management committees to implement forest protection activities that are effective over a wider area.

Phase 1 – Forest protection and restoration in agroforestry

The project coordinator (HaKI) has been working with communities at both initial project sites (HDMM and HDKP), and the technical implementation unit of Ministry of Environment and Forestry, Forest Research Development and Innovation Agency (BPPLHK), to develop agroforestry systems suited to the local conditions:

- **Enrichment planting** in degraded forest with:
 - Swamp rubber or 'Jelutung' (*Dyera lowii*) – a species native to the peatlands of Sumatra and Borneo that is used to help prevent peat oxidation while providing a source of income from tapping latex.
 - Sugar palm or 'Aren' (*Arenga pinnata*) – a palm species native to tropical Asia, with sap that is harvested to produce palm sugar.
 - The native timber species 'Meranti-rawa' (*Shorea spp.*), 'Rengas' (*Gluta renghas*), and 'Ramin' (*Gonystylus bancanus*).
- **Agroforestry (Swamp rubber and Coffee)** in deforested areas with intercropping of:
 - Swamp rubber or 'Jelutung' (*Dyera lowii*)
 - Sugar palm or 'Aren' (*Arenga pinnata*)

- Areca palm or 'Pinang' (*Areca catechu*) – a widely cultivated palm that is naturalised in Indonesia and produces nuts that can be chewed for their mildly intoxicating effects.
- Liberica coffee (*Coffea liberica*) – a species indigenous to western and central Africa, but that is well adapted to growth in peat swamp areas
- Pineapple (*Ananas comosus*) – indigenous to South America, but domesticated varieties are commonly cultivated on peat land.
- **Agroforestry (Fruit trees)** in deforested areas with intercropping of:
 - Sugar palm or 'Aren' (*Arenga pinnata*)
 - Areca palm or 'Pinang' (*Areca catechu*)
 - Jengkol (*Archidendron pauciflorum*) and Petai (*Parkia speciosa*) – species native to Southeast Asia that produces fruit that can be eaten and used for medicinal purposes
 - Pineapple (*Ananas comosus*)

All systems will be implemented alongside hydrological management interventions to prevent peat drying within the plots.

All forested and cleared areas in the focal village forests that are not currently used for oil palm, rubber or acacia plantations are at extremely high risk of conversion within the next 5 to 10 years, which would result in considerable greenhouse gas emissions from the loss of vegetation and oxidation of peat. The physical presence of the plots and regular attention from agroforestry groups will prevent the illegal logging and conversion that has affected other areas of the village forests. In addition to the carbon sequestered in the planted trees, these agroforestry systems, combined with appropriate hydrological management, therefore also have potential to prevent emissions from deforestation and peat drainage.

Site preparation has begun to establish 7 ha of enrichment planting and 5 ha of agroforestry within HDMM, and a 10-ha demonstration plot outside the village forest in HDKP. The Plan Vivo project will expand the trial areas and establish additional agroforestry plots managed by designated groups from the village community. If sufficient finance can be generated through the sale of Plan Vivo certificates, or other sources of performance-based finance, there is potential for scaling out these agroforestry systems throughout forested and scrubland areas of the village forests.

Part of the income generated from the agroforestry areas will be used to support the work required to establish the enabling conditions needed for extensive protection beyond the agroforestry areas in Phase 2 of the project.

Phase 2 – Extensive forest and peat land protection

The high carbon stocks in areas of the village forests on peat, combined with rapid deforestation in recent years that is expected to continue if effective management is not implemented, creates potential for considerable greenhouse gas emission reductions if village forests can be protected from illegal logging, and land conversion.

Both of the initial village forests must overcome considerable challenges to effectively implement extensive forest protection activities, however. Prior to the start of Phase 2 of the project, which will aim to extend forest protection and hydrological management beyond the agroforestry plots, support will be provided to develop the necessary enabling conditions. The support provided will be

determined based on the specific requirements of the village forest, but is likely to include some or all of the following awareness raising and institutional development activities:

- Activities to increase understanding of the importance of sustainable forest management, village forest governance and implementation with the community
- Environmental education for community members
- Supporting village forest management committees to build capacity for planning, management and monitoring of the village forest
- Supporting village fire control groups to build capacity for fire control
- Facilitating participatory planning and development of Village Forest Spatial Plans (RTRHD) and Business Plans (RKUHD)
- Working with government authorities to determine and address barriers to law enforcement

Once these enabling conditions are sufficiently developed, the extensive forest protection phase will be initiated and Plan Vivo management plans for Phase 2 will be designed with the participating communities. Potential Phase 2 activities include:

- Forest patrol and monitoring
- Fire prevention and control measures
- Hydrological management
- Enforcement of laws and regulations:
 - Preventing sale of land within the village forest
 - Preventing logging within the village forest
 - Requiring incorporation of woody species in oil palm plantations
- Livelihood improvement and diversification
 - Improvements to existing commodity supply chains e.g. through the formation of farmer's cooperatives
 - Introduction of new nature-based livelihood activities e.g. honey production
 - Introduction/Improvement of other livelihood activities
 - Sale of agroforestry products
- Agricultural improvements to increase productivity of existing agricultural areas

Potential climate benefit

In the 10 years from 2004 and 2014 forest cover in KPH LM was reduced by more than 50%. The drivers of this deforestation are still active in this landscape (see Section B1) and it is therefore expected that without effective management all remaining forest will be cleared within the next 10 years.

To estimate the climate benefits from agroforestry and enrichment planting activities, the greenhouse gas removals from increases in carbon stored in planted trees will be combined with emissions avoided from peat oxidation within the plots. Initial estimates of potential climate benefits from the three systems that will be implemented in Phase 1 are provided in Table 7. To avoid over-estimating emissions reductions from avoided peat oxidation, emissions from peat are only included in the baseline scenario after 10 years, i.e. after the time when the whole of the village forest is expected to have been deforested under the baseline scenario.

Table 7 Potential climate benefits per hectare from forest restoration interventions over a 20-year quantification period

Intervention type	Average C stock in vegetation (t C/ha)		Emissions from peat (t CO ₂ e/ha)		Emission reduction/removal ⁵ (t CO ₂ /ha)
	BL ¹	PR ²	BL ³	PR ⁴	
Enrichment planting of degraded forest	109	230	1000	0	1,477
Agroforestry (Swamp rubber and coffee)	40	90	1000	0	1,184
Agroforestry (fruit trees)	27	60	1000	0	1,128

¹ Assuming conversion from degraded forest (168 tC/ha), scrub (30 tC/ha) or open land (3 tC/ha) to oil palm (50 tC/ha) after 10 years, for enrichment planting, coffee agroforestry and pineapple agroforestry respectively.

² Assuming no growth or clearance of remnant vegetation, and carbon stocks of planted trees in 20-year-old agroforestry plots of 121 tC/ha for enrichment planting, 115 tC/ha for agroforestry (swamp rubber and coffee), and 112 tC/ha for agroforestry (fruit trees)

³ Assuming 10-years of emissions from peat oxidation at a rate of 100 tCO₂e/ha/yr. Actual emissions will vary according to peat depth.

⁴ Assuming agroforestry interventions include hydrological management to prevent peat oxidation

⁵ Calculated as the difference in baseline and project scenario average carbon stocks in vegetation (converted to tCO₂), plus difference in emissions from peat in baseline and project scenarios

Phase 2 of the project will aim to extend forest protection and sustainable management activities to all remaining forest within HDMM and HDKP. The approaches described in the Plan Vivo Approved Approach for Estimation of climate benefits from REDD in community managed forest (Berry 2017), were applied to give initial estimates for annual emissions from deforestation expected under the baseline scenario for HDMM and HDKP. A default factor for emissions from peat oxidation of 100 t CO₂e per year, per hectare of deforested land was also applied (see Table 8). Emission reductions that the project could achieve would depend on the effectiveness of the activities implemented in preventing this deforestation, and any losses that occur due to leakage. Effectiveness and leakage will be estimated during the project design phase.

Table 8 Initial estimate of annual emissions from deforestation and peat oxidation under the baseline scenario in Hutan Desa Muara Merang (HDMM), and Hutan Desa Kepayang (HDKP) for period 2016 to 2023.

Project area	Initial forest area (ha) ¹	Annual deforestation (ha/yr) ²	Annual emissions (tCO ₂ e/yr)		
			Deforestation ³	Peat oxidation ⁴	TOTAL
HDMM	2,029	258	111,815	25,800	137,615
HDKP	981	125	54,061	12,500	66,561

¹ See Figure 3

² Assuming a baseline rate of deforestation of 12.7% per year, calculated from the average annual area deforested in KPH LM between 2004 and 2014 of 6,626 ha as a percentage of the forest area remaining in 2014 (52,026 ha)

³ Calculated as the difference between carbon stocks in degraded forest (168 tC/ha) and oil palm (50 tC/ha), converted to CO₂e and multiplied by the area deforested

⁴ Assuming emissions of 100 tCO₂e/ha/yr from deforested land. Actual emissions will depend on peat depth.

The figures provided in Table 7 and Table 8 are initial estimates based on the stated assumptions. These estimates will be refined during the project design phase using existing and newly developed approved approaches. The certifiable emission reductions and removals could vary considerably from these estimates depending on the methodologies and data sources approved by Plan Vivo. Furthermore, the need to withhold certificates in a risk buffer will reduce the volume of saleable

emission reductions by 10 to 50%, depending on the outcome of a project risk assessment that will be carried out in the project design phase.

F Identification of Any Non-Eligible Activities

1 Description of other activities

Activities that will not directly generate Plan Vivo Certificates, but that will provide the enabling conditions for forest and peat land protection and restoration are described in Section E1. These include awareness raising activities with the participating communities, training and capacity building for forest management committees and fire fighting teams, and facilitation of village forest management planning.

G Long-Term Sustainability Drivers

1 Description of sustainability of the proposed project intervention

The forest protection and restoration activities that will be implemented in Phase 1 of the project and the extensive forest and peat land protection activities in Phase 2 are both designed to establish sustainable land management practices that will provide goods and services that are valued by the local communities. Short- to medium-term support from the sale of Plan Vivo certificates and other sources of grant funding and performance-based finance will be used to establish these systems and develop them to a stage where external support is no longer required for them to be maintained for the long-term.

Phase 1 – Forest protection and restoration in agroforestry plots

The species planted in enrichment planting areas will provide marketable products seven years after establishment from swamp rubber and sugar palm. External support will therefore be needed for a 5 to 10-year period, after which income from the sale of these products will provide sufficient incentive for agroforestry groups to maintain the plots. Timber species are expected to reach harvestable size after around 20 years, providing further incentive for long-term management and potential for future income through sustainable off take or cyclical harvest of timber

In agroforestry areas on deforested peat land, in addition to the swamp rubber and sugar palm that will provide marketable products after seven years, coffee can be harvested four years after planting, areca nut can be harvested 5 years after planting, and pineapples will provide an annual crop from 1 year after planting. External support will therefore be provided for the 5 to 7 year period needed for all of the planted species to mature.

Phase 2 – Extensive forest and peat land protection

The long-term sustainability of extensive forest and peat land protection activities will depend on the local communities realising greater benefits from forest protection than they could from alternative

land uses. Land use decision making is often based on comparison of perceived economic benefits of different land uses, and other benefits from ecosystem services that do not have direct economic benefit are often undervalued. Awareness raising and participatory land use planning will therefore be used to highlight the less tangible benefits of forest protection such as fire prevention, maintenance of water quality and quantity, and prevention of human-wildlife conflicts, and incorporate these into decision making. In addition to this, livelihood activities that require non-timber forest products will be developed to maximise income from sustainable forest management in the short- to medium-term. As forest regenerates there may also be potential for sustainable timber harvest.

Since the baseline rate of deforestation is high, potential income from the sale of emission reduction certificates from avoided deforestation will only be available for the 5 to 10-year period after which all of the deforestation in the baseline scenario would have occurred. It may therefore be possible to invest some of the income from certificate sales during this period into an endowment fund to provide a source of finance for long-term management costs, and to help offset any opportunity costs that remain.

H Applicant Organisation & Proposed Governance Structure

1 Project organisational structure

Organisational diagram

Hutan Kita Institute (HaKI) is a non-governmental organisation, established in Palembang – South Sumatra, Indonesia on 1 October 2015, and legally registered by The Ministry of Law and Human Rights on 23 October 2015 (No. AHU 0010840.AH.01.07). Members of HaKI are individuals who have a shared, vision and purpose to stand on the frontline to protect and conserve the forest ecosystem, improve community prosperity, increase communities' access to natural resources, and to facilitate sustainable and fair natural resource management.

HaKI believes that in order to achieve their vision, they have to work collaboratively with multiple parties, especially with local people who are directly affected by changes of environmental quality; and that better natural resource governance and improved environmental quality will only be possible if all stakeholders (including government, local/indigenous people, civil society and private sector) are willing to work collaboratively. During the project design and project development phases, HaKI and the participating communities will receive technical support from The Landscapes and Livelihoods Group (TLLG) and Daemeter Consulting, as summarised in Table 9 and Figure 6.

Table 9 Roles of project coordinator and technical support organisations

Role	Hutan Kita Institute (HaKI)	TLLG/ Daemeter Consulting
Administration		
Registration and recording of management plans and sale agreements;	✓	✓
Managing the use of project finance in the Plan Vivo and making payments to producers	✓	✓
Coordinating and recording monitoring	✓	
Negotiating sales of Plan Vivo Certificates	✓	✓
Reporting to the Plan Vivo Foundation	✓	
Contracting project validation and verification		✓
Managing project data.	✓	
Technical		
Providing technical support and training to producers in planning and implementing project activities	✓	✓
Developing, reviewing and updating technical specifications	✓	✓
Evaluating management plans	✓	✓
Monitoring carbon, livelihoods, biodiversity and ecosystem services	✓	✓
Social		
Conducting preliminary discussions and continued workshops with communities	✓	✓
Gathering socio-economic information for project registration and reporting purposes	✓	✓
Helping groups/individuals to demonstrate land-tenure	✓	✓
Advising on issues such as mobilisation, setting up bank accounts, dispute resolution, etc.	✓	✓

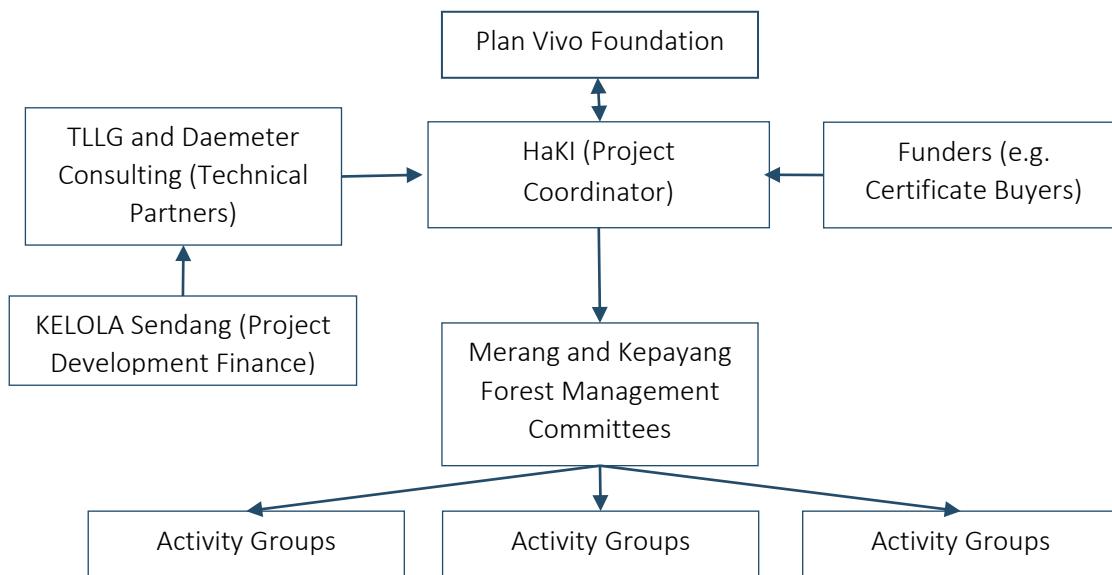


Figure 6 Project organisational structure

Capacity and experience

The capacity and experience of the Project Coordinator and Technical Partners are summarised below.

Name : Hutan Kita Institute (HaKI), Palembang, South Sumatra, Indonesia www.hutaninstitute.or.id

Role in project: Project Coordinator

Legal Status: Local NGO

Long-term objective:

To protect and conserve the forest ecosystem, improve community prosperity and increase communities' access to natural resources, and facilitate sustainable and just natural resource management

History and achievements:

Since its establishment in 2015, HaKI has assisted more than 30 villages who are located inside or surrounding forest to obtain social forestry permits. They are also working with other stakeholders, including government, to facilitate local people in prevention of forest fires in two districts – Musi Banyuasin and Ogan Komering Ilir (OKI). Related to forest fires, HaKI is also active in analysis of forest fires' impacts in South Sumatra, providing and publicising detailed information on location and scale of fires.

In relation to conflict resolution, HaKI has been able to resolve a conflict between an industrial timber company and the local community in OKI that had existed since 2004. Lessons learned from this are now being applied to address conflicts at four other sites in Musi Banyuasin and Ogan Komering Ulu.

Current activities:

- Facilitating development of Plan Vivo projects for 2 village forests in Musi Banyuasin
- Facilitating conflict resolution in 7 villages in Musi Banyuasin
- Facilitating social forestry development in districts of Muara Enim, Lahat, Pagar Alam, Musi Rawas, Ogan Komering Ulu Selatan and Musi Banyuasin
- Peat management development in post-burn peat in OKI and Musi Banyuasin.
- Reducing and preventing deforestation and degradation of peat swamp forest and national parks

Key personnel:

Aidil Fitri (Executive Director) specializes in conflict resolution and community rights

Deddy Permana (Director Program and Networking) specializes in biodiversity

Adiosyafri (Director Research and Campaign) specializes in stakeholder engagement

Trisnawaty (Finance Manager) specializes in finance management

Ismail Rasyid and Rian Saputra specialize in community empowerment

Yuliusman specializes in conflict resolution

Menik Setyowati & Martha Fitriyani specialize in community empowerment

Prasetyo Widodo & Beni Hidayat specialize in Biodiversity

Dede Ahdiyat (GIS Expert)

Name: The Landscapes and Livelihoods Group (TLLG), Edinburgh, UK www.livelihoods.net

Role in the project: Technical Partner

Legal Status: Partnership

Long-term objective:

Development and implementation of ecosystem-based approaches to land and resource management that address global challenges and local priorities, that incorporate sustainable management, conservation and restoration of ecosystems as part of an overall strategy that takes into account the multiple social, economic and cultural benefits and trade-offs for local communities.

History and achievements:

Since its establishment in April 2017, TLLG has provided technical support to projects including development of Plan Vivo projects in Indonesia and West Africa, research support in sub-Saharan Africa with the University of Edinburgh, program evaluations for CARE International, development of conservation strategies in dryland and marine ecosystems with ZSL and The Biodiversity Consultancy and providing technical support to Tree Aid projects in Burkina Faso.

Current activities:

TLLG continues to provide ongoing support to projects, as well as developing and initiating new projects that contribute to our long-term objective. Current focal areas are:

- Climate change mitigation and adaption
 - REDD+
 - Climate Smart Agriculture
- Sustainable land management
 - Community forest management
 - Forest landscape restoration
- Sustainable management of coastal and marine resources
 - Locally managed marine areas
- Biodiversity conservation

Key personnel:

Nicholas Berry – Forest and Climate Specialist (nick@livelihoods.net)

Michael Riddell – Livelihoods and Governance Specialist (mike@livelihoods.net)

Rebecca Stedham – Geographic Information Specialist (becky@livelihoods.net)

<p>Name and role in the project: Daemeter Consulting, Bogor, Java, Indonesia www.daemeter.org</p> <p>Role in the project: Technical Partner</p> <p>Legal Status: Daemeter is consulting firm with offices in Indonesia and USA.</p> <p>Long-term objective: Promote sustainable development through responsible and equitable management of natural resources, particularly in Asia's emerging countries.</p> <p>History and achievements: Since its establishment in 2007, Daemeter has had a strong focus on providing technical support and in-depth analysis supporting innovative approaches to sustainable management of resources. Daemeter is collaborating with government agencies and private sector companies, with whom we design and implement policies and safeguard, as well as donor agencies and non-profit foundations to develop low carbon development strategies and program design. We also partner with local, national and international NGOs to highlight and promote best practices in sustainability, through research, multi-stakeholder engagement, program evaluation and capacity building.</p> <p>Current activities: Daemeter focuses on four broad themes; sustainability strategy, responsible investment, stakeholder engagement and natural resource management. Key topics under these themes include:</p> <ul style="list-style-type: none"> • Green economic development policy • Policy and regulatory analysis • Sustainable business advisory • Sustainable sourcing and supply chains • Certification and legal compliance • Monitoring and evaluation <p>Key personnel:</p> <p>Sahat A. Aritonang – Sustainability Specialist (Project Manager) Ellyn Kathalina Damayanti – Livelihoods and Socioeconomic Specialist Florian Vernaz – Business Development Specialist Iwan Kurnia Rosyid – Social and Cultural Specialist Gaia Khairina – Environmental Specialist Felicia Lasmana and Muhammad Iqbal – Biodiversity Specialists Bukhari – GIS specialist</p>
--

2 Applicant organisations

The Project Idea Note is submitted by TLLG and Daemeter Consulting on behalf of HaKI. A signed statement from HaKI indicating support of this application is provided in Annex A. Details of TLLG and Daemeter Consulting objectives, achievements, and activities; and key personnel involved in the project are provided in Section H1.

I Community-Led Design Plan

1 Plan for achieving community participation in the project

Participatory project design plan

The success of the proposed project relies on the full and effective involvement of local communities in the development and implementation of village forest restoration and protection activities. The approaches employed to help ensure that the village communities have a sense of ownership over the project, and a commitment to carrying out project activities are summarised below.

Concept development

The scoping phase of the project involved visits to the initial project sites, by the project coordinator and technical partners. During these visits the following activities were carried out:

- Participatory land-use mapping – Using remote sensing images as a base map, representative groups of community members from Muara Merang and Kepayang produced detailed maps describing current land use within their village forests.
- Problem tree analysis – A problem tree analysis was conducted with representative groups of participants from Muara Merang and Kepayang to identify the causes and consequences of deforestation and degradation expected in the HDMM and HDKP. The resulting problem trees were discussed and refined with input from other community members and stakeholders.
- Village survey – Since recent information on socioeconomic conditions and livelihoods in Muara Merang and Kepayang was incomplete, a series of focus group discussions and key informant interviews was conducted.
- Project activity scoping – Using the information from land-use mapping, problem tree analysis and village survey, a project concept was developed with specific activities to address local drivers of deforestation and forest degradation and enable restoration. These are described in Section E.

Financial feasibility assessment

Prior to commencing with project development activities, a financial feasibility assessment will be carried out to determine the contribution to total project costs that can be made from the sale of Plan Vivo certificates and to identify additional sources of funding if required. This will include initial estimates of:

- Management costs for Phase 1 and Phase 2 activities;
- Transaction costs associated with issuance and sale of Plan Vivo certificates;
- The opportunity cost that would be borne by the local community for implementing forest protection and restoration activities;
- Potential income from the sale of agroforestry products, based on an analysis of local value chains for these products;
- Potential increases in income from activities to improve existing livelihood activities and/or the introduction of new livelihood activities;

- Potential income from sale of Plan Vivo certificates or other sources of results-based finance.

This information will be used to produce a financial overview summarising the balance of costs and benefits to determine whether the proposed activities are financially feasible.

Institutional development

As described in Section C1, the Village Forest Management Committees (LPHD) are not currently active at either of the initial project sites. For project development to proceed, it will therefore be necessary to revive these groups and ensure they have the capacity, resources, and support from local community and authorities necessary to play a leading role in development and implementation of a Plan Vivo project. The minimum capacity requirements for each phase of the project will therefore be identified, and activities will be implemented to ensure that these requirements are met prior to the start of that phase.

Project development

During the project development phase, the project coordinator and technical partners will make frequent visits to work with the participating communities on the following activities:

1. Project activity planning – The project coordinator will work with the focal communities to develop detailed management plans describing activities that are required to restore forest and prevent further deforestation and degradation in their village forests. Details of resource requirements will also be discussed, and these will then be developed into full financial plans for the project with details of how resource requirements will be met.
2. Monitoring plan development – The project coordinator will work with the focal communities to develop activity-based monitoring plans that can be used to assess whether activities in the management plan are being carried out, and whether they are likely to result in the expected emission reductions.
3. Development of draft Plan Vivo agreement – The management plans, financial plans and monitoring plans developed in the previous activities will be incorporated into draft Plan Vivo Agreements describing the requirements for receiving support from the sale of Plan Vivo certificates, and a proposed benefit distribution mechanism that supports the financial plan. These draft agreements will be discussed and refined with input from community members.

Process for enabling free, prior, informed consent (FPIC)

To enter into Plan Vivo agreements, the focal communities must have a complete understanding of the Plan Vivo system, and the source and conditionality of receiving any support from the sale of Plan Vivo certificates. The concepts of Payments for Ecosystem Services, and the sale of greenhouse gas emission reduction certificates must therefore be introduced to the community during project scoping and development, and continued support will be provided during project implementation. The manner in which these concepts are introduced will be carefully managed to reduce the risk of raising unrealistic expectations within the community, which could undermine the implementation of project activities.

The community-led process for development of project activities is described above. A programme of capacity building will be implemented alongside this process to ensure that the focal communities

develop a full understanding of the concepts involved in a Plan Vivo project and can enter into Plan Vivo agreements under conditions required for Free, Prior and Informed Consent (see Table 10). All capacity building activities will be carried out by the Project Coordinator, following training plans developed with input from the Technical Partners.

Table 10 Summary of capacity building activities to build understanding of the Plan Vivo system

Topic	Content
Sustainable forest management	Discuss the concept of sustainable forest management in the village context
Conservation partnerships	Introduce the concept that external parties may be willing to provide financial support for sustainable forest management, while making it clear that finance is not currently available and that it will still be necessary to find people to provide financial support before management plans can be funded.
Performance-based finance	Training to build understanding of the sources of performance-based finance that could fund their project activities. This will include basic descriptions of ecosystem services and climate change mitigation, how their project activities will contribute to these, and why external parties are willing to pay for this.
PES and carbon markets	Introduction to markets for ecosystem services and emission reduction certificates, and associated monitoring and reporting requirements.
Implementation	Further development of understanding of PES and carbon markets, so the participating community can become ambassadors for the approach as it spread to other villages.

J Additionality Analysis

1 Description of how project activities are additional

Regulatory surplus

All of the forest within KPH LM is designated Production Forest (HP), although some areas, including forest in HDMM has recently been classified as protected forest because of the presence of peat. A lack of effective enforcement of laws and regulations on agricultural expansion in the area, as demonstrated by the uncontrolled deforestation that has occurred in recent years, means that in practice these legal designations have little impact on land use in the village forests.

Barrier analysis

Communities with village forests in KPH LM face significant financial, technical, legal, and social barriers to protection, restoration and sustainable management of their village forests. A summary of these barriers, and how project activities will enable the communities to overcome them, is provided in Table 11.

Table 11 Barrier analysis

Type of barrier	Description	Project activities to overcome the barrier
Financial	<ul style="list-style-type: none"> Muara Merang and Kepayang communities lack the financial resources to invest in enrichment planting or agroforestry activities that have high up-front costs and a significant lag-time before marketable products can be harvested. Forest management committees and fire control groups lack finance needed to provide resources and compensate members for their activities The need for short-term cash income is currently met through logging and labour on oil palm and rubber plantations Many smallholder farmers are locked into contracts with timber, oil palm and rubber middlemen who provide up-front loans 	<ul style="list-style-type: none"> In Phase 1, the project will provide finance to agroforestry groups to cover costs of establishing agroforestry plots, and managing them until a time when marketable products can be harvested In Phase 2 support will be provided to forest management committees and fire control groups to enable them to conduct effective patrol and monitoring activities, and to prevent spread of fire within and into village forests In Phase 2 support to improve existing livelihoods and develop alternative livelihoods will be provided to reduce dependence on timber harvesting and agricultural expansion
Technical	<ul style="list-style-type: none"> Communities lack previous exposure to agroforestry systems and techniques Village forest management committees lack experience in village forest management planning and implementation Fire control groups in HDKP lack skills to effectively prevent spread of fires 	<ul style="list-style-type: none"> In Phase 1 agroforestry groups will be trained in appropriate systems and techniques In Phase 2 forest management committees will be trained and coached in village forest management planning and implementation, and fire control groups will receive required training
Legal	<ul style="list-style-type: none"> Management rights for village forests could be revoked if management activities are not carried out Laws and regulations on land use in village forests are not effectively enforced 	<ul style="list-style-type: none"> In Phase 1 spatial plans and business plans will be formalised to prevent management rights being revoked In Phase 2 the project will work with local authorities to identify and address barriers to enforcement of laws and regulations
Social	<ul style="list-style-type: none"> Local communities lack awareness or understanding of the importance of sustainable forest management, and the role of village forest governance 	<ul style="list-style-type: none"> In Phase 1 awareness raising activities will be carried out to build understanding and support for sustainable forest management In Phase 2 further activities will be carried out with a focus on village forest governance

K Notification of Relevant Bodies & Regulations

1 Evidence of notification of relevant bodies and intent to comply with regulations

Notification of relevant regulatory bodies

The project is being developed with Lalan Mendis Forest Management Unit (KPH LM), which is a forest management unit under the South Sumatra Provincial Forestry Service. KPH LM is one of the consortium members of the Sustainable Landscape Management Partnership of Sembilang-Dangku (KELOLA Sendang) Project that is supporting the development of a Plan Vivo Project in Merang and Kepayang Village Forests.

KPH LM circulated a letter of notification to all relevant regulatory bodies and NGOs active in the area, including national and district authorities and local international organisations. A copy of the letter, and list of addressees is provided in Annex B.

Statement of intent to comply with relevant regulations

National and regional regulations and legislation relevant to the proposed project activities are summarised in Table 12. During the development of the project, a full review of these documents will be conducted to ensure compliance with all relevant regulations.

Table 12 Relevant regulations and legislations

Type	Reference	Title
Forest carbon		
Regulation of Minister of Environment and Forestry	P.70/70/MENLHK/SETJEN/KUM.1/12/2017	Tata cara pelaksanaan Reducing Emissions from Deforestation and Forest degradation, Role of Conservation, Sustainable Management of Forest and Enhancement of Forest Carbon Stocks
Regulation of the Minister of Forestry*	P.68/Menhet-II/2008	Penyelenggaraan Demonstration Activities Pengurangan emisi dari Deforestasi dan Degradasi Hutan
Regulation of the Minister of Forestry*	P.36/Menhet-II/2009	Peraturan Menteri Kehutanan tentang Tata Cara Perizinan Usaha Pemanfaatan Penyerapan dan/atau Penyimpanan Karbon pada Hutan Produksi dan Hutan Lindung
Regulation of the Minister of Forestry*	P.30/Menhet-II/2009	Tata Cara Pengurangan Emisi dari Deforestasi dan Degradasi Hutan (REDD)
Regulation of the Minister of Forestry*	P. 20/Menhet-II/2012	Penyelenggaraan Karbon Hutan
Regulation of the Minister of Forestry*	P.11/Menhet-II/2013	Perubahan atas Permenhut No. P.36/Menhet-II/2009
Regulation of the Minister of Forestry*	P.50/Menhet-II/2014	Perdagangan Sertifikat Penurunan Emisi Karbon Hutan Indonesia atau <i>Indonesia Certified Emission Reduction</i>
Local governance		
Law	UU No. 6/2014	Desa
Law	UU No. 23/2014	Pemerintahan Daerah
Government Regulation in Lieu of Law	Perpu No. 2/2014	Perubahan atas UU No. 23/2014
Law	UU No. 2/2015	Penetapan Perpu No. 2/2014 sebagai Undang-undang
Law	UU No. 9/2015	Perubahan kedua atas UU No. 23/2014 tentang Pemerintahan Daerah
Village forests		
Regulation of the Minister of Environment and	83/MENLHK/SETJEN/KUM.1/10/2016	Perhutanan Sosial

Type	Reference	Title
Forestry		
Regulation of the Minister of Forestry	P.35/menhet-II/2007	Hasil Hutan Bukan Kayu
Regulation of the Minister of Forestry	P.19/Menhet-II/2009	Strategi pengembangan Hasil Hutan Bukan Kayu Nasional
Regulation of the Minister of Forestry	P.21/Menhet-II/2009	Kriteria dan indikator penetapan jenis Hasil Hutan Bukan Kayu Unggulan
Muara Merang Village Forest		
Decree of the Minister of Forestry	SK. 54/Menhet-II/2010	Penetapan Kawasan Hutan sebagai areal kerja hutan desa seluas ±7.250 (tujuh ribu dua ratus lima puluh) hektar di Kabupaten Banyuasin Provinsi Sumatera Selatan
Decree of South Sumatra Governor	SK.529/KPTS/IV/2010	Pemberian Hak Pengelolaan Hutan Desa kepada Lembaga Pengelola Hutan Desa Muara Merang atas areal Hutan Produksi Tetap Lalan seuaas ±7.250 (tujuh ribu dua ratus lima puluh) hektar di Kabupaten Musi Banyuasin Provinsi Sumatera Selatan
Regulation of Muara Merang Village	Perdes No. 1 Tahun 2009	Pembentukan Lembaga Hutan Desa
Decree of Muara Merang Village Chief	SK Kades No. 1 Tahun 2009	Susunan Pengurus Lembaga Pengelola Hutan Desa
Decree of Muara Merang Village Forest Management Committee Chairperson	SK Ketua LHD No. 01/LHD-Muara Merang/2010	Peraturan Pengelolaan Areal Kerja Hutan Desa Muara Merang
Kepayang Village Forest		
Decree of the Minister of Forestry	SK Menhut No. 573/Menhut-II/2013	Penetapan Kawasan Hutan Produksi sebagai areal kerja Hutan Desa Kepaang seluas lk 5.170 (lima ribu seratus tujuh puluh) hektar di Kecamatan Bayung Lencir, Kabupaten Banyuasin, Provinsi Sumatera Selatan.
Decree of South Sumatra Governor		Pemberian Hak Pengelolaan Hutan Desa kepada
Regulation of Kepayang Village		Pembentukan Lembaga Hutan Desa
Decree of Kepayang Village Chief	SK Kades No. 1 Tahun 2010	Susunan Pengurus Lembaga Hutan Desa di Wilayah Desa Kepayang

* Possibility of contradictory contents - Article 24 of the Regulation of Minister of Environment and Forestry

P.70/MENLHK/SETJEN/KUM.1/12/2017 revoked all regulations related to REDD+ implementation and forest carbon including technical guidance which contents are contradictory to this regulation.

L Identification of Start-Up Funding

1 Details of funding for project development

Funding for Plan Vivo project development will be sought through the KELOLA Sendang Consortium, which receives finance from Government of Norway through the Norway's International Climate and Forest Initiative (NICFI), the Government of the United Kingdom through the Department for International Development (DFID) UK Climate Change Unit (UKCCU), and the David and Lucile Packard Foundation.

Establishment of initial agroforestry plots in HDMM will be funded by grants received by HaKI from the Indonesian Climate Change Trust Fund (ICCTF) and Tropical Forest Conservation Action (TFCA).

References

Berry. N. J., and Damayanti, E. K. (2018) Fieldwork protocols and reports for Muara Merang and Kepayang. The Landscapes and Livelihoods Group (TLLG) reports submitted to Daemeter Consulting.

Berry, N. J. (2017) Estimation of climate benefits from REDD in community managed forest: Climate benefit estimation approach for Plan Vivo projects. Plan Vivo Approved Approach.

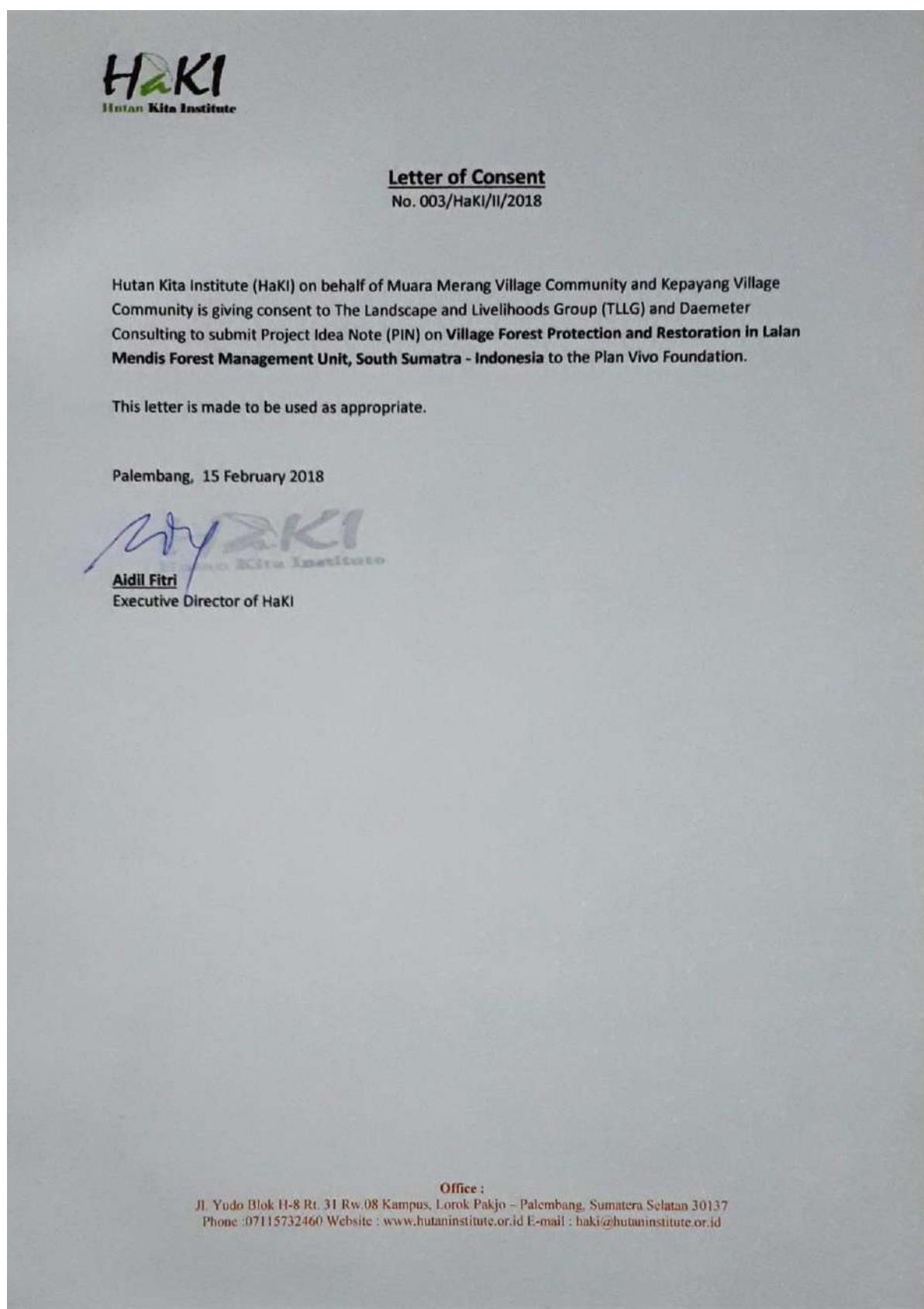
Daemeter Consulting (2017) Gap Assessment and Scoping Report – KPHP Lalan Mendis.

Hansen, M. C., P. V. Potapov, R. Moore, M. Hancher, S. A. Turubanova, A. Tyukavina, D. Thau, S. V. Stehman, S. J. Goetz, T. R. Loveland, A. Kommareddy, A. Egorov, L. Chini, C. O. Justice, and J. R. G. Townshend (2014) “High-Resolution Global Maps of 21st-Century Forest Cover Change.” *Science* 342: 850–53. Data available on-line from: <http://earthenginepartners.appspot.com/science-2013-global-forest>

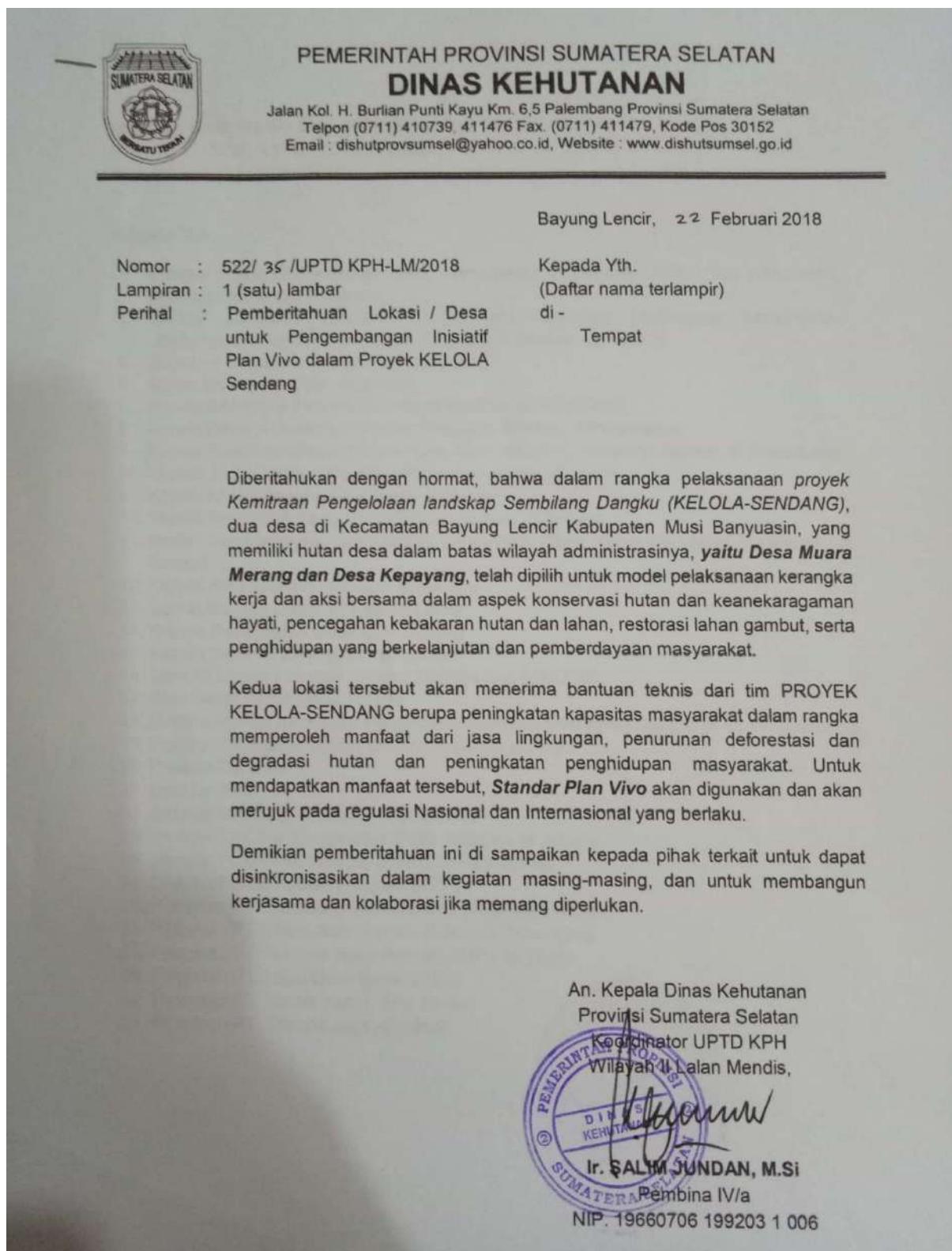
Hutan Kita Institute (HaKI) & Forest Peoples Programme (FPP). 2016. Baseline survai penguasaan dan pengelolaan lahan di lanskap Lalan dan Dangku Kabupaten Muba. Palembang: HaKI & FPP.

Yayasan Puter Indonesia. 2017. Profil Desa Muara Merang, Kecamatan Bayung Lencir, Kabupaten Musi Banyuasin, Provinsi Sumatera Selatan.

Annex A – Letter of consent



Annex B – Letter of notification



Lampiran Surat Koordinator UPTD KPH Wilayah II Lalan Mendis

Nomor : 522/ 35 /UPTD KPH.LM/2018

Tanggal : 22 Februari 2018

Kepada Yth.

1. Direktur Jenderal Perubahan Iklim, Kementerian Lingkungan Hidup dan Kehutanan, Republik Indonesia, di Jakarta
2. Direktur Jenderal Perhutanan Sosial dan Kemitraan Lingkungan Kementerian Lingkungan Hidup dan Kehutanan, Republik Indonesia, di Jakarta
3. Gubernur Sumatera Selatan, di Palembang
4. Bupati Musi Banyuasin, di Sekayu
5. Kepala BAPPEDA Provinsi Sumatera Selatan, di Palembang
6. Kepala Dinas Kehutanan Provinsi Sumatera Selatan, di Palembang
7. Kepala Balai Konservasi Sumberdaya Alam (BKSDA) Sumatera Selatan, di Palembang
8. Kepala Balai Taman Nasional Berbak-Sembilang, di Jambi
9. Kepala KPHK Dangku – Bentayan, di Sekayu
10. Kepala BAPPEDA Kabupaten Musi Banyuasin, di Sekayu
11. Badan Pemberdayaan Masyarakat Pemerintah Desa Kabupaten Musi Banyuasin, di Sekayu
12. Kepala KPH Wilayah I Meranti, di Sekayu
13. Camat Bayung Lencir, di Bayung Lencir
14. Kepala Desa Muara Merang, di Bakung
15. Kepala Desa Kepayang, di Kepayang
16. Direktur United Kingdom Climate Change Unit (UKCCU)
17. Duta Besar Norwegia di Jakarta
18. Direktur Proyek Kemitraan Pengelolaan landskap Sembilang Dangku (KS), di Palembang
19. Direktur Zoological Society of London (ZSL), di Bogor
20. Direktur Deltares
21. Direktur SNV
22. Direktur Daemeter Consulting, di Jakarta
23. Direktur IDH The Sustainable Trade Initiative, di Jakarta
24. Direktur Hutan Kita Institute (HaKI), di Palembang
25. Direktur Forest People Program (FPP)
26. Pimpinan PT Wahana Lestari Makmur Sejahtera (WLMS)
27. Pimpinan PT Global Alam Lestari (GAL), di Palembang
28. Pimpinan PT. Sumber Hijau Permai (SHP), di Jambi
29. Pimpinan PT. Hijau Bumi Iestari (HBI)
30. Pimpinan PT. Rimba Hutani Mas (RHM)
31. Pimpinan PT. Tripura Jaya, di Jambi

