

# Project Design Document (PDD)

Version 1.2

## THE BUJANG RABA COMMUNITY PES PROJECT





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## Executive Summary

Bujang Raba is one of Indonesia's first community REDD projects with mitigation activities that will result in approximately 630,000 tCO<sub>2</sub> of emissions reductions from avoided deforestation over the next ten years (2014-2023). Under this REDD project, five indigenous Jambi communities will protect their 5,336 ha primary forest and from conversion to non-forest after receiving legally recognized rights by the Government of Indonesia in 2013. By conserving this forest frontier habitat, the villages will safe guard an important lowland tropical forest ecosystem that possesses endangered flora and fauna including the Sumatran Tiger, Malaysian Sun Bear, Tapir, and sacred hornbills. Located on the border of Kerinci Seblat National Park, Bujang Raba protected forest provides an important buffer area to development pressures which on some of the planet's most pristine tropical rainforests. With rapid conversion of forests throughout Jambi Province at a rate of 2.8 % annually between 1990 and 2020, retaining dense forest cover in the upper watershed where Bujang Raba is located will also help stabilize run-off during the torrential rainy season, reducing lowland flooding.

The project will help support 1,259 households who are largely dependent on the natural environment for their livelihood. The families reside in 5 villages that make up a larger traditional (Adat) village. The project communities have a historic familial relationship and share common ancestry and belong to the Jambi ethnic group that has inhabited the region for centuries. They possess traditional leaders and institutions, as well as newly formed organization to support governance and development. Traditional institutions include the newly formed Village Forest Councils that supervise each hamlet's community forest (Hutan Desa), as well as the 1,956 ha of secondary forests being developed as sustainable agroforestry land. The project will improve the socio-economic conditions of five villages using revenues from carbon-offsets to support a transition to sustainable and productive agroforestry systems based on a mixed supply of rubber, coffee, cinnamon, dragon's blood, and other commodities and spices. In addition, carbon offsets will help develop a micro-hydro and natural gas energy supply system that will reduce the need for fuel wood, coal and other high emission energy sources.

With the population of the communities growing, internal pressures on the forests for timber, and agricultural land also contribute to forest loss and degradation. By intensifying agroforestry production in their secondary forest, participating communities will not need to open primary forests for additional agricultural land. Securing legal tenure rights to their forests and achieving certification by Plan Vivo will also strengthen the project communities' capacity to resist external pressures on their forests. In the past, three threats to the traditional system have triggered rapid deforestation in the area over the past twenty years. First came the logging concession (HPH) that entered the area in 1996, removing high value timber and opening the once dense forest canopy. Erosion from the steep hillsides filled the once-clear rivers with sediment. The second driver of deforestation has been the conversion of natural forest to oil palm plantations. This has resulted in a shift in the area's microclimate to dryer and hotter

weather, disrupting conditions for local flora and fauna as these monoculture plots increasingly dominate the landscape. The most recent threat is from the coal mining, which has brought deforestation, water pollution, and biodiversity loss.

Though WARSI has been intermittently active in the area since 2000, we have chosen a project start date of 1 January 2014 to align with the new Plan Vivo program activities. The first phase of the project will be from 2014-2018, with the second phase from 2019-2023.

## Part A: Aims and objectives

This project seeks to support Bujang Raba's five indigenous communities who plan to conserve their primary rainforest in Sumatra's Bukit Barisan mountainous. The communities of Bujang Raba will draw on local wisdom and indigenous institutions, supported by new technical capacities, to control powerful internal and external drivers of deforestation. Bujang Raba's ecosystem is a crucial provider of important environmental services, sustaining supplies of clean water, renewable energy, fresh air, storing and sequestering carbon, and offers an idyllic landscape to tempt visitors seeking natural surroundings. Bujang Raba is tropical mountainous forest which hosts high biodiversity and possesses a range of non-timber forest products that contribute to household incomes. Activities will reduce extractive pressures on this forest by building the capacity of the newly established forest management council and improving community livelihoods through agroforestry and NTFP trade development.

The Bujang Raba forest ecosystem occupies a strategic geographic position on the frontier forest boundary of some of Sumatra's last intact rainforest. Bujang Raba should be viewed as part of a greater landscape rather than just as a single protected forest area because its valuable environmental services connect it to other ecosystems. Kerinci Seblat National Park is located to its West, while Batang Ule production forests (*hutan produksi*), customary forests (*hutan adat*), and village protection forests (*hutan lindung desa*), and other land use areas are located to the South. Several major sub-watersheds emerge from the heart of Bujang Raba, namely the Batang Bungo, Batang Pelepat, and Batang Senamat sub-watersheds that drain water to the Batang Hari River. Based on surveys and mapping conducted by WARSI, the greater Bujang Raba Landscape covers an area of 77,804 hectares.

Over the past 5 years, this area has been managed by communities under the Hutan Desa program. This program allows the villagers to manage forest sustainably for 35 years, when it can be extended. At the present time, 3 villages have developed village forest management plan (RKHD) approved by the Governor of Jambi, while the other 2 villages are in the process of developing these plans. Even though the village forest area (Hutan Desa) in Bujang Raba is relatively good condition with dense primary forest covering 75% of the area, Bujang Raba is facing some internal and external threats that may occur without project intervention. Population expansion by the five villages has put pressure on local forests for conversion to farmlands and settlements. Increasing productivity of secondary forests through the development of agroforestry development and NTFP production will reduce internal pressure on the primary forests. Community-based management planning is creating long-term plans for sustainable land use that can substantially reduce conversion of primary forestland.

Three external threats to the traditional system have triggered rapid deforestation in the area over the past twenty years. A logging concession (HPH) entered the area in 1996, removing high value timber and opening the once dense forest canopy. Erosion from the steep hillsides filled the once-clear rivers with sediment. The second driver of deforestation has been the

conversion of natural forest to oil palm plantations. This has resulted in a shift in the area's micro-climate to dryer and hotter weather, disrupting conditions for local flora and fauna as these mono-culture plots increasingly dominate the landscape. The most recent threat is from coal mining, which has brought deforestation, water pollution, and biodiversity loss. With recognition of their management rights by the Government of Indonesia and through certification by Plan Vivo, however, the communities are better positioned to resist efforts by external actors to convert local forests. In addition, WARSI, the project developer, has assisted the community to develop strong relationships with the local government, which is sympathetic

The overall goal of the Bujang Raba PES project is to achieve sustainable village forest managed by community in five villages, with the total 7.291 ha, with strict conservation of the 5,336 ha primary forest. Based on the forest map from Ministry Forestry no 77/2012, the five village forests are located in protected forest called **Bukit Panjang Rantau Bayur**, which is acronym as Bujang Raba. Each of the communities manages Village Forest scheme, which vary from 1,000 – 2,356 ha. The 5 village forests include the following:

**Table 1: Participating Village Forest Areas in Bujang Raba PES Project**

No	Village forest	Village forest License number	Total area
1	Lubuk Beringin	108/Menhut-II/2009	2,356 ha
2	Senamat Ulu	360/Menhut-II/2011	1,661 ha
3	Sungai Mengkuang	362/Menhut-II/2011	1,051 ha
4	Sangi Letung Buat	543/Menhut-II/2011	1,223 ha
5	Sungai Telang	301/Menhut-II/2012	1,000 ha
<b>Total</b>			<b>7,291 ha</b>

## Part B: Site Information

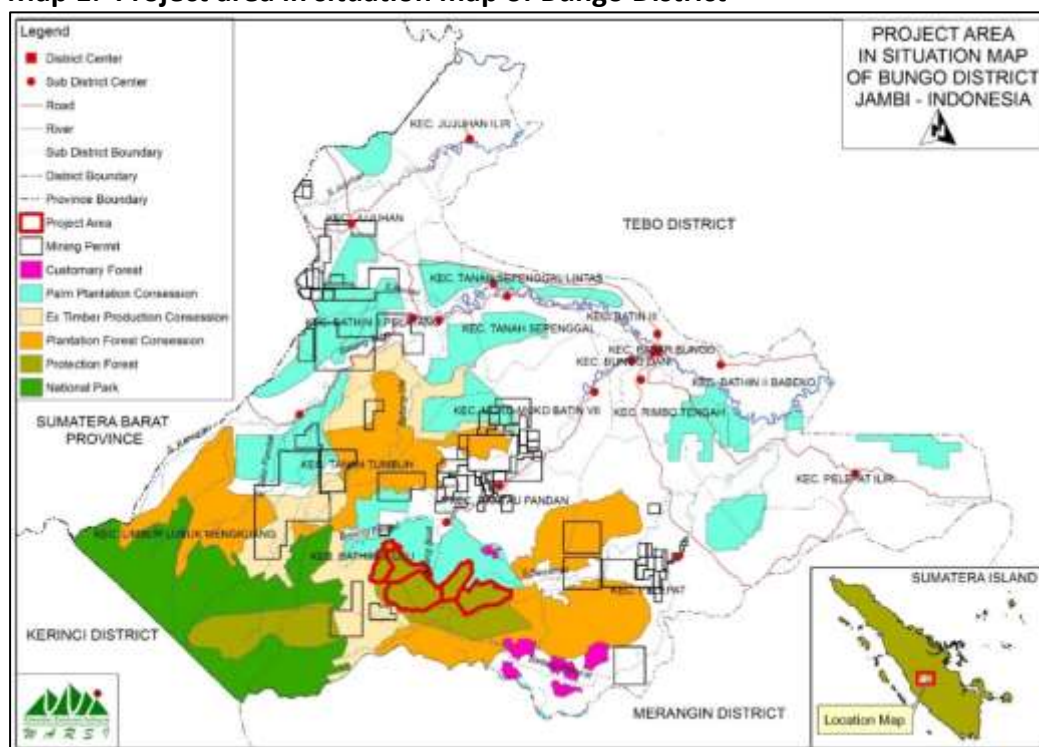
### B1 Project location and boundaries

Bujang Raba is located in a nationally designated protection forest in the western central Sumatra in close proximity to Bukit Barisan Mountainous and Kerinci Seblat National Park (see Map 1 below). The area is largely comprised of lowland tropical forest, within a mountainous landscape. The project is in the upper watershed of the Batang Hari, Jambi's largest river. The Bujang Raba ecosystem is rich in flora and fauna and also provides an important wildlife corridor from Kerinci Seblat National Park to Bukit Dua Belas National Park, part of a larger eco-region containing Bukit Tiga Puluh, Tesso Nilo, and Berbak National Parks. Bujang Raba's landscape is also the traditional homeland of the Orang Rimba, a major indigenous tribe in Jambi Province.

As part of the Bukit Barisan Mountains that leads toward the East, this area is also a stronghold for defending the lower watersheds along the east coast of Sumatra. The Bujang Raba Landscape provides important environmental functions and is composed of complex forest types.

The forests provide stabilizing vegetative cover for the upper Bungo-Tebo watershed that include national parks, protection forests (*hutan lindung*), production forests (*hutan produksi*) and other land usage areas (*areal penggunaan lain*). Forest types range from lowland forest to lower montane forest (see Map 1)

**Map 1: Project area in situation map of Bungo District**



## B2 Description of the project area

Within the project area wet-rice cultivation is practiced in low-lying areas along river courses, with fishing in streams and rivers. Moving upland, dry land gardens, fruit orchards and other agroforestry activity exists. In recent decades, smallholder rubber plantations have expanded as local families seek greater cash income from there farming activities. Further up the watershed are secondary forests which transition into primary forests in the upper watershed, which are more difficult to access due to the steepness of the terrain and their distance from roads and settlements.

Agroforestry systems based on local knowledge and technology have been practiced and refined by the community for hundreds of years. The resulting experiences were the precursors to the concept of rubber agroforestry in this area, an integrated system in which rubber trees are cultivated along with other useful plants and trees including fruit and honey trees, medicinal plants, food crops, and timber. Rubber agro-forests are ecologically similar to secondary and tertiary forests (forests that naturally regenerate on land that has been cleared) and after

some time can develop high canopy density. These ecological conditions create a thriving habitat area for animals that also reside in primary forests, such as squirrels, clouded leopards, porcupines, tapirs, flying lemurs, sometimes even bears and tigers. Several types of birds found in rubber agro-forests are black crows, crow pheasants, hornbills, magpies and sparrows.

Land in the project area is composed mostly of pre-Tertiary parent material consisting of metamorphic and sedimentary rock. The dominant soil type is Red Yellow Podzolic soil, which is less fertile and has a high erosion rate. Other present soil types are alluvial soil and granite sandstone. Based on the Schmidt-Ferguson Climate Classification, the Bujang Raba Landscape's climate is classified as 'A type' (Very Wet) and rainfall averages 2,330 millimetres (mm) per year, or 140 mm per month. Maximum rainfall is in January (356 mm) and minimum rainfall is from August to September (83 mm). It rains an average of 120 days per year, or 10 days per month.

The plateaus and hills function as an upstream watershed with many springs that form dendritic stream patterns (resembling fibrous roots). These streams then flow into the main river in the downstream area located in the eastern part of Sumatra. This area is the headwaters of the Batang Bungo, Batang Senamat, and Batang Pelepat rivers in the Batang-Tebo sub-watershed and the Batang Hari main watershed basin. This landscape plays an important role in the hydrological system; it regulates the water system and controls erosion in areas on the east coast of Sumatra. The Bujang Raba landscape is also one of the last remaining intact tropical rainforest ecosystems in Sumatra. As its land cover ranges from lowland to lower montane forests, the area has quite a high level of biodiversity.

### **B3 Recent changes in land use and environment conditions**

Over the past thirty years, the transformation of the landscape and watersheds surrounding the project area has been dramatic. New forms of land use including palm oil plantations, industrial logging concessions and mining concessions have greatly impacted natural forests in the Bungo Sub-District in which Bujang Raba is located, negatively affecting local hydrology and biodiversity, as well as the local economy. As Map 1 indicates, extensive areas of national forest land within the Bungo District have been leased by the government to the private sector. Often local communities consider this land ancestral domain. In recent years, the government has begun to recognize community rights to forest land, in some cases cancelling commercial concessions. Despite this encouraging trend, forest conversion by companies, migrants, and local communities continues at a rapid pace.

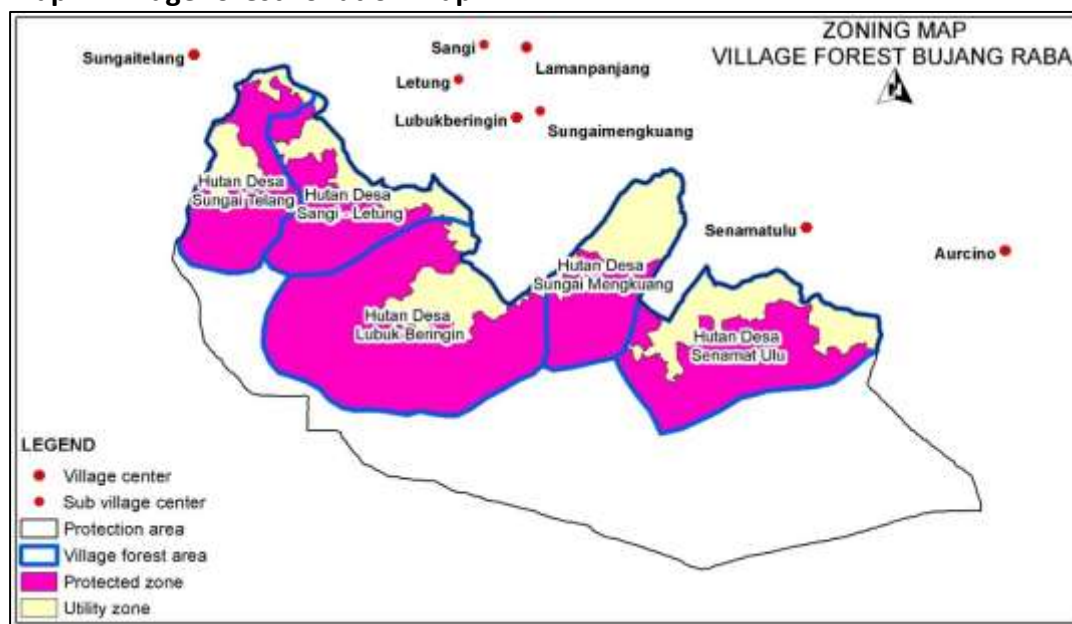


A number of changes have taken place in villages in western Bungo District, Jambi Province over the past century. Mixed rubber plantations have been cultivated as a source of community livelihood in this area since the 1900s. The latex that drips from rubber trees in mixed plantations is a major resource for the local economy. In addition to being economically important, mixed rubber landscapes have social, cultural, and ecological functions. Inside the small holder rubber gardens there are an assortment of plants that can be used including: (a) 'beehive' trees, or trees where honey bees nest, usually the species *Spondias dulcias* (*kedondong*) and *Kenari* (*jelemu*); (b) vegetables such as bamboo shoots, *petai*, *jengkol*, *kabau*, and ferns; (c) fruits such as durian, jackfruit, *cempedak*, *bedaro*/local longan, *duku*, *langsar*, *embacang*, and *kulun tunjuk*; (d) medicinal plants like the *Kasai* tree and *bedaro putih/pasak bumi*; (e) wood for constructing fences and cottages like *kempas*, *keranji*, *meranti*, *jelutung*, *kelat*, *sungkai*, *pelangas*, bamboo, and rattan; (f) wood for cooking; and (g) pastures for live-stock (especially in the rice planting season).

Community managed agroforests support the preservation of remaining natural forests as villagers can satisfy their domestic need for wood with timber from their rubber agro-forests rather than extracting wood from primary forests. Currently, villagers are planning to produce more timber for the future through further development of mixed rubber plantations. Rubber agro-forests in this region also serve as forest buffers because they are positioned between natural forest areas and community residential areas and farmlands.

In order to manage the village forest sustainably, the village forest council member has made forest management agreements with the five participating villages. Each management plan is based on forest characteristic, function, position, location, and forest cover. Each village forest area is divided into 2 classifications, including a protection zone and a utilization zone. The protected zones are located in the primary forest area with high flora and fauna biodiversity. The utilization zones are characterized by secondary forest as a source of food security for local people. Protected forests are communally held, while the agroforests in the utilization zone are privately owned, though rattan, honey, fruits and other NTFPs are utilized communally.

The five participating villages have divided their ancestral forests into blocks for each village forest. The table below provides information on the area of each village and proportion allocated for protection and utilization. Map 2 gives the locations of the communities and their forests.

**Map 2: Village forest zonation map****Table 2: Village Forest Areas by Management Type**

No	Village Forest	Protected Zone (ha)	Utilized Zone (ha)
1	Sangi - Letung	736	487
2	Sungai Mengkuang	634	417
3	Senamat Ulu	1.095	566
4	Sungai Telang	745	255
5	Lubuk Beringin	2.126	230
<b>Grand Total</b>		<b>5.336</b>	<b>1.955</b>

#### B4 Drivers of Degradation

Jambi Province has experienced rapid deforestation at a rate of 2.8% per year between 1990 and 2010 due to the forest conversion policy of the provincial government. According to a recent Mongabay article, “To accelerate its production, then-Governor of Jambi, Zulkifli Nurdin, launched a campaign for “One Million Hectare Oil Palm Plantation Development” in 2000, a move that was criticized by conservationists for causing rapid deforestation. Data from the Jambi Agriculture Agency indicate that by 2012, oil palm plantations in Jambi had reached 515,300 hectares – of which 391,744 ha were in production and 119,443 ha were immature. Meanwhile, the Jambi chapter of the Indonesian Forum for the Environment (Walhi) and Eyes on the Forest revealed that more than one million hectares of forest were lost in a generation, from 2.65 million hectares in 1990 to 1.5 million hectares in 2010. Primary forest cover declined by more than 40 percent.”

The forest cover in the Bujang Raba Landscape is relatively good, however the outer edges of the ecosystem, especially downstream, are experiencing degradation and high rates of conversion from forest to non-forest areas. This situation is caused by several factors, such as: (a) land demand for local agriculture and large plantations; (b) land demand for housing due to an increasing population; (c) demand by local government for increased revenue from district land by leasing to the mining sector (a trend since the mid-2000's). Below are some of the major drivers of deforestation, both outside and internal factors that contribute to the growing pressures on the ecosystem.

**Conversion of forests to smallholder agriculture and forest gardens** - Historically, as the population of the community grows, forestland is cleared for agriculture and settlements. After local people received Government approval of their village forest (Hutan Desa) tenure status the amount of forest in the project area being converted to agriculture is declining gradually. With management rights clarified and now through the possess management rights to the forest. At this time, local people are committed to developing only secondary forest and shrub area for small agriculture and garden purposes. However, without the project the community may not maintain this commitment. As a result, there remains a potential for deforestation and degradation, as village households may be motivated to expand their agricultural land and gardens into the protected zone in village forest.

**Forest Fire** - Forest fire may be other viable threat from external factor. Particularly surrounding village forest, in which the plantation company operated. Slash and burning is common occurred in Indonesia, because this method is quite cheap. In addition Forest fires can occur due to human and natural causes. Sometimes fires to clear land for agriculture escape control and must be contained. The Village Forest Council is developing regulations to control and enforce burn rules and fines. Fire watching will be an important responsibility of the Forest Patrol.

**Coal Mining, Sand and Rock Quarrying** - A large lease has been granted to a coal mining company outside the project area. Mining is a threat both to the forests in the mining area, as well as in terms of pollution of local streams and rivers. The Village Forest Council is contesting the operations of the coalmine with the local government. Open mining has resulted high deforestation surrounding the forest are as well as impacted to biodiversity and water quality flows to the downstream. There is also pressure from sand and rock quarries.

**Palm Oil Expansion** - Commercial palm oil concessions operate in the areas around the project and have been expanding in size in recent decades. While there is no immediate threat to the project forests from palm oil, without the project there is a possibility that village forests could be encroached by palm oil.

The internal and external drivers listed above are being mitigated through a series of activities included in the management plan. These are discussed in detail in Part D.

## Part C: Community and Livelihoods Information

### C1 Participating communities

The project area contains 1,259 households residing in 5 villages that make up a larger traditional (Adat) village. The project communities have a historic familial relationship and share common ancestry. They possess traditional leaders and institutions, as well as newly-formed organization to support governance and development. Traditional institutions include the Customary Forest Council that is responsible for the customary forest (Hutan Adat) that lies outside the 7,291 ha project area and is not connected to the Plan Vivo effort. Other traditional organizations include a women's saving-and-loan association that manages not only cash, but also other goods including seeds, organic fertilizer, rice, tractors, and other farming equipment. There is also a cooperative labor society (gotong royong) for agricultural activities, a water wheel user group that is now producing electricity, and a chicken-sharing women association that produces poultry for traditional ceremonies.

To coordinate the management of the project area (Hutan Desa) Village Forest Councils (VFCs) were formed to supervise each hamlet's community forest. Other new institutions include a micro-hydropower user association, a women's handicraft group, and a tree nursery that raises seedlings for agroforestry (dragon's blood, agar wood, cocoa, cardamom, rubber, and other crops). Local women have also formed a number of cooperatives (Koperasi Dahlia) with assets valued at approximately \$6,600. Institutional capacity has developed with WARSI's support, with trainings seeking to develop skills for forest protection, restoration, and monitoring. Training programs have also benefited production of women's handicrafts. The potential for eco-tourism in the area is very high due to the pristine nature of the old growth forests and the rich mega-fauna in the area. New skills for eco-tourism management will be included in the project.

### C2 The Socio-economic context

Land use in the area is focused on wet rice cultivation in the fertile valley bottoms along streams and rivers. Settlements are located next to these rice paddies at slightly higher elevation. Continuing up the watershed one finds mixed forest gardens sustaining a mix of annual and perennial crops amongst fruit and timber trees. Above these tree garden systems, agroforestry plots produce rubber, cocoa, cardamom, and other tree-based cash crops. On the steeper upper slopes of the area, the community safeguards natural forests for their hydrological services – keeping the hydropower wheels turning and the rice paddies properly inundated.

Community-developed agricultural system supports the preservation of remaining natural forests. Villagers can satisfy their domestic need for wood with timber from their rubber agroforests rather than extracting wood from primary forests. Villagers depend on the stable hy-



hydrological functioning of their forested watersheds to insure water is supplied to their irrigated rice fields. Currently, villagers are planning to produce more timber for the future through further development of mixed rubber plantations. Rubber agro-forests in this region also serve as forest buffers because they are positioned between natural forest areas and community plantations.

This community planned this landscape to be ecologically profitable and advantageous. Rice fields and settlements are spatially restricted to the flat lower sections of land, while the community protects forested slopes and water catchment areas through designation as customary forests (*hutan adat*) and village protection forests (*hutan lindung desa*). Management rules for these areas are derived from customary rules passed down for generations, as well as new rules created by the dynamics between customary and state regulations. In 2006, when the state opened opportunities to the public to manage forest areas, communities in the area applied for village forest (*hutan desa*) management rights. Village forest (*hutan desa*) management rights allow a village community to manage, protect, and benefit from state forest land through a local village organization that plans, manages, and allocates benefits derived from the forest. Lubuk Beringin (Bathin III Ulu Bungo sub-district, Bungo district) filed for these management rights in the Bukit Panjang-Bayur Rantau protected forest area and became the first *hutan desa* in Indonesia on March 30, 2009. Other villages in the region, specifically Senamat Ulu, Sangi Letung Dusun Buat, Laman Panjang, and Sungai Telang, followed Lubuk Beringin's example. All of these villages now hold village forest management rights in Bukit Panjang-Rantau Bayur (Bujang Raba).

Formal government structures are absent from the area, although some state-sponsored development activities are conducted periodically. This project seeks to improve connectivity between community resource management plans and state development activities through a collaborative and participatory planning process.

The communities belong to the Jambi ethnic group that has inhabited the region for centuries. The indigenous family structure is matrilineal and matrilocal, common to the ethno linguistic groups that inhabit the Bukit Barisan Mountains. The communities are largely Islamic, with the village mosque a focal place for worship and gatherings.

Jambi households in the project area are primarily dependent on agriculture for their livelihoods. Rubber has replaced more traditional crops as the village economy is increasingly linked to markets and cash transactions from cash crops such as rubber, cocoa, and cinnamon. However, wet rice farming remains important for supplying local families with staple food; produce from home gardens and mixed forest gardens complement a diverse and nutritious diet (rambutan, durian, peppers, beans, leafy vegetables, etc.). Average daily income in the area is around US\$4 – 5 per household, which is the major source of income from agro-forest. Other sources of income are from rice fields and agriculture. Most families reside in sturdy

wooden houses. The introduction of micro- hydro technology has allowed the villages to partially electrify, providing new opportunities for education and enterprise alike.

### **C3 Describe land tenure & ownership of carbon rights**

While the traditional Adat communities involved in this project have historically claimed and managed the area as their ancestral domain, the Ministry of Forest (MoF) has also labelled it as Protected Forest under state jurisdiction. Since the MoF has not had the capacity to effectively manage this remote forest region, the area was exposed to drivers of deforestation and subject to leasing for commercial purposes. In 2002, with the assistance of WARSI, the communities requested that their community management rights be recognized by the MoF. In 2009, the first of the 5 villages was granted special status by the MoF, making it the first Village Forest (Hutan Desa) in Indonesia (see Appendix 6).<sup>1</sup>

Hutan Desa status eventually granted 35-year renewable management rights to all 5 project hamlets, recognizing their claim to their traditional forest land. This was a momentous achievement, but only the beginning of formalized conservation activities. Upon granting of Hutan Desa status, the local government takes on a hands-off approach, leaving the community to forge its own path both logistically and financially. Without funding and support, the development and implementation of the community forest management plan is difficult. The greatest tenure threats come from the outside, from large companies seeking to exploit local natural resources for palm oil estates, coal mines, or rubber plantations. The certification of this project by Plan Vivo's internationally recognized standards will do much to bolster our community-based conservation and sustainable development efforts.

The project may attract the support of the national REDD+ agency that is seeking to facilitate sub-national REDD+ projects benefiting communities and protecting the environment.

Aside from forestland, each household owns an agroforestry plot averaging around 2 ha and 0.5 to 1 ha of rice paddy. Taking into account the home gardens and other plots, land scarcity is not a problem for virtually all households.

## **Part D: Project Interventions & Activities**

### **D1 Summary Project intervention**

To prevent ecosystem conversion and degradation, each of the five Village Forest Councils has designed a forest management plans. The management plans consist of 3 main activities, namely: 1) Avoided Deforestation (REDD) through improving village forest management plans and operations, 2) Improving Livelihoods – through village forest business plans and livelihood generating capacity, 3) strengthening village forest institutions. The Governor of Jambi has approved these plans. Major project activities for each category are discussed below:

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<sup>1</sup> The *Hutan Desa* scheme was introduced by Regulation of the Minister of Forestry No. 49 in 2008. The scheme allows rural communities to secure legal rights to management, conservation, and utilization in their traditional forest area

### **Avoided Deforestation - Improving Village Forest Management Plans and Operations**

This project intervention seeks to slow the loss of intact primary forest through improved forest management planning and operations. The interventions includes a variety of activities including forest demarcation and zoning, forest inventories, community forest patrols, fire prevention, and improving the physical infrastructure required for effective management.

- **Village forest demarcation, zonation** - A key to improve forest management through the project is to strengthen community forest rights, clarify forest boundaries and develop management plans for each of the five participating communities. After the Ministry of Forestry approved the Hutan Desa agreements, it was necessary to demarcate the area. The forest agency identified the geographical location of the overall area, with the project working with each community to demarcate the forest area of each village. With project support boundary markers will be established between the village forests to facilitate patrolling and other management activities.
- **Field survey and data inventory** - The project will create a forest plot inventory and biodiversity database for the Hutan Desa to establish a monitoring system to track changes resulting from project activities. The community will participate in the data collection process including taking measurements in forest inventory plots and identifying protected flora and fauna and establishing conservation strategies and hunting bans on any endangered or threatened species.
- **Community forest patrol** - the community forest patrol group conducts Forest monitoring. Patrols are carried out every three months or at any time there is a threat to the forest. Community members also act as informants regarding forest issues and illegal activities, especially families who have land near the forest or gather non-timber forest products. The forest patrol prioritizes the control of illegal logging, forest encroachment, and forest fire.
- **Fire protection/prevention** - Traditionally, local communities use forest fire to clear land being prepared for agriculture. At the time of land clearing, village members will work together to cut fire lines around the plot in order to control the burn. Workers will remain around the burn until the fire has died down. In cases where the fire escapes due to the lack of attention from the workers and burns neighboring lands or forests, a fine is imposed.
- **Building Infrastructure** - An important project activity is establishing an infrastructure that supports forest management. This will include both the physical and technical infrastructure including patrol huts within the forest, as well as communication equipment, cameras, GPS units, flashlights, etc. This will facilitate the operation of the forest patrols as well as documentation activities.

### **Improving Land Management of Secondary Forests - Village forest business plans and operations (Livelihood Activities)**

This intervention involves activities designed to increase the livelihoods from the community's secondary forest and involves increasing the productivity of the forest, especially non-forest

products, developing improving processing systems, and establishing better market linkages. This intervention also includes the development of an ecotourism program. Finally, the intervention will support activities geared to improve the management and delivery of hydropower to participating communities.

- Developing Multi-Tiered Agriculture for Commodities** - To improve local household economies as well as to reduce the pressure on forests by people, KKI-WARSI is encouraging Bujang Raba communities to develop multi-tiered agriculture. This farming system creates commodity diversification by planting complementary crops on the same land. It is ideally developed in community rubber gardens with a majority of trees that have not yet been tapped, where undergrowth can be cleared and the land planted with productive companion species. To fully utilize the gardens and rejuvenate and enrich the growing environment, cacao trees are planted in the gaps between rubber trees and cardamom is planted as a ground cover plant. Cacao is a crop that requires protection and cardamom is an ideal crop to fulfil that function. Cardamom is an herbal plant that forms clumps and resembles a ginger plant. This plant can grow to a height of 2-3 meters. By and large, cardamom grows in dense forest, but can be effectively cultivated in this multi-tiered agriculture system. KKI-WARSI is running pilot projects of this agricultural pattern to increase the income of local forest communities, without having to convert forestland. These multi-tiered commodities are being intensively developed in Senamat Ulu, Mengkuang Laman Panjang, Lubuk Beringin and Sangi Letung. Currently, local communities have already planted 2,000 cacao saplings and 4,000 cardamom clumps. Meanwhile, some villagers have developed a cacao nursery to meet the regional demand for seeds and saplings. There are now 10,000 seedlings ready for planting. It takes about 50,000 seedlings to meet the demand from several villages. The development of multi-tiered commodities is expected to increase local incomes without having to extend community farmland, especially because farmers can receive income from several commodities at once. The crops can be harvested, thus providing income in 2-week cycles for rubber, weekly for cacao, and monthly for cardamom.
- NTFP Production as an Alternative Livelihood Activities** - This program will reduce need for timber harvesting by boosting extant production of NTFPs such as bamboo, rattan, cinnamon, cardamom, honey, and others through trade groups and market outreach; this will include explicitly- targeted support for women's groups. The project will seek to encourage added-value products that can be marketed domestically. Lastly, activities will push capacity building for farmer's groups and rubber cultivators. To increase incomes from non-timber forest products, the project is implementing cross-visit activities to expose communities to NTFP processing and marketing experiences. These visits build capacity providing a basis to expand the NTFP program under this PES project. KKI-WARSI will also continue to support community efforts to increase incomes from rubber plantations by directly connecting the village to Bridgestone rubber factory, which now buys rubber directly from the community's agroforests. Plan Vivo certification will potentially raise the value of rubber from the project communities. In this way, the selling price of rubber is much higher and the community continually strives to improve the quality of their rubber tapping to meet the standards of this world-class tire manufacturer.





from the district's administrative centre, the majority of villages in Bujang Raba are not connected to Indonesia's energy grid. Instead, communities harness the rivers around them as energy sources, either through waterwheel or micro-hydro power. The project village of Senamat Ulu has four waterwheel power generator units with a capacity of 5 thousand kilowatts (Kw) per wheel. One waterwheel can illuminate 8-14 houses. Each house pays 20,000 – 50,000 IDR in dues per month, depending on the capacity of the electricity the community receives. In Lubuk Beringin village, there are three waterwheel power generator units with a capacity of 5 thousand Kw that provide electricity from 6 pm to 6 am for 15,000 IDR per household per month. The price of electricity from water is very cheap when compared to electricity from diesel engines. Currently the price of diesel fuel in the village is more than 10,000 IDR per litre. Diesel engines need six litres of fuel to generate six hours of light per night, so for example, electricity from diesel engines is 60,000 IDR per night when connected to five houses, and each house pays around 12,000 IDR per night or 360,000 IDR per month. Waterwheels are a smart choice to meet the energy needs of Bujang Raba communities because they save money for families and reduces emissions from burning fossil fuels. Hydropower from local rivers can be used to generate electrical power for the project communities as long as the forest and water catchment areas around the communities are well maintained. Proper forest and water resource management can also ensure stabilizing run-off and water supply, thus power generation is evenly distributed throughout the year. Recognizing hydropower's rural potential, it is possible that someday villages can improve their income and local economy by selling excess electricity to the state electricity company. The project will continue to build upon the hydropower generation systems operating in the project communities. Carbon offset revenues will help support power generation and ensure that even the poorest households have access to electrical energy.

- **Village Forest Council (VFC) Strengthening** - A key to the success of the project is developing the institutional capacity of the Village Forest Councils, which are responsible for all forest management activities. At the present time each of the five Hutan Desa have an institution name KPHD that is responsible for implementing their Hutan Desa management plan (RKHD). To facilitate the implementation of the management plan in the 7.291 ha. In the Bujang Raba project area, the five Village Forest Councils (KPHD) have agreed to form a Village Forest Communication Forum (*Forum Komunikasi Hutan Desa*). The Forum represents the five villagers in both internal project planning and implementation, as well as in all external relationships with local government, international certification agencies and carbon markets, and with the private sectors.

## D2. Summary of the Project Activities for Each Intervention

Improving Village Forest management plans, improving land management of secondary forest and strengthening village forest agency are very important in accelerating development in the village, specifically in initiating both the conservation and livelihood components of the project. The WARSI team will work with the Forest Communication Forum to develop project

management skills to implement the activities listed in Table D2 through the provision of training to each target group.

**Table 3: Description of Forest Management Activities**

Intervention type	Project Activity	Description	Target group	Ecosystem services contracted? (yes/no)
Avoided Deforestation (REDD+) targeting the primary rain forests	Forest Management Planning, Boundary Demarcation, Protection	Regular meetings, community patrolling in the forest area, monitoring, fire control	Village Forest Council -Community Volunteers	Yes - eligible for certification
Improved land management – targeting the secondary forests and agroforestry areas	Forest Restoration, Agroforestry, NTFP production and marketing, Ecotourism development & hydropower	Intercropping trees with crops, enrichment planting,	Village Forest Council - Smallholder farmers	No
<b>Village Forest Council (VFC) Strengthening</b>	Training, office development,	Training in management planning, forest monitoring, bookkeeping, etc.	Village Forest Council members, youth volunteers	No

## Part E: Community Participation

### E1 Participatory project design

WARSI has been assisting the Bujang Raba communities for over a decade to improve local livelihoods and natural resource management. The communities have expressed their concern over climate change and are fully aware of the need to conserve and protect their forests. In the face of the growing threats to their forests, they have expressed desire to initiate mitigation activities and intensify protection activities. In 2014, WARSI facilitated a series of meetings in the 5 participating hamlets to discuss the goals, structure, and process for REDD+ project development under the Plan Vivo standard. WARSI is currently working with the communities to develop a long-term conservation strategy under the Hutan Desa scheme that will help ensure forest protection. The planning process will identify areas for rehabilitation through agroforestry and enrichment planting, organizing natural forest patrols, and boost

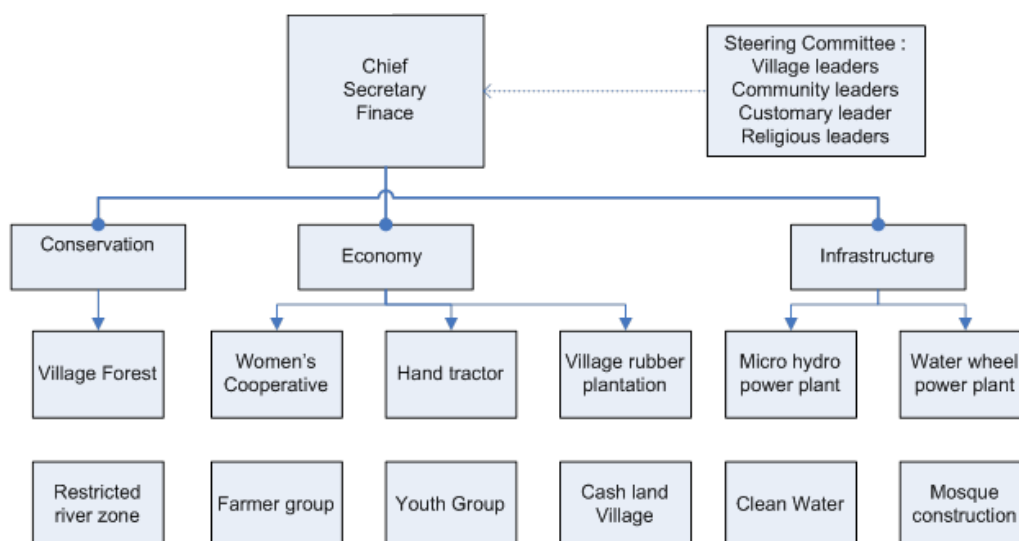
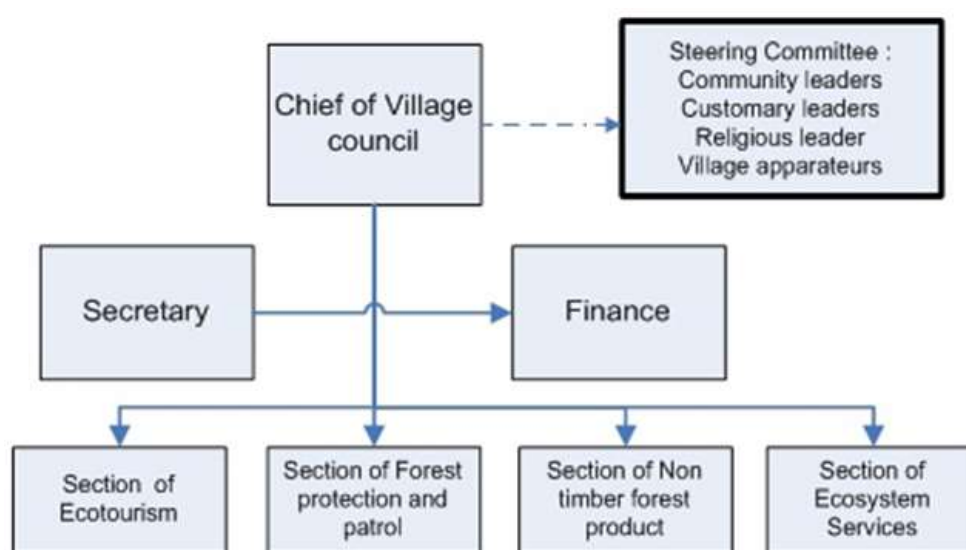
income from NTFPs. The project is also working with the communities to design a wildlife corridor and scale-up renewable energy use to reduce firewood consumption. These consultative and joint-planning activities are producing detailed *plan vivos* for each community under a broader landscape-level master plan. This is an on-going process that will be updated as the community gains experience. The detail program and activities are explained in the table below:

**Table 4: Timeline of Community Participation in Project Design**

Year	Program	Description	Output
2000 - 2004	Promote a Village Conservation Agreement	Awareness Raising regarding the need for Conservation and Forest Protection	Village Conservation Agreement Document
2004 - 2007	RUPES – with CIFOR and ICRAF (rewarding upland poor for environmental services)	Activity to develop small holder rubber certification and market agreement	Purchase agreement with Bridgestone Tires
2007 - 2009	Advocate for Village Forest Policy	Lobbying for Hutan Desa status	Hutan Desa scheme is initiated
2009 - 2012	Implementation of Village Forest Policy	Formal submission of Hutan Desa Application	Official Approval of Hutan Desa Status for Bujang Raba
2012	REDD+ Awareness Raising	Community dialogue	Community members are aware of REDD+ and agree to implement the project
2013 - 2015	Formulation of Management Plan and annual work plan	Facilitate participatory planning process with communities	Management Plan and Work Plan Documents
2014 - 2015	Initiation of REDD+ Project	Facilitate the development of the Project Identification Note and Project Design Document	Submission and Approval of PIN and PDD

The organizational structure for village development includes three groups, the first handling the conservation aspects of the project, the second dealing with economic development activities, and the third responsible for infrastructure. The first chart gives the organizational structure for all development activities, while the second chart describes the organizational strategy for forest sector conservation and development.



**Chart 1: Bujang Raba Village Development Sectors****Chart 2: Organizational Chart for Forest Conservation and Livelihood Development Sector**

Identified target groups and their involvement in design - The project targets all families in the five participating villages. The project will give special attention in the work plan to involving marginalized groups and women who in the past have not been actively involved in decision making. In the past, this lack of involvement has been due to their time and energy limitations, as well as a lack of capacity to obtain information on upcoming topics. Since this project involves natural resource management, a sector in which women and the poor are very active and knowledgeable, it is important that they be engaged in both project planning and the implementation of activities. They would also be the most impacted by any deterioration of the forest and water resources in the project area. To engage women more effectively, the

project will work with the Women's Cooperative (Koperasi Dahlia), which has already demonstrated a capacity to improve the economic status of its members. While the Cooperative was formed as a savings and loan association for its members, it is also engaged in organizing weddings, leasing, and an educational savings program. Low-income members of the community would be given priority in economic livelihood activities.

There is also a cooperative labour society (gotong royong) for agricultural activities, a water wheel user group that is now producing electricity, and a chicken-sharing association that produces poultry for traditional ceremonies. Newer institutions include a micro-hydropower user association, a women's handicraft group, and a tree nursery that raises seedlings for agroforestry (dragon's blood, agar wood, cocoa, cardamom, rubber, and other crops). Local women have also formed a number of cooperatives (koperasi Dahlia) with assets valued at approximately \$100,000. Institutional capacity has developed with WARSI's support, with trainings seeking to develop skills for forest protection, restoration, and monitoring. Training programs have also benefited production of women's handicrafts. The potential for eco-tourism in the area is very high due to the pristine nature of the old growth forests and the rich mega-fauna in the area. New skills for eco-tourism management will be included in the project.

## **E2 Community-led implementation**

The Village Forest Council has been working with the Customary Forest Councils in 2014 to develop a management plan for the conservation forest (hutan lindung) that is the project area. The village forest management plans are classified into four main activities: Village forest management plans, village forest business plans, institutional capacity and lastly capacity building for human resources. The local government through the forestry service has approved these main programs. The VFC meets with the CFC and all community members to review the management plan and agree to its implementation. Any concerns are raised and discussed at that time. The following pictures illustrate the active roles community members played in designing the project, conducting PRAs to identify key management issues, and in measuring forest plots to establish the project baseline.

## **E3 Community-level project governance**

With the support of the WARSI team, Village Forest Communication Forum will hold monthly meetings with representatives from the village forest councils in 5 villages and representative of customary forest councils to discuss management plan implementation, including forest protection and restoration activities, livelihood enterprises, and monitoring and reporting tasks. At the beginning of each year the recommendation Village forest Forum will be implemented in each village forest council. All members will approve the management plan after discussions and any revisions. At the end of the year, after monitoring data is collected, the Village Forest Communication Forum will prepare an annual project report and present it to the participants. The community participants will then agree to approve the report, which

will be submitted to Plan Vivo.

**Figure 1: Community Project Planning Meeting**



**Figure 2: PRA Mapping Exercise**



Grievance and grievance recording system - Usually, a complaint is raised within the community and discussed (Ota di Pelantah). If it is not resolved by the neighbourhood, it is taken to meeting of the elder uncles who traditional act as community arbitrators. In most cases, the dispute is resolved at that level, however, if the parties fail to reach an agreement, the conflict is taken to the sub-district (Kecamatan) government.

**Figure 3: Forest measurement by community members**



**Figure 4: Mapping community forest boundaries**



For this project, disputes will be resolved through customary system and through the Village Forest Communication Forum. Should the Forum fail to resolve the dispute, it will be forwarded to the council of elder uncles and village government for resolution. Minutes from the Village Forest Communication Forum are maintained with any disputes or decisions recorded.



## Part F: Ecosystem Services & Other Project Benefits

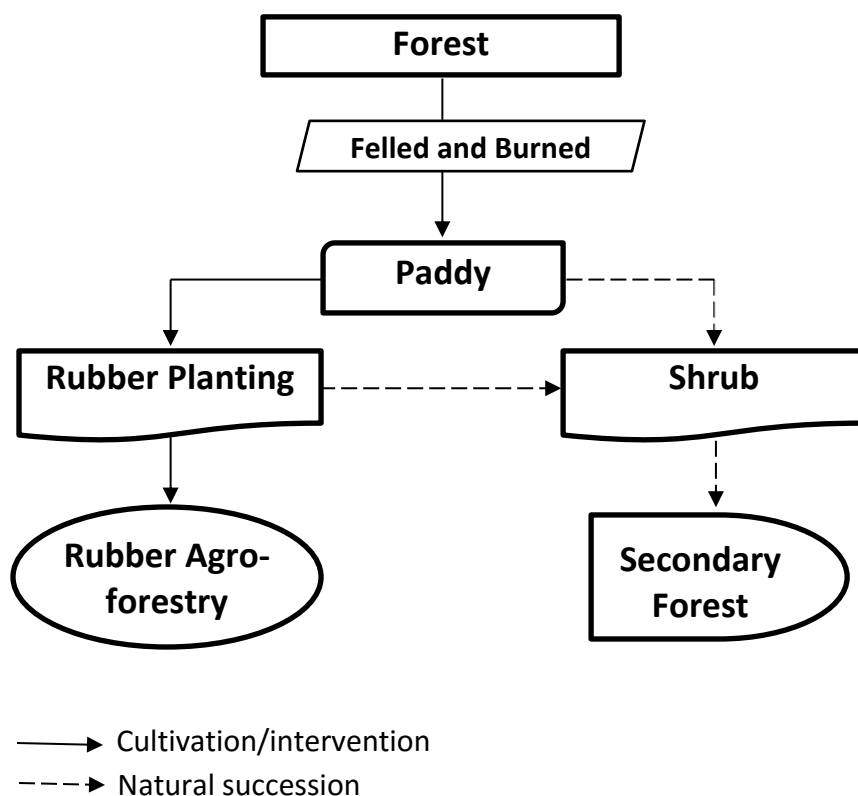
### F1 Potential Carbon Benefits

This proposed Plan Vivo project will cover an area of 7,291 ha of which the REDD+ project component will be located in the 5,336 ha conservation zone comprised of primary tropical lowland forest. The remaining 1,955 ha of secondary forests will be managed sustainably as an agroforestry production area and will not seek carbon credits at this time. KKI WARSI has analysed deforestation in the Bujang Raba landscape between 1993 and 2013 and found that the rate of forest loss was 1.6% per year. Based on the forest plot inventories, in the 5,336 ha. Primary forest which forms the area for the REDD+ project where ground average carbon stocks are 287 tC/ha or 1,052 tCO<sub>2</sub>eq/ha. In contrast, forest plot inventories determined that when the primary forest is converted to rubber agroforests or secondary growth of 15 years or more the average above ground carbon was 59 tC/ha or 217 tCO<sub>2</sub>e. As a consequence, by not converting the primary forests under the 'with project' scenario there is a net benefit of 228 tC/ha.

After extensive discussions with the five participating communities, they agreed to reduce emissions by 75% per year by cutting forest loss. This assumption is based on a community agreement to protect their village forest (hutan desa) that evolved during project discussions with the WARSI team from 2006 and led to first approval of a Hutan Desa (HD) agreement in Indonesia in 2009. Over that period, the rate of deforestation in the project area declined to 0.4%, or 82% reduction against the baseline rate of 1.6 % in the larger reference area (Bujang Raba Landscape).

Based on this assumption, over the next 10 years the Bujang Raba Community PES project would reduce emissions by 379,101 tCO<sub>2</sub>eq. Detail of the calculations are presented in Form F1, as follow:

Without the project, the pattern of deforestation in the project will continue as a result as community members require forest land for short term cultivation of rain-fed rice and for longer term use as agroforestry rubber gardens. This process of natural forest conversion includes tree felling, after which the slash is left to dry and then burned to clear the area for planting. Rain-fed rice and vegetables, including chilies, legumes and eggplant, are planted and are harvested through the first year. During the second year, if the farmer has some capital, they will usually plant rubber and fruit trees such as durian, duku, and rambutan. The farmer will care for the gardens during the third and fourth year to ensure the survival of the rubber trees, and then leave it until the rubber can be harvested sometime in the 8<sup>th</sup> to 10<sup>th</sup> year. By the fifteenth year the rubber agroforestry garden is producing rubber, some timber, and a variety of fruit.

**Chart 3: Succession Pattern in Deforested Areas**

If farmers have limited capital, they will not care for the rubber trees after planting and the productivity of the garden will suffer. For farmers with no capital, after the rainfed rice harvest they will abandon the plot, which will transition, to scrub and eventually secondary forest over a period of 15 years, however they will often plant some bananas or other fruit tree to indicate their ownership of the field. In some cases, rubber agroforests also revert to secondary forests if farmers lack capital and skills to manage them. Improving the management of these production systems by integrating other commercially valuable crops and better stewardship of rubber production will reduce the need for extensive forest conversion.

The total above ground carbon stock in the primary forests in the project area was 287 tC/ha or 1,053 tCO<sub>2</sub>. The average above ground carbon stock in the secondary forest and rubber agroforestry plots of 15 years age or more was 59 tC/ha or 217 tCO<sub>2</sub>/ha. At a rate of 1.6 % per year, under the without project scenario, 85 ha of forest would be converted to rubber agroforestry gardens or scrub and secondary forests each year. As a consequence, each hectare of primary forest that would be converted to rubber agroforestry or secondary forests would lose approximately 836 tCO<sub>2</sub>/ha, or 71,439 tCO<sub>2</sub> for the entire project in year 1 (see Table 5). Assuming the project can reduce the loss by 75%, emissions in the first year would be lowered by **53,579 tCO<sub>2</sub>** (net carbon benefit **40,720 tCO<sub>2</sub>e**).

**Table 5: Potential Carbon Emissions Reductions in village forest Bujang Raba**

Year to	Year	Baseline carbon up-take i.e. without project	Carbon emissions with project (75%)	Potential Carbon Emissions Reductions	Potential leakage (5%)	Total Carbon Benefit (after leakage deduction)	Deduction of 20% risk buffer	Net carbon benefit
		(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)
0	2013	0	0	0	-	0	-	-
1	2014	71,439	17,860	53,579	2,679	50,900	10,180	40,720
2	2015	70,296	17,574	52,722	2,636	50,086	10,017	40,069
3	2016	69,171	17,293	51,879	2,594	49,285	9,857	39,428
4	2017	68,065	17,016	51,049	2,552	48,496	9,699	38,797
5	2018	66,976	16,744	50,232	2,512	47,720	9,544	38,176
6	2019	65,904	16,476	49,428	2,471	46,957	9,391	37,565
7	2020	64,850	16,212	48,637	2,432	46,205	9,241	36,964
8	2021	63,812	15,953	47,859	2,393	45,466	9,093	36,373
9	2022	62,791	15,698	47,093	2,355	44,739	8,948	35,791
10	2023	61,786	15,447	46,340	2,317	44,023	8,805	35,218
<b>Total</b>		<b>665,090</b>	<b>166,273</b>	<b>498,818</b>	<b>24,941</b>	<b>473,877</b>	<b>94,775</b>	<b>379,101</b>
<b>Annual average</b>		<b>66,509</b>	<b>16,627</b>	<b>49,882</b>	<b>2,494</b>	<b>47,388</b>	<b>9,478</b>	<b>37,910</b>

**F2 Livelihoods benefits**

The project will not have negative impacts on livelihood benefits. Table F2 identifies some of the benefits from REDD+, which will improve management of conservation forest areas resulting in improved environmental services and financial flows from carbon offset payments. This will help develop the eco-tourism program that is under design. The project will also improve agroforestry systems through better commodity development, processing and marketing linkages.

Table 6: Livelihoods benefits

Food and agricultural production	Financial assets and incomes	Environmental services (water soil etc.)	Energy	Timber & non-timber forest products (incl. forest food)	Land & tenure security	Use-rights to natural resources	Social and cultural assets
Primary Forest Conservation	Potential revenues from REDD+	Important for water delivery and soil conservation	Stabilizing hydrology results in better source of hydro-power	Source of NTFP and some subsistence timber for housing	Strong Adat rights respected by local government	Community forestry management agreement – Village Forest	High value ancestral domain claim – deep local knowledge of ecosystems
Agroforestry	Important source of subsistence food and materials	Slows run-off and encourage infiltration	Fuelwood	Important source of timber and NTFP	Allocated by community	Household rights	Traditional practices
Wet Rice Agriculture	Highly productive source of stable food	Efficient use of water for irrigation returns to river	Rice husks	Limited timber resources	Privately owned	Privately owned	Traditional practices
Rubber Gardens	Generates cash income for health care, educational and other needs	Slows run-off and encourages infiltration	Fuel wood	Important source of timber	Privately owned	Privately owned	New component in 20 <sup>th</sup> century

To continue to achieve the target of 75% reduction in deforestation rates a number of initiatives that will be implemented as part of the with project scenario including:

- **Land use intensification** - One of the main income sources in the communities are agroforestry rubber gardens. Income from rubber will be supplemented through the introduction and intensification of high value crops such as cardamom, cocoa, and other NTFPs that can be integrated into the smallholder agroforestry plots.
- **Improve NTFP processing** - The project will work with community members to build bamboo and rattan processing capacities. Both products are abundant in the village forest areas.

- **Ecotourism** - Local tourists from the district capital in Bungo are visiting the area, drawn by its dramatic natural beauty as well as the scenic cultural communities. The project will develop tourism packages to direct visitors to scenic sights including waterfalls and for exploring the area's immense biodiversity. Providing visitors with guide services, food, and lodging will generate income.

### F3 Ecosystem & biodiversity benefits

The Bujang Raba landscape has rich biodiversity and is home to threatened species and species of high conservation value which can be better protected through the project. Conservation action and increased attention on the area are critical measures needed to preserve the region and ensure the species within the area thrive, rather than advance toward extinction. Results from a biodiversity study, conducted by KKI-WARSI, demonstrate there are various flora and fauna with 'protected status' that live in the region's ecosystems. KKI-WARSI recorded several species of reptiles, dozens of fish species, and 22 mammal species from 14 families, including 19 protected species such as the Sumatran tiger (*Panthera tigris sumatrae*), deer, antelope, Malayan Tapir (*Tapirus indicus*) and Sun Bear (*Helarctos malayanus*). The Sumatran tiger is listed as 'critically endangered' on the IUCN Red List of Threatened Species, as there are only 400-500 remaining in the wild. A major cause of this condition is habitat loss resulting from land use expansion, which also increases contact and conflict between tigers and humans. KKI-WARSI also recorded 146 bird species from 24 families, including 43 protected species. Nearly half of the bird species in Bujang Raba are recognized as species that should be conserved nationally and globally. For example, the Crested Fireback (*Lophura ignita*), a medium-sized forest pheasant, is listed as a 'vulnerable' species (one step from Endangered status) in the IUCN Red List of Threatened Species. Almost all species of eagles (*Accipitridae*) are listed in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendices, meaning trade of their species should be strictly controlled and limited to protect their wild populations. Additionally, Jerdon's Baza (*Aviceda Jerdoni*), the Grey Wagtail (*Motacilla cinerea*) and the Artic Warbler (*Phylloscopus Borealis*) are several notable migratory birds that inhabit the Bujang Raba Landscape.

Bujang Raba is also home to a multitude of flora in the form of trees, vines, herbs, and ornamental and medicinal plants. The region's forests span all stages of succession; from lightly forested secondary forest to heavily forested climax forest. KKI-WARSI recorded no less than 1,000 species of flora dominated by *Dipterocarpaceae* and *Sapotaceae* tree species (as indicators of climax forest describe a relatively very good conditions) and recorded three endemic and protected species, including Tropical Pitcher plants (*Nepenthes spp.*), *Cendawan Muko Rimau* (*Rafflesia hasseltii*), and the mascot of Bungo district - Titan Arum (*Amorphophallus spp.*). The presence of specific flora species in Bujang Raba highlights the high conservation value of the landscape. There are many species of high economic value, which should be conserved nonetheless because they have threatened wild populations. Other species provide

local communities with construction materials, ropes, food, and traditional medicines. Two iconic botanic species, *Amorphophallus* and *Rafflesia* are also found in Bujang Raba. Their presence is notable, especially of the *Rafflesia*, because they are usually found only in forests that are still in good condition.

The project would not have any negative impact on the forest area. The project will increase the capacity of the newly formed Village Forest Council and the customary forest council to both protect habitat and monitor changes in biodiversity through community reporting on the siting of key indicator species, including tiger, bear, deer, and hornbill. Improved habitat protection, controlling poaching, and monitoring should increase the population of critical biodiversity. Protection from logging and forest conversion should also improve endemic plant populations. The impact of the project on biodiversity will be monitored using local indicators include the tracks and scat of wild animals, bird songs, small deer (Kancil) populations, and abundance of river fish. In the past, logging and forest conversion have resulted in substantial increases in erosion. Forest loss has also influenced climate change causing a hotter microclimate. The project seeks to stabilize soils and mitigate local climate changes through forest protection. Monitoring systems to track environmental changes are discussed in Part K.

**Table 7: Ecosystem Impacts**

Intervention type (technical specification)	Biodiversity impacts	Water and watershed impacts	Soil productivity/ conservation impacts	Other impacts
REDD+	Improve habitat quality and quantity – place restrictions on hunting of endangered species and establish monitoring system to track changes in populations	Improve aquifer recharge and stream flows	Reduce soil erosion and stream sedimentation	Reduce carbon loss



## Part G: Technical Specifications

### G1 Project Intervention and activities

The project seeks to reduce deforestation and forest degradation (REDD) in 5,336 ha of primary tropical lowland forest in the Bukit Barisan Mountain range of Jambi Province, Indonesia. The forests are the customary lands of the indigenous Jambi tribe who are under pressure from a growing population that requires forest lands for farming, fuel, and other services, as well as private sector interests that seek to exploit the natural forest lands for timber, mining, and conversion to estate crops. The forest rights of the communities have been recognized by the Government of Indonesia under the village forest (hutan desa) program, giving them tenure authority to manage the project forests for 35 years, with options to renew.

The five participating villages have agreed to protect and manage the project area, while using income from carbon sales to develop high value agroforestry systems on the community secondary forestland. The situation is well suited for a Plan Vivo project as it conforms to the standards by supporting forest conservation and restoration through community action, while providing additional biodiversity conservation, hydrological and socio-economic benefits. Without a project, it is likely that the forests would continue to be depleted at the current rate. The five participating communities will implement the proposed project with technical support from WARSI and the Indonesian Community PES Consortium. The project is a long-term initiative designed to conserve natural resources and enhance household livelihoods and the quality of life within the communities on a sustainable basis.

### G2 Additionality and Environmental Integrity

Initial estimates indicate that forest loss in the surrounding district has occurred at a rate of 1.6 percent per year over the past decade. Without the project it is estimated that the project area would lose hundreds of hectares of primary lowland tropical forest and emit over three million tons of CO<sub>2</sub>. As a result of the project, forest loss and emissions will be reduced by approximately 75%.

WARSI has been working with the local and national government over the past decade to strengthen the rights of the project communities over their customary forestlands. With the issuance of Hutan Desa status for the project area in 2013, project communities now possess legal rights to manage the area. Part C, section 3 describes the legal arrangements that secure tenure in the project area. While the area has been zoned a Protection Forest by the Government of Indonesia for some time, this has not resulted in a halt to forest loss in the project area. Only through a well planned and executed forest management strategy, like that proposed under the Plan Vivo standards, is it likely that the forest can be effectively conserved.

The communities' capacity to protect forests in the project area is confronted by a number of barriers that would frustrate efforts to conserve that high value ecosystem in the absence of

a well-designed strategy. Examples of some of the constraints to sustainable forest management are listed below. The project team is discussing each constraint to identify ways they can be removed or reduced through project activities.

**Table 8: Project Barriers and Barrier Mitigation Actions**

Type of Barrier	Description of Barrier	Overcoming Barrier
Financial/ economic barriers	<ul style="list-style-type: none"> <li>Lack of funds to support patrolling, fire control, biodiversity conservation activities and monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>Funds from carbon sales will support annual work plan and activities</li> </ul>
Technical barriers	<ul style="list-style-type: none"> <li>Community institutions lack the skills and communication capacity to mobilize public opinion and interact with local government.</li> <li>Lack of experience in developing management plans, mapping boundaries, and using monitoring equipment.</li> </ul>	<ul style="list-style-type: none"> <li>WARSI team will help the Village Forest Forum to establish a project office and train their management team</li> <li>Training and cross-visits in planning, mapping and monitoring are underway</li> </ul>
Institutional/ political barriers	<ul style="list-style-type: none"> <li>Community lacks political influence to address threats from coal mining and palm oil companies</li> <li>Community needs to strengthen relations with District Government leadership</li> </ul>	<ul style="list-style-type: none"> <li>WARSI has organized joint meetings with local government leaders to help the communities build communication channels and contacts in government</li> </ul>
Ecological barriers	<ul style="list-style-type: none"> <li>Project area includes very steep terrain with limited access through foot paths</li> </ul>	<ul style="list-style-type: none"> <li>A network of forest rest houses are planned for patrols and eco-tourists, trails will be improved</li> </ul>
Logistical barriers	<ul style="list-style-type: none"> <li>Road linkages to District capital restrict eco-tourism development and the flow of services from government programs.</li> </ul>	<ul style="list-style-type: none"> <li>Networking with government agencies should increase visitors and investments in roads</li> </ul>
Cultural barriers	<ul style="list-style-type: none"> <li>Language and cultural barriers between the community and outside assistance agencies limit access to technical and financial support</li> </ul>	<ul style="list-style-type: none"> <li>WARSI and the Consortium are providing linkages to national and international organizations.</li> </ul>

The project is fully independent and not derived from legislative action or projects from other sources. It is not part of a broader economic development scheme. Hutan Desa

status is an important signifier of local control over forest management, but threats to the village forest remain potent. From within, livelihood insecurity can diminish the effectiveness of conservation activities if locals must turn to extraction for income. Exogenous threats such as incursion by illegal loggers is another major issue. Financial benefits from Plan Vivo certificate sales will ensure that local people have the resources to fully protect their traditional forest area, preparing and implementing management plans that meet Plan Vivo standards.

### G3 Project Period

The project start date is January 2014. While WARSI has been working with the project communities for over ten years, the initiation of the REDD+ project in Bujang Raba started in 2012, during the process the local community is interested to apply PES carbon project in January 2014. This included the start of the participatory planning process for REDD+ mitigation activities, the acquisition of remotely sensed images of the area and the beginning of analysis and preparation of baseline scenarios.

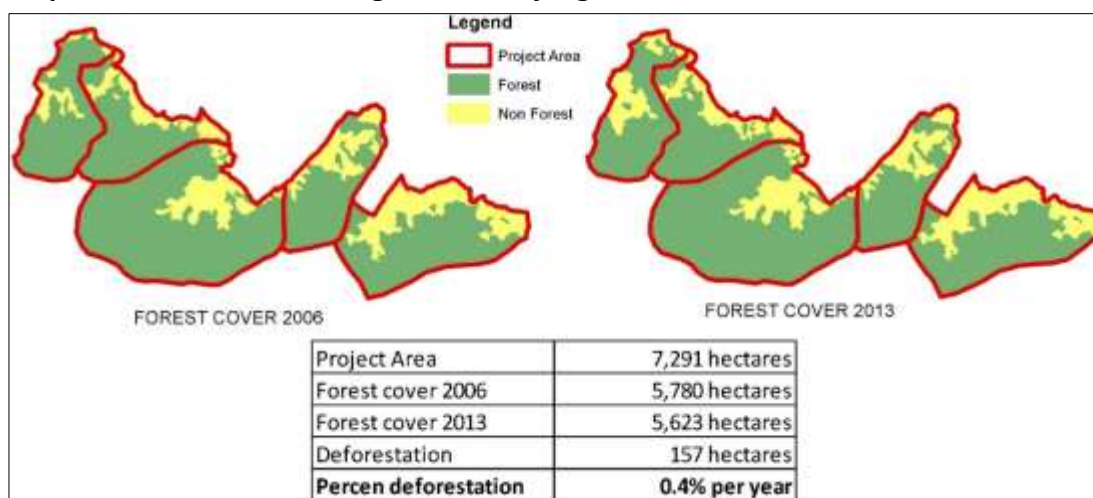
The project proposes that the crediting period and quantification be carried out for 10 years under the REDD+ activities. This will likely be extended in the future as the community is committed to sustaining the project forest as a conservation area (hutan lindung) in perpetuity

### G4 Baseline Scenario

#### G4.1 Trend Deforestation in Project area

KKI WARSI has analyzed deforestation in project area from 2006 to 2013 by using Satellite Landsat, based on our analysis the trend of deforestation in project area is 0.4% per year or with the total forest loss is 157 hectares.

**Map 4: Forest Cover in Village Forest Bujang Raba**



#### G4.2 Carbon pools

The project seeks to measure and quantify only above and below ground biomass from woody species. The project will also estimate the below ground carbon as a percentage of the tree biomass. Other carbon pools would be expensive to measure and the project will have insignificant impact on them, so they will not be quantified and monitored.

**Table 9: Project Carbon Pools**

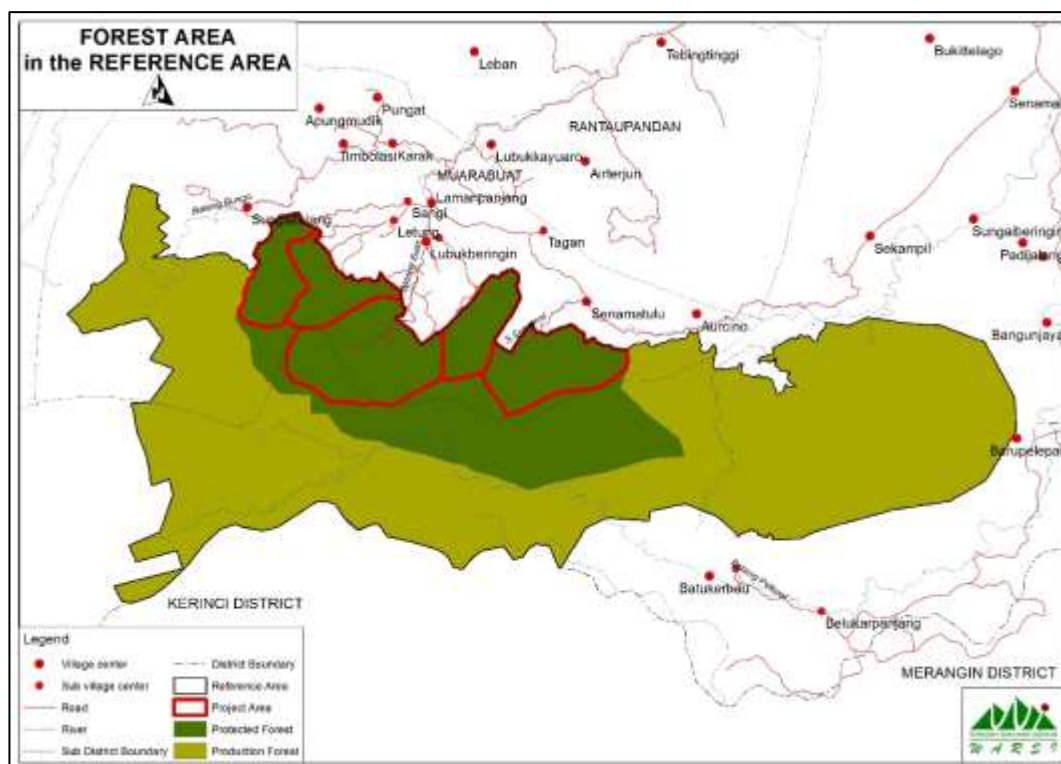
Carbon Pool	Likely impact of project on C-stock	Limitations	Decision to include in calculations
Above ground woody biomass	High	Can be assessed using GFW data- requires GIS skills.	Included
Below ground woody biomass	Moderate	Difficult to measure, but can be assessed as proportion of AGB. – Not likely to change	Not Included
Soil	Low	Difficult to measure – Not significant	Not Included
Leaf litter	Low	Difficult to measure – Not significant	Not Included
Dead wood	Low	Difficult to measure – Not significant	Not Included
Non-tree biomass	Low	Difficult to measure – Not significant	Not Included
Other			

#### G4.3 Baseline Methodology (Reference Area)

The project has selected a 42,422 ha landscape in the upper watershed of Bungo District as the reference area, which is referred to as the Bujang Raba Landscape. The area included in the reference area for Bujang Raba only includes classified conservation and production forest areas (based on Letters of Decision by the Ministry of Forestry No. 727-II/2012 dated 10 December 2012) see Table 10.

**Table 10. Forest Classifications in the Reference Area**

No	Forest Area	Hectares	%
1	Protected Forest	13,293	31%
2	Production Forest	29,129	69%
<b>Grand Total</b>		<b>42,422</b>	<b>100%</b>

**Map 5. Map of Forest Area in Reference Area**

The Reference Area was selected to represent four forests management units (FMU) that are present around the project area and that are shaping forest cover and land use change in the area. The largest are the Production Forest representing 67% of the reference area and the smallest being the customary forest covering 2% of the reference area.

The Bujang Raba Landscape Reference Area totals 42,422 ha or approximately 6 times the size of the project area. The reference area was selected to represent dominant land use patterns as well as geophysical conditions. There are four types of FMU in the reference area reflecting patterns of forest conversion potentially impacting the project area.

**Table 11: Forest management unit in Reference Area**

No	Forest Concession	Area	
		Hectares	%
1	Customary Forest	725	2%
2	Production Forests	28,403	67%
3	Protected Forests	5,800	13%
4	Village Forest	7,494	18%
<b>Grand Total</b>		<b>42,422</b>	<b>100%</b>

The Bujang Raba Landscape Reference Area closely approximates biophysical conditions present in the project area and is approximately 6 times the size. An analysis of Landsat TM data with a resolution of 30 m by the WARSI team was based on two data sets from 1993 and 2013.

Based on this assessment it was possible to determine that primary forest decreased from 39,611 ha in 1993 to 27,260 ha in 2013 representing a loss of 12,351 ha or 1.6% per year. Primary drivers of forest loss included smallholder farmers converting forests to farmland as well as from logging concessions expansion. The pattern of forest loss appeared to be accelerating as road access to this remote part of Sumatra improves and as demand for forestland conversion grows. Further, much of the deforestation in the past twenty years has occurred on the eastern side of the reference area where the project is located due to its accessibility. As a result, deforestation pressures in the project area may be relatively higher than in other parts of the reference area. Changes in forest cover in the Bujang Raba Landscape Reference Area are shown below in Map 6.

In Indonesia, the Forest Land Use Consensus Plan (Tata Guna Hutan Kesepakatan) was established in 1982. This land use plan classified 75 per cent (or 144 million hectares) of Indonesia's land as forest areas. When TGHK was established indigenous rights (adat and hak ulayat) received little recognition in Sumatra. After the end of the Suharto era, increasing authority was given to District (Kabupaten) Government over land allocation, with some communities receiving forest management rights (hutan desa). While national, provincial and district governments are engaged in land use planning and zoning, its impact on the ground has only partial influence on actual land use behavior, especially in reference to forest loss.

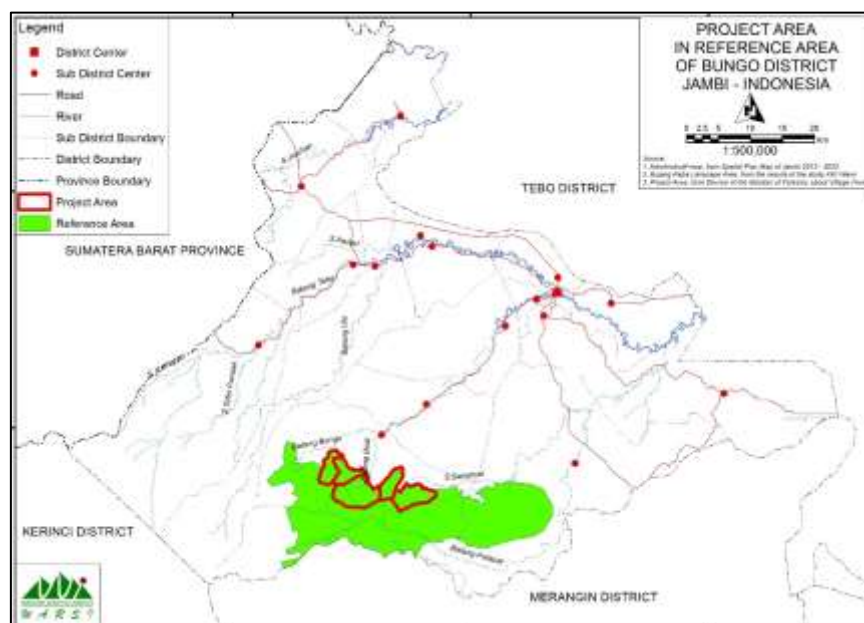
In Jambi, communities traditionally viewed forests as "tanah with no lord" (tanah tak bertuan). Any member of the community requiring the resource for farming or settlement could clear unclaimed, natural forest. This traditional practice remains active in many parts of rural Jambi and South Sumatra. Unoccupied forests are viewed as a land reserve to be drawn as needed. For the most part, communities are completely unaware of the land status determined by the government. Experience in the project area indicates that when they do learn of government claims and attempt to gain greater information regarding forestland status, local government officials are often similarly ignorant.

In Bungo District the primary determinant of future deforestation is often proximity to roads and topographic access. The project area, relative to Bungo District, has greater road access and in the past experienced a more rapid rate of deforestation than the district as a whole, despite its designation as a protection forest. In contrast, there are neighboring production forestlands that have experienced little forest loss due to their isolation. Prior to the initiation of community forest conservation activities, the project area lost 1,955 ha of forest, which was converted to farmlands by local villagers despite it being zoned protected forest by the government. This represented a 27% decline in forest cover between 1999 and 2006, or an annual loss of 3.9%. When we compare the annual rate of forest loss in the reference area at 1.6% during the reference period of 1993 to 2013, it reflects deforestation trends in Jambi province and Bungo District as a whole. For example, Jambi Province experienced a 2.15% annual loss of forest cover from 1990 to 2010. Bungo District lost 2.51% of its forest cover

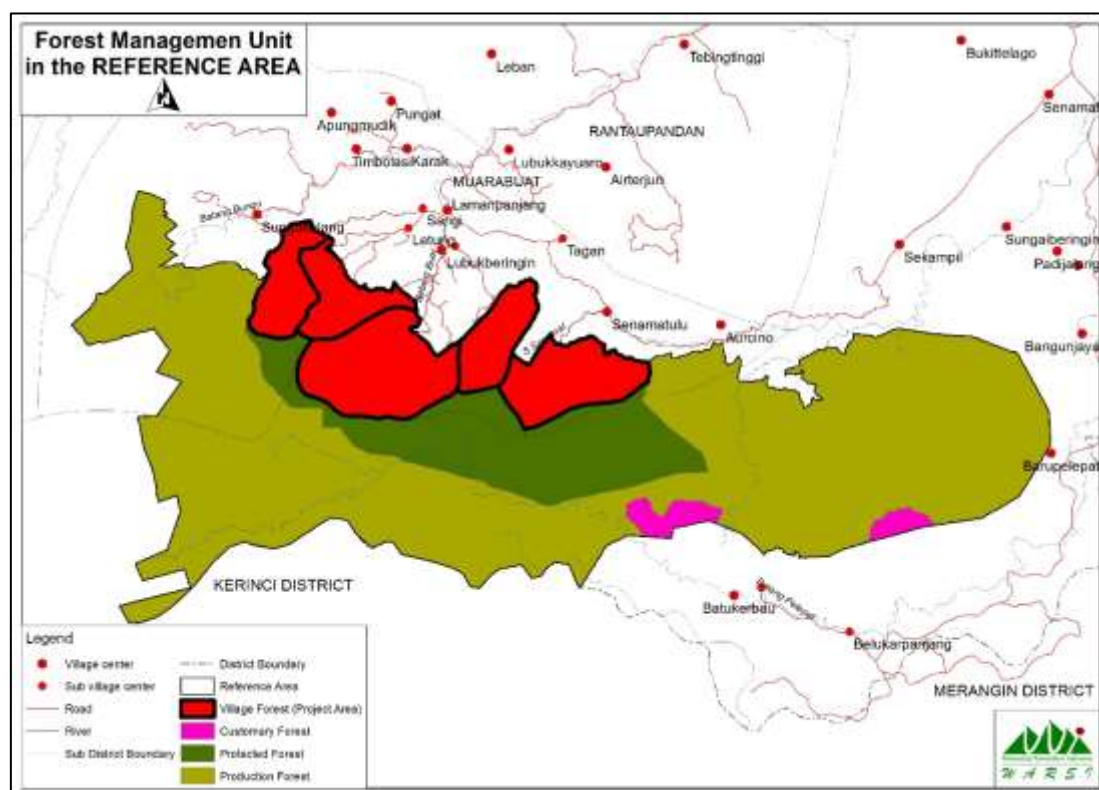


each year from 2003 to 2006. Setting the baseline rate at 1.6% should be considered a conservative estimate, given the forest loss rate in the project area of 3.9%, prior to the initiation of mitigation activities.

**Map 6: Reference Area and Project Area in Bungo District**



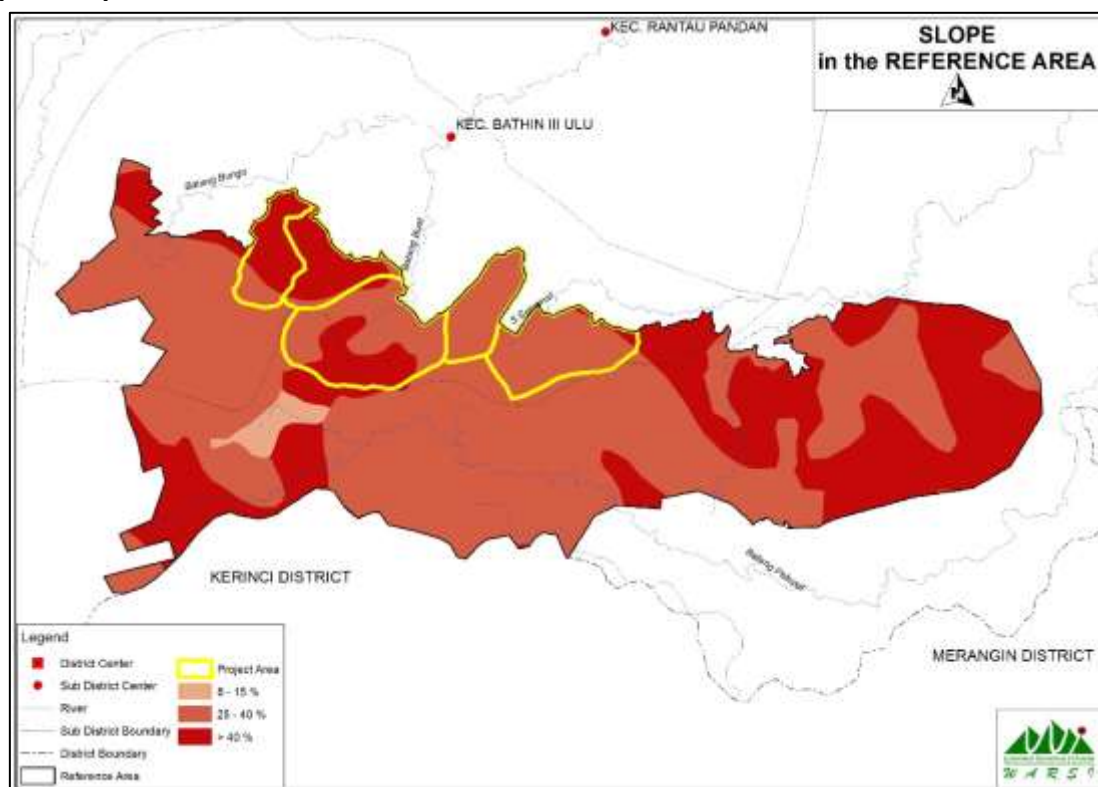
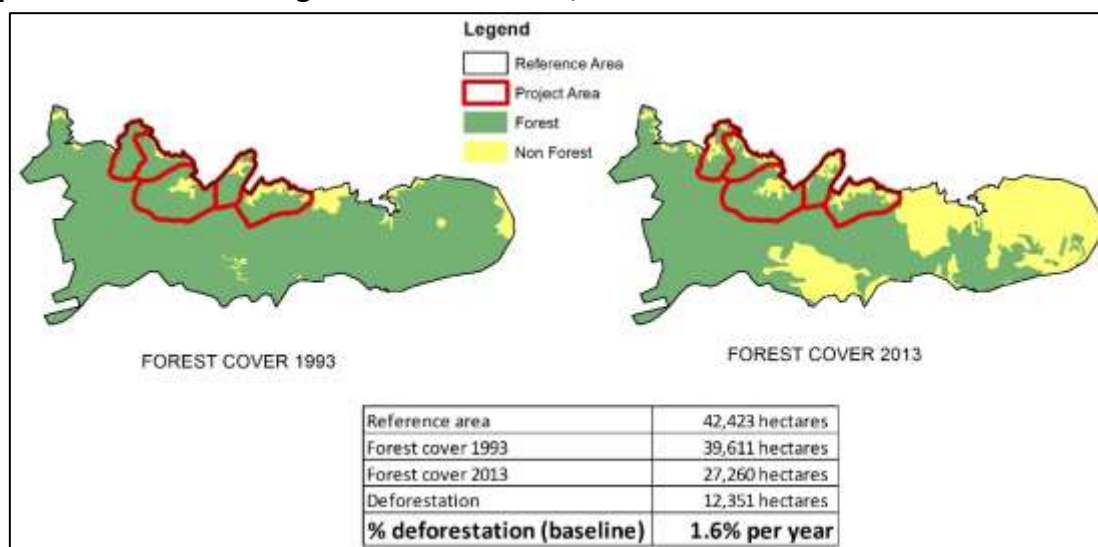
Map 7 shows the official land use categories under the RTRWP (Provincial Spatial Plan) and the TGHK (Spatial plan for forest lands in Jambi). While the categories do not necessarily reflect how the lands will be used in the future or their relative risk of deforestation. Government policies allow for changes in land allocation including the release of mining concessions in protection forests. As such, the reference area provides a blend of land use categories adjacent to the project area and under threat from a diverse set of internal and external drivers of deforestation. Without the project, it is assumed that forest loss in the project area would reflect trends operating across the reference area.

**Map 7: Forest management unit in Reference Area**

In terms of slope in the reference region, like the project area, is dominated by moderately steep slopes of 25-40%, which cover 64.8% of the reference area, with 33.8% of the area greater than 40% incline. There is no slope in the reference of area that is less than 8%.

**Table 12: Slope in the Reference Area**

No	Slope	Area	
		Hectares	%
1	> 40 %	14,357	33.8%
2	25 - 40 %	27,481	64.8%
3	8 - 15 %	584	1.4%
<b>Grand Total</b>		<b>42,422</b>	<b>100%</b>

**Map 8: Slope in the Reference Area****Map 9: Forest Cover Change in Reference Area, 1993 to 2013**

If the current pattern of forest loss continues the project area would lose approximately 795 ha over the next ten years, or 79 ha per year. Based on the project strategy to reduce the rate of deforestation in the project area from the historical 1.6% by 75% to 0.55%, only approximately 20 ha per year would be lost. The table below estimate the amount of forest cover in the project area over the next decade under with and without project scenario.

**Table 13: Comparison of Deforestation under With and Without Project Scenarios**

Year to	Year	Without Project (Base-line/deforestation rate 1.6%)		With Project (emissions reductions by 75%)		Deforestation can be Prevented (ha)
		Forest cover (ha)	Deforestation (ha/year)	Forest cover (ha)	Deforestation (ha/year)	
0	2013	5,336	-	5,336	-	0.00
1	2014	5,251	85.38	5,315	21.34	64.03
2	2015	5,167	84.01	5,294	21.00	63.01
3	2016	5,084	82.67	5,273	20.67	62.00
4	2017	5,003	81.34	5,253	20.34	61.01
5	2018	4,923	80.04	5,233	20.01	60.03
6	2019	4,844	78.76	5,213	19.69	59.07
7	2020	4,766	77.50	5,194	19.38	58.13
8	2021	4,690	76.26	5,175	19.07	57.20
9	2022	4,615	75.04	5,156	18.76	56.28
10	2023	4,541	73.84	5,137	18.46	55.38
<b>Total</b>			<b>795</b>		<b>199</b>	<b>596</b>
<b>Annual average</b>			<b>79</b>		<b>20</b>	<b>59.61</b>

#### G4.4 Baseline Emission

In 2013, the project area of primary forest was 5,336 ha. Without the project it is estimated that over the next ten years the area of primary forest would decrease to 4,541 ha. If the project is implemented the primary forest would decrease to 5,137 ha and as a result 596 ha would be saved from deforestation over the coming decade. Without the Project, it is estimated that the above ground carbon stock in the primary forest would decreased to 4,781,841 tCO<sub>2</sub>, by 2023. With the project the carbon stock at that time would be 5,409,566 tCO<sub>2</sub>, reducing emissions by 498,818 tCO<sub>2</sub>. The figures above are based on assumptions that without the project, loss of primary forest would continue at the historic reference area rate of 1.6% per year through 2023 and that with the project this rate would be reduced by 75% to 0.55% per year.

**Table 14: Estimated Forest Area and Carbon Stock Under With and Without Project Scenario**

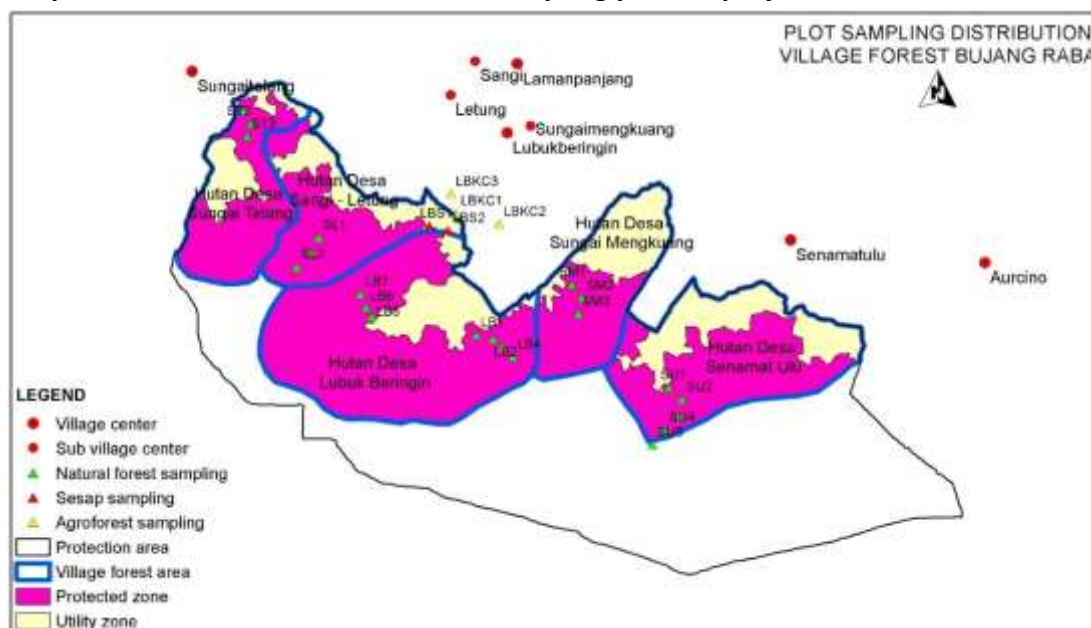
Year to	Year	Forest cover (ha)		Carbon stock (tCO <sub>2</sub> eq)	
		Baseline	With Project	Baseline	With Project
0	2013	5,336	5,336	5,618,808	5,618,808
1	2014	5,251	5,315	5,528,907	5,596,333
2	2015	5,167	5,294	5,440,445	5,574,217
3	2016	5,084	5,273	5,353,397	5,552,455
4	2017	5,003	5,253	5,267,743	5,531,042
5	2018	4,923	5,233	5,183,459	5,509,971
6	2019	4,844	5,213	5,100,524	5,489,237
7	2020	4,766	5,194	5,018,915	5,468,835
8	2021	4,690	5,175	4,938,613	5,448,759
9	2022	4,615	5,156	4,859,595	5,429,005
10	2023	4,541	5,137	4,781,841	5,409,566
Baseline deforestation				: 1.6%	
With-project loss of carbon stock				: 0.55	

#### G4.5 Data Sources

In order to estimate carbon stocks in the project area, the KKI WARSI team worked with community members to establish 21 forest inventory plots in the conservation zone between June and September 2014. The team used a methodology recommended by Winrock International for defining number of sampling plots and accuracy rate. While for field measurement, SNI 7724:2011 (SNI: National Standard), such as the measurement of each plot was 20m x 125m (0.25 ha). Community members took responsibility for field measurements while the KKI WARSI team provided training, supervision and data analysis. The Map below shows the locations of the forest inventory plots.

Carbon pools included both above ground and below ground biomass. The assessment utilized allometric data from field inventories conducted in three tropical forest ecotypes (Kettering, et.al 2001, Chave, et.al 2005, and Basuki et.al. 2009).

From Table 10 above it is apparent that the carbon stock in the project area is between 244 to 343 tC/ha. In order to estimate average carbon accounting the project averaged the three allometric formulas with a resulting total of 287 tC/ha above ground carbon, using data from Kettering (trees 5-48cm), Chave (tees 48.1-130cm), and Basuki (trees above 130cm). According to Winrock International's methodology, these figures would have an error level of 14.5% and a confidence level of 90%. In addition to forest inventory and monitoring plots in the project area, a number of sample plots were measured in the rubber agroforestry.

**Map 10: Distribution of Permanent Sampling plots in project area****Table 15: Carbon Stocks in Bujang Raba Forest Plot Inventory**

No	Plot	Kettering (2001), C-stock (ton/ha)	Chave (2005), C-stock (ton/ha)	Basuki (2009), C-stock (ton/ha)	Combination three allometrics, C-stock (ton/ha)
1	LB1	251	323	235	293
2	LB2	318	349	252	280
3	LB3	571	611	412	486
4	LB4	195	235	185	188
5	LB5	183	235	176	196
6	LB6	348	387	277	284
7	LB7	698	704	483	509
8	SL1	373	462	344	418
9	SL2	200	256	185	230
10	SL3	170	237	182	199
11	SM1	190	251	180	220
12	SM2	179	239	163	215
13	SM3	185	247	183	223
14	ST1	315	378	226	318
15	ST2	327	416	278	368
16	ST3	119	164	134	142
17	SU1	270	319	241	294
18	SU2	196	254	186	238
19	SU3	508	586	381	470
20	SU4	264	315	233	267
21	SU5	201	232	182	183
<b>Average</b>		<b>288</b>	<b>343</b>	<b>244</b>	<b>287</b>



*Note : The code reflects the location of the sample plot within each of the five villages' project areas (LB= Lubuk Beringin, SL= Santi-Letung, SM= Sungai Mengkuang, ST=Sungai Telang, dan SU= Senamat Ulu).*

**Table 16: Carbon Stocks in Bujang Raba Rubber Agroforestry and Secondary Forest Plot Inventory**

No	Plot	Kettering (2001), C-stock (ton/ha)	Chave (2005), C-stock (ton/ha)	Basuki (2009), C-stock (ton/ha)	Combination three allometrics, C-stock (ton/ha)
1	LBRA1	75	110	104	77
2	LBRA2	84	111	129	97
3	LBRA3	55	80	79	55
4	LBSF1	30	44	53	30
5	LBSF2	36	52	63	36
<b>Average</b>		<b>56</b>	<b>79</b>	<b>86</b>	<b>59</b>

*Note: The plot code indicates the location of the plot and the land use code LB= Lubuk Beringin, RA= Rubber Agroforestry, and SF= Secondary Forest*

For comparative purposes the team sampled five plots outside the forest including the rubber agroforestry plots of more than 15 years and two plots of secondary forests 15 years or older. In each of the agroforestry and secondary forest plots the carbon was calculated using same three algometric equations, with the average.

### **G5 Ecosystem Service Benefits**

The project expects to result in significant reductions in emissions between 2014 and 2023, even after the deduction of a 20% buffer and potential leakage of 5%. The Baseline uptake assumes that 85 hectares of forest would be lost in Year 1 declining to 73 ha in 2023, reflecting a 1.6% annual decline in forest area. The project also assumes that each hectare of felled forest would be converted to rubber agroforestry or become degraded secondary forest. In the transition primary forests with an average carbon stock of 1,053 tCO<sub>2</sub>, would be converted to these alternate land uses with an estimate carbon stock of 217tCO<sub>2</sub>/ha. This would result in a net loss of 836 tCO<sub>2</sub>/ha with emissions of 71,439 tCO<sub>2</sub> in Year 1 (2014) without the project. With the project emissions would be reduced by 75% to an estimated 17,844 tCO<sub>2</sub>. With the deduction of the 20% risk buffer net carbon benefit in 2014 would be 40,720 tCO<sub>2</sub>, and 379,101 tCO<sub>2</sub> over the initial ten year first of the project.

**Table 17: Expected Emissions Reductions**

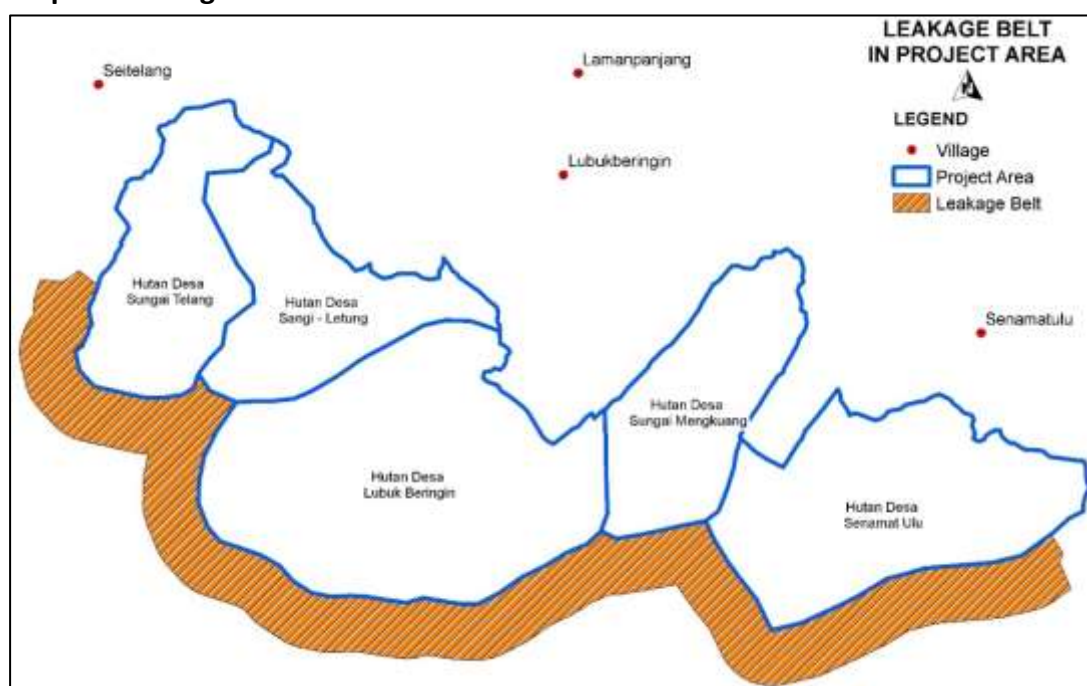
Year to	Year	Baseline carbon uptake i.e. without project	Carbon emissions with project (75%)	Potential Carbon Emissions Reductions	Potential leakage (5%)	Total Carbon Benefit (after leakage deduction)	Deduction of 20% risk buffer	Net carbon benefit
		(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)	(tCO <sub>2</sub> eq)
0	2013	0	0	0	-	0	-	-
1	2014	71,439	17,860	53,579	2,679	50,900	10,180	40,720
2	2015	70,296	17,574	52,722	2,636	50,086	10,017	40,069
3	2016	69,171	17,293	51,879	2,594	49,285	9,857	39,428
4	2017	68,065	17,016	51,049	2,552	48,496	9,699	38,797
5	2018	66,976	16,744	50,232	2,512	47,720	9,544	38,176
6	2019	65,904	16,476	49,428	2,471	46,957	9,391	37,565
7	2020	64,850	16,212	48,637	2,432	46,205	9,241	36,964
8	2021	63,812	15,953	47,859	2,393	45,466	9,093	36,373
9	2022	62,791	15,698	47,093	2,355	44,739	8,948	35,791
10	2023	61,786	15,447	46,340	2,317	44,023	8,805	35,218
<b>Total</b>		<b>665,090</b>	<b>166,273</b>	<b>498,818</b>	<b>24,941</b>	<b>473,877</b>	<b>94,775</b>	<b>379,101</b>
<b>Annual average</b>		<b>66,509</b>	<b>16,627</b>	<b>49,882</b>	<b>2,494</b>	<b>47,388</b>	<b>9,478</b>	<b>37,910</b>

## G6 Leakage and Uncertainty

Primary sources of potential leakages involve new families who require house lots and agroforestry land to support their household. Approximately 25 new families will arise each year in the project communities with each allotted 1 hectare of land. The project area is included within the larger ancestral lands that have traditionally been relied on as the land pool. Leakage from the project area is estimated to most likely occur within 1 km of the southern project boundary in the protected forest. The leakage belt will be monitored by patrol as well as the leakage assessed after five years through the analysis of satellite imagery.

The problem of transferring pressures from the project area to other areas outside the project was discussed with the community. The community felt that it was unlikely this would occur, as there is adequate land in the utilization zone (secondary forest) for more intensive agroforestry production. The project anticipates that the 25 hectares of land required each year can be sourced from abandoned fields and secondary forest outside the project area's primary forest zone. This land will not only be able to provide any additional dry farming land as well as land for fruit gardens and mixed rubber forests. According to the KKI WARSII survey and intensive discussions with the community members the potential for leakage in the next five years was minimal and less than 1%. To be conservative, a 5% loss from leakage has been estimated for the initial project period, which will be revised after 5 years. In addition, the abandoned field and secondary forests have a lower carbon stock of around 30tC/ha, which could be increased to 100 tC/ha after conversion to a well-managed agroforestry plot. In addition, the risk buffer has been set at 20% to ensure any leakage is accounted for.

**Map 11. Leakage Belt Area**



## Part H: Risk Management

The project developers used a VCS method for estimating the risk buffer. Based on these calculations, the risk buffer was set at 20%, with a 14% internal risk factor, a 1% external risk factor, with no natural risk factor. The internal risk rate includes 12% for project longevity, 2% for project management, and 1% for financial viability and opportunity costs. The external risk rate was based on 1% for resource tenure, and 3% for community engagement and political risk. Natural risk causes such as forest fire, pest and disease outbreaks, extreme weather and geological risk were rated at 1%, as there has been no incidence of deforestation in the project area related to those causes. While forest fires occasionally occur around new agricultural sites and pest outbreaks arise on agricultural lands, these have not impacted the project forests in the past. Deforestation, when it does occur, is largely due to changes in land use.

The table below identifies a range of internal and external risks that the project faces. While some risks exist at low to moderate levels, the project will not encounter any high-risk problems moving forward.

**Table 18: Bujang Raba Project Risk Analysis**

Type of Risk and Level	Description of Specific Risks	How Risks will be overcome by project activities
External - Financial/ economic risk  Moderate	<ul style="list-style-type: none"> <li>Insufficient financial resources to develop project</li> <li>Problems finding buyers for Carbon</li> </ul>	<ul style="list-style-type: none"> <li>Funding secured to develop initial project, on-going project management and transaction costs and payments for ecosystem services</li> <li>Project works with Consortium and brokers to develop national Indonesia Community PES Project brand and market network</li> </ul>
Internal - Technical risks  Moderate	<ul style="list-style-type: none"> <li>Project coordinator organisation does not currently have required skill set and human resources necessary to implement and manage the project</li> </ul>	<ul style="list-style-type: none"> <li>Recruitment of staff and skill strengthening for the project coordinator</li> <li>Training undertaken with the project coordinator staff, site coordinators and community field workers in-</li> </ul>

	<ul style="list-style-type: none"> <li>Communities without awareness and skills to initiate project development processes and activities.</li> </ul>	<ul style="list-style-type: none"> <li>clude mapping; biomass inventories; participatory threat assessment</li> </ul>
External - Political risks  Low to Moderate	<ul style="list-style-type: none"> <li>Lack of regulation regarding forestry and land-use, or poor enforcement of such regulations.</li> </ul>	<ul style="list-style-type: none"> <li>Collaboration and communication with district government will minimize these barriers. At this time, communication with local government has been started, they support this program as one of development program for green development</li> </ul>
Natural - Environmental risks  Low	<ul style="list-style-type: none"> <li>Soil degradation and landslide, natural events such as drought and forest fire</li> </ul>	<ul style="list-style-type: none"> <li>The project intervention through forest management plans will minimize the ecological barriers. For the last 10 years, the ecological risks have been low</li> </ul>
Internal - Social risks  Low	<ul style="list-style-type: none"> <li>Poor organisation and mobilisation of local communities and groups, remoteness of communities</li> </ul>	<ul style="list-style-type: none"> <li>The role of steering/board member will be strengthening to make sure the village council will be well performed.</li> <li>Regular meeting is conducted to make sure the remoteness of communities will be able to participate</li> </ul>
Internal - Cultural risks  Low	<ul style="list-style-type: none"> <li>Traditional knowledge, laws and customs, market conditions or practices, traditional equipment and management activities</li> </ul>	<ul style="list-style-type: none"> <li>Most of traditional knowledge/wisdom area is oriented on conservation. So, it may not be a barriers on this project implementation</li> </ul>

Considering that the risk analysis and leakage assessment indicate relatively low-level risk and leakage the project developers suggest setting the buffer at 20%. Given the strong consensus among community members to protect the primary forest and develop the secondary forest for sustainable agroforestry and considering the relative abundance of natural resources in the area this level of reserve should be adequate for the proposed project.



Once the buffer is deducted the project should generate climate benefits of approximately 37,910 tCO<sub>2</sub> each year for the next ten years (see table 17). At \$4 to \$5 per tCO<sub>2</sub> this would yield between \$130,000 and \$160,000 annually if all certificates are sold, sufficient revenues to sustain the proposed project and annual work plans.

## Part I: Project Coordination & Management

WARSI offers extensive experience with community development and natural resource management projects. WARSI's staff includes technical specialists in GIS, remote sensing, forest inventory, and socio-economic and livelihood development. WARSI also retains excellent relationships with local and national government agencies, allowing it to act as an effective intermediary in resolving resource conflicts. We are also pleased to facilitate the work of students and researchers from Indonesia and abroad.

### 11 Project Organizational Structure

KKI WARSI will act as the project coordinator for the Bujang Raba PES Project, representing a regional NGO with two decades of experience with community development and conservation projects. With a staff composition of 76 persons, WARIS possesses staff expertise to calculate and monitor forest carbon stocks and manage a GIS database as well as to conduct field support operations. Under this project KKI WARSI will work with the community through the Village Forest Forum to implement the management plan for Bujang Raba Village Forest. This will include the process of monitoring and verifying outcomes. The organizational structure for the project is presented in the diagram below:

**Chart 4: Project Organizational Management Structure**



**Table 19: Participating Organizations in the Bujang Raba Community PES Project**

Organization	Experience	Capacity
WARSI	Regional NGO with extensive experience in community development project management as well as with the project communities	Experience field staff that can assist communities to build project management capacities including design, implementation and reporting

Village Forest Forum	Newly established umbrella organization to coordinate the project activities of the five villages	Develop a community-based project management capacity
Village Forest Council	Five newly established organizations responsible for Hutan Desa area (Primary Forest inside project area)	Authority, local knowledge -
Customary Forest Council	Five traditional community forest management organizations responsible for customary forest area (outside project area)	Authority, local knowledge
Consortium (Kemitraan, LATIN, Kpsbk, CFI, etc.)	National and international organizations familiar with REDD+ project development	Skills to provide technical support and financial assistance in the development of the project

## I2 Relationships to national organizations

WARSI works closely with the provincial, district, and sub-district governments in order to coordinate activities and communicate progress. WARSI is also in communications with the national REDD+ Agency and the Ministry of Forestry. WARSI seeks to provide the national REDD+ Agency with learning regarding their experiences with sub national REDD+ project design. There are no major government projects in the REDD+ project area at this time.

## I3 Legal compliance

The community is already certified as a Hutan Desa under Indonesian law and has the approval of the relevant bodies to participate in this program. WARSI is an equal opportunity employer. WARSI is a registered non-governmental, non-profit organization that operates in full compliance with Indonesian law.

## I4 Project Management

The NGO WARSI will act as Project Developer and has appointed Emmy Primadona as Project Manager to act under the direction of the WARSI Executive Director. The WARSI project team includes: the project manager, business manager, project accountant, forest activity coordinator, socio-economic activity coordinator, and monitoring and reporting specialist (see Annex 1). WARSI will be responsible for assisting the Village Forest Forum with communications and technical support including interactions with Plan Vivo, Markit Registry, participating brokers and buyers. WARSI will also provide assistance with monitoring and the preparation of the annual report.

**Table 20: Work Plan Timeline for 2014-2016**

Month and Year	Activity
January 2014	Community REDD+ Planning Dialogue Initiated
February-May 2014	Development of PIN – Bali Workshop Preparation of Baseline Data and Analysis
June-October	Community Consultation for Project Design
November	Drafting of PDD and Review
April 2015	PDD Approval - Community Monitoring of project impacts
May	Validation Visit
June	Submission of Annual Report for 2014
March-December	Certification and Marketing of 2014 certificates
January-December	Implementation of 2015 Work Plan
January 2016	Monitoring and Preparation of 2015 Annual Report

The WARSI team will work with the Village Forest Forum and each Village Forest Council to develop a record keeping system. The system will document the following items:

- Financial income and expenditures
- Minutes of all Village Forest Council Meetings
- Reports from the Forest Patrols
- Environmental and Socio-Economic monitoring indicators

In addition to collecting the data above, the joint WARSI/Village Forest Council team will be responsible for preparing the annual report and submitting it to Plan Vivo.

### **I5 Project financial management**

WARSI will be responsible for managing all carbon revenues and other PES income, depositing all funds in a special project account. WARSI has estimated project costs for the 2015-2016 period (see Table 20) based on the activity plan outlined in this document. WARSI will disburse funds through the network of Village Forest Councils in coordination with the Village Forest Forum.

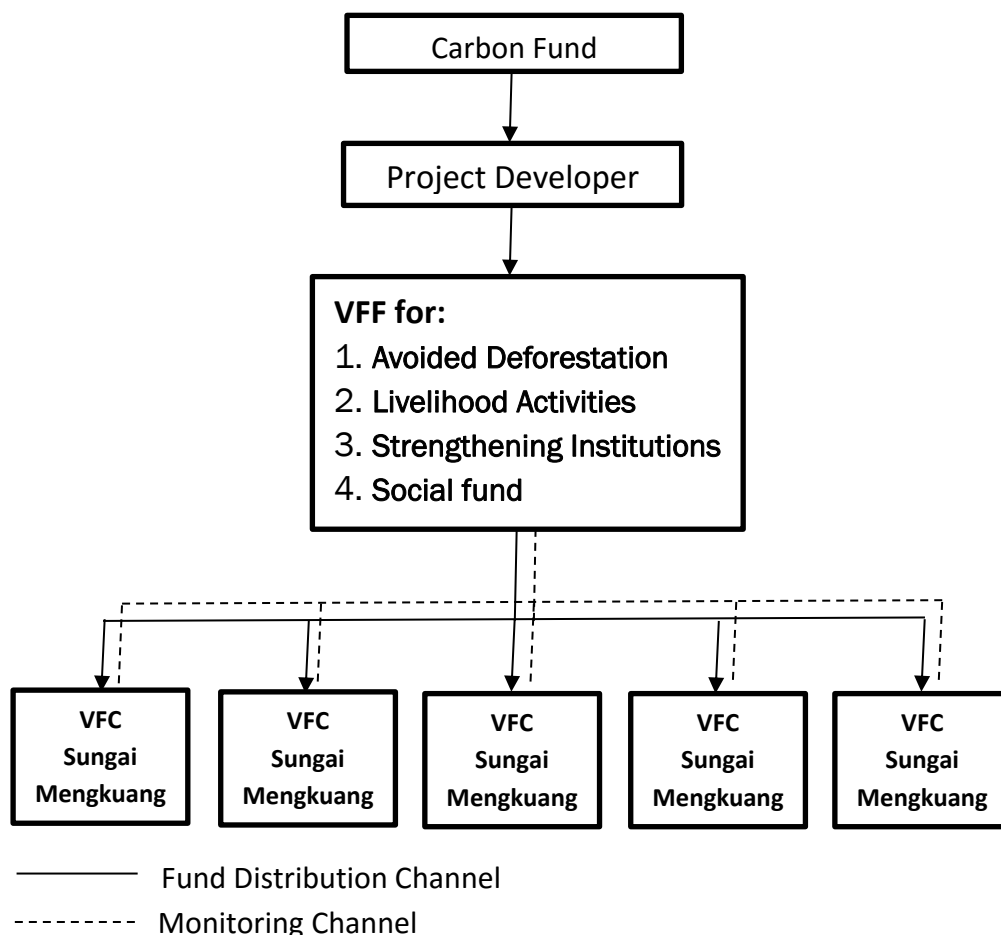
The disbursement process includes the following steps:

- Carbon revenues are received and allocated to the general mitigation activities described in Section D.
- Each Village Forest Council will submit a work plan after consultation with village members.
- The Village Forest Forum will assess the plans according to overall strategy and priority.
- Based on the Village Forest Forum recommendations, WARSI will advance funds to each Village Forest Council.
- During implementation WARSI and the Forest Forum will conduct a monitoring exercise.
- Based on the results of the monitoring and assuming the communities have met their

emission reduction targets, WARSI will provide the balance of the project budget due to each Village Forest Council.

- If there is a problem in activity, the matter will be discussed with the steering committee comprised of the village headman, adat, and religious leaders.

**Chart 5: Fund Distribution Channel**



## I6 Marketing

WARSI is working with other Consortium members to develop a national marketing strategy guided through the Consortium secretariat. This joint groups is exploring potential sales to European organizations (Fair Climate Fund, We Forest, U and WE, etc.), as well as to Indonesia CPR buyers. WARSI is working with a media firm (Yayasan Perspektip Baru) to develop marketing materials, including short films. WARSI will also work with the Consortium members and participate in a PES Marketplace event in the spring of 2015 to present the project to CPR buyers in Indonesia.

## **I7 Technical Support**

WARSI will seek technical support from the Consortium, CFI, FFI and other agencies within Indonesia as needed during the implementation of the project. We are currently assessing institutions that might serve as a validator and will consult with Plan Vivo to finalize our choice. WARSI is the project developer and will take the lead role in all interactions with Plan Vivo and other partners over the next five years, during which time it intends to promote self-determination among the participating communities regarding management responsibility.

WARSI was first established in December 1991 as a network agency using the name Yayasan Warung Informasi Konservasi (The Conservation Information Foundation) – abbreviated fondly as “WARSI.” It was created through the efforts of 12 NGOs in four provinces in southern Sumatra (West Sumatra, Jambi, Bengkulu, and South Sumatra) to address mutual concern about natural resource management and community empowerment.

In July 2002, the WARSI Foundation became its own fully-fledged non-profit organization known as Komunitas Konservasi Indonesia (The Indonesian Conservation Community) or KKI WARSI. Located in Jambi, the organization is currently working all over Indonesia. Taking “Conservation with Community” as its motto, KKI WARSI supports development that fulfils present needs without harming the livelihoods of the future.

Our staff roster includes 76 people working at both our central office in Jambi city as well as field offices in towns across Jambi and West Sumatra. WARSI receives support from major bilateral donors and foundations and enjoys an excellent reputation as an organization that develops high quality projects with communities.

In moving forward with this project, WARSI has received guidance from Community Forestry International (CFI) regarding their experience with Plan Vivo standards, procedures, and marketing. Our staff are currently working closely with CFI and Fauna and Flora International (FFI) to develop MRV systems that meet the Plan Vivo requirements. In addition, Badan Pengelola REDD+ Indonesia is currently supporting NGO-led demonstration activities with funding through its FREDDI (Funds for REDD Indonesia) initiative, with a focus on scaling up successful models.

Due to WARSI’s extensive experience supporting community development over the past 23 years, we are confident that we can meaningfully engage communities in the design and implementation of this REDD+/PES project. WARSI’s technical staff will assist these communities in developing of carbon and other environmental and socio-economic baseline data and monitoring systems. We are currently developing a financial management and benefit sharing system for revenue generated by Plan Vivo certificates.

## Part J: Benefit Sharing

### J1 PES agreements

WARSI has been conducting a series of meetings in all five villages over the past year to raise awareness about the REDD project. The meetings allow community members to raise questions about the project and discuss whether they wish to be a part of the REDD+ initiative. After repeated meetings, there is a consensus among the community and its leaders that conserving the primary forests and participating in the Plan Vivo project is desirable. The obligations of the WARSI, the Village Forest Councils, and the participating households have been discussed at length and have been accepted by the communities. In Annex1 an agreement document is included.

### J2 Payments & Benefit Sharing

The Bujang Raba project is a community-wide effort with all households participating. Income from the sales of Plan Vivo certificates will be used for projects that benefit the entire community (i.e. drinking water, micro-hydro, schools, health care delivery, etc.). Payments are dependent on the successful implementation of the annual work plan and the delivery of an acceptable annual report to Plan Vivo by the management team. Benefits will be allocated according to the annual budget. If additional resources are available, the Village Forest Councils and the Management Team will discuss distribution to encourage livelihood activities to special community groups (women's micro finance- Koperasi Dahlia, Farmer's Clubs, student groups, etc.). The annual work plan and budget will be developed and reviewed by the Village Forest Councils and project management team (WARSI) to ensure equity and transparency by all stakeholders.

The project seeks to reward the five communities with at least 60% of the carbon revenues, with the remaining 40% or less going to WARSI to act as project developer and manager. Funds received by WARSI will be used to cover staff costs for project administration, as well as training, extension, awareness raising activities, monitoring, and reporting. In 2014-2015, WARSI costs for the above activities were \$79,220 (see Annex 2b), however those costs included PDD development costs including forest inventory that will not be needed annually. The WARSI funds will also be used to handle the transaction costs for marketing and processing carbon sales, bank fees, and related costs. The projected costs for 2015-2016 for community support is \$116,000 (see Annex 2a). Basic project operational costs will have first draw on carbon revenues and once fully funded, additional funds will be allocated for distribution to the five participating communities, with the share reflecting the relative size of the forest under their management. WARSI anticipates project revenues will be approximately \$200,000 per year, provided that the net additional carbon benefit of approximately 40,000 tCO<sub>2</sub> can be sold at an average price of \$5 per tCO<sub>2</sub>.



After project management and implementation costs are covered, any additional funds will be given to the community after the completion of each year's work plan and a collaborative assessment of the "state of the forest," examining the indicators shown above. The presence of indicators of forest cover change, including land cleared for agriculture, illegal logging, fire, etc., that show the community has fallen into the yellow zone will result in a 50% reduction in benefit payments. Full payments will be reinstated once the community demonstrates that they have reduced for loss to within the Green Zone parameter for their forest. The payment will take place at the end of the calendar year.

WARSI will be responsible for managing the project database. This will include keeping records of all carbon sales including volumes, prices, and value in US dollars and Indonesian Rupiah. The project will also maintain a database of all payment to communities from carbon sales (see Annex 4a and 4b). The database will be used to report to the VFC during quarterly meetings, and in the preparation of the annual report to Plan Vivo. All Plan Vivo certificates will be held in the project Market Registry account with issuance requests submitted at the time of sale to Plan Vivo.

## **Part K: Monitoring**

Under the project monitoring plan WARSI and the participating communities will assess the impact of forest loss mitigation activities as reflected in the Plan Vivo standard. The system for monitoring carbon stocks in the project intervention area forms only one part of the overall monitoring plan for the project (as required by the Plan Vivo standard). Other tracking indicators include the socio-economic monitoring, biodiversity monitoring, monitoring other environmental services and monitoring the drivers of deforestation.

In accordance with the Plan Vivo standard the technical specification will be reviewed after 5 years. The data produced as part of the project monitoring system will contribute to improving and refining the technical specifications. The monitoring data gathered on a quarterly and annual basis will be archived both at the project office in the village as well as by WARSI to ensure that important data do not become lost.

### **K1 Ecosystem services benefits**

Indicators that will be used to monitor the climate benefits of project activities are summarized in the Table 24. Key indicators of climate benefits will be reflected in changes in forest habitat including forest fires impacts (total burned area each dry season), unauthorized logging (total number of trees felled each year without community approval), and number of hectares cleared for agriculture. These indicators will be updated every 2 months. Different members of the community will collect the data with the results discussed at periodic meetings of the Village Forest Council.

**Table 21: Forest Cover Change and Carbon Monitoring**

Indicator	How it will be monitored	Who will monitor it	Frequency	Comments
Forest area (intact forest in the project intervention area)	Remote sensing	Project coordinator	After 5 years	Landsat TM data for 2013 and 2018 will be used.
Forest carbon stock	Reassessment of permanent plots combined with remote sensing	Project coordinator with community	After 5 years	Used to revise forest carbon stock data and revise the technical specification for this intervention (control of unplanned deforestation)
Forest condition	Fixed point photography in sample plots of from distant viewpoint	Project coordinator with community	Annually	From fixed locations located by GPS
Drivers of deforestation	During patrolling and during visits to sample plots	Community (patrol teams)	Quarterly	Record evidence of illicit tree felling, encroachment, fires etc. from sample plots and from regular forest patrols

The monitoring methodology is conducted as following methods:

**Fixed Point Photo Monitoring** - the project will establish a series of fixed-point photo monitoring locations throughout project area and community rubber agroforestry and agricultural lands. Each point will provide an appropriate perspective of the forest to accommodate growth and change over time. The photos will be taken twice annually and be kept in the project office for inclusion in the annual report.

**Satellite Monitoring** - WARSI will assist the community in monitoring carbon stocks in the project year by analysing the Landsat TM data with a resolution of 30 m every five years. The WARSI team baseline utilized two data sets from 1993 and 2013. Additional images will be acquired and analysed in 2018 and 2023 to assess the rate of forest cover change in the project area as well as the reference area. If the five-year assessment indicates that forest loss exceeds the projected “green level” figures, the project team will meet with the community to address the drivers and how to mitigate them more effectively. If it is determined that the original technical specifications did not accurately estimate the baseline rate of forest loss or that other miscalculations in the technical specifications were made, WARSI will work with Plan Vivo to update the technical specifications and re-set the baseline and additional calculations.

**Forest Patrol Monitoring** - Quarterly forest patrols will monitor the following indicators:

- Forest clearing and other disturbances will be identified, photographed, with an estimate of the area impacted and number of trees felled. Records will be kept for each event including identifying involved parties, and any fines or sanctions levied.
- Illegal felling will be identified, photographed, and with an estimate of the area impacted and number of trees felled. The monitors will also estimate the amount of trees revolved.
- Forest fires will be monitored and controlled. Dry season reports on fire incidences including the total area burned and source of the fire will be kept in the project office and utilized to track changes over time and the effectiveness of the fire control activities.
- Poaching and biodiversity monitoring will be a key part of the forest patrol duties including inspecting for animal traps or other signs of poaching. The project will also monitor key indicator species and record observations of red-listed mammals (Sumatran tiger, honey bear, Simiang, and hornbills)
- Landslides, wind throws, floods and other events related to possible changes in forest cover will be monitored by the patrol and the causes of these occurrences investigated.

These quarterly reports to the Village Forest Councils and Village Forest Forum will be summarized in the annual report.

**Forest Plot Monitoring** - The project has established 21 forest monitoring plots located within the protected forest area that represents the REDD+ components of this project. Additional plots are located in the secondary forest area that is being developed for agroforestry. Forest plots are 20x125 m in size (0.25ha) and are located along transect lines. Each of the five Hutan Desa areas in the project possesses 3 to 6 plots each representing all micro-watersheds in the project area. The project provides data on changes in forest condition, carbon stocks, as well as biodiversity.

The goal is to reduce the rate of deforestation from the baseline 1.6 % per year to 0.55% per year over the previous five-year period. Annual thresholds and targets for reducing deforestation are described in Table 22. If the target rate or more after five years achieves the reduced rate of deforestation, the project will achieve “green” status. If the reduced rate of deforestation in the project area is less than the target, but more than the baseline the project will achieve an “amber” status in which case the project developer will need to work with the Village Forest Forum members to discuss how the drivers of deforestation can be better controlled. If the reduced rate of deforestation is the same or greater than the reference area, the project will receive a “red” status and will have demonstrated no “additionality.” At the point the project may either be re-designed or halted. Data from the satellite images after five years of protection, combined with data for the forest plot inventory will allow the project developers and communities to recalculate changes in carbon stock and revise estimates for

emission reduction over the next five years. Table 22 describes the thresholds and targets for project performance monitoring based on total of deforestation occurring in each of the five project community forests.

**Table 22: Annual Thresholds and Targets for Project Performance Monitoring based on total of deforestation**

Village Forest Council	Total area	Threshold Achievement Level		
		Green Level - if the local people are able to reduce emissions by 75%	Yellow Level - if the local people are able to reduce emissions from 25% until 75%	Red Level - if the local community are only able to reduce emissions < 25%
Sangi - Letung	736	< 0.55 ha	From 0.55 – 1.63 ha	> 1.63 ha
Sungai Mengkuang	634	< 0.48 ha	From 0.48 – 1.41 ha	> 1.41 ha
Senamat Ulu	1,095	< 0.82 ha	From 0.82 – 2.44 ha	> 2.44 ha
Sungai Telang	745	< 0.56 ha	From 0.56 – 1.65 ha	> 1.65 ha
Lubuk Beringin	2,126	< 1.59 ha	From 1.59 – 4.72 ha	> 4.72 ha
<b>Threshold Range</b>	<b>5,336 ha</b>	<b>&lt; 3.95 ha</b>	<b>More than 3.95 ha &amp; less than 11.85 ha</b>	<b>&gt; 11.85</b>
<b>Benefit Allocation</b>		<b>100%</b>	<b>50%</b>	<b>0%</b>

The carbon benefit from carbon sales will be distributed proportionally based on the performance each of the Village Forest and organized by the Village Forest Forum. The threshold ranges is described in Table 23.

**Table 23: Benefit by Village When Threshold Target is achieved 2014-2023**

No	Village Forest	Area (protection zone)		Net Carbon Benefit/ Village Forest (ton CO <sub>2</sub> eq)	Target project performance base on deforestation (ha)
		Hectares	%		
1	Sangi - Letung	736	14%	52,290	8.22
2	Sungai Mengkuang	634	12%	45,043	7.08
3	Senamat Ulu	1,095	21%	77,795	12.23
4	Sungai Telang	745	14%	52,929	8.32
5	Lubuk Beringin	2,126	40%	151,044	23.75
<b>Grand Total</b>		<b>5,336</b>	<b>100%</b>	<b>379,101</b>	<b>59.61</b>

Table 22 shows the annual thresholds and target for the project performance each of the village based on indicative colour. The colour is as a guideline for local community to monitor deforestation level. This table is also used for distribution payment. The payment will be distributed proportionally based on total project area each of the village. When one of the villages does not meet the requirement of the thresholds range, let's say colour red, they will not get the reward while the other 4 villages that still keep the commitment to control deforestation will get the payment based on the threshold range.

## **K2 Socio-economic monitoring plans and impacts**

WARSI is conducting a baseline socio-economic study of households to document annual income levels at the beginning of the project. Cash assets of the women's enterprise groups (Koperasi Wanita) will be monitoring quarterly to assess progress in building capital. The project will also monitor the numbers of people receiving health care and social services with special emphasis on low-income households, the PES expenditures of stakeholder groups and their conformity with management plans and PES agreements, and the number and type of management problems faced by the community and resolution strategies. These indicators will be reported on annually. The socio-economic survey will be completed every five years to track changes. WARSI staff and members of the five participating communities will conduct household interviews. Results from the survey will be presented to each Village Forest Council, the Village Government, and the Village Forest Forum and be used to discuss priority livelihood activities for the next annual work plan.

The Socio-Economic monitoring plan focuses on women's enterprise indicators such as capital assets in the micro-finance accounts. It also monitors community participation in village meetings, and access of low-income families to medical services. A household survey is conducted every five years to assess changes in household assets and income. These are reflected in the "Well-being" indicators including condition of houses, access to electricity, sanitary facilities, and land ownership. The socioeconomic monitoring plan and potential wellbeing indicators are summarized in Tables 24 and 25.

**Table 24. Socioeconomic monitoring plan**

Type of monitoring	Indicator	Methods	Indicator unit	Frequency	Intensity	Responsibilities
Socio-economic	Women's enterprise viability	Data is recorded periodically	Cash in the savings and loan is sufficient to meet the needs of the members Increase production of NTFPs	3 months	The women's activity group	Head of the women's enterprise group
Social	Strengthening of village level forest management institution (LDPHD)/law enforcement	Keeping a record of village meeting attendance and minutes in which forest management is discussed	Number of problems encountered and number of problems solved	Annual	Community-wide	Chairman of the VFC
Social	Increased access for poor and marginalized community members to healthcare and social services	A log of people receiving healthcare and social services is kept	Number of individuals receiving health care and social services (Disaggregated by gender and wealth – paying attention to women-headed and poorest households)	Annual	Community-wide	Village Headman
Socio-economic	Expenditure of PES funds received by particularly marginalized community members as agreed in management plan and PES agreement	Book keeping and financial reporting	Number of Indonesian rupiah (IDR) spent on each activity and number of people receiving funds (paying particular attention to women-headed and poorest households)	Annual	Focus on the marginalized groups	VFC
Socio-economic	Household survey	Questionnaire survey	Assets, income and expenditure and participation in activity groups	Every 4 to 5 years	Across the whole community	Project coordinator
Socio-economic	Well-being assessment	Participatory approach	Based on criteria identified by the communities themselves	Every 4 to 5 years	Across the whole community	Project coordinator



**Table 25. Examples of well-being indicators that may be used as part of the socio-economic monitoring plan**

Criteria		Poor	Medium	Rich
House	Walls Support posts Roof Floor House Size Rooms	Bamboo Unmilled timber Leaves Dirt or bamboo 4x6 m 1 bedroom and kitchen	Rough Cement Milled timber Tin sheeting Milled timber or cement 6x9 m 2-3 bedrooms and kitchen	Refined Cement Milled timber/cement Tile 6x12. 3-4 bedrooms, kitchen, living room 1-2 story
Electricity		Oil lamp and illegal electrical hook-up	Electrical supply 900w-1300w.	Electrical supply 2000w. With back-up generator
Electronics & Vehicles		Radio,	TV, motor cycle	Refrigerator, washing machine, motorcycle, car. Flat screen TV
Land ownership		<3ha/ household	3-10 ha/ household	10+ha per household
Agroforestry gardens		<1 ha	1-5 ha	>5 ha
Work		Day labourer, farmer	Company employee, teacher, civil servant, farmers	Company manager, government officials, middleman, farmer
Income		<Rp 1 million	Rp 1 to 10 million	> Rp 10 million
Sanitation facilities		No bathroom or toilet	Simple Bathroom and toilet (no tile)	Tiled bathroom and toilet

In addition to the baseline survey and socio-economic monitoring system, as WARSI has been working with the communities to address socio-economic needs for nearly a decade it has complimentary monitoring systems to track changes in the women's finance group (Koperasi Dahlia), the community micro-hydro electrical generation project, and the agroforestry development project. The existing monitoring system will continue to track changes and impacts of these activities.

Special focus groups will be organized around the target groups including the 1) agroforestry activity groups, 2) women's micro-finance group, and 3) forest patrol and forest user group. They will be responsible for discussing priority activities, providing input into the annual work

plan development, and providing monitoring information to the Village Forest Council and Village Forest Forum.

### K3. Environmental and Biodiversity impact

Aside from monitoring changes in forest habitat, which are included in climate benefit monitoring, other biodiversity indicators include the incidence of illegal poaching (number of animal traps found and other signs of unauthorized hunting) and the sighting or signs of high value species (including tigers, tapir, large primates, bears, hornbills, etc.). Youth and community members active in the forest will also be asked to report on biodiversity, hydrological, as well as forest conditions. Any issues that require attention will be discussed with appropriate plan of action developed. The results of the quarterly meeting will be documented in the meeting minutes and read at the next VFC meeting.

Environmental and biodiversity monitoring focus on tracking forest cover indicators as discussed above. Ground based patrols will monitor indicators like area burned by forest fire and number of trees illegally felled. Biodiversity will be tracked through the monitoring of apex species like the endangered Sumatran tiger. Camera traps will be installed with the number of individuals in the protected area assessed annually. Patrols will also monitor the incidence of poaching, illegal hunting, and conflict. Other indicator species will also be tracked including observations of larger primates, hornbills, bears, and leopards. Finally water availability will be monitored in the main river by tracking shortages to the village micro-hydro generator and rice fields.

**Table 26. Biodiversity and hydrological indicators**

Indicator	Methods	Indicator unit	Frequency	Intensity	Responsibilities
Status of Sumatran tiger population	Camera traps	Number of recorded individuals	Annual	Protection zone	WARSI
Reduced threats	patrols	(encroachment, poaching, illegal, logging, human wildlife conflict, fire)	2 months	10km long patrol route, usually lasting at least 3 days every month	VCF
Encounter rates of high conservation value species	patrols	Frequency of sightings per HCV species	2 months	10km long patrol route, usually lasting at least 3 days every month	VCF
Water availability	Check how many times the water pump breaks because there is too little water	Number of times the micro-hydro station stops working because of limited water supply, Number of times water to rice fields is delayed	Annual	Micro-hydro station, sawah	VCF

### **K5 Other monitoring**

A key to the success of the project is the capacity and activity levels of the Village Forest Councils as the lead community organization for project planning and implementation. The VFCs have four scheduled annual meetings, plus additional meetings as needed. As project developer, WARSI will monitor their progress and provide capacity building in coordination with the umbrella organization, the Village Forest Forum. The minutes of the Quarterly meetings should provide one indicator regarding both the function and activities of the VFC and will be used for institutional monitoring. In addition, each year each VFC will work with the VFF to prepare an annual work plan and budget for their forest area. This document will also be an important indicator of planning capacity and priorities. At the end of each year, the VFC will need to make an annual report to the VFF and WARSI summarizing their achievements. WARSI will work with the VFF to summarize the activities of the five participating VFC and submit them to Plan Vivo at the end of each year.

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**Annex 1: List of Key people involved with contact information**

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## Annex 2: Information of Funding Source

### Budget 2015-2016 for project implementation

No	Activity	Quantity	Unit	Cost (\$)	Subtotal (\$)	Total(\$)
	<b>A. Avoided deforestation</b>					
1	Forest					
	a. Forest cover change patrol (6x5 vil- lage)	30	unit	250	7,500	
	b. Forest condition (degradation) pa- trol (6x5 village)	30	unit	250	7,500	
	c. Leakage monitoring patrol (6x5 vil- lage)	30	unit	250	7,500	
2	Carbon stock monitoring					
	a. Re-measurement of 20% perma- nent sample plots (PSPs)	1	unit	500	500	
	b. Landsat 8 satellite image analysis	1	unit	750	750	
	c. Plot conditions as documented by fix-point photography (PSP)	1	unit	250	250	
3	Biodiversity					
	a. Status of Sumatran tiger population	1	unit	1,000	1,000	
	b. Reduced threats patrol	30	unit	250	7,500	
	c. Encounter rates of HCV patrol	30	unit	250	7,500	<b>40,000</b>
	<b>B. Livelihood activity</b>					
1	Commodity development	5	unit	1,000	5,000	
2	hybrid Seed	5	unit	1,500	7,500	
3	nursery	5	unit	1,500	7,500	
4	planting and care	5	unit	1,500	7,500	
5	NTFP development	5	unit	1,500	7,500	
6	Community social activities	5	unit	1,000	5,000	<b>40,000</b>
	<b>C. Capacity Building</b>					
1	Training nursery	2	unit	2,000	4,000	
2	training forest patrol	1	unit	2,000	2,000	
3	training biodiversity	1	unit	2,000	2,000	
4	training book keeping & administra- tion	1	unit	1,500	1,500	
5	Training NTFP	1	unit	2,000	2,000	
6	office development	1	unit	5,000	5,000	<b>16,500</b>
	<b>C. Market, campaign and money</b>			-		
1	market event (audience)	1	Unit	8,000	8,000	
2	Publications and advertising	2	Unit	2,000	4,000	
3	monitoring	4	Unit	1,500	6,000	
4	reporting	1	Unit	1,500	1,500	<b>19,500</b>



**WARSI Support Costs from RFN (2014 -2015)**

No	Activity	Quantity	Unit	Cost (\$)	Subtotal (\$)	Total (\$)
	<b>A. Carbon Accounting</b>					
1	Carbon accounting specialist	6	unit	800	4,800	
2	GIS/Remote Sensing Specialist	6	unit	800	4,800	
3	Botanist	6	unit	800	4,800	
4	Carbon Accounting	21	plot	400	8,400	
5	Ground truth forest Cover	2	unit	1,500	3,000	
6	Transportation	6	unit	400	2,400	
7	Field Supply	5	unit	800	4,000	
8	ATK	1	unit	1,500	1,500	<b>33,700</b>
	<b>B. Socio-Economic Program</b>					
1	Economic assessment	12	unit	800	9,600	
2	Village Meetings (8 x 5 villages)	40	unit	200	8,000	
3	Village Forest Council Meetings	4	unit	400	1,600	
4	Transportation	6	unit	400	2,400	
5	Field Supplies	5	unit	800	4,000	
6	ATK	1	unit	1,200	1,200	<b>26,800</b>
	<b>C. Coordination and Support</b>					
1	Project Coordinator	6	unit	1,200	7,200	
2	Telecoms	6	unit	120	720	
3	Workshop team	6	unit	400	2,400	
4	Transportation	6	unit	400	2,400	
5	Meeting with supporting team	6	unit	800	4,800	
6	Stationary	1	unit	1,200	1,200	<b>18,720</b>
	<b>Grand Total</b>					<b>79,220</b>

### Annex 3: Producer/group agreement template

The agreement attached below is translated as follows:

#### LETTER of DECLARATION

Communication Forum for Community Forest Management in Bathin III Ulu Sub-District, Bungo District dated December 1, 2014.

Based on a series of discussions regarding the PROJECT REDD, the Communication Forum for Community Forest Management that is comprised of a group of Village Forest Management Councils has agreed to participate and implement the Project REDD in the Bujang Raba (Bukit Panjang Rantau Bayur) and will implement the village forest management plans that we have prepared.

With this decision we have appointed KKI WARSI to help with the implementation of the REDD Project in Bujang Raba. The project will involve activities to reduce emissions from deforestation. This letter of declaration has been created and can be used to support the project.

The letter is signed by the heads of the five participating village forest councils.

**FORUM KOMUNIKASI MASYARAKAT PENGELOLA HUTAN  
KECAMATAN BATHIN III ULU  
KABUPATEN BUNGO**

---

**SURAT PERNYATAAN**

Berdasarkan beberapa kali diskusi Forum Komunikasi Masyarakat Pengelola Hutan yang merupakan wadah perkumpulan Kelompok Pengelola Hutan Desa (KPHD) mengenai **Project REDD (pengurangan emisi dari deforestasi dan degradasi hutan)**. Kami bersepakat untuk berpartisipasi dalam implementasi **project REDD** di kawasan Bujang Raba (Bukit Panjang Rantau Bayur) berdasarkan rencana kerja hutan desa yang telah kami susun.

Dengan demikian kami menunjuk KKI WARSI untuk membantu dalam implementasi project REDD di Bujang Raba. Khususnya dalam penyusunan proposal maupun kegiatan-kegiatan yang berhubungan dengan target penurunan emisi.

Demikian surat pernyataan ini dibuat untuk dipergunakan sebagaimana mestinya.

Bathin III Ulu, 1 Desember 2014  
Ketua,  
  
**JARIMI**

Mengetahui :

<p>Ketua KPHD Mendandang Hulu Sako Batang Buat, Lubuk Sebangun</p> <p> <b>AL JUPRI</b></p> <p>Ketua KPHD Batang Klukup Sungai Mengkuang Mengkuang Dusun Laman Panjang</p> <p> <b>JUNAIDI</b></p> <p>Ketua KPHD Gunung Pahong, Dusun Sungai Telang</p> <p> <b>PAHMI</b></p>	<p>Ketua KPHD Tiga Hala, Sangi-Letung Dusun Buat</p> <p> <b>JUPNI</b></p> <p>Ketua KPHD Hulu Simpang Duo Batang Senamat Senamat Ulu.</p> <p> <b>ISKANDAR</b></p>
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**Annex 4: Database Template****Table Annex 4-a: Socio-Economic Database**

Socio-economic monitoring form									
Bujang Raba PES Project									
Name of Village : _____									
Year : _____									
No	Activity	Indicator	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Verification tools	Information	
A	Women Cooperative	1 Number of Women Co-operative in the village					Report from women co-operative. Financial report		
		2 Number of member							
		3 Number of saving account in co-operative (IDR)							
		4 Number of benefit/profit (IDR)							
B	NTPF	1 Type of NTFP that is managed					Report from VFC		
		2 Number NTFP which is managed							
		3 Number of NTFP/handy craft sold							
		3 Total benefit (IDR)							
C	Health service	1 Number of people access health service					Report from head of Village		
D	Education	1 Number of students enrolled in high					Report from head of Village		

			school and university						
		2	Number of university graduates						
E	Electricity	1	Number of household with access to electricity					Laporan Rio/kepala desa	
		2	Number of households do not get access of electricity						
F	Garden	1	Total commodity planted					Documentation of seed nursery, total production and so on from the farmer group	
			a. Cocoa						
			b. Rubber						
			c. Cardamom						
			d. other						
		2	Number of production each of commodity						
			a. Cocoa						
			b. Rubber						
			c. Cardamom						
			d. other						
		3	Number of ha farming area that has (not) been managed						

**Table Annex 4-b: Biodiversity Monitoring Database**

Monitoring Forest Cover and Biodiversity Form										
Bujang Raba PES Project										
Year : _____										
No	Element of monitoring		Indicator	Date submitted	Q1	Q2	Q3	Q4	Verification tools	Amount budgeted for the reporting period
A	Forest cover	1	Project area							
			Number of forest encroachment (ha)						fix photo point, patrol report	
			Number of forest fire (ha)						fix photo point, patrol report	
			Number of tree fall due to illegal logging						fix photo point, patrol report, tree stumps	
		2	Leakage Area							
			Number of forest encroachment (ha)						fix photo point, patrol report	
			Number of forest fire (ha)						fix photo point, patrol report	
			Number of tree fall due to illegal logging						fix photo point, patrol report, tree stumps	
B	Biodiversity	1	Status key species							
			a. Tiger - foot print, manure, scratch, others (yes/no)						Photo, patrol report	
			b. Bear - foot print, manure,						Photo, patrol report	

			scratch, others (yes/no)							
			c. Other Species - foot print, manure, scratch, others (yes/no)						Photo, patrol report	
		2	Poaching (number case )						Photo, patrol report	
		3	Water quan- tity (drought, flood, dry)						VFC report	
		4	Water quality (good, fair, bad)						VFC report	



Table Annex 4-c: WARSI Compilation Database

All this data is derived from the quarterly reports by the community

REPORT DETAILS				FUNDING						ACTIVITIES	MONITORING DURING PATROL																					FISH CATCH				OTHER FEEDBACK										
No	Date submitted	Quarter reported	Year	Village/VFC	Amount budgeted	Amount used during	Balance in account	Balance in cash	date	Activity 1 proof (Y/N) by	Activity 2 proof (Y/N) by	Activity 3 proof (Y/N) by	Activity 4 proof (Y/N) by	xxx	date of patrol	Forest cleared	ha estimate	place (s)	Illegally felled	no estimate	place (s)	Burnt area	ha estimate	place (s)	Other remarks on	Indicator Species proof (sighting, place (s))	Indicator Species proof (sighting, place (s))	Indicator Species proof (sighting, place (s))	Indicator Species proof (sighting, place (s))	Indicator Species proof (sighting, place (s))	Other remarks on	River 1	Place A	Fish catch (scale)	Place B	Fish catch (scale 1-3)	Remarks on illegal	Remarks on biodiversity	Remarks on water availability	Suggestions, recommendations						
1	20.3.2016	1st	2016	Lubuk Beringin																																										
2																																														
3																																														
4																																														
5																																														

**Annex 5: Socio-Economic and Biodiversity Monitoring Plan****Table Annex 5-a: Socio-Economic Monitoring Plan**

Type of monitoring	Indicator	Methods	Indicator unit	Frequency	Intensity	Responsibilities
Socio-economic	Women's enterprise viability	Data is recorded periodically	Cash in the savings and loan is sufficient to meet the needs of the members Increase production of NTFPs	3 months	The women's activity group	Head of the women's enterprise group
Social	Strengthening of village level forest management institution (LDPHD)/law enforcement	Keeping a record of village meeting attendance and minutes in which forest management is discussed	Number of problems encountered and number of problems solved	Annual	Community-wide	Chairman of the VFC
Social	Increased access for poor and marginalised community members to healthcare and social services	A log of people receiving healthcare and social services is kept	Number of individuals receiving health care and social services (disaggregated by gender and wealth – paying attention to women-headed and poorest households)	Annual	Community-wide	Village Headman
Socio-economic	Expenditure of PES funds received by particularly marginalised community members as agreed in management plan and PES agreement	Book keeping and financial reporting	Number of Indonesian rupiah (IDR) spent on each activity and number of people receiving funds (paying particular attention to women-headed and poorest households)	Annual	Focus on the marginalised groups	VFC
Socio-economic	Household survey	Questionnaire survey	Assets, income and expenditure and participation in activity groups	Every 4 to 5 years	Across the whole community	Project coordinator
Socio-economic	Well-being assessment	Participatory approach	Based on criteria identified by the communities themselves	Every 4 to 5 years	Across the whole community	Project coordinator

**Table Annex 5b: Examples of well-being indicators that may be used as part of the socio-economic monitoring plan**

Criteria		Poor	Medium	Rich
House	Walls Support posts Roof Floor House Size Rooms	Bamboo Unmilled timber Leaves Dirt or bamboo 4x6 m 1 bedroom and kitchen	Rough Cement Milled timber Tin sheeting Milled timber or cement 6x9 m 2-3 bedrooms and kitchen	Refined Cement Milled timber/cement Tile 6x12. 3-4 bedrooms, kitchen, living room 1-2 story
Electricity		Oil lamp and illegal electrical hook-up	Electrical supply 900w-1300w.	Electrical supply 2000w. with back-up generator
Electronics & Vehicles		Radio,	TV, motor cycle	Refrigerator, washing machine, motor-cycle, car. Flat screen TV
Land ownership		<3ha/ household	3-10 ha/ household	10+ha per household
Agroforestry gardens		<1 ha	1-5 ha	>5 ha
Work		Day labourer, farmer	Company employee, teacher, civil servant, farmers	Company manager, government officials, middleman, farmer
Income		<Rp 1 million	Rp 1 to 10 million	> Rp 10 million
Sanitation facilities		No bathroom or toilet	Simple Bathroom and toilet (no tile)	Tiled bathroom and toilet

**Table annex 5c: Environmental and biodiversity monitoring plan**

Monitoring type	Indicator	Methods	Indicator unit	Frequency	Intensity	Responsibilities
Forest	Forest cover change	patrols	Number of hectares of cleared/ burnt forest	2 months	10km long patrol route, usually lasting at least 3 days every month	VFC
	Forest condition (degradation)	patrols	Number of felled trees	2 months	10 km long patrol route, usually lasting at least 3 days every month	VFC
	Leakage monitoring	patrols	Number of hectares of burnt and cleared trees in leakage zone	2 months	10km long patrol route, usually lasting at least 3 days every month	VFC
	Carbon stock monitoring	Re-measurement of permanent sample plots (PSPs)	Number of hectares of cleared forest and number of felled trees	Annual	20% of PSPs	Community patrols with WARSI team
		Landsat 8 satellite image analysis following WARSI procedural document	Number of hectares of forest by forest strata/classes	Annual	Protection zone	WARSI remote sensing expert
		Plot conditions as documented by fix-point photography (PSP).	Extent of cleared areas/intact areas	Annual	20% of PSPs	VFC and WARSI
	Forest condition (degradation)	SPOT satellite image classification	Hectares of degraded forest	Every 5 years	Protection zone	WARSI remote sensing expert

	Leakage mitigation	Data is recorded periodically	Number of community members involved in livelihood and rehabilitation activities	Annual	Village-wide	WARSI
Biodiversity	Status of Sumatran tiger population	Camera traps	Number of recorded individuals	Annual	Protection zone	WARSI
	Reduced threats	patrols	(encroachment, poaching, illegal, logging, human wildlife conflict, fire)	2 months	10km long patrol route, usually lasting at least 3 days every month	VCF
	Encounter rates of high conservation value species	patrols	Frequency of sightings per HCV species	2 months	10km long patrol route, usually lasting at least 3 days every month	VCF
Water	Water availability	Check how many times does the water pump break because there is too little water	Number of times the micro-hydro station stops working because of limited water supply, Number of times water to rice fields is delayed	Annual	Micro-hydro station, sawah	VCF

**5d: Data Sheet For PVC Sales**

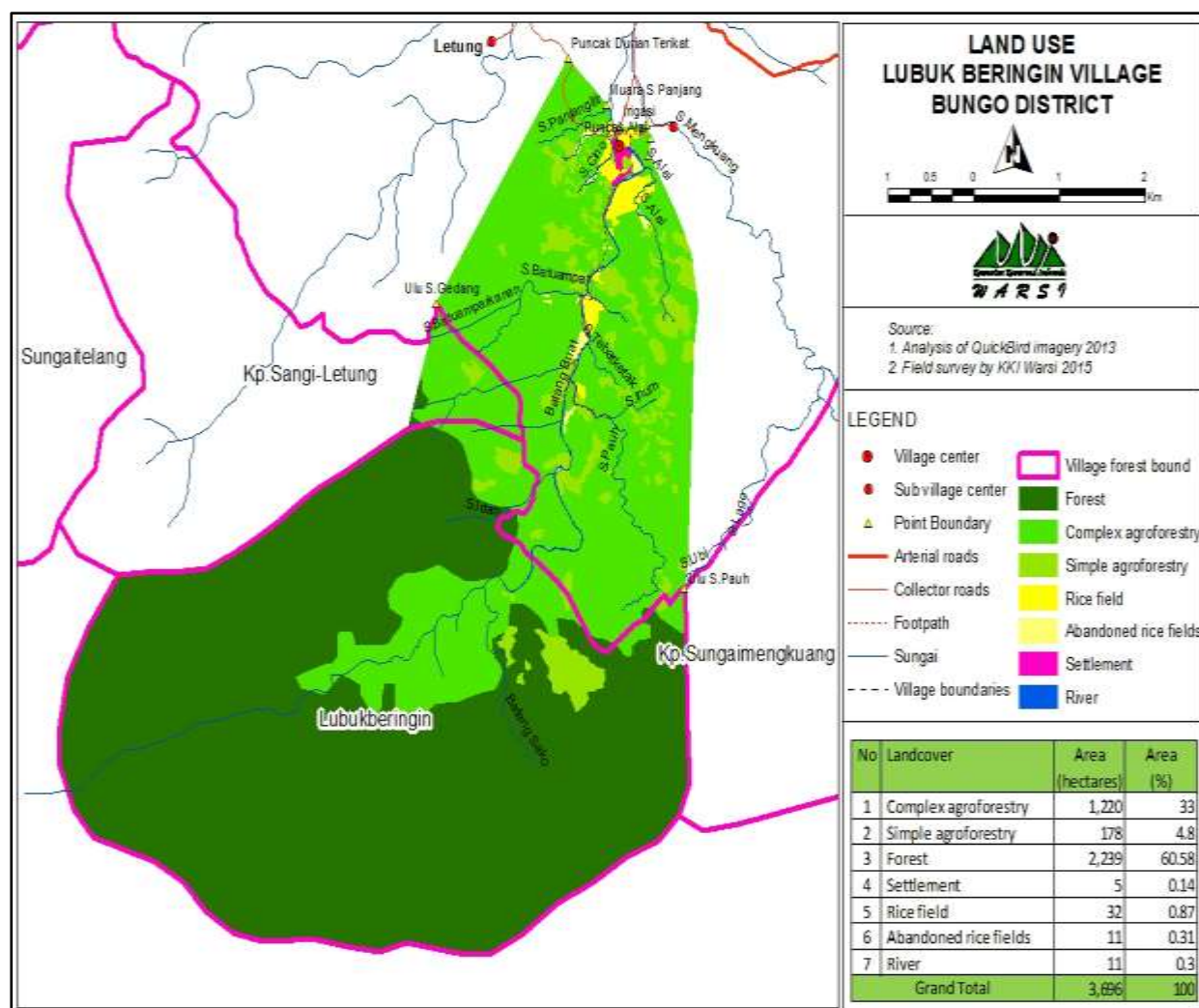
<b>Number of PVCs Issued</b>	<b>Date of Issuance</b>	<b>Number of PVCs Sold</b>	<b>Date of Sale</b>	<b>Price Per TCO2 (US\$)</b>	<b>Revenue from PVC Sales (US\$)</b>	<b>Revenue from PVC Sales (Rp)</b>

**5E: Data Sheet for payment distribution**

<b>Payments to Producers</b>	<b>Date of Payment</b>	<b>Amount Paid</b>	<b>% of Total Revenue</b>
<b>Village Forest Councils</b>			
Lubuk Beringin			
Senamat Ulu			
Sungai Mengkuang			
Sangi Letung Buat			
Sungai Telang			
<b>total</b>			

## Annex 6: Example Forest Management Plan

Each Forest Village Council has prepared plans for their forest area indicating major land use categories including: protected forests, complex agroforestry systems that mimic natural forests, simple agroforests that focus on a few commodities, rice fields, abandoned rice fields and settlements. The map of Lubuk Beringin Village and its communal forests is an example of the types of plans that will guide the project and community land use decision-making.





## Annex 7: Permit and Legal Documentation

### Ministry of Forestry Approval of designation of Village Forest working area for 5 Village forest in Bujang Raba.

#### Letter of Decision by the Indonesian Ministry of Forestry - approving the establishment of a Village Forest (Hutan Desa) in Sungai Mengkuang Village



MENTERI KEHUTANAN  
REPUBLIK INDONESIA

**KEPUTUSAN MENTERI KEHUTANAN REPUBLIK INDONESIA**  
NOMOR : SK. 362/Menhut-II/2011.

#### **TENTANG**

**PENETAPAN KAWASAN HUTAN LINDUNG SEBAGAI AREAL KERJA HUTAN  
DESA KAMPUNG SUNGAI MENGKUANG SELUAS ± 1.051 (SERIBU LIMA  
PULUH SATU) HEKTAR DI KECAMATAN BATHIN III ULU KABUPATEN  
BUNGO, PROVINSI JAMBI**

**DENGAN RAHMAT TUHAN YANG MAHA ESA**

**MENTERI KEHUTANAN REPUBLIK INDONESIA,**

- Menimbang** :
- a. bahwa berdasarkan Pasal 86 ayat (1) Peraturan Pemerintah Nomor 6 Tahun 2007 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan Serta Pemanfaatan Hutan sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008, Menteri menetapkan Areal Kerja Hutan Desa;
  - b. bahwa berdasarkan Pasal 4 Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010, kriteria kawasan hutan yang dapat ditetapkan oleh Menteri berada pada kawasan hutan lindung yang belum dibebani hak atau izin dalam pemanfaatan hasil hutan, menjadi sumber mata pencaharian masyarakat setempat dan berada di wilayah administrasi desa yang bersangkutan;
  - c. bahwa berdasarkan Pasal 7 Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010 dan Keputusan Menteri Kehutanan Nomor SK.76/Menhut-II/2009 tentang Tim Verifikasi Hutan Desa telah dilakukan Verifikasi Hutan Desa pada Kawasan Hutan Lindung di Kabupaten Bungo, Provinsi Jambi;
  - d. bahwa berdasarkan pertimbangan sebagaimana dimaksud pada huruf a, b, c dan memperhatikan hasil verifikasi, dipandang perlu menetapkan areal kerja hutan desa pada kawasan Hutan Lindung di wilayah administrasi Desa Kampung Sungai Mengkuang Kecamatan Bathin III Ulu Kabupaten Bungo, Provinsi Jambi seluas ± 1.051 (seribu lima puluh satu) hektar dengan Keputusan Menteri Kehutanan;

/Mengingat...

- Mengingat** :
1. Undang-Undang Nomor 5 Tahun 1960 tentang Peraturan Dasar Pokok-Pokok Agraria;
  2. Undang-Undang Nomor 41 Tahun 1999 tentang Kehutanan sebagaimana telah diubah dengan Undang-Undang Nomor 19 Tahun 2004;
  3. Undang-Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah sebagaimana telah diubah dengan Undang-Undang Nomor 12 Tahun 2008;
  4. Undang-Undang Nomor 26 Tahun 2007 tentang Penataan Ruang;
  5. Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup;
  6. Peraturan Pemerintah Nomor 6 Tahun 2007 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan, serta Pemanfaatan Hutan sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008;
  7. Peraturan Pemerintah Nomor 38 Tahun 2007 tentang Pembagian Urusan Pemerintahan antara Pemerintah, Pemerintahan Daerah Provinsi dan Pemerintahan Daerah Kabupaten/Kota;
  8. Peraturan Pemerintah Nomor 76 Tahun 2008 tentang Rehabilitasi dan Reklamasi Hutan;
  9. Peraturan Presiden Republik Indonesia Nomor 47 Tahun 2009 tentang Pembentukan dan Organisasi Kementerian Negara;
  10. Peraturan Presiden Nomor 24 Tahun 2010 tentang Kedudukan, Tugas dan Fungsi Kementerian Negara serta Susunan Organisasi, Tugas dan Fungsi Eselon I Kementerian Negara;
  11. Keputusan Presiden Nomor 84/P Tahun 2009 tentang Pembentukan Kabinet Indonesia Bersatu II;
  12. Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa; sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010;
  13. Peraturan Menteri Kehutanan Nomor P.40/Menhut-II/2010 tentang Organisasi dan Tata Kerja Kementerian Kehutanan;
- Memperhatikan** :
1. Berita Acara Hasil Verifikasi Penetapan Areal Kerja Hutan Desa Dusun Laman Panjang Nomor BA. 226/BPS-2/2010 tanggal 13 Agustus 2010;
  2. Surat Dirjen Planologi Kehutanan Nomor S.1072/VII-WP3H/2010 tanggal 30 Desember 2010 perihal Peta Penetapan Areal Kerja Hutan Desa di Kabupaten Bungo Provinsi Jambi;

/MEMUTUSKAN...

**MEMUTUSKAN :**

- Menetapkan** : **KEPUTUSAN MENTERI KEHUTANAN TENTANG PENETAPAN KAWASAN HUTAN LINDUNG SEBAGAI AREAL KERJA HUTAN DESA KAMPUNG SUNGAI MENGKUANG SELUAS ± 1.051 (SERIBU LIMA PULUH SATU) HEKTAR DI KECAMATAN BATHIN III ULU KABUPATEN BUNGO, PROVINSI JAMBI.**
- KESATU** : Kawasan Hutan Lindung seluas ± 1.051 (seribu lima puluh satu) hektar di wilayah administrasi Desa Kampung Sungai Mengkuang Kecamatan Bathin III Ulu Kabupaten Bungo, Provinsi Jambi, ditetapkan sebagai Areal Kerja Hutan Desa;
- KEDUA** : Letak dan batas Areal Kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU adalah sebagaimana tergambar pada lampiran Keputusan Menteri ini;
- KETIGA** : Penetapan areal kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU tidak merubah status dan fungsi kawasan sebagai Hutan Lindung (HL);
- KEEMPAT** : Setelah diberikan Penetapan Areal Kerja Hutan Desa, pengelolaan Hutan Desa dilakukan dengan pemanfaatan jasa lingkungan dan pemungutan hasil hutan bukan kayu serta melakukan pengamanan areal kerja Hutan Desa dari perambahan;
- KELIMA** : Penetapan Areal kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU digunakan sebagai dasar pemberian Hak Pengelolaan Hutan Desa oleh Gubernur Jambi kepada Lembaga Desa sesuai dengan ketentuan Peraturan Perundang-undangan;
- KEENAM** : Dalam pemberian Hak Pengelolaan Hutan Desa sebagaimana dimaksud pada Amar KELIMA, Gubernur Jambi memperhatikan kesiapan Lembaga Desa calon penerima Hak Pengelolaan Hutan Desa;
- KETUJUH** : Lembaga Desa yang telah mendapatkan Hak Pengelolaan Hutan Desa dari Gubernur Jambi sebagaimana dimaksud pada Amar KELIMA wajib menyusun Rencana Kerja Hutan Desa sesuai ketentuan Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010 dan petunjuk pelaksanaannya;

/KEDELAPAN...

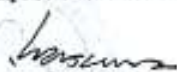


- KEDELAPAN** : Dalam penyelenggaraan pengelolaan hutan desa, Gubernur Jambi berkewajiban melakukan sosialisasi, fasilitasi, bimbingan dan pembinaan kepada lembaga desa sesuai ketentuan Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010 dan petunjuk pelaksanaannya;
- KESEMBILAN** : Keputusan Menteri ini mulai berlaku pada tanggal ditetapkan, dan apabila dalam jangka waktu 2 (dua) tahun sejak diterbitkannya Keputusan Menteri ini tidak ada Pemberian Hak Pengelolaan Hutan Desa, maka Keputusan Menteri ini batal dengan sendirinya.

Ditetapkan di : Jakarta

Pada tanggal : 7 Juli 2011

Salinan sesuai dengan aslinya  
Kepala Biro Hukum dan Organisasi



**KRISNA RYA, SH., MH.**  
**NIP. 19590730 199003 1 001**

**MENTERI KEHUTANAN**  
**REPUBLIK INDONESIA,**  
ttd.

**ZULKIFLI HASAN**

Salinan Keputusan Menteri ini disampaikan kepada :

1. Menteri Dalam Negeri;
2. Menteri Pertanian;
3. Menteri Koperasi dan Usaha Kecil Menengah;
4. Menteri Perindustrian;
5. Menteri Lingkungan Hidup;
6. Kepala Badan Pertanahan Nasional;
7. Pejabat Eselon I lingkup Kementerian Kehutanan;
8. Gubernur Jambi;
9. Bupati Bungo;
10. Kepala Pusat Pengendalian Pembangunan Kehutanan Regional I;
11. Kepala Balai Pengelolaan Daerah Aliran Sungai Batanghari;
12. Kepala Balai Pemantapan Kawasan Hutan Wilayah II Palembang.

## Letter of Decision by the Indonesian Ministry of Forestry Approving the establishment of a Village Forest (Hutan Desa) in Sangi – Letung Village

MENTERI KEHUTANAN  
REPUBLIK INDONESIA

**KEPUTUSAN MENTERI KEHUTANAN REPUBLIK INDONESIA**  
NOMOR : SK.543/Menhut-II/2011.

### **TENTANG**

**PENETAPAN KAWASAN HUTAN LINDUNG SEBAGAI AREAL KERJA HUTAN  
DESA KAMPUNG SANGI - LETUNG SELUAS ± 1.224 (SERIBU DUA RATUS  
DUA PULUH EMPAT) HEKTAR DI KECAMATAN BATHIN III ULU  
KABUPATEN BUNGO, PROVINSI JAMBI**

**DENGAN RAHMAT TUHAN YANG MAHA ESA**

**MENTERI KEHUTANAN REPUBLIK INDONESIA,**

- Menimbang** : a. bahwa berdasarkan Pasal 86 ayat (1) Peraturan Pemerintah Nomor 6 Tahun 2007 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan Serta Pemanfaatan Hutan sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008, Menteri menetapkan Areal Kerja Hutan Desa;
- b. bahwa berdasarkan Pasal 4 Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011, kriteria kawasan hutan yang dapat ditetapkan oleh Menteri berada pada kawasan hutan lindung yang belum dibebani hak atau izin dalam pemanfaatan hasil hutan, menjadi sumber mata pencaharian masyarakat setempat dan berada di wilayah administrasi desa yang bersangkutan;
- c. bahwa berdasarkan Pasal 7 Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011 dan Keputusan Menteri Kehutanan Nomor SK.76/Menhut-II/2009 tentang Tim Verifikasi Hutan Desa telah dilakukan Verifikasi Hutan Desa pada Kawasan Hutan Lindung di Kabupaten Bungo, Provinsi Jambi;
- d. bahwa berdasarkan pertimbangan sebagaimana dimaksud pada huruf a, b, c dan memperhatikan hasil verifikasi, dipandang perlu menetapkan areal kerja hutan desa pada kawasan Hutan Lindung di wilayah administrasi Desa Kampung Sangi Letung Kecamatan Bathin III Ulu Kabupaten Bungo, Provinsi Jambi seluas ± 1.224 (seribu dua ratus dua puluh empat) hektar dengan Keputusan Menteri Kehutanan.

/Mengingat...

- Mengingat** :
1. Undang-Undang Nomor 5 Tahun 1960 tentang Peraturan Dasar Pokok-Pokok Agraria;
  2. Undang-Undang Nomor 41 Tahun 1999 tentang Kehutanan sebagaimana telah diubah dengan Undang-Undang Nomor 19 Tahun 2004;
  3. Undang-Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah sebagaimana telah diubah dengan Undang-Undang Nomor 12 Tahun 2008;
  4. Undang-Undang Nomor 26 Tahun 2007 tentang Penataan Ruang;
  5. Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup;
  6. Peraturan Pemerintah Nomor 6 Tahun 2007 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan, serta Pemanfaatan Hutan sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008;
  7. Peraturan Pemerintah Nomor 38 Tahun 2007 tentang Pembagian Urusan Pemerintahan: antara Pemerintah, Pemerintahan Daerah Provinsi dan Pemerintahan Daerah Kabupaten/Kota;
  8. Peraturan Pemerintah Nomor 76 Tahun 2008 tentang Rehabilitasi dan Reklamasi Hutan;
  9. Peraturan Presiden Republik Indonesia Nomor 47 Tahun 2009 tentang Pembentukan dan Organisasi Kementerian Negara;
  10. Peraturan Presiden Nomor 24 Tahun 2010 tentang Kedudukan, Tugas dan Fungsi Kementerian Negara serta Susunan Organisasi, Tugas dan Fungsi Eselon I Kementerian Negara;
  11. Keputusan Presiden Nomor 84/P Tahun 2009 tentang Pembentukan Kabinet Indonesia Bersatu II;
  12. Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011;
  13. Peraturan Menteri Kehutanan Nomor P.40/Menhut-II/2010 tentang Organisasi dan Tata Kerja Kementerian Kehutanan;
- Memperhatikan** :
1. Berita Acara Hasil Verifikasi Penetapan Areal Kerja Hutan Desa Buat Nomor BA 225/BPS-2/2010 tanggal 13 Agustus 2010;
  2. Surat Dirjen Planologi Kehutanan Nomor S.1072/VII-WP3H/2010 tanggal 30 Desember 2010 perihal Peta Penetapan Areal Kerja Hutan Desa di Kabupaten Bungo Provinsi Jambi.

/MEMUTUSKAN...



**MEMUTUSKAN :**

- Menetapkan** : **KEPUTUSAN MENTERI KEHUTANAN TENTANG PENETAPAN KAWASAN HUTAN LINDUNG SEBAGAI AREAL KERJA HUTAN DESA KAMPUNG SANGI - LETUNG SELUAS ± 1.224 (SERIBU DUA RATUS DUA PULUH EMPAT) HEKTAR DI KECAMATAN BATHIN III ULU KABUPATEN BUNGO, PROVINSI JAMBI.**
- KESATU** : Kawasan Hutan Lindung seluas ± 1.224 (seribu dua ratus dua puluh empat) hektar di wilayah administrasi Desa Kampung Sangi - Letung Kecamatan Bathin III Ulu Kabupaten Bungo, Provinsi Jambi, ditetapkan sebagai Areal Kerja Hutan Desa;
- KEDUA** : Letak dan batas Areal Kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU adalah sebagaimana tergambar pada lampiran Keputusan Menteri ini;
- KETIGA** : Penetapan areal kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU tidak merubah status dan fungsi kawasan sebagai Hutan Lindung (HL);
- KEEMPAT** : Setelah diberikan Penetapan Areal Kerja Hutan Desa, pengelolaan Hutan Desa dilakukan dengan pemanfaatan jasa lingkungan dan pemungutan hasil hutan bukan kayu serta melakukan pengamanan areal kerja Hutan Desa dari perambahan;
- KELIMA** : Penetapan Areal Kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU digunakan sebagai dasar pemberian Hak Pengelolaan Hutan Desa oleh Gubernur Jambi kepada Lembaga Desa sesuai dengan ketentuan Peraturan Perundang-undangan;
- KEENAM** : Dalam pemberian Hak Pengelolaan Hutan Desa sebagaimana dimaksud pada Amar KELIMA, Gubernur Jambi memperhatikan kesiapan Lembaga Desa calon penerima Hak Pengelolaan Hutan Desa;
- KETUJUH** : Lembaga Desa yang telah mendapatkan Hak Pengelolaan Hutan Desa dari Gubernur Jambi sebagaimana dimaksud pada Amar KELIMA wajib menyusun Rencana Kerja Hutan Desa sesuai ketentuan Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011 dan petunjuk pelaksanaannya;

/KEDELAPAN...

- KEDELAPAN** : Dalam penyelenggaraan pengelolaan hutan desa, Gubernur Jambi berkewajiban melakukan sosialisasi, fasilitasi, bimbingan dan pembinaan kepada lembaga desa sesuai ketentuan Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011 dan petunjuk pelaksanaannya;
- KESEMBILAN** : Keputusan Menteri ini mulai berlaku pada tanggal ditetapkan, dan apabila dalam jangka waktu 2 (dua) tahun sejak diterbitkannya Keputusan Menteri ini tidak ada Pemberian Hak Pengelolaan Hutan Desa, maka Keputusan Menteri ini batal dengan sendirinya.

Ditetapkan di : Jakarta

Pada tanggal : 26 September 2011

**MENTERI KEHUTANAN  
REPUBLIK INDONESIA,**

ttd.

**ZULKIFLI HASAN**



Salinan sesuai dengan aslinya  
Kepala Biro Hukum dan Organisasi,

Krisna Rya,  
NIP. 19580730 199003 1 001

Salinan Keputusan Menteri ini disampaikan kepada :

1. Menteri Dalam Negeri;
2. Menteri Pertanian;
3. Menteri Koperasi dan Usaha Kecil Menengah;
4. Menteri Perindustrian;
5. Menteri Lingkungan Hidup;
6. Kepala Badan Pertanahan Nasional;
7. Pejabat Eselon I lingkup Kementerian Kehutanan;
8. Gubernur Jambi;
9. Bupati Bungo;
10. Kepala Pusat Pengendalian Pembangunan Kehutanan Regional I;
11. Kepala Balai Pengelolaan Daerah Aliran Sungai Batanghari;
12. Kepala Balai Pemantapan Kawasan Hutan Wilayah II Palembang.



**Letter of Decision by the Indonesian Ministry of Forestry Approving the establishment of a Village Forest (Hutan Desa) in Senamat Ulu Village**



**MENTERI KEHUTANAN  
REPUBLIK INDONESIA**

**KEPUTUSAN MENTERI KEHUTANAN REPUBLIK INDONESIA**  
NOMOR : SK.360/Menhut-II/2011.

**TENTANG**

**PENETAPAN KAWASAN HUTAN LINDUNG SEBAGAI AREAL KERJA  
HUTAN DESA DUSUN SENAMAT ULU SELUAS ± 1.661  
(SERIBU ENAM RATUS ENAM PULUH SATU) HEKTAR  
DI KABUPATEN BUNGO PROVINSI JAMBI**

**DENGAN RAHMAT TUHAN YANG MAHA ESA**

**MENTERI KEHUTANAN REPUBLIK INDONESIA,**

- Menimbang :
- a. bahwa berdasarkan Pasal 86 ayat (1), Peraturan Pemerintah Nomor 6 Tahun 2007 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan Serta Pemanfaatan Hutan, sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008, Menteri menetapkan Areal Kerja Hutan Desa;
  - b. bahwa berdasarkan Pasal 4 Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa, sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010, kriteria kawasan hutan yang dapat ditetapkan oleh Menteri berada pada kawasan hutan lindung yang belum dibebani hak atau izin dalam pemanfaatan hasil hutan, menjadi sumber mata pencaharian masyarakat setempat dan berada di wilayah administrasi desa yang bersangkutan;
  - c. bahwa berdasarkan Pasal 7 Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa, sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010 dan Keputusan Menteri Kehutanan Nomor SK.76/Menhut-II/2009 tentang Tim Verifikasi Hutan Desa, telah dilakukan Verifikasi Hutan Desa pada Kawasan Hutan Lindung di Kabupaten Bungo, Provinsi Jambi;
  - d. bahwa...

- 2 -

- d. bahwa berdasarkan pertimbangan sebagaimana dimaksud pada huruf a, b dan c, serta memperhatikan hasil verifikasi, perlu menetapkan Keputusan Menteri Kehutanan tentang Penetapan kawasan Hutan Lindung Sebagai Areal Kerja Hutan Desa Dusun Senamat Ulu Kabupaten Bungo Provinsi Jambi Seluas  $\pm 1.661$  (seribu enam ratus enam puluh satu) hektar Di Kabupaten Bungo Provinsi Jambi;

- Mengingat :
1. Undang-Undang Nomor 5 Tahun 1990 tentang Konservasi Sumber Daya Alam Hayati dan Ekosistemnya;
  2. Undang-Undang Nomor 41 Tahun 1999 tentang Kehutanan, sebagaimana telah diubah dengan Undang-Undang Nomor 19 Tahun 2004;
  3. Undang-Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah, sebagaimana telah beberapa kali diubah, terakhir dengan Undang-Undang Nomor 12 Tahun 2008;
  4. Undang-Undang Nomor 26 Tahun 2007 tentang Penataan Ruang;
  5. Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup;
  6. Peraturan Pemerintah Nomor 44 Tahun 2004 tentang Perencanaan Kehutanan;
  7. Peraturan Pemerintah Nomor 45 Tahun 2004 tentang Perlindungan Hutan, sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 60 Tahun 2009;
  8. Peraturan Pemerintah Nomor 6 Tahun 2007 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan, serta Pemanfaatan Hutan, sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008;
  9. Peraturan Pemerintah Nomor 38 Tahun 2007 tentang Pembagian Urusan Pemerintahan Antara Pemerintah, Pemerintahan Daerah Provinsi, dan Pemerintahan Daerah Kabupaten/Kota;
  10. Peraturan Pemerintah Nomor 76 Tahun 2008 tentang Rehabilitasi dan Reklamasi Hutan;

11. Peraturan...

- 3 -

11. Peraturan Presiden Nomor 47 Tahun 2009 tentang Pembentukan dan Organisasi Kementerian Negara;
12. Peraturan Presiden Nomor 24 Tahun 2010 tentang Kedudukan, Tugas, dan Fungsi Kementerian Negara Serta Susunan Organisasi, Tugas, dan Fungsi Eselon I;
13. Keputusan Presiden Republik Indonesia Nomor 84/P Tahun 2009 tentang Pembentukan Kabinet Indonesia Bersatu II;
14. Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa, sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010;
15. Peraturan Menteri Kehutanan Nomor P.40/Menhut-II/2010 tentang Organisasi dan Tata Kerja Kementerian Kehutanan;

- Memperhatikan :
1. Berita Acara Hasil Verifikasi Penetapan Areal Kerja Hutan Desa, Dusun Senamat Ulu, Kabupaten Bungo, Provinsi Jambi Nomor BA.227/BPS-2/2010 tanggal 13 Agustus 2010;
  2. Surat Direktur Jenderal Planologi Kehutanan Nomor : S.1072/VII-WP3H/2010 tanggal 30 Desember 2010 tentang Peta Penetapan Areal Kerja Hutan Desa di Kabupaten Bungo Provinsi Jambi;

#### MEMUTUSKAN :

- Menetapkan :
- KEPUTUSAN MENTERI KEHUTANAN TENTANG PENETAPAN KAWASAN HUTAN LINDUNG SEBAGAI AREAL KERJA HUTAN DESA DUSUN SENAMAT ULU SELUAS ± 1.661 (SERIBU ENAM RATUS ENAM PULUH SATU) HEKTAR DI KABUPATEN BUNGO PROVINSI JAMBI.

- KESATU :
- Kawasan Hutan Lindung seluas ± 1.661 (Seribu enam ratus enam puluh satu) hektar, terletak di Dusun Senamat Ulu, Kabupaten Bungo, Provinsi Jambi, ditetapkan sebagai Areal Kerja Hutan Desa.

KEDUA...



- 4 -

- KEDUA : Areal Kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU adalah sebagaimana tergambar pada peta lampiran Areal Kerja Hutan Desa Dusun Senamat Ulu Kabupaten Bungo, Provinsi Jambi seluas  $\pm 1.661$  (Seribu enam ratus enam puluh satu) hektar skala 1 : 50.000, yang merupakan bagian tidak terpisahkan dengan keputusan Menteri ini.
- KETIGA : Penetapan areal kerja Hutan Desa tidak merubah status dan fungsi kawasan sebagai Hutan Lindung (HL).
- KEEMPAT : Setelah diberikan Penetapan Areal Kerja Hutan Desa, pengelolaan Hutan Desa dilakukan dengan pemanfaatan jasa lingkungan dan pemungutan hasil hutan bukan kayu serta melakukan pengamanan areal kerja Hutan Desa dari perambahan.
- KELIMA : Penetapan areal kerja Hutan Desa digunakan sebagai dasar pemberian Hak Pengelolaan Hutan Desa oleh Gubernur kepada Lembaga Desa sesuai ketentuan Peraturan Perundang-Undangan.
- KEENAM : Dalam pemberian Hak Pengelolaan Hutan Desa sebagaimana dimaksud pada Amar KELIMA, Gubernur memperhatikan kesiapan Lembaga Desa calon penerima Hak Pengelolaan Hutan Desa.
- KETUJUH : Lembaga Desa yang telah mendapatkan Hak Pengelolaan Hutan Desa dari Gubernur sebagaimana dimaksud pada Amar KELIMA wajib menyusun Rencana Kerja Hutan Desa sesuai ketentuan Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010 dan petunjuk pelaksanaannya.
- KEDELAPAN : Dalam penyelenggaraan pengelolaan hutan desa, Gubernur Jambi berkewajiban melakukan sosialisasi, fasilitasi, bimbingan dan pembinaan kepada lembaga desa sesuai ketentuan Peraturan Menteri Kehutanan Nomor P.49/ Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah dengan Peraturan Menteri Kehutanan Nomor P.14/Menhut-II/2010 dan petunjuk pelaksanaannya.

KESEMBILAN...

- 5 -

KESEMBILAN : Keputusan ini mulai berlaku pada tanggal ditetapkan dan apabila dalam jangka waktu 2 (dua) tahun sejak ditetapkannya Keputusan Menteri ini tidak ada pemberian Hak Pengelolaan Hutan Desa, maka Keputusan ini batal dengan sendirinya.

Ditetapkan di Jakarta  
pada tanggal 7 Juli 2011

Salinan sesuai dengan aslinya  
Kepala Biro Hukum dan Organisasi

**MENTERI KEHUTANAN  
REPUBLIK INDONESIA,**



ttd.

**KRISNA RYA, SH.,MH.**  
**NIP. 19590730 199003 1 001**

**ZULKIFLI HASAN**

Salinan Keputusan ini disampaikan kepada Yth. :

1. Menteri Dalam Negeri;
2. Menteri Pertanian;
3. Menteri Koperasi dan Usaha Kecil Menengah;
4. Menteri Perindustrian;
5. Kepala Badan Pertanahan Nasional;
6. Menteri Lingkungan Hidup;
7. Pejabat Eselon I lingkup Kementerian Kehutanan;
8. Gubernur Jambi;
9. Bupati Bungo;
10. Kepala Pusat Pengendalian Pembangunan Kehutanan Regional I;
11. Kepala Balai Pemantapan Kawasan Hutan Wilayah II Palembang;
12. Kepala Balai Pengelolaan Daerah Aliran Sungai Batanghari.

**Letter of Decision by the Indonesian Ministry of Forestry Approving the establishment of a Village Forest (Hutan Desa) in Desa Sungai Telang**



MENTERI KEHUTANAN  
REPUBLIK INDONESIA

**KEPUTUSAN MENTERI KEHUTANAN REPUBLIK INDONESIA  
NOMOR : SK.301/Menhut-II/2012**

**TENTANG**

**PENETAPAN KAWASAN HUTAN LINDUNG SEBAGAI AREAL KERJA  
HUTAN DESA SUNGAI TELANG SELUAS ± 1.000 (SERIBU) HEKTAR DI  
KECAMATAN BATHIN III ULU, KABUPATEN BUNGO,  
PROVINSI JAMBI**

**DENGAN RAHMAT TUHAN YANG MAHA ESA  
MENTERI KEHUTANAN REPUBLIK INDONESIA,**

- Menimbang** :
- a. bahwa berdasarkan Pasal 86 ayat (1), Peraturan Pemerintah Nomor 6 Tahun 2007 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan Serta Pemanfaatan Hutan sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008, Menteri menetapkan Areal Kerja Hutan Desa;
  - b. bahwa berdasarkan Pasal 4, Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana beberapa kali diubah terakhir dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011, kriteria kawasan hutan yang dapat ditetapkan oleh Menteri berada pada kawasan hutan lindung dan hutan produksi yang belum dibebani hak atau izin dalam pemanfaatan hasil hutan, dan berada dalam wilayah administrasi desa yang bersangkutan;
  - c. bahwa berdasarkan Pasal 7, Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah terakhir dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011 telah dilakukan Verifikasi Hutan Desa pada Kawasan Hutan Lindung di Kabupaten Bungo, Provinsi Jambi;
  - d. bahwa berdasarkan pertimbangan sebagaimana dimaksud pada huruf a, b, dan huruf c diatas, perlu menetapkan areal kerja hutan desa pada kawasan Hutan Lindung di wilayah administrasi Desa Sungai Telang Kecamatan Bathin III Ulu, Kabupaten Bungo, Provinsi Jambi dengan Keputusan Menteri Kehutanan;

Mengingat...

- 2 -

**Mengingat**

1. Undang-Undang Nomor 5 Tahun 1990 tentang Konservasi Sumber Daya Alam Hayati dan Ekosistemnya;
2. Undang-Undang Nomor 41 Tahun 1999 tentang Kehutanan sebagaimana telah diubah dengan Nomor 19 Tahun 2004;
3. Undang-Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah sebagaimana telah diubah dengan Undang-Undang Nomor 12 Tahun 2008;
4. Undang-Undang Nomor 26 Tahun 2007 tentang Penataan Ruang;
5. Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup;
6. Peraturan Pemerintah Nomor 6 Tahun 2007 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan, serta Pemanfaatan Hutan sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008;
7. Peraturan Pemerintah Nomor 38 Tahun 2007 tentang Pembagian Urusan Pemerintahan antara Pemerintah, Pemerintahan Daerah Provinsi dan Pemerintahan Daerah Kabupaten/Kota;
8. Peraturan Pemerintah Nomor 76 Tahun 2008 tentang Rehabilitasi dan Reklamasi Hutan;
9. Peraturan Presiden Nomor 47 Tahun 2009 tentang Pembentukan dan Organisasi Kementerian Negara sebagaimana telah diubah terakhir dengan Peraturan Presiden Nomor 91 Tahun 2011;
10. Peraturan Presiden Nomor 24 Tahun 2010 tentang Kedudukan, Tugas dan Fungsi Kementerian Negara serta Susunan Organisasi, Tugas dan Fungsi Eselon I Kementerian Negara sebagaimana telah diubah terakhir dengan Peraturan Presiden Nomor 92 Tahun 2011;
11. Keputusan Presiden Nomor 84/P Tahun 2009 tentang Pembentukan Kabinet Indonesia Bersatu II sebagaimana telah diubah terakhir dengan Keputusan Presiden Nomor 59/P Tahun 2011;
12. Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah terakhir dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011;
13. Peraturan Menteri Kehutanan Nomor P.40/Menhut-II/2010 tentang Organisasi dan Tata Kerja Kementerian Kehutanan;

Memperhatikan...



- 3 -

- Memperhatikan :**
1. Berita Acara Hasil Verifikasi Usulan Penetapan Areal Kerja Hutan Desa di Desa Sungai Telang Nomor BA.215/BPS-3/2011, tanggal 9 November 2011;
  2. Surat Direktur Jenderal Planologi Kehutanan Nomor S.331/VII-WP3H/2012 tanggal 20 Maret 2012 perihal Penyampaian Peta Areal Kerja Hutan Desa di Kabupaten Bungo, Provinsi Jambi;

**MEMUTUSKAN :**

- Menetapkan :** **KEPUTUSAN MENTERI KEHUTANAN TENTANG PENETAPAN KAWASAN HUTAN LINDUNG SEBAGAI AREAL KERJA HUTAN DESA SUNGAI TELANG SELUAS ± 1.000 (SERIBU) HEKTAR DI KECAMATAN BATHIN III ULU, KABUPATEN BUNGO PROVINSI JAMBI.**

- KESATU :** Kawasan Hutan Lindung seluas ± 1.000 (seribu) hektar di wilayah administrasi Desa Sungai Telang Kecamatan Bathin III Ulu, Kabupaten Bungo, Provinsi Jambi, ditetapkan sebagai Areal Kerja Hutan Desa;

- KEDUA :** Letak dan batas Areal Kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU adalah sebagaimana tergambar pada lampiran Keputusan Menteri ini;

- KETIGA :** Penetapan areal kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU tidak mengubah status dan fungsi kawasan sebagai Hutan Lindung;

- KEEMPAT :** Setelah diberikan Penetapan Areal Kerja Hutan Desa, masyarakat Desa Sungai Telang melakukan pengelolaan hutan secara lestari sebagai sumber air, sumber benih, sumber hasil hutan bukan kayu dan sebagai sumber penghidupan masyarakat desa setempat, menjaga keamanan areal Hutan Desa dari perambahan, perladangan berpindah dan penebangan liar serta dilarang melakukan penebangan hasil hutan kayu;

- KELIMA :** Penetapan Areal Kerja Hutan Desa sebagaimana dimaksud pada Amar KESATU digunakan sebagai dasar pemberian Hak Pengelolaan Hutan Desa oleh Gubernur Jambi kepada Lembaga Desa sesuai dengan ketentuan Peraturan Perundang-undangan;

- KEENAM :** Dalam pemberian Hak Pengelolaan Hutan Desa sebagaimana dimaksud pada Amar KELIMA, Gubernur Jambi memperhatikan kesiapan Lembaga Desa calon penerima Hak Pengelolaan Hutan Desa;

KETUJUH...

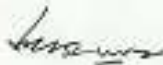


- KETUJUH** : Lembaga Desa yang telah mendapatkan Hak Pengelolaan Hutan Desa dari Gubernur Jambi sebagaimana dimaksud pada Amar KELIMA wajib menyusun Rencana Kerja Hutan Desa sesuai ketentuan Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah terakhir dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011 dan petunjuk pelaksanaannya;
- KEDELAPAN** : Dalam penyelenggaraan pengelolaan hutan desa, Gubernur Jambi berkewajiban melakukan sosialisasi, fasilitasi, bimbingan dan pembinaan kepada lembaga desa sesuai ketentuan Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa sebagaimana telah diubah terakhir dengan Peraturan Menteri Kehutanan Nomor P.53/Menhut-II/2011 dan petunjuk pelaksanaannya;
- KESEMBILAN** : Keputusan ini mulai berlaku pada tanggal ditetapkan, dan apabila dalam jangka waktu 2 (dua) tahun sejak diterbitkan Keputusan ini tidak ada Pemberian Hak Pengelolaan Hutan Desa, maka Keputusan Menteri ini batal dengan sendirinya.

Ditetapkan di : Jakarta  
Pada tanggal : 15 Juni 2012

Salinan sesuai dengan aslinya  
KEPALA BIRO HUKUM DAN ORGANISASI,

**MENTERI KEHUTANAN  
REPUBLIK INDONESIA,**



ttd

KRISNA RYA

**ZULKIFLI HASAN**

Salinan Keputusan ini disampaikan kepada :

1. Menteri Dalam Negeri;
2. Menteri Pertanian;
3. Menteri Koperasi dan Usaha Kecil Menengah;
4. Menteri Perindustrian;
5. Menteri Negara Lingkungan Hidup;
6. Kepala Badan Pertanahan Nasional;
7. Sekretaris Jenderal;
8. Inspektur Jenderal;
9. Direktur Jenderal Bina Pengelolaan Daerah Aliran Sungai dan Perhutanan Sosial;
10. Direktur Jenderal Bina Usaha Kehutanan;
11. Direktur Jenderal Perlindungan Hutan dan Konservasi Alam;
12. Direktur Jenderal Planologi Kehutanan;
13. Gubernur Jambi;
14. Bupati Bungo;
15. Kepala Pusat Pengendalian Pembangunan Kehutanan Regional I;
16. Kepala Balai Pengelolaan DAS Batanghari;
17. Kepala Balai Pemantapan Kawasan Hutan Wilayah II Palembang;
18. Kepala Dinas Kehutanan Provinsi Jambi;
19. Kepala Dinas Kehutanan dan Perkebunan Kabupaten Bungo.

**Letter of Decision by the Indonesian Ministry of Forestry Approving the establishment of a Village Forest (Hutan Desa) in Desa Lubuk Beringin**



MENTERI KEHUTANAN  
REPUBLIK INDONESIA

**KEPUTUSAN MENTERI KEHUTANAN**

**NOMOR : SK. 109/Menhut-IT/2009**

**TENTANG**

**PENETAPAN AREAL KERJA HUTAN DESA PADA KAWASAN HUTAN LINDUNG  
BUKIT PANJANG RANTAU BAYUR SELUAS ± 2.356 (DUA RIBU TIGA RATUS  
LIMA PULUH ENAM) HEKTAR TERLETAK DALAM WILAYAH ADMINISTRASI  
DUSUN LUBUK BERINGIN, KECAMATAN BATHIN III ULU, KABUPATEN BUNGO,  
PROVINSI JAMBI**

**MENTERI KEHUTANAN,**

**Menimbang**

- a. bahwa berdasarkan Pasal 86 ayat (1) Peraturan Pemerintah Nomor 6 Tahun 2007 sebagaimana telah diubah dengan Peraturan Pemerintah Nomor 3 Tahun 2008 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan Serta Pemanfaatan Hutan, Menteri menetapkan areal kerja hutan desa;
- b. bahwa berdasarkan Pasal 4 ayat (1) Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa, kriteria kawasan hutan yang dapat ditetapkan oleh Menteri berada pada kawasan hutan lindung dan hutan produksi yang belum dibebani hak pengelolaan atau izin pemanfaatan, dan berada dalam wilayah administrasi desa yang bersangkutan;
- c. bahwa berdasarkan Pasal 7 Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 dan Keputusan Menteri Kehutanan Nomor SK.76/Menhut-II/2009 tentang Tim Verifikasi Hutan Desa, telah dilakukan Verifikasi Hutan Desa pada Kawasan Hutan Lindung Bukit Panjang Rantau Bayur di Dusun Lubuk Beringin Kecamatan Bathin III Ulu Kabupaten Bungo Provinsi Jambi, yang diusulkan Bupati Bungo dengan surat no. 522/2312/Hutbun tanggal 17 Desember 2008.

- d. bahwa berdasarkan pertimbangan tersebut diatas, dan memperhatikan hasil Verifikasi, dipandang perlu menetapkan Keputusan Menteri Kehutanan tentang Penetapan Areal Kerja Hutan Desa pada Kawasan Hutan Lindung Bukit Panjang Rantau Bayur seluas  $\pm 2.356$  (dua ribu tiga ratus lima puluh enam) hektar terletak dalam wilayah administrasi Dusun Lubuk Beringin, Kecamatan Bathin III Ulu, Kabupaten Bungo, Provinsi Jambi.

#### Mengingat

1. Undang-Undang Nomor 41 Tahun 1999 tentang Kehutanan sebagaimana telah diubah Nomor 19 Tahun 2004;
2. Undang-Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah;
3. Peraturan Pemerintah Nomor 6 Tahun 2007 sebagaimana telah diubah dengan Peraturan Pemerintah No 3 Tahun 2008 tentang Tata Hutan dan Penyusunan Rencana Pengelolaan Hutan, serta Pemanfaatan Hutan;
4. Peraturan Pemerintah Nomor 38 Tahun 2007 tentang Pembagian Urusan Pemerintahan antara Pemerintah, Pemerintahan Daerah Provinsi dan pemerintahan Daerah Kabupaten/Kota;
5. Peraturan Pemerintah Nomor 76 Tahun 2008 tentang Rehabilitasi dan Reklamasi Hutan;
6. Keputusan Presiden Nomor 187/M Tahun 2004 tentang Pembentukan Kabinet Indonesia Bersatu sebagaimana telah beberapa kali diubah terakhir dengan Nomor 31/P Tahun 2007;
7. Peraturan Presiden Republik Indonesia Nomor 9 Tahun 2005 tentang Kedudukan, Tugas, Fungsi, Susunan Organisasi, dan Tata Kerja Kementerian Negara Republik Indonesia sebagaimana telah beberapa kali diubah terakhir dengan Nomor 90 Tahun 2006;
8. Peraturan Presiden Nomor 10 Tahun 2005 tentang Unit Organisasi dan Tugas Eselon I Kementerian Negara Republik Indonesia sebagaimana telah beberapa kali diubah terakhir dengan Nomor 17 Tahun 2007;

9. Peraturan Menteri Kehutanan Nomor P.12/Menhut-II/2005 tentang Organisasi dan Tata Kerja Departemen Kehutanan sebagaimana telah beberapa kali diubah terakhir dengan Nomor P.64/Menhut-II/2008;

10. Peraturan Menteri Kehutanan Nomor P.49/Menhut-II/2008 tentang Hutan Desa.

Memperhatikan Benda Acara Hasil Verifikasi Penetapan Hutan Desa No. BA 15-BPS-3/2009 tanggal 10 Maret 2009.

#### MEMUTUSKAN :

Menetapkan :

- KESATU : Menetapkan Areal Kerja Hutan Desa pada Kawasan Hutan Lindung Bukit Panjang Rantau Bayur seluas ± 2.356 (dua ribu tiga ratus lima puluh enam) hektar terletak dalam wilayah administrasi Dusun Lubuk Beringin, Kecamatan Bathin III Ulu, Kabupaten Bungo, Provinsi Jambi.
- KEDUA : Lokasi kawasan hutan desa sebagaimana dimaksud amar PERTAMA adalah sebagaimana terlukis pada peta lampiran Keputusan ini.
- KETIGA : Penetapan Areal Kerja Hutan Desa sebagaimana amar PERTAMA tidak merubah status dan fungsi kawasan sebagai Hutan Lindung.
- KEEMPAT : Penetapan Areal Kerja Hutan Desa sebagaimana amar PERTAMA digunakan sebagai dasar Pemberian Hak Pengelolaan Hutan Desa oleh Gubernur kepada lembaga desa Lubuk Beringin, Kecamatan Bathin III Ulu, Kabupaten Bungo Provinsi Jambi sesuai ketentuan peraturan perundang-undangan.
- KELIMA : Dalam pemberian hak pengelolaan hutan desa, Gubernur berpedoman pada Peraturan Menteri Kehutanan No. P. 49/Menhut-II/2008 tentang Hutan Desa dan petunjuk pelaksanaannya.

## Annex 8: Evidence of Participation

The project has gone through an elaborate participatory process over the past year in preparing for the REDD project. Representatives from all five participating communities gathered for a series of planning activities in 2014-2015 including:

- September 2014 - REDD Awareness Meeting
- November 2014 - Carbon Accounting Meeting
- December 2014 - Meeting of Village Forest Council Heads and Members to Approve the REDD Project
- January 2015 - Village Forest Management Planning Meeting
- March 2015 - PRA and Sketch Mapping Meetings

Video of these activities are shown below:

Community Carbon - The Village Forest of Bujang Raba

[https://www.youtube.com/watch?v=cuL\\_jOc\\_EdY](https://www.youtube.com/watch?v=cuL_jOc_EdY)

Photos of these activities are shown below:

**REDD+ Awareness Meeting, September 2014 (Photo: Fredi)**





**Forest Carbon Modelling Meeting, November 2014 (Photo: Dinaldi)**



**Village Forest Management Planning Meetings, January 2015 (Photo: Fredi Yusuf)**





**PRA Meeting, March 2015 (Photo: Fredi Yusuf)**





**Sketch Maps of Dusun Buat, March 2015 (Photo: Fredi Yusuf)**

