

The Bujang Raba

The Community PES Project

Annual Report Update 2020



Reporting Period: 2020
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Annual Report Part

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1. SUMMARY

Reporting period	2 years 2018: 01.01.2018 – 31.12.2018 2019: 01.01.2019 – 31.12.2019
Geographical Area	Bujang Raba Landscape, Bungo District, Jambi Province
Technical specifications in use	Avoided deforestation (REDD+)

Project indicators	Historical	Added/ Issued this period (2018- 2019)	Total
No. smallholder households with PES agreements	n/a	n/a	n/a
No. community groups with PES agreements (where applicable) by Dec 2014	5	-	5
Approximate number of households (or individuals) in these community groups	934 household (3,652 individuals)		934 household (3,652 individuals)
Area under management (ha) where PES agreements are in place	5,339 ha	-	5,339ha
Total PES payments made to participants (USD)	n/a	n/a	n/a
Total sum held in trust for future PES payments (USD)	n/a	n/a	n/a
Allocation to Plan Vivo buffer to date	37,913	18,956	56,869
Unsold Stock at time of submission:			
2014	2,441		
2016	18,477		
Saleable Emissions Reductions achieved (tCO ₂)	151,640	75,820	227,460
Plan Vivo Certificates (PVCs) requested for issuance this reporting period	40,000		

tCO2 available for future issuances	
2014	32,910
2015	32,910
2018	0
2019	35,820
	101,640

PART A Key Events, Success and Challenges

A1. Key Event

In 2018, plenty of activities have been undertaken in Bujang Raba community. The activities are focused on community livelihoods- and business model, and capacity building of local institutions, such as forest patrol training, and re-structuring the management staff of the village forest council. Moreover, the project also promotes the micro spatial plan online, which contains the data of social and spatial in the village. This data will be used as a reference for development plan in the village. In this period, 5 village communities in Bujang Raba get benefit from the project.

In the beginning of 2018, Bujang Raba made its first sale supported by Zeromission. The total of carbon sales was 6,009 ton CO2e. It was disbursed for 5 main component activities such as 1) institutional capacity of village forest management group, 2) promoting economic and livelihood, 3) supporting scholarship package for students and healthy program, 4) forest patrol, and 5) forest enrichment

Since this is the first model of results-based payments from community initiatives (Community REDD+) in Indonesia, many people want to learn more about this case study, particularly in terms of managing forest sustainably, safeguards implementation and mechanisms for benefit sharing. Furthermore, Bujang Raba became a role model for other village forest management groups in Indonesia. More and more community group visit and learn from the local people of Bujang Raba about forest management. Meanwhile at national and international level, WARSI is actively engaging in promoting Bujang Raba as a pilot project for adaptation and mitigation of climate change in Indonesia. Some important events are described as follow

a. Developing online micro spatial data as guideline for village management plan

The original objective was for the Bujang Raban community to obtain secure tenure rights for their forest lands. Since hutan desa status has been achieved, the project is now focused on incentivising sustainable practices by generating payments for the ecosystem services that the community is providing. Recently some villages have developed micro-spatial plans, which link development plans with socio-economic data, to serve as a guideline for village authorities.

These are the example of micro spatial data in 5 Villages in project area :

<http://lubukberingin.sim-desa.com/> : online data of Lubuk Beringin village

<http://buat.sim-desa.com/> : online data of Muara buat village

<http://muarabuat.sim-desa.com/> : online data of micro spatial plan of Muara Buat village

<http://sungaitelang.sim-desa.com/> : Online data of micro spatial plan of Sungai telang village

<http://senamatulu.sim-desa.com/> : online data of micro spatial plan of Senamat ulu



Figure 1 Input data village online

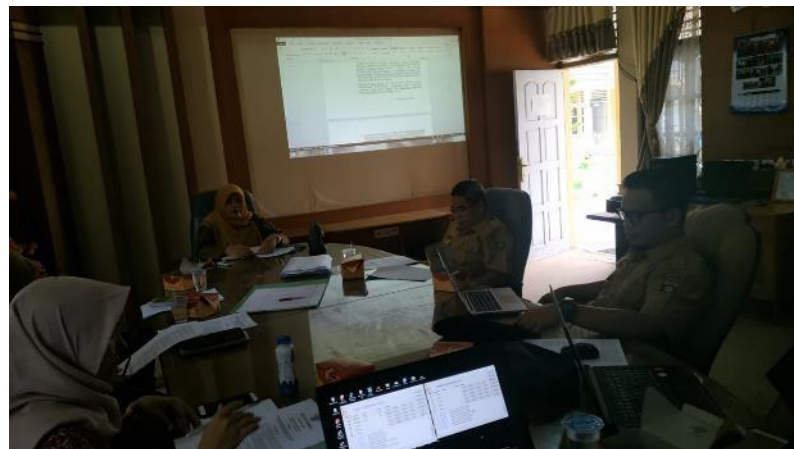


Figure 2 Discussion with regional development planning agency about the village online



Figure 3 FGD for building database of micro spatial plan at regional development agency office

b. Re-structuring the village forest council

In 2018, 3 village forest management groups held restructurisation by electing new members as part of management village forest council. Some people who sat in the village forest council moved to other place or inactive in the organization. The new structure of village forest council has been formulated. With facilitation of KKI WARSI, village forest council member has designed annual workplans for village forest management plan. In

this period, the village council also discussed the program for carbon fund disbursement and its beneficiaries.

c. Benefit sharing from Bujang Raba carbon sales

1. Health and education program. Health program is focus on providing free circumcision for 5 villages. For moslem having circumcision is a compulsory for a boy. This program has providing at least 60 boys and another 100 primary student to get scholarship package to school, such as books, bags pencils, pens, socks and so on,



Figure 4 circumstition for boys

2. Forest enrichment : seeds nursery

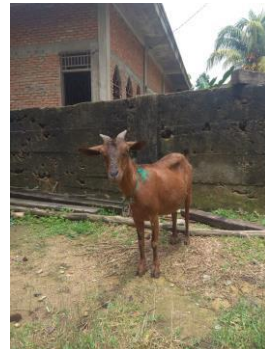
Sungai Telang village is developing seeds nursery for coffee (10,000 units) and areca nut (5,000 units) in Sungai Telang village. The seeds will be distributed to villagers to enrich the community garden. The areca nut will be planted surrounding the community garden as a fence.



*Figure 5 Coffee nursery in Sungai Telang Village,
from Carbon credit money*

3. Improving economic and livelihood : Cows and goats breeding

Integrated goats and cows breeding with the farming system. In Senamat Ulu village is breeding 3 cows. In Sangi letung, 12 goats has been distributed to the villages to be bred. The system will be passed over to other person once the goat has a baby. The community can use the manure of goats and cows for organic fertilizer in their farming.



4. Training and capacity building for forest patrol

Each of the village forest has regular forest patrol at least 2 times a year. The local community has been trained by WARSI staff for doing forest patrol and data input. In some case, the activity of forest patrol is back to back event with survey potency and setting up camera trap in the forest.



5. National and international event

KKI WARSI is actively promoting the lesson learned in Bujang Raba both at national and international level. This is an example of the first community REDD+ project in Indonesia who get international support through voluntary market carbon mechanism.

Bujang Raba project got positive reaction. Some people think that this is really good idea to support local communities with money from carbon sales and this is part of environmental services given to local community. On the other side, some people believe it needs to be regulated by the state, since Indonesia has target reduction emission in NDC.



6. Empowering women with economic activities

Promoting local product such as Galamai, made of sticky rice mix with brown sugar. Galamai is traditional food for people in Bujang Raba. It cooks only on special occasion, such as after Eid Mubarak. Galamai has been marketed into nearby stores in the Bungo district.

Women group also developing innovation on the product, start from the packaging until the strategy to marketing it, not only at the local market but also in to the store in the capital district.



7. Filming Bujang Raba PES Project

To do promotion for the Bujang Raba PES project, Zeromission collaborated with Ivar studio making the film of Bujang Raba, covering the daily activity in the Bujang Raba and recorded sound of animals in the forest. See the link

<https://www.youtube.com/watch?v=8VRnFuxq43Y>

Here are the examples of documentation.



2. Key success and Challenge

During 2 years the periode of the report, we found some keys success and challenge as follow:

- a. By receiving PES fund, local community aware that, what they have been done to protect the forest has been recognized by international community and even awarded. It has

increased their motivation to keep adopting sustainable practices; the project has provided the capacity and funding to enable them to do so.

- b. Zeromission has committed to purchase credits from the Bujang Raba project. PES schemes offer a source of revenue to fund awareness-raising, monitoring and development of alternative livelihoods. They can also support land-use planning. With the right enabling factors, PES could complement value chain development and public funding for land tenure security within a landscape-level approach to address deforestation risk and promote sustainable management of natural resources.
- c. There is a lack of government support for voluntary carbon markets under REDD+ in Indonesia and the low price for carbon remains a challenge.
- d. It is not always possible to find strong leadership and cohesion in every community. There is potential for political and internal conflict, and a risk that expectations of compensation and any significant new income streams could prompt elite capture, distort decision-making and attract external interests seeking to capture a new resource. The project is promoting internal mechanism within the Village forest group, to make accommodate the valuable input of various stakeholder in the village.
- e. Other villages have been granted Hutan Desa status but have not been successful in protecting forests. They have less community cohesion; the collective agreement has not been adhered to and land has been sold to outsiders. Villagers have also been reluctant to abandon traditional slash and burn cultivation. This suggests that land tenure security is not sufficient by itself, and that the additional capacity-building and funding provided in the Bujang Raba project were needed to drive uptake of sustainable practices and strengthen institutions to the point of preventing deforestation. Peer-to-peer exchange at community level between different social forestry schemes and village councils could help to resolve obstacles and support sustainable practices on a larger scale.

A3 Project developments

During the socialization process of carbon certification and REDD+, WARSI got a lot of input regarding to the benefit distribution mechanism, and how to cover more beneficiaries in the village. In that event, 5 villages in Bujang Raba and Warsi signed the MoU that WARSI as the project developer of the community carbon and Village forest Forum in Bujang Raba as the representative of the 5 villages. Th

At community level, there has been a lot of capacity building to train communities in carbon accounting so they can monitor progress independently. Together with WARSI, a monitoring system has now been developed (see Annex I-II).

For WARSI, this is an opportunity to showcase sustainable forest management conducted by the community and supported with qualitative and quantitative data.

Moreover, the Bujang Raba community has become a role model for sustainable forest management and REDD+ across Indonesia as the government is currently deliberating whether to adapt the monitoring system established in Bujang Raba for 5 further village forests in Bungo district.

Part B: Project activities

B1. Project activities generating Plan Vivo Certificates

Table B1: Project activity summary

Name of technical specification	Area	No smallholder	No Community
REDD+	5,336		5 villages

1. Forest Patrol

Every 6 months, forest rangers in each of the village of Bujang Raba conduct a forest patrol. The objective of the patrol is not only to monitor the forest area, but also to monitor biodiversity and NTFP. The patrol team consists of 4 people, equipped with GPS. In 2018-2019, it was found that a *Kedondong Hutan* (genus *Dacryodes*) was cut by a chain saw by an illegal logger. However, since the tree is spongy, the tree was left behind.



picture 2. Tree cut by illegal logger was abandoned.



picture 3. Forest Patrol is taking a rest in Sungai Telang village forest.

Apart from that, the patrol didn't register any other significant impacts on the forest. In terms of biodiversity, the forest patrol team found the feather of a Kuau bird (marga *Argusianus*) and the foot print of deer (genus *Muntiacus*).



Picture 4: one of the giant tree in the forest



Picture 5: falling tree

The forest patrol team also found significant NTFP locations, such as Sialang tree (Honey) and rattan (lots of rattan sources)



Picture 6: Sialang tree, potency of honey



Picture 7: rattan

2. Agroforestry: 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 coffee and areca trees. The agroforestry system



enable community to improve the quality of the forest in one hand and to improve alternative income aside from rubber, such as cocoa, cardamom, dragon blood, etc. Local community has developed seeds nursery for 5,000 areca nut and 10,000 of coffee. These plants will be

distributed to the local community. They must prepare and clean the land before the seeds area distributed.

Figure 6 fill the polibag



Figure 7 few months later...

3. Establishing community culinary business from NTFP

A microenterprise run by women, are using “Beluluk or Kolang Kaling” as a local traditional delicacy.

In the past, Beluluk sells directly to local trader.



Fruits of brown sugar



It washes properly



give sugar and colour

“Gelamai” is a traditional food from the Bathin Tiga Ulu community, made of sticky rice and brown sugar. It takes a while to mix until it becomes sticky and can be stored in bamboo. The food has been marketed to a local souvenir shop in Bungo.



The process of cooking



Gelamai in souvenir shop



The packaging of Gelamai

B2 Project activities in addition to those generating Plan Vivo Certificates

- Ecotourism: Local tourists from the district capital in Bungo are visiting the area, drawn by its 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. The community will generate income by providing visitors with guide services, food, and lodging.
- Sales of handicrafts/NTFP: The project also generates income by selling handicrafts and other NTFP, securing a diverse income stream for the local communities.



- Training sustainable rattan

In Bujang Raba landscape, we can find variety of rattan. In the periode of 2017 - 2018 local community managed the rattan and sold it to the exporter company in Java. However it stopped, cause they margin for selling the rattan is very low. Most of rattan which has been harvested by local community did not meet the demand of the market. The local community do not have enough capacity to select the best rattan and how to harvest sustainably. In 2019, project provided training for sustaible rattan with the total of 43 participants .



Part C: Plan Vivo Certificate issuance submission

C1. Contractual statement

This issuance is based on signed PES agreements with participants complying with all the minimum requirements states in these agreements.

C2 Issuance request

Table C1: Historical Analysis of PVCs available for issuance

Vintage	Area (ha)	Tech. Spec	tCO2 available from previous periode	Total tCO2 achieved this period*	% buffer	No. of PVCs allocated to the buffer account	Saleable PVCs
2014	5,336	REDD+	0	47,388	20%	9,478	37,910
2015	5,336	REDD+	0	47,388	20%	9,478	37,910
2016	5,336	REDD+	65,820	47,388	20%	9,478	37,910
2017	5,336	REDD+	103,730	47,388	20%	9,478	37,910
2018	5,336	REDD+	141,640	47,388	20%	9,478	37,910
2019	5,336	REDD+	141,640	47,388	20%	9,478	37,910
TOTAL	5,336			189,552	20%	56,868	227,460

Table C2: Issuance Request for reporting period 01/01/2018 – 31/12/2018 and 01/01/2019 – 31/12/2019

Vintage	Area (ha)	Tech. Spec	tCO2 available from previous periode	Total tCO2 achieved this period*	% buffer	No. of PVCs allocated to the buffer account	Saleable PVCs	No. PVCs requested for issuance from saleable	tCO2 available for future issuances
2018	5,336	REDD+	0	47,388	20%	9,478	37,910	37,910	0
2019	5,336	REDD+	0	47,388	20%	9,478	37,910	2,090	35,820
TOTAL	5,336		0	94,776	20%	18,955	75,820	40,000	35,820

Available for issuance

2014	32,910 tCO2
2015	32,910 tCO2
2018	0 tCO2
2019	35,820 tCO2
TOTAL	101,640 tCO2

Table C3: Allocation of issuance request

Buyer name/ Unsold Stock	No. PVCs transacted	Markit ID (if available)	Tech spec
KKI WARSI	40,000	10400000011691	REDD+
TOTAL	40,000		

C3 Data to support issuance request

Please refer to Section E1 and Annex 1.

Part D: Sales of Plan Vivo Certificates

D1: Sales of Plan Vivo Certificates

Table D1: Sales of Plan Vivo Certificates

Vintage	Buyer	No of PVCs	Price per PVC (\$)	amount of total sale	Price to participants	% Sale price received by participants
2014	Zeromission	6,009				70%
2015	Zeromission	470				70%
2015	C level	80				70%
2016	Zeromission	7843				70%
2017	Zeromission	50,000				70%
TOTAL		64,402				70%

D2: UNSOLD STOCK AVAILABLE FOR SALE

Table D2: Unsold stock of Plan Vivo Certificates

E1: Monitoring Results

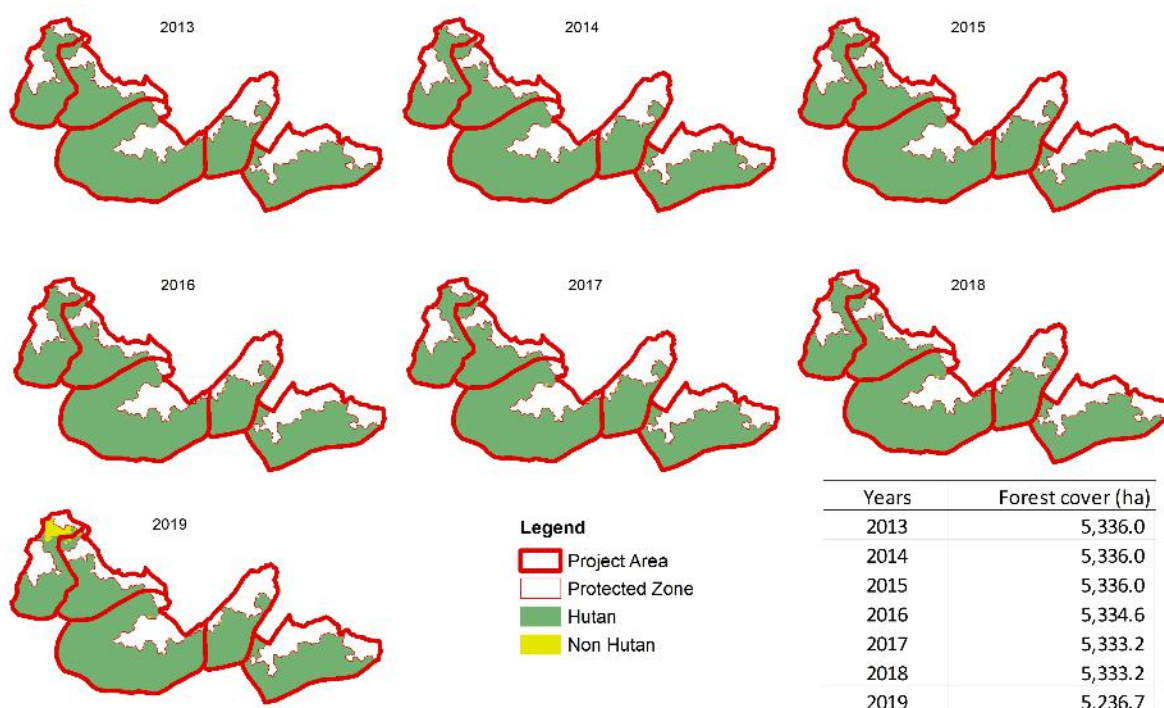
Activity	Activity Indicator (measure annually)	Annual Targets		
		Target	Results	Mitigating Actions if applicable
Forest Carbon Stock Monitoring	Remote Sensing of Project Area	Annually	Carried out in 2018 - 2019 with satellite image detected no deforestation in the project area	n/a forest patrol
	Remote Sensing of Project Area	Annually	Carried out in 2019 It was detected the forest fire occurred in Sungai Telang Village.	Give police line by the police. Police are searching for the executor of forest fire.

	Fixed point photography taken by community members	Every 2 years	on the document	Take the same spot for photo point
Forest Condition	Patrols carried out by community	2 -3 times per year (2 per community)	each of the village	
	Slash-and-burn area for new agroforestry plots	<3.95 ha	0 ha for slash-and-burn agriculture because community are intensifying own agricultural land with agroforestry techniques	
	Illegal Logging in Project Area	1-10 felled trees	1 felled tree, but wasn't taken out the project area	
	Logging and/or Forest Clearance in Leakage Zone	0 ha	0 ha	
Land Use Change Monitoring	Land cleared for agroforestry in the forest	0 ha cleared	0 ha	
	Land cleared for smallholder oil palm plantations	0 ha cleared	0 ha	
Biodiversity Monitoring	Biodiversity Surveys and photography	annually	attached	
Water Availability	Monitoring of water supply to generate micro hydro power, clean drinking water, agricultural irrigation	Continuous water supply	Water has been continuously provided and there was no limited availability	
Socio-economic Monitoring	Establishment and access to nurseries for marginalized people	Access for 50 people in 5 village forest areas		
	Trainings delivered to the communities	10 trainings	10 trainings were delivered on forest patrolling for 5 villages (2 per	

			village for 35 people). 1 training for 30 people was carried out on how to establish a cacao and dragon blood nurseries and how to care for agroforestry	
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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.

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.



Based on the analysis satellite image for the periode of 2019 there was forest fire occurred in one of the village in Bujang Raba landscape. It is accounted that 97 ha forest has been fired. It occurred in September 2019, where extream dry season in Jambi. Forest fire is not only occurred in this area but also other part of provinsi in Indonesia. Actually the local community has the early warning system to extinguish the fire, due to the difficult acces which is hilly and steep and the situation of fire was spreading fast, as a result the the local community and forest management unit from Bungo District were not able to stop it. The police set up the police line on the location of forest fire and investigate the actor of forest fire. Someone suspect from the village has escaped and on put on the list of investigation. On the community level, it was agreed that the location of forest fire will not open for plantation, it wil keep grow naturally become forest.

KKI WARSI has analized the impact of forest fire on the project area with the baseline, project scenario and the progress of the project. According to the calculation table 1, the progress/the efforts to prevent the deforestation and forest degradation is higher than project scenario (namely only 75%). It means the emission reduction is fulfilled the target.

Based on the table E1 column 4, forest cover based on the baseline year 0 (2013), the forest cover can be prevented was 98.14%. But if we refers to the % forest cover on project scenario (column 5) every year people are able to prevent deforestation more that 100%, it means that progress of Bujang Raba to reduce emission (75%) surpass the target. The projection to reduce emission for 75% has been discussed thoroughly to anticipate something out of their control.

If we can make simulation on the graph 1, we can conclude that :

1. The progress line of reduction emission /deforestation is above the project scenario line. So the project achievement is still surpass the target.
2. If progress line of reduction emission /deforestation is below the project scenario line, so the achievement of the project is less then the numver of carbon credit will depleted.
3. If the progress line of reduction emission /deforestation below baseline line, so the achievement of the project is consider fails.
4. At this time, the progress of reduction emission /deforestation is relatively decreasing, however it has not touch the project scenario line (still above it), it firmly believe that it still fulfil the target.

Table E2

1	2	3			4	5
Year to	Year	Forest cover (ha)			% forest cover can be prevented based on the total of forest area 0 (2013)	% forest cover can be prevented based on the project scenario.
		3a	3b	3c		
		Baseline	Project Scenario (75%)/projection forest cover can be prevented	Progress/achievement		
0	2013	5,336	5,336	5,336.0	100.00%	100.00%
1	2014	5,251	5,315	5,336.0	100.00%	100.40%
2	2015	5,167	5,294	5,336.0	100.00%	100.80%
3	2016	5,084	5,273	5,334.6	99.97%	101.17%

4	2017	5,003	5,253	5,333.2	99.95%	101.53%
5	2018	4,923	5,233	5,333.2	99.95%	101.92%
6	2019	4,844	5,213	5,236.7	98.14%	100.46%
7	2020	4,766	5,194			
8	2021	4,690	5,175			
9	2022	4,615	5,156			
10	2023	4,541	5,137			

Graph 1 : The baseline, project scenario and progress of forest cover in Bujang Raba landscape

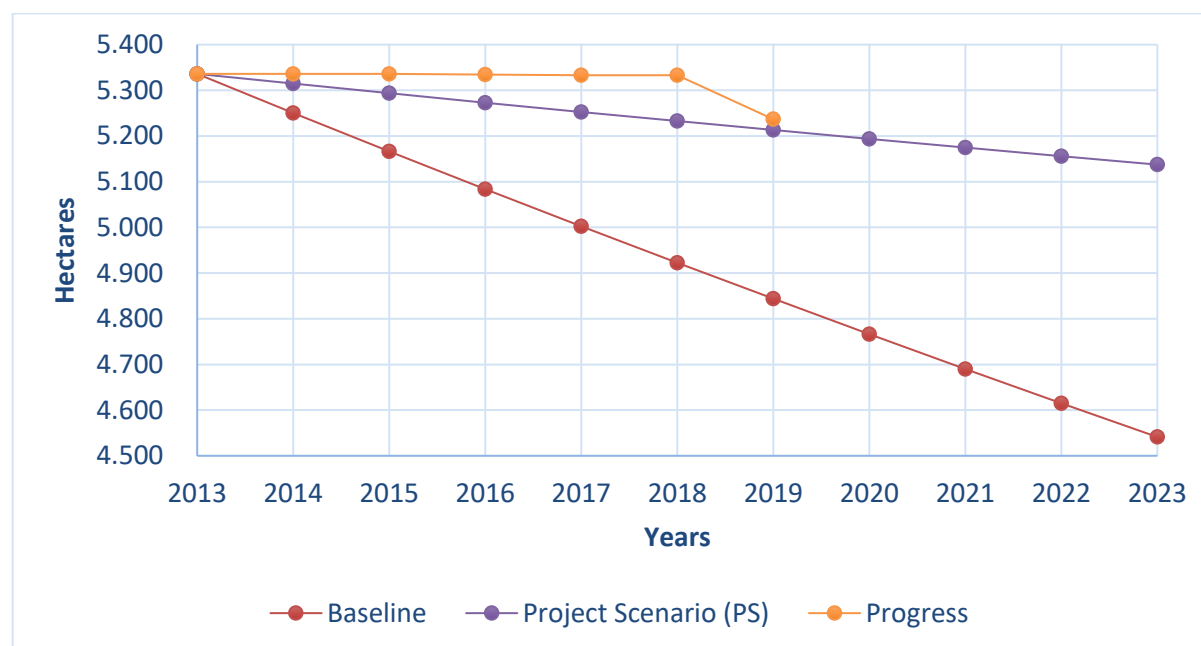


Table E2: Annual Thresholds and Targets for Project Performance Monitoring based on total of deforestation

Year to	Year	Target forest can be prevented (ha)	Target the probability deforestation (ha)	Actual measured deforestation
0	2013	5,336	-	
1	2014	5,315	85	0
2	2015	5,294	169	0
3	2016	5,273	252	1.4
4	2017	5,253	333	2.8
5	2018	5,233	413	2.8

6	2019	5,213	492	99.3
7	2020	5,194	570	
8	2021	5,175	646	
9	2022	5,156	721	
10	2023	5,137	795	

The table shows the target of deforestation of the project over the actual measured deforestation. The project is quite succeeded to prevent deforestation from year 0 to year 2. The deforestation occurred in year 3 and 4, but the number is very small compared to the probability of the target. Hence in year 4 to 5 deforestation can be prevented into zero. However in 2019, due to the dry and hot season, the forest fire occurred and it was very hard to put the fire off, it has burned 96,5 ha of forest area in Bujang Raba.

For the last two years, forest patrol was conducted at least 5 times forest patrol in 5 village forest, as

follows:

Date	Activity	Result
Des 2018 (forest patrol)	Forest patrol and biodiversity study	<ol style="list-style-type: none"> 1. Forest cover is good 2. No illegal logging 3. No forest encroachment, illegal logging and poaching
Forest patrol and Setting Camera trap (Juli 2019)	Potency of the animals in the forest	<ol style="list-style-type: none"> 1. Checking the location 2. Setting the camera
Forest patrol and Checking camera trap	Change battery and check the result- transfer to memory card	<ol style="list-style-type: none"> 1. Documenting the photo of camera trap 2. Analyze the photo 3. 2 units camera trap was not function.

Forest patrol Setting off the camera trap (Des 2019)	Removed the camera trap	Documented the photo
Forest patrol and study for rattan resources (Dec 2019)	Checking the resources and availability of rattan in the village forest area	<ol style="list-style-type: none"> 1. setting the GPS location of rattan 2. Calculation the number of rattan 3. Analyse the quality of the rattan

It should be noted that local people are directly involved in forest monitoring and report incidents to the forest monitoring teams in real-time.

The project has developed a new and improved monitoring framework which will be implemented during the course of 2017 and which will be reported against in the next Annual Report (see Annex 2 and 3).

E2: Maintaining commitments

No community group resigned from the project within the reporting period.

E3: Additional monitoring

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 summarised in annex 3.

At this time, 3 women cooperatives have been established in the Bujang Raba Community. These cooperatives run micro enterprises dealing with traditional food, handy craft and credit unions. Even though these businesses are small-scale, the women participate actively and effectively in decision making. In the future, they hope their small organization can contribute to family income. In terms of handy craft products, the experience has been shown that the demand of the handy craft product is quite often in the local market, however their production is limited because women groups only make handy crafts in their spare time.

There has also been a focus on some NTFP commodities, which have been planted for the last two years, as follows:

Table E3: NTFP commodities

No	NTFPs	Number of seeds	Number of seeds in the polybag	Life-roll
1.	Dragon blood	100	100	100
2.	Cocoa	13,125	13,125	3,000
3.	Rubber	32,000	15,000	
4.	Cardamom	1,000	-	800
4.	Coffee	10,000	10,000	7,000
5.	Areca nut	5,000	5,000	3,000
	Total	61,225	43,225	13,900

At this time, the average production of rubber in Bujang Raba is 700 kg per month and the total of cacao is 25 kg per month. Cocoa is a new commodity grown by local community. Right now the total of seed nursery for cocoa is increasing gradually. Hopefully for coming years, cocoa will be alternative income for local community besides rubber. For the period of 2019, local community in Sungai Telang started to plant coffee and areca nut. In the past local farmer had ever developed the coffee and they changed into other commodity. Areca nut will be planted surrounded coffee as the fence of the plantation.

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. Please see the annex 4 for details.

Of the past two years, it has been observed that there are 57 type of birds found in protected forest of Bujang Raba, 25 families outside the forest area. It is also noted that 33 species are categorised as having high conservation values as defined by CITES and IUCN. Other species in the area include the Sumatran tiger, bear, and tapir.

Part F: Impacts

F1: Evidence of outcomes

Some of the impacts and outcomes of this project can be seen on this link here:

<https://youtu.be/QrbSHugV6RU>

<https://youtu.be/fXeG3h8KX8I>

Publications endorsing the Bujang Raba projects :

Belajar dari Bungo : Mengelola Sumber daya alam di era desentralisasi(Learning from

Bungo : Natural resource management in decentralization era)

(CIFOR:2008).http://www.cifor.org/publications/pdf_files/Books/BAdnan0801.pdf

Part G: Payments for Ecosystem Services

G1: Summary of PES by year

Table G1: Summary of payments made and held in trust

1. Reporting year (mm/yy – mm/yy)	2. Total first year payment	3. Total ongoing payments	4. Total payments made (2+3)	5. Total payments held in trust	6. Total payments withheld
No payments					
2018	18,000		18,000		0
2019	18,000		18,000		0
TOTAL	36,000		36,000		0

Part H: Ongoing participation

H1: Recruitment

No further communities have been recruited in the reporting period.

H2: Project Potential

No further communities are currently on a waiting list to join the project.

H3: Community participation

The community is actively involved in all stages of the project. Over the 2 year reporting period, the project held more than 30 community meetings. The local community in Bujang Raba take active and effective participation in designing and implementation the project. Some activities are related to protection of village forest, institutional strengthening and improving economic livelihood and they are described as follows:

No	Activity	Location
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1.	<p>GPS training and forest patrole with local cadres.</p> <p>Objective:</p> <ol style="list-style-type: none"> 1. Preparing local cadre to use GPS for Mapping, forest patrol, etc. 2. Capacity building 3. data collection and data entry 	<p>Sangi Letung, Dusun Buat, Senamat Ulu, Lubuk Beringin and Sungai Mengkuang Kecil</p>
2.	<p>Facilitation for 3 women group develop small business</p> <ol style="list-style-type: none"> 1. Training harvesting and processing coffee. 2. Training making local food from forest resources. 3. Linking to local store to market the product 4. Managing financial and administration report. <p>Objective: the women group would have a media to have discussion and improve their capacity building in organization; find alternative income to improve economic livelihood.</p>	<p>Dusun lubuk Beringin, Dusun Senamat ulu and Kampung Sungai Mengkuang Kecil, Dusun Laman Panjang</p>
3.	<p>Training sustainable rattan</p> <p>Local community learned how to harvest rattan sustainably without cutting the tree</p> <p>Local community learned how to choose the best rattan to be harvest and let the small one</p>	<p>Dusun senamat 5 villages in Bujang Raba</p>
4.	<p>Forest Patrol</p> <ol style="list-style-type: none"> a. Forest guard anda monitoring b. Identify the potency in the forest c. Documenting the condition of the forest 	<p>Kampung sangi letung dusun buat, senamat ulu, and lubuk beringin</p>

5.	Try out benefit sharing mechanism from WARSI. Objective : <ol style="list-style-type: none"> 1. Encourage the village forest management group to decide their priority plans for village forest 2. After that, the village forest apply small proposal to implement village forest management plans. 3. There were 3 mains activities: capacity building, Institutional strengthening, and seeds nursery to rehabilitate degraded land surrounded village forest. 4. Identify the beneficiaries based on some indicators. 	Kampung sangi sungai letung dusun buat.
6.	FGD for Community PES Project	5 village forests
	Initiated by Village forest form which consist of the representation of 5 village forest in Bujang Raba, the forum try to figure out the priority plans for community PES project. At the meeting, WARSI also presented the study of carbon accounting to community, so the village forest groups are really aware the richness of their village forest. WARSI also give brief introduction about the mechanism of PES Project, including kind of incentives and how it is distributed proportionally.	in Bujang Raba.
7.	Participatory village forest boundaries Identify the boundaries between the village forest and the community's plantation Identify the core zone and utilization zone in the project area.	Kampung sungai mengkuang kecil dusun laman panjang
8.	Establish incensive Mechanism among the villages Agreement they system of intensive over the carbon credit among the village. It was agreed to distributed the incentive from carbon equally.	5 Village in Bujang Raba

Part I: Project operating costs

I1: Allocation of costs

Expense	Narrative	Amount US\$	Contribution from sale of PVCs	Contribution from other sources
Monitoring Staff	Technicians and Field workers undertaking monitoring	3,000	8.1%	
Operational	Training on forest Nursery	3,000	8.1%	
	Building nursery plot	3,000	8.1%	
	Tree distribution	4,000	10.1%	

	Strengthening women cooperative by management and finance training	3,000	8.1%	
	training product scanning and Non timber forest product	4,000	10.1%	
	healthcare service for circumcision and scholarship package	8,000	21.62%	
	improving economic and livelihood	5,000	13.51%	

	Strengthening the Village Forest Management Group	1,500	4.05%	
	Monitoring and evaluation	1,500	4.05%	
	Facilitating field visit to Bujang Raba	1,000	2.7%	
Total		37,000		

Annex 1: Results

The following table is the monitoring of current forest cover and carbon stocks in the five villages which will be verified after year 5 through SPOT analysis and third party verification. In the meantime, the conservative estimates mentioned in the PDD will be used to determine issuance request in the first period 2014-2019.

No	Location	Area	Forest Cover (ha)		Carbon Stock (CO2eq)		Forest Loss (ha)		Deforestation can be Prevented (ha)	Carbon Emission (CO2eq)		Carbon Emission Reduction (CO2eq)		Percent Emission		Target Emission Reduction (%)
			2013	2019	2013	2019	Without Project	With Project		Without Project	With Project		Without Project	With Project		
1	HD Kp.Sangi- Letung, Bungo, Jambi	736	736.0	736.0	461,472	461,472	107	0	107	38,444	0	38,444	1.6%	0%		100%
2	HD Kp.Sungai Mengkuang, Bungo, Jambi	634	634.0	632.4	397,518	396,515	92	1.6	90	33,116	0	33,116	1.6%	0%		100%
3	HD Senamat Ulu, Bungo, Jambi	1,095	1,095.0	1,095.0	686,565	686,565	159	0	159	57,196	0	57,196	1.6%	0%		100%
4	HD Sungai Telang, Bungo, Jambi	745	745.0	648.5	467,115	406,610	108	96.5	12	38,914	0	38,914	1.6%	0%		100%
5	HD Lubuk Beringin, Bungo, Jambi	2,126	2,126.0	2,124.6	1,333,002	1,332,124	309	1.4	307	111,049	0	111,049	1.6%	0%		100%
Grand Total		5,336	5,336	5,237	3,345,672	3,283,286	775	100	675	278,718	0	278,718	1.6%	0%		100%

Sources:

- 1 **Forest cover; Landsat image analysis 2013 dan 2019)**
- 2 **Carbon stock (1,316 ton CO2eq per hectares);**
- 3 **Baseline Deforestation, 1.6% per year; KKI Warsi**

Biodiversity report from the camera trap

KKI WARSI has set up 10 unit camera trap in the forest of Bujang Raba landscape to see the potency of biodiversity and endangered species in the forest. These are some documentation from the camera trap.



Harimau Sumatera/ *Panthera tigris sumatrae*



Macan Dahan/ *Neofelis diardi*



Ajak/ *Cuon alpinus*



Tapir/ *Tapirus indicus*



Deer/ *Rusa unicolor*



Kuau Raja/ *Argusianus argus*



Kucing Emas/ *Catapuma teminckii*



WARS 101

75°F 23°C

03-30-2019 11:22:33

Helacryatos malayanus (Beruang Madu)



Presbytis melalophos (Simpai)



Bushnell WARS I03 68°F 20°C 03-11-2019 10:47:38

Chuon alpinus (Ajak)



Neofelis diardi (Macan dahan)



Prinodon Linsang (Linsang)









Tapirus indicus (Tapir/Tanuak)




Capricornis sumatrensis (Kambing hutan)

Monitoring forest landscape with Fixed Photo Points

No	Location	Take Photo		
		30/11/2013	29/12/2015	07/02/2019
1	Landscape Bukit Bujang customary forest			
2	Landscape Senamat Ulu village forest			

				
				
3	Landscape Lubuk Beringin village forest			

4	Landscape Sungai Telang village forest			

The fix photo point tekan in February 2019. In the same place we can see that there is no deforestation, the forest canopy still intake.