Indonesia
Indonesia-Japan Project for Development of REDD+ Implementation Mechanism (REDD+ Planning Study)

Final Report
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Japan International Cooperation Agency(JICA)

Mitsubishi UFJ Research and Consulting
Japan Forest Technology Association

Supplemental Document 1

Indonesia-Japan Project for Development of REDD+ Implementation Mechanism (REDD+ Planning Study)

Report of Socio-economic Survey

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Chapter 1 Background and Objectives

1. Background

1.1. Understanding of Indonesian mitigation strategy

Indonesia submitted goals for GHG emission reductions at the Copenhagen Accord, COP15 held in the end of 2010, so that it is imperative to implement mitigation actions with a central focus on REDD+. In February 2011, the National Action Plan for Reducing Greenhouse Gas Emissions (RAN-GRK) was prepared under the Presidential Regulation No.61/2011 and "GHG emission reduction targets for each sector" were announced. Meanwhile, each Indonesian province was required to prepare "provincial GHG emission reduction scenario" by September 2012 in accordance with the RAD-GRK. This raised expectations for REDD+ to have profound mitigation effect by synergy between the RAN-GRK and the RAD-GRK. Under the RAN-GRK, GHG emission reduction target is to be achieved by implementing expected Nationally Appropriate Mitigation Actions (NAMAs), including REDD+. The NAMAs basically consists of existing emission reduction programs and activities of all sectors (forestry, agriculture, industry, mining, energy, public works and so forth). It remains to be seen what methods will be taken to achieve the targets; however, the National Council on Climate Change (DNPI) set the RL as Business as Usual (BaU) and announced following: utilizing the national budget for measures to reduce emission by 26% or autonomously implementing NAMAs (Unilateral NAMAs) within Indonesia, and for the extra 15% emission reduction, utilizing the budget of Official Development Assistance (ODA) or implementing financially supported foreign NAMAs (Financed/Supported NAMAs). Additionally, further emission reduction seems to be considered as NAMAs, which enables to generate credit (Creditable NAMAs).

1.2. Context of Forest Sector in Indonesia

In Indonesia, 1.36 million hectares out of 1.92 million hectares of land mass (approximately 71%) is classified as forest, which is the third biggest tropical forest (approximately 10% of world tropical forest mass) behind Brazil and Democratic Republic of the Congo (DRC). Therefore, forest management in Indonesia is not a domestic agenda but the particularly important to mitigate global warming on global basis. However, as a result of exploitation of forest development and timber products since the early 1970s, over 20 million m^3 of logs had been produced per year till 1990s and this significant deforestation became a concern world widely. In addition, illegal logging, forest fire, and conversion of lands to agriculture enhance forest degradation. Researchers and NGOs have alerted that if no immediate action is taken, Sumatra Island as well as 98% of Kalimantan Island forest will be disappeared by 2022.

Demand of wood resources and developing oil palm farm are not exception. Intensive buying of resources by multinational companies is getting noticeable in response to a world trend to secure resources. In particular, conversion to oil palm farms in Indonesia has increased drastically since bio fuel, as a raw material, has caught attention as substitute energy.

Considering land use change driven by deforestation etc., Indonesia's GHG emission is the third biggest, following USA and China. According to the Second National Communication of Indonesia submitted to

UNFCCC, in 2005, more than 60% of the GHG emission was resulted from forest related causes including forest fire and peatland fire. Since the COP13 of UNFCCC held in Bali in December 2007, Indonesia, with the support by Norway and other countries, has developed the National REDD+ Strategy[1] and discussed a management body for REDD and MRV (REDD+ Agency and MRV Agency), and fund mechanism. In addition, REDD+ Agency had been established in September 2013.

In 2014, Indonesia had President Selection and its result had big effects on Governmental re-structure in Central Level. From results of Governmental re-structuring, the Ministry of Forestry which is counter-part organization of IJ-REDD+ integrated into the Ministry of Environment and Forestry. Also re-structuring is considered that other organization including REDD+ Agency will be integrated into applicable Ministry to implement REDD+ in Indonesia.

1.3. Actions for REDD+ in Indonesia

Indonesia and Norway signed a Letter of Intent (LOI) in 2010,and it consequently accelerate REDD+ efforts in Indonesia. Notably, issuing logging rights has been suspended (moratorium) since 2011, and responding to it, concession (right of land-use) for developing new oil palm farms has been frozen. Such significant political challenges in land use are deeply related to implementation of REDD+ in Indonesia thus that it is important to take place tangible REDD+ activities during the moratorium period to ensure the effect of REDD+ will be fully recognized by the time moratorium ends.

Hereafter, major challenges are to review effects of the moratorium, and to maintain the status of deforestation and forest degradation, which have been temporally prevented due to the moratorium. It is assumed that especially areas, in which local economy largely relies on logging industry, like West Kalimantan Province -the target area of this study- will reach a turning point.

In Indonesia, officially establishing REDD+ agency in September 2013, actions for various issues to implement REDD+ got underway in earnest. To implement REDD+, not only actions for forests initiated by the Ministry of Environment and Forestry, it is also required to collaborate with such as mining development, which relates to drivers of deforestation and forest degradation (managed by the Ministry of Industry), and agriculture development (managed by the Ministry of Agriculture). For this reason, the newly established REDD+ agency is expected to put efforts with comprehensively understanding various issues on REDD+.

Also, Indonesia is on progress to develop National based Reference Level which should be submitted to UNFCCC in 2015, and applied methodologies in the Reference level can be related in direction of technical approach of this study. In addition, it is because that the Reference Level in Indonesia is very related GHG emission reduction potentials in the world (amount of over ten million t-CO2), then results will be connected with GHG mission reductions (i.e. GHG emission reduction, or INDC) in developed countries.

1 The REDD+ National Strategy was already formulated in June 2012.

The socio-economic survey for developing the REDD+ model for GPNP aims to identifying indicators to be reflected to reference level establishment, driver analysis of deforestation and forest degradation in GPNP and its surrounding area[2], and to be referred when select target villages of REDD+ implementation plan. In terms of the continuity of REDD+ project, the socio-economic survey was conducted to be foundation of such as developing land-use plan. For this reason, cooperating with long-term experts, the survey was carried out upon consultation with the long-term experts of IJ-REDD+, counterparts, partners, NGOs and so forth.

In the socio-economic survey, profile of villages surrounding GPNP was firstly organized. Bringing the survey results of village profile, it is scheduled to design household questionnaire survey (decide the number of samples and target sub-villages) and them conduct the survey. The flow of the on-site household questionnaire survey of socio-economic survey is showed in Figure 5, and location of the target areas, GPNP and villages, are showed in Figure 4. The long-term experts had a subcontracting agreement with Forum Hutan Desa to conduct surveys of village profile and pre-surveys of household questionnaire.

2. Objectives

2.1. Role of socio-economic survey for developing REDD+ project

To promote IJ-REDD+ project, international REDD+ situation under the UNFCCC and national REDD+ situation in Indonesia were considered. IJ-REDD+ had supported the REDD+ implementation in Central Government level, Provincial level which was targeting West Kalimantan Province (Sub-national) as activities in Output 1. In addition, the GPNP located in Ketapang District and Kayon Utara Districts of West Kalimantan southern parts, have been promoting a REDD+ project (project-level) as a specific model (Output 2) (Figure 1). In other words, 1) national based REDD+ institutional design supports, 2) sub-national based REDD+ implementation supports, and 3) project based REDD+ project supports have been conducted by IJ-REDD+. Such activities are obviously related to the “Nested Approach” in 3 layers of REDD+ activities in Indonesia.

2 There are 24 villages including Dayak people’s village and the number of households is approximately 13,000.

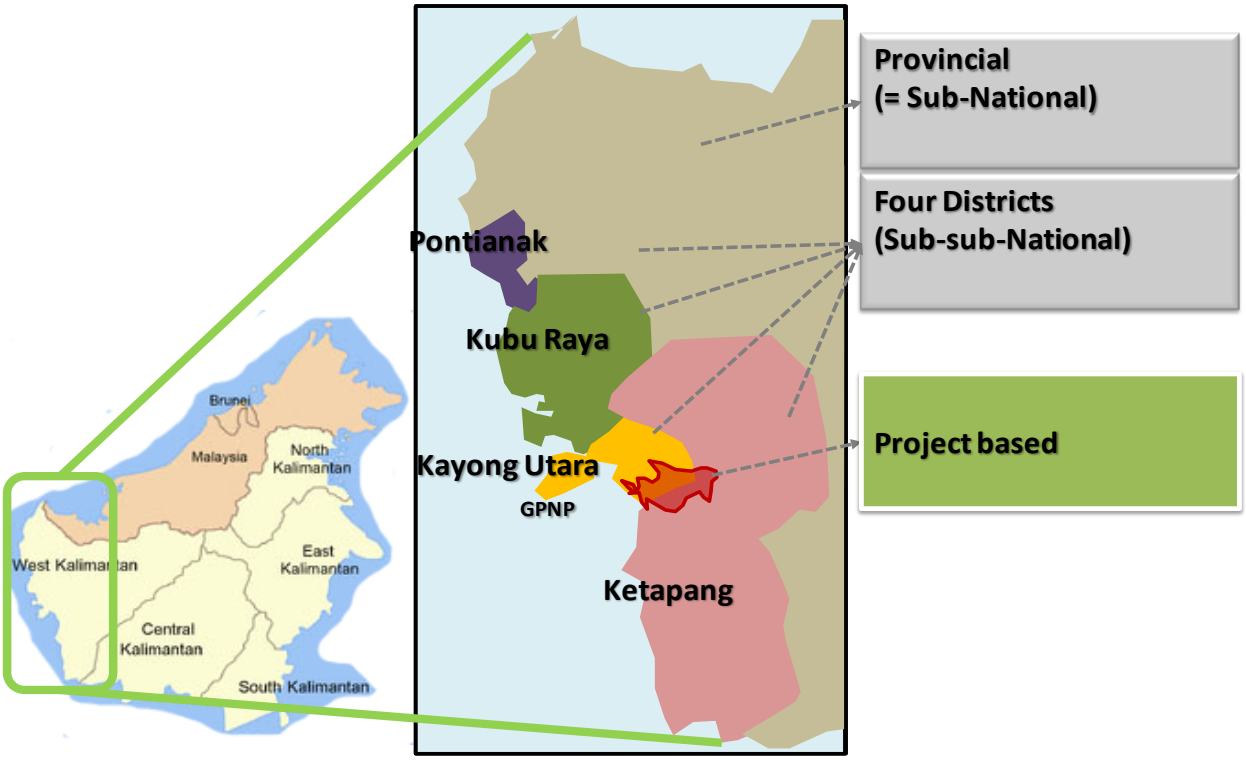


Figure 1 Location of GPNP in West Kalimantan Province

To realize REDD+ project in short-term, we have aggregated the work relating to the Output 2 (REDD+ in GPNP and its surroundings) to address REDD+ projects under the IJ-REDD+. Also all of activities have been under the comprehensive management of long-term Experts, and have been on paralleled with facilitation training by the Aiai Net Consulting (Figure 2).

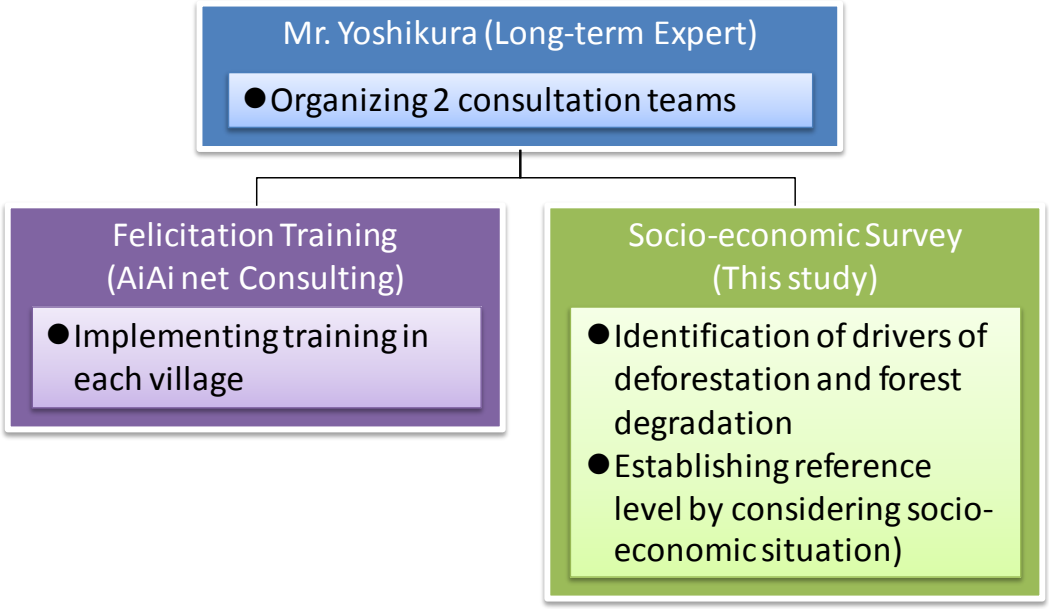


Figure 2 Implementing structure of REDD+ under the IJ-REDD+

It should be noted that, for implementing socio-economic survey in this study, we had to consider international situation of REDD+ and also national situation of REDD+ in Indonesia (e.g. selection of proponents, benefit distribution/sharing system, etc.). However, from the Terms of Reference (ToR) in this study asked us to prepare draft of the Project Design Document (PDD) as a final output of IJ-REDD+ until March 2015. Then, in socio-economic survey in this study, we aimed to conduct following points to promote REDD+ model in GPNP and its surroundings area under the Output 2;

1. To collect basic data and information (population and ethnic, etc.) on the GPNP and its surrounding area (a total of 24 villages), and to identify drivers of deforestation and forest degradation by using collected basic data and information.
2. To categorize all villages into some groups which are according to types of drivers of identified deforestation and forest degradation.
3. To select suitable mitigation activities (REDD+ activities) and develop approach method to reduce pressures on forest resources, which means reducing deforestation and forest degradation.

In the present study was preceded by assumption which means collection of PDD materials, data and information on REDD+ project. We selected tentative PDD format as VCS style (Figure 3), and some contents of PDD format are very related to the socio-economic survey in this study. For example, results of the survey are connected with “1.8 Description of the Project Activity”, “1.9 Project Location” and “1.10 Conditions Prior to Project Initiation”.

1 Project Details
- 1.1 Summary Description of the Project
- 1.2 Sectoral Scope and Project Type
- 1.3 Project Proponent
- 1.4 Other Entities Involved in the Project
- 1.5 Project Start Date
- 1.6 Project Crediting Period
- 1.7 Project Scale and Estimated GHG Emission Reductions or Removals
- 1.8 Description of the Project Activity
- 1.9 Project Location
- 1.10 Conditions Prior to Project Initiation
- 1.11 Ownership and Other Programs
- 1.12 Additional Information Relevant to the Project

2 Application of Methodology
- 2.1 Title and Reference of Methodology
- 2.2 Applicability of Methodology
- 2.3 Project Boundary
- 2.4 Baseline Scenario
- 2.5 Additionality
- 2.6 Methodology Deviations

3 Quantification of GHG Emission Reductions and Removals

4 Monitoring

5 Environmental Impact

6 Stakeholder Comments

Figure 3 Contents of the PDD according to the VCS format

It should be noted that, although the national park office in GPNP has promoted a comprehensive natural resource management, national park and surrounding area (including private land) in buffer zone should be collaborated to implement REDD+ project, and it has been required to accumulate experiences to develop efficient collaborative management system.

Chapter 2 Methodologies

1. Target site

Output 2 of the IJ-REDD+ focused on REDD+ model (pilot project) in national park in Indonesia and also aimed to develop such a model. Additionally developed model was assumed to be linked with National and sub-national REDD+ activities.

To analyze the REDD+ model in national park, we targeted GPNP as pilot area, which are located in southern area of West Kalimantan Province (Ketapan and Kayon Utara Districts) and were on process of the implementation of collaborated activities for forest conservation (Figure 4).

Figure 4 Location of villages having influences on forest resources around GPNP

There were totally 24 villages around GPNP, and their characteristics were assumed to be differenced in each before the survey. In addition, dependence on forest resources, forest resources management methods and collaboration system with GPNP officials were assumed to be differenced. GPNP and its surrounding area showed high population density and many types of ethnic group, which mean there were some types of drivers of deforestation and forest degradation. The remarkable complexity is recognized compared with other REDD+ projects (Table 1).

Table 1 Characteristics of REDD+ projects

REDD+ project	Target area (ha)	Number of HH	Main ethnic group
Gunung Palung National Park (Indonesia_*this study*)	120,000	App. 16,000	Seven: Malay, Dayak, Jawa, Bali, China, Bugis, Madura
Participatory Land and Forest Management Project (Lao PDR_JICA-VCS based)	30,489	App. 400	Two: Khmu and Hmong
The Kasigau Corridor REDD Project - Phase I Rukinga Sanctuary (Kenya_VCS[3])	30,169	No information	No information
Rimba Raya Biodiversity Reserve Project (Indonesia_VCS3)	64,000	No information (10 communities)	No information
Alto Mayo Conservation Initiative Project (Peru_VCS3)	182,000	App. 3,000-4,000	No information

From consideration as above, following 2 points were indicated to be analyzed for developing REDD+ project model;

1. Dependence on forest resources (i.e. drivers of deforestation and forest degradation) were considered. It was because that dependence on forest resources were differenced from each village, that is to say, methods for involving community people were also differenced.
2. High population density in each village was considered. It was because that reducing pressures on forest resources are very essential as REDD+ activities (i.e. change of human behavior are very important).

2. Survey flow

Socio-economic survey aimed to implement to identify drivers of deforestation and forest degradation in GPNP and its surrounding area. Before the survey, we could assume that human pressures on forest resources (e.g. illegal logging) and land-use change from forest to cropland (agricultural land) were key activities to be addressed in this survey. Therefore, after collecting basic data and information on villages located in around GPNP (i.e. village profile survey), we moved to next phase which means categorization of each village into some group according to land-use characteristics and/or drivers on deforestation and forest degradation (i.e. household questionnaire survey). Moreover from results of categorization analysis, we reviewed tentative results of village profile survey (Figure 5).

[3] The VCS Project Database (March 2015)
<https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?tc=1&Tab=Projects&a=1 >

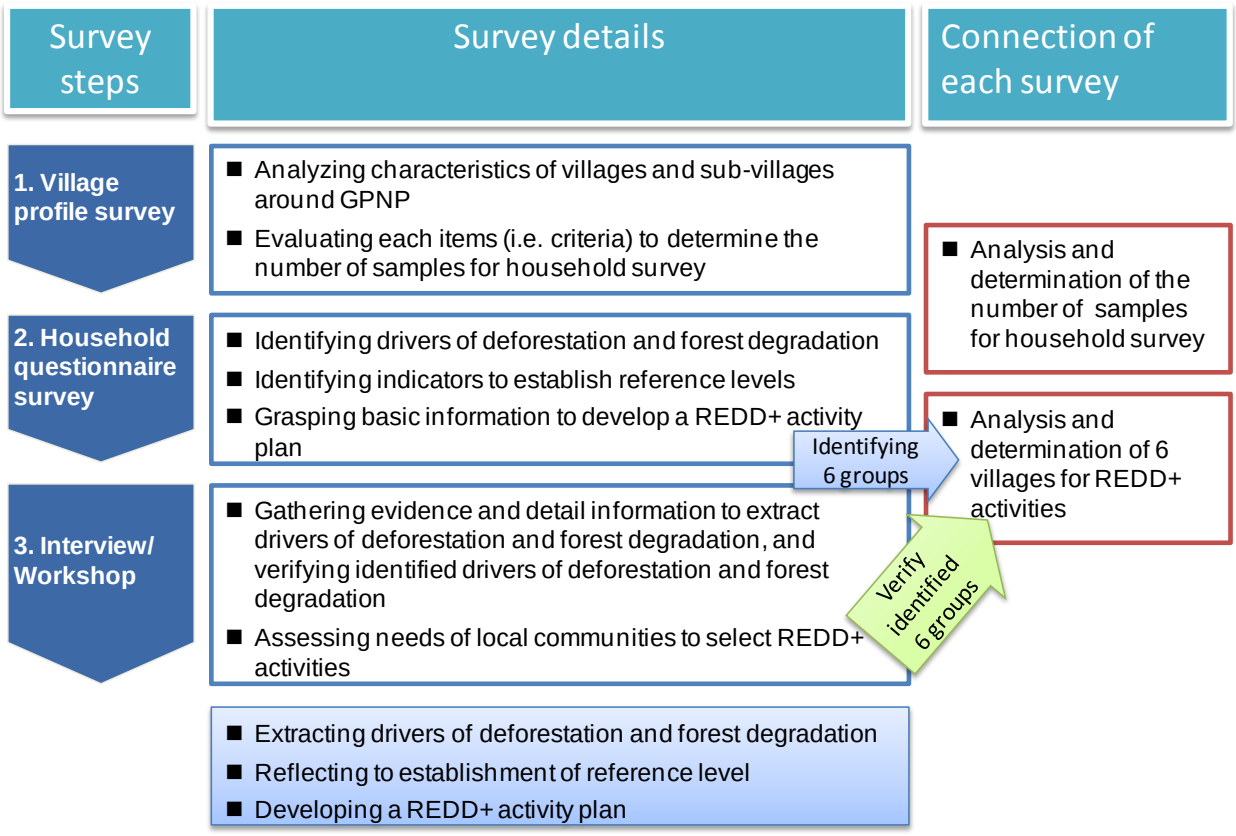


Figure 5 Flow of socio-economic survey for development of the national park REDD+ model

3. Village profile survey

There are 24 villages surrounding GPNP. In general, the village profile survey found that the each village surrounding GPNP consists of two to eight sub-villages (Figure 6). However, there is not enough information about each village in GPNP and its surrounding area. Consulting with counterparts revealed that profile information of villages surrounding GPNP was not organized. The information such as village population and major livelihood activities is basic data for the driver analysis of deforestation and forest degradation, and understanding the socio-economic and natural-environmental aspects of the villages is very important to select villages in which project activities will be undertaken. Taking it into account, this study agreed with the long-term experts of IJ-REDD+ and national park officials to organize profile information of each village first and followed by conducting the household survey.

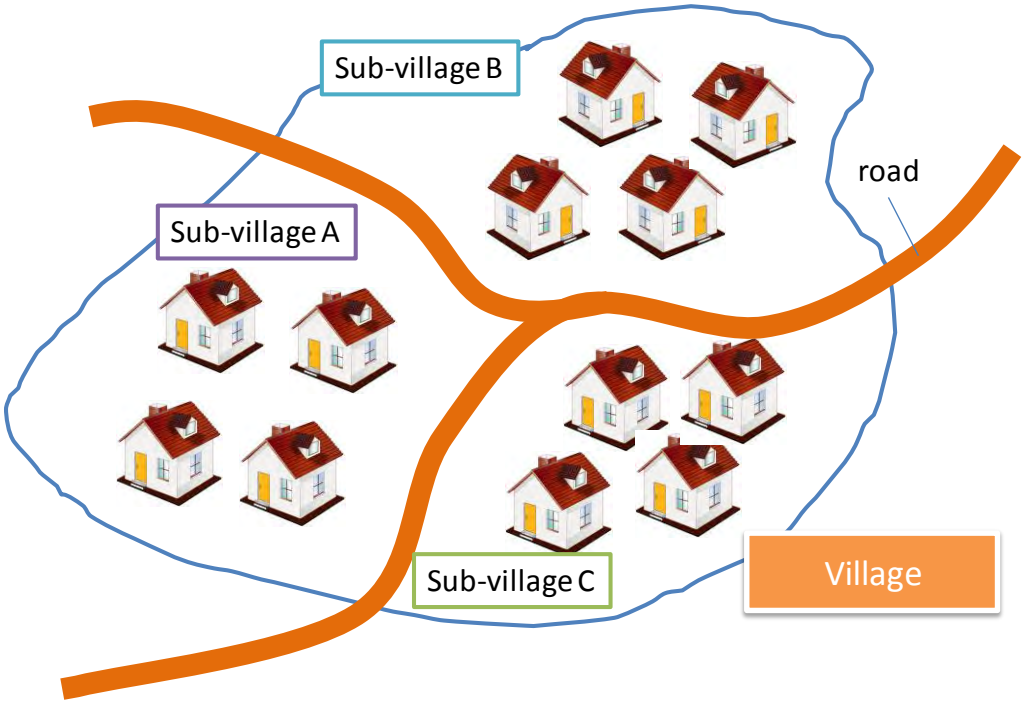


Figure 6 Relationship between village and sub-village

3.1. Preparing questionnaire

Questionnaire sheet was prepared for collecting basic data on each village. To conduct the survey with efficiently, the sheet was assumed to be deposited with each sub-village head.

First of all, draft questionnaires were prepared for village profile and household survey according to discussions with IJ-REDD+ long-term experts, national park officials, local staffs and NGOs and key items (i.e. contents) were identified. Then after exchanging opinions with IJ-REDD+ long-term experts, national park officials, local staffs and NGOs, the questionnaire was finalized (Appendix 1). The finalized survey items of village profile and household questionnaire are showed in Table 2.

Table 2 Survey items of questionnaires

Survey	Survey Item	Survey Respondents
Household questionnaire survey (Conducting pre-survey for the main survey)	1. Profile of survey respondents 2. Property of respondents 3. Satisfaction level of living environment 4. Natural resources use 5. Household budget (income/expenditure) 6. Productivity of agricultural products 7. Changes in means of major livelihood 8. Event history 9. Situation of land-use 10. Recognition of village rules and participation rate of village activities 11. Activities interested in to improve livelihood	Each household

Survey	Survey Item	Survey Respondents
	12. Situation of receiving supports from outside organizations	

3.2. Holding a training workshop

The training workshop of questionnaire survey was taken place on January 31, 2014, in advance of the commencement of the survey, and 3 national park officials and 18 researchers participated in. At the workshop, after explaining the outline of the survey and objectives, participants divided into groups practiced the survey with the actual questionnaires to become familiar with the contents. Based on comments received at the workshop, the questionnaires were reviewed and finalized.

3.3. Conducting survey

The researchers who were counterparts of IJ-REDD+ and IJ-REDD+ staffs were gathering profile information of 20 villages and conducting household questionnaire pre-survey of 24 households in over 28 days started from February 5, 2013. Request letters for participation in the survey had been sent to the each village head from the national park office. Some villages have their own village profile and that information was collected as supplement for the survey.

3.4. Monitoring survey

Aiming to ensure the quality of the survey and to study current situation to improve the questionnaires, experts accompanied the researchers and monitored the survey. Although it took time to have access to the data as the village heads were not in, the monitoring confirmed that the village profile survey was mostly carried out smoothly. On the other hand, it seemed difficult to acquire answers for some questions of household questionnaire survey, and it was found that the questionnaire needs to be improved such as revising units or multiple-choice items. For the main survey, recognized agendas are to improve the questionnaire and researchers' survey techniques.

4. Household questionnaire survey

4.1. Villages grouping and Identification of drivers on deforestation and forest degradation

In this step, we aimed to categorize totally 24 villages in around GPNP into some groups which are according to types of drivers of deforestation and forest degradation and some characteristics of life-style. Regarding categorized groups, some criteria/indicators of land-use and dependency on forest resources were applied. The procedure of the categorization is shown in Figure 7.

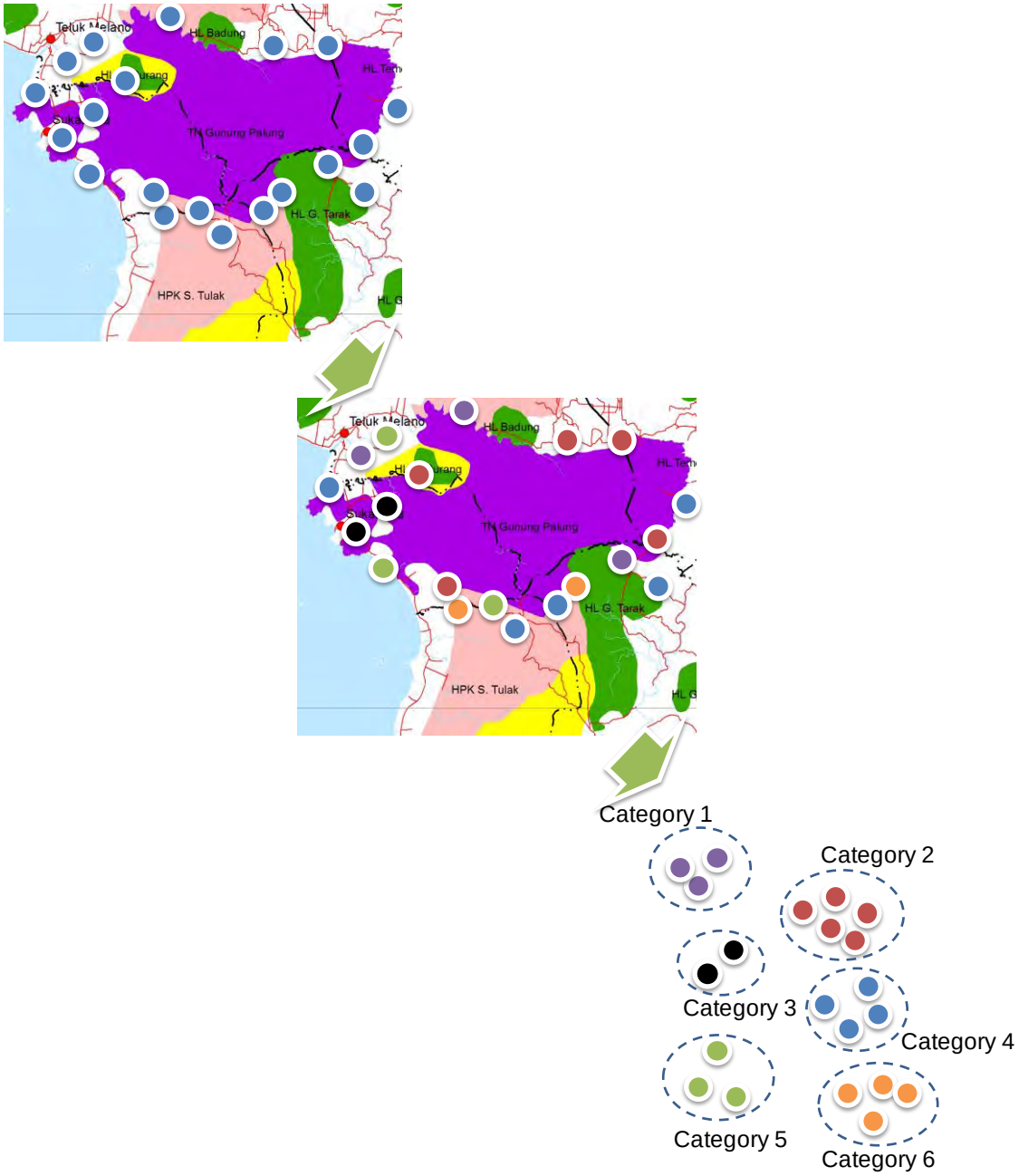


Figure 7 Categorizing villages according to characteristics of land-use livelihood

Noted that activities under above “3. Village profile survey” had been implemented by collaboration with village and sub-village heads, especially selection of target households which should be based on characteristics of ethnic group, immigration era and others. Additionally activities mentioned “4. Household questionnaire survey” had a role to verify the results of “3. Village profile survey”.

4.2. Preparing questionnaire

Questionnaire sheet was designed to collect detail information in each household. First of all, draft questionnaires were prepared based on discussions with IJ-REDD+ long-term experts, national park officials, local staffs and NGOs and after exchanging opinions with those stakeholders the questionnaire was finalized (Appendix 2). The finalized survey items of household survey are showed in Table 3.

Table 3 Survey items of questionnaires

Survey	Survey Item	Survey Respondents
Household questionnaire survey (Conducting pre-survey for the main survey)	13. Profile of survey respondents 14. Property of respondents 15. Satisfaction level of living environment 16. Natural resources use 17. Household budget (income/expenditure) 18. Productivity of agricultural products 19. Changes in means of major livelihood 20. Event history 21. Situation of land-use 22. Recognition of village rules and participation rate of village activities 23. Activities interested in to improve livelihood 24. Situation of receiving supports from outside organizations	Each household

4.3. Holding a training workshop

Before implementing survey of “4. Household questionnaire survey”, we did training workshop with three days from 13 to 15 on May 2014. There were 8 participants from GPNP office and 22 participants from cooperated survey team. During workshops, all of participants shared objectives and methodologies of the survey to keep consistency of the survey process. Then all of participants did demonstration survey in the actual village (Figure 8). The study team was formed Forum Hurtan Desa, and the NGO members. Forum Hurtan Desa is a youth group organized by NGO in Laman Satong village located around the national park. It was thought that it led to the improvement of the quality and accuracy of the survey result since the local community who know local conditions well had carried on the survey.

Household surveys were executed at the period on August, 2014 from June after the surveyor had been trained. The response rate became about 100% and high numerical values from the questionnaire survey in the interview type.

Recognizing details of questionnaire

Demonstration of the survey

Figure 8 Training workshop for "4. Household questionnaire survey"

4.4. Conducting survey

From results of village profile survey, we decided to eliminate 2 villages in household questionnaire survey. It was because that eliminated villages were located in remote area and human activities (livelihoods) in their villages were not related to forest resources of GPNP. Then we selected totally 1,275 households from 18 villages in this household questionnaire survey and the survey was carried out from mid-May 2014 to the end of July 2014. Target households were selected by the Stratified Sampling which based on 4 indicators of ethnic group, livelihood, on-farm types and immigration era, then selection of households were supported by village and sub-village heads. Selected households were from 10 to 40 in each sub-village. Number of selected households ware considered by total household in each sub-village and characteristics of them. Also the recommendation letter from GPNP was distributed into each sub-village.

5. Interview/workshop for selecting demonstration activities

From categorized 6 groups, around 2 villages with typical land-use were selected, and we proceed to identify suitable REDD+ activities to reduce deforestation and forest degradation in the target area. As for selection of around 2 villages, we considered situation of village management and collaboration among villagers. Moreover progress on facilitation training conducted by i-i net Consulting were considered.

Chapter 3 Results and Progress

1. Village profile survey

1.1. General information on each village

The 24 villages, where the survey was conducted, make up 84 sub-villages in total with roughly 16,000 households and its population size is approximately up to 56,400 people (Table 4).

Table 4 Summary of the collected village profile information

District	Village Name	Number of Sub-village	Number of Population	Number of Households
Kayong Utara	Simpang Tiga	3	1,738	475
	Sejahtera	3	2,037	568
	Pangkalan Buton	4	3,409	936
	Sutera	5	4,834	1,335
	Benawai Agung	3	2,116	628
	Harapan Mulia	3	2,840	817
	Sedahan Jaya	4	2,055	601
	Gunung Sembilan	3	1,137	840
	Pampang Harapan	3	1,126	300
	Riam Berasap	3	1,687	438
	Rantau Panjang	8	4,135	1,089
	Batu Barat	4	2,790	669
	Matan Jaya	3	1,989	663
	Medan Jaya	3	2,066	609
	Sungai Mata-mata	4	3,470	887
	Teluk Melano	3	2,805	795
	Penjalaan	4	2,485	656
Ketapang	Pangkalan Telok	5	3,000	872
	Mensubang	2	1,600	392
	Laman Satong	3	2,619	545
	Penjawaan	4	2,725	682
	Jago Bersatu	2	465	120
	Sempurna	2	1,476	377
	Teluk Bayur	3	1,824	608
Total		84	45,602	12,955

Regarding the ethnic composition, Malay was found in 83 out of 84 sub-villages surrounding GPNP, and in the 46 sub-villages, they account for 90% of the population. Other 8 ethnic groups such as Jawa and Madura were found in the adjacent area of the national park. Especially, Madurese people in Pangkalan Buton village, Javanese or Balinese in Sedahan Jaya, and Dayak in Laman Satong raised almost half of the village population (Table 5).

Table 5 Other major ethnic groups contribute high proportion of the population

Villages	Sub-villages	Ethnic groups (Unit: %)							
		Malay	Dayak	Jawa	Bali	China	Bugis	Madura	mix
Simpang Tiga	Parit Bugis	10					90		
Sejahtera	Tanjung Gunung						95		5
Medan Jaya	Karya Makmur	60		8		2		30	
Pangkalan Buton	Simpang Empat	60				40			
	Sungai Galik	50						50	
	Air Pauh	50						50	
Sutera	Selimau	60						40	
	Payak Itam	30						70	
Penjalaan	Sinar Timur	20		70		10			
Sedahan Jaya	Sawah	50			50				
	Sidorejo	5		95					
	Tanjung Banjar	50			50				
	Begasing	50			50				
Rantau Panjang	Sepakat Jaya	50				50			
	Ampora	50				50			
	Sinar Palung	50		50					
Laman Satong	Manjau	30	70						
	Kepayang	20	80						
	Nek Doyan	20	80						

1.2. Characteristics of livelihoods in each village

The results of the survey, major livelihood activities in the sub-villages surrounding the national park, and major production were clarified, which tells land-use status. In this study, types of livelihood both off-farm and on-farm were according to following Table 6.

Table 6 Definition of livelihood types in this study

Type	Specific words
Off-farm	Private business
	Animal husbandry
	Government officer
	Private business
On-farm	Labor of oil palm plantation
	Selling cash crops
	Fisheries
	NTFPs selling
	Labor of mining company
	Logger

The major livelihood activities found in the overall 84 sub-villages were self-employed business (47 sub-villages), animal husbandry (46 sub-villages), government officer (44 sub-villages), and oil palm (36 sub-villages). One the other hand, livelihood activities with high engagement ratio in the sub-villages were selling cash crops (42.6%), labor for oil palm plantation (33.6%), animal husbandry (28.2%), showing the large number of people working for agriculture and oil palm plantation. The number of sub-villages answered selling non-timber forest products for livelihoods were 12 villages. Yet loggers found in 7 sub-villages, they accounted for fewer than 10% of the each sub-village. It appeared that the dependence on timber logging for livelihoods is low in the target areas as a whole. The livelihood activities and the ratio of the mean number of workers for the each activity in the sub-villages are showed in Figure 9.

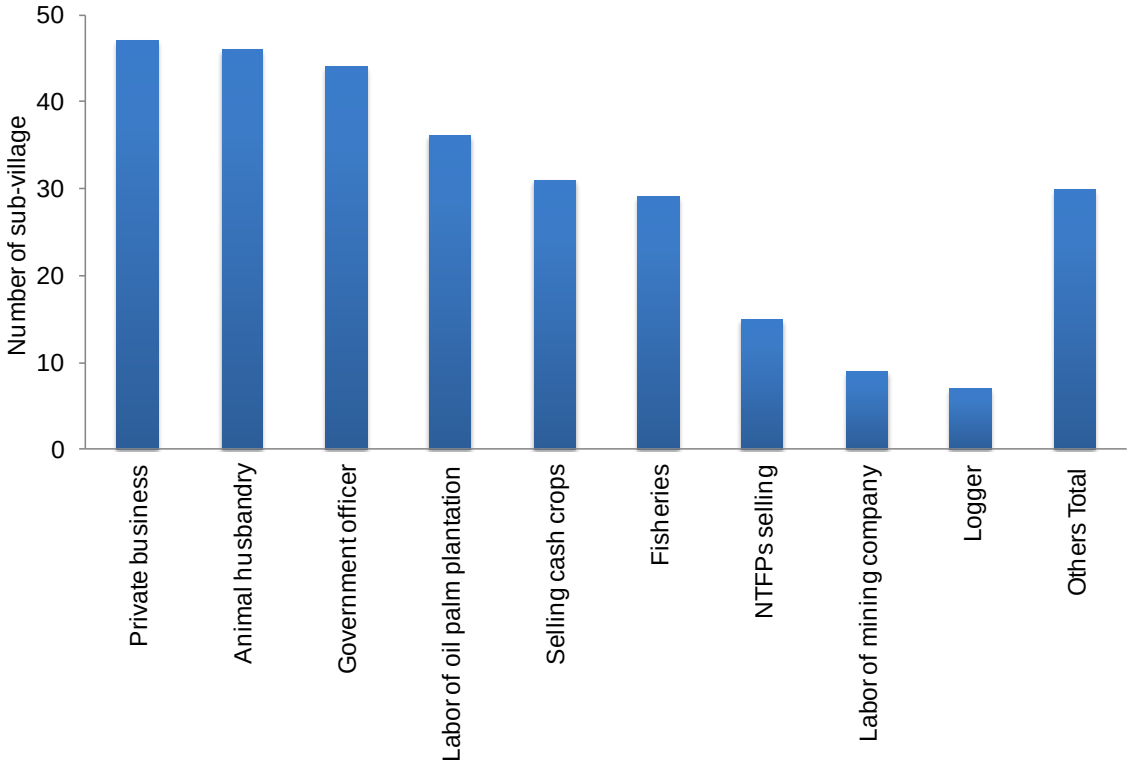


Figure 9 Frequency of occurrence in livelihood types in sub-villages (totally 70)

On the other hand, it was founded that dependency on each livelihood had much variability among sub-village (Figure 10). Standard deviation (SD) of each livelihood show large ranges. Especially government officer and private business had large SD compared with logger, fisheries and NTFPs selling. It indicated that private business or other livelihood with large SD should be analyzed in detailed in next steps of survey in FY2015.

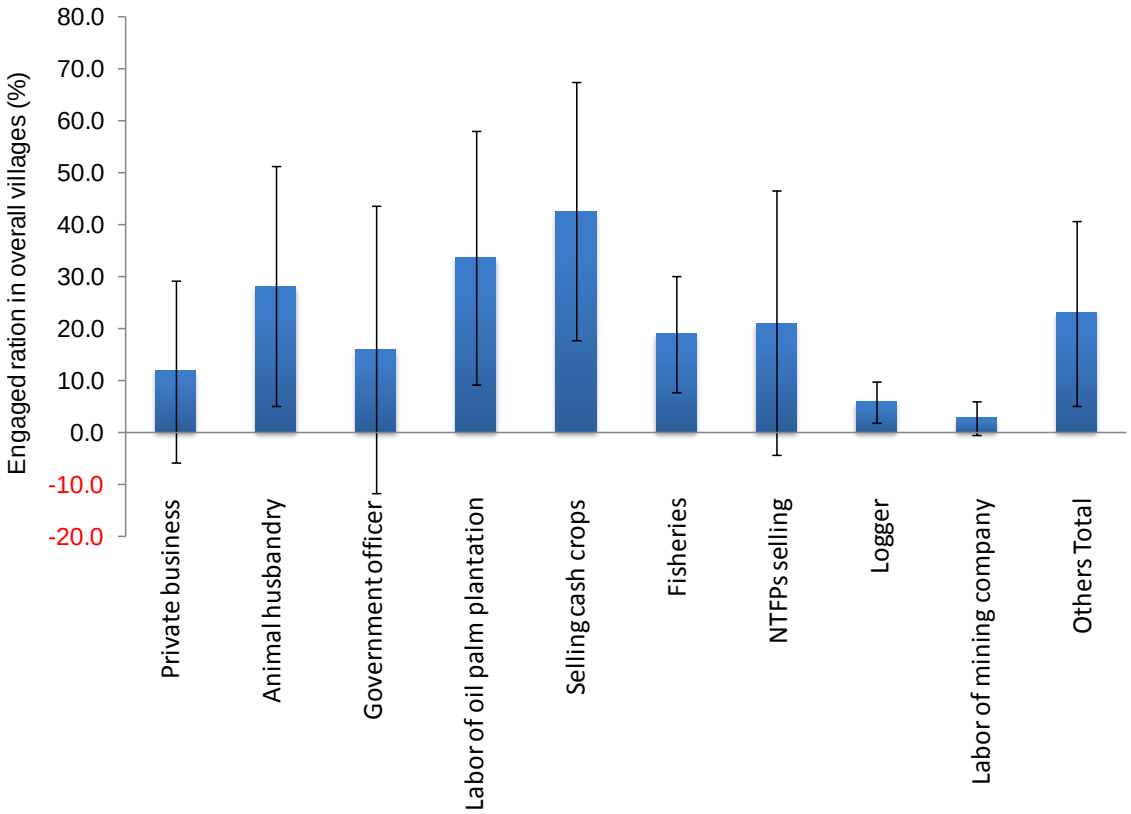


Figure 10 Means of frequency of occurrence in engaged livelihood types and their standard diviation in sub-villages (totally 70)

1.3. Tentative grouping of target villages

From analysis of general information on village shown in Appendix 2 to Appendix 3, we found out some characteristics in each village (Table 7). That is to say, the five major patterns of production activities of cash crops were identified. That is 1) wet-paddy rice cultivation, 2) slash-and burn cultivation for upland rice or vegetables, 3) wet-paddy rice cultivation and rubber plantation, 4) upland rice and rubber plantation5) wet-paddy rice and upland rice cultivation and rubber plantation.

Based on the survey result of village profile, each village can be characterized by the patterns of production activities of cash crops, and the combination of the three kind s of cash crop activities were found in 7 villages of Ketapang district.

Table 7 Characteristics of villages

Production activities	Villages
1) Wet-paddy rice cultivation	・Sutera ・Benawai Agung ・Sedahan Jaya
2) Slash-and burn cultivation for upland rice and vegetables	・Pampang Harapan ・Gunung Sembilan ・Riam Berasap ・Matan Jaya

Production activities	Villages
3) Wet-paddy rice cultivation and rubber plantation	・Simpang Tiga ・Sejahtera ・Pangkalan Buton ・Harapan Mulia ・Rantau Panjang
4) Upland rice cultivation and rubber plantation	・Batu Barat
5) Wet-paddy and upland rice cultivation, and rubber plantation	・Pangkalan Telok ・Mensubang ・Laman Satong ・Penjawaan ・Jago Bersatu ・Sempurna ・Teluk Bayur

Based on results of household questionnaire survey, targeted 18 villages, i.e. 51 sub-villages were categorized according to dominant ethnic group, dominant religion and livelihood types. For categorization, we applied specific methodology of "analysis of principal component" by using SPSS software, and considered requests from GPNP office. Then we grouped 51 sub-villages into 6 groups (Figure 11 and Table 8).

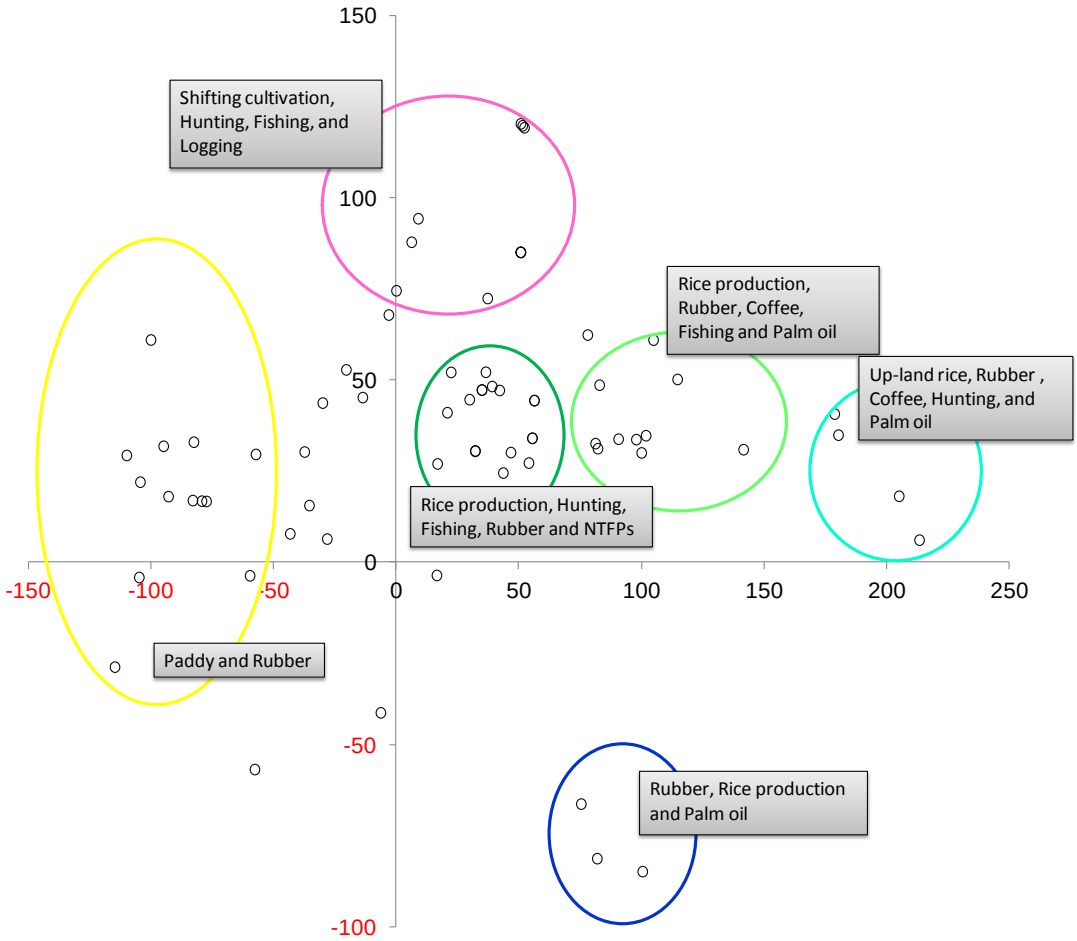


Figure 11 Categorizing villages according to characteristics of land-use livelihood

Table 8 Categorization of socio-economic characteristics

Category	Ethnic group	Main farmin/livelihood	Potential drivers	Potential target desa/dusun	Potential demonstration
1	Malay, Bugis, Bali, Madura	Paddy, Rubber	Low production in paddy	Sedahan, Jaya, Sejahtera, Pangkalan, Buton	Improve irrigation system, Diversify farming practices, Enhance paddy technology, Agro-forestry/Orchard, Eco-tourism
2	Malay	Shifting cultivation, Hunting, Fishing, Logger	Expansion of shifting cultivation and logging	Gunung Sembilan (Panpang Harapan)	Alternative cash income, Rule on use of natural resources, Diversify farming practices
3	Malay, Java	Wet/dry rice, Hunting, Fishing, Rubber, NFTPs	Overuse of NFTPs, Expansion of rubber plantation	Sampurna, Pampang Harapang	Alternative cash income, Rule on use of natural resources, Cooperative farming
4	Merayu	Wet/dry rice, Rubber, Coffee, Fishing, Palm oil	Unstable cash income (dependent on palm oil)	Matan Jaya, Riam Berasap, Pangkalan, Teluk	Agro-forestry, Organic farming, Cooperative farming, Rule on use of natural resources
5	Merayu, Java, Bugis, Cina	Dry rice, Rubber, Coffee, Hunting, Fishing, Palm oil	Lack of cash income (dependent on palm oil)	Batu Barat	Agro-forestry Organic farming, Poultry, Patrol
6	Dayak	Rubber, Dry/wet rice, Palm oil	Low production in farming	Lamon Satong	Enhance farming technology, Diversify farming, Value adding

2. Household Questionnaire Survey

2.1. Survey outline

In order to look for the main cause of deforestation, a Household Questionnaire Survey was held as a socio-economic survey within Gunung Palung National Park. The Household Questionnaire Survey started out as a plan by the person in charge of socio-economic surveys at the U-REDD+ CONSULTANT TEAM, and was finalized after inviting comments from National Park personnel and the IJ-REDD+ Ketapang team. As shown in Table 1, there were 12 survey items and 84 questions (refer to Annex ** for a copy of the questionnaire). Attributes were obtained regarding race and occupation for the numbers of households and actual numbers relating to assets, and data regarding level of satisfaction, etc. was obtained as a sensory scale.

Table 9 Survey items of questionnaires

Survey	Survey Item	Respondents
Household questionnaire survey	25. Profile of survey respondents 26. Property of respondents 27. Satisfaction level of living environment 28. Natural resources use 29. Household budget (income/expenditure)	Each household

	30. Productivity of agricultural products 31. Changes in means of major livelihood 32. Event history 33. Situation of land-use 34. Recognition of village regulation and customary rules and participation rate of village activities 35. Activities interested in to improve livelihood 36. Situation of receiving supports from outside organizations	

The Forum Hurtan Desa was commissioned to carry out the survey, and a survey team was formed consisting of NGO members and teams. The Forum Hurtan Desa is a group of young people organized by NGO with former inhabitants of Laman Satong, a village close to the National Park. The survey operators were actual inhabitants of the community, and it was thought that their understanding of an background of the surveyed area would contribute to ensuring the accuracy of the survey. The Household Survey was conducted from June to August 2014, after the survey operators had been trained. This was an interview-based questionnaire survey, thus the response rate was close to 100%.

2.2. Survey results

The main results of the implemented Household Questionnaire Survey are outlined as follows for each question item. Profile of survey respondents

The Household Survey covered 18 villages, 51 communities and 1,275 households around the Gunung Palung National Park area. The table below shows the number of samples and an outline of the survey subjects in each village. Villages consist of 2~5 sub-villagees, and 10-30 household samples were selected and surveyed from each community from the perspective of diversity of living conditions and livelihoods.

Table 10 Outline of survey subjects

Village	Sample	Average Age	Male	Female	Family No.	Migrant (%)
Riam Berasap	60	43	46	14	4.3	61.7
Simpang Tiga	30	45	19	10	4.5	16.7
Sejahtera	70	42	39	31	4.5	17.1
Pampang Harapan	80	38	54	26	4.5	20.0
Pangkalan Buton	120	44	106	14	3.6	7.5
Sutera	40	44	31	8	4.0	20.0
Gunung Sembilan	60	39	42	18	3.7	21.7
Benawai Agung	70	48	51	19	3.5	28.6
Sedahan Jaya	120	42	94	25	4.1	38.3
Rantau Panjang	60	43	52	8	4.4	70.0
Batu Barat	120	44	71	49	4.3	27.5
Matan Jaya	90	39	74	16	4.2	36.7
Teluk Bayur	40	41	40	0	3.8	20.0
Sempurna	80	41	63	17	3.8	18.8

Village	Sample	Average Age	Male	Female	Family No.	Migrant (%)
Jago Bersatu	25	38	24	1	3.7	16.0
Penjawaan	30	44	27	3	3.6	13.3
Pangkalan Telok	90	40	62	28	3.7	11.1
Laman Satong	90	38	56	34	4.1	21.1
Padu Banjar	20	44	19	1	4.4	35.0
Pemangkat	20	51	19	1	4.3	70.0
Pulau Kumbang	20	53	20	0	4.8	60.0
Nipah Kuning	20	47	20	0	4.7	50.0

The ages of many of the survey subjects fell in the generation of late 30s to late 40s, and although the ratio of males was slightly higher than that of females, responses were obtained from females in all villages apart from Teluk Bayur. The average value of family members per household was 3 to 5 persons, and there was no significant scattering in each village. The ratio of migrants varied from village to village, with Riam Berasap (61.7%) and Rantau Panjang (70.0%) having high migrant ratios.

(1) Property of respondents

Information was collected regarding drinking water, water for daily living, power sources, numbers of livestock raised, and ownership of sites for each type of land use. With regards to drinking water and water for daily living, it was confirmed that there were villages (Simpang Tiga, Jago Bersatu, Penjawaan) where none of the households had water supply constructed. It was understood that in such villages, or villages with a low tap-water diffusion rate, river water, well water or water drawn from wooded land is used (Table 11). In terms of sources of heat for cooking, it was ascertained that many households use both propane gas and fuel wood (Table 12). From this, it was confirmed that in villages around the National Park there are still many households reliant on natural resources for everyday living.

Table 11 Sources of drinking water

Village	Water Supply	Well	River water	Water from forest area	Bottled water	Others
Riam Berasap	50.0%	55.0%	6.7%	25.0%	8.3%	43.3%
Simpang Tiga	0.0%	0.0%	3.3%	63.3%	13.3%	100.0%
Sejahtera	42.9%	12.9%	0.0%	22.9%	0.0%	30.0%
Pampang Harapan	71.3%	0.0%	3.8%	56.3%	0.0%	0.0%
Pangkalan Buton	91.7%	0.0%	0.0%	4.2%	9.2%	0.0%
Sutera	100.0%	0.0%	2.5%	27.5%	0.0%	0.0%
Gunung Sembilan	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Benawai Agung	44.3%	0.0%	1.4%	62.9%	2.9%	11.4%
Sedahan Jaya	99.2%	0.0%	0.0%	47.5%	0.0%	0.0%

Village	Water Supply	Well	River water	Water from forest area	Bottled water	Others
Rantau Panjang	60.0%	0.0%	0.0%	0.0%	16.7%	98.3%
Batu Barat	0.8%	15.0%	18.3%	0.8%	21.7%	95.0%
Matan Jaya	92.2%	10.0%	13.3%	8.9%	1.1%	15.6%
Teluk Bayur	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sempurna	2.5%	3.8%	40.0%	61.3%	0.0%	0.0%
Jago Bersatu	0.0%	100.0%	0.0%	4.0%	0.0%	0.0%
Penjawaan	0.0%	43.3%	96.7%	0.0%	0.0%	0.0%
Pangkalan Telok	31.1%	56.7%	31.1%	4.4%	0.0%	0.0%
Laman Satong	43.3%	12.2%	56.7%	32.2%	1.1%	1.1%
Padu Banjar	30.0%	50.0%	0.0%	0.0%	5.0%	175.0%
Pemangkat	0.0%	10.0%	0.0%	20.0%	20.0%	155.0%
Pulau Kumbang	55.0%	0.0%	0.0%	5.0%	0.0%	185.0%
Nipah Kuning	45.0%	25.0%	0.0%	5.0%	0.0%	175.0%

Table 12 Sources of heat for cooking

Village	Fuel wood	Charcoal	Electricity	Propane gas	Kerocene
Riam Berasap	85.0%	0.0%	0.0%	80.0%	0.0%
Simpang Tiga	96.7%	0.0%	10.0%	60.0%	0.0%
Sejahtera	88.6%	0.0%	7.1%	47.1%	0.0%
Pampang Harapan	91.3%	0.0%	0.0%	50.0%	2.5%
Pangkalan Buton	56.7%	0.0%	17.5%	85.8%	0.8%
Sutera	40.0%	0.0%	60.0%	95.0%	0.0%
Gunung Sembilan	95.0%	0.0%	0.0%	75.0%	0.0%
Benawai Agung	57.1%	1.4%	0.0%	65.7%	0.0%
Sedahan Jaya	87.5%	0.0%	0.0%	93.3%	0.8%
Rantau Panjang	95.0%	0.0%	1.7%	83.3%	1.7%
Batu Barat	86.7%	0.0%	1.7%	64.2%	0.0%
Matan Jaya	91.1%	0.0%	0.0%	71.1%	1.1%
Teluk Bayur	30.0%	0.0%	0.0%	30.0%	0.0%
Sempurna	57.5%	1.3%	1.3%	41.3%	0.0%
Jago Bersatu	68.0%	0.0%	0.0%	72.0%	0.0%
Penjawaan	50.0%	0.0%	0.0%	50.0%	0.0%
Pangkalan Telok	96.7%	0.0%	1.1%	25.6%	0.0%
Laman Satong	91.1%	0.0%	0.0%	65.6%	0.0%
Padu Banjar	85.0%	0.0%	0.0%	90.0%	0.0%
Pemangkat	90.0%	0.0%	0.0%	85.0%	0.0%
Pulau Kumbang	95.0%	0.0%	0.0%	90.0%	0.0%
Nipah Kuning	95.0%	0.0%	0.0%	85.0%	0.0%

In terms of the ratio of households raising livestock, the ratio of chicken-raising households was high overall, at around 50% of the household subjects, followed by ducks and cows (Table 13). As for the average value of total amount of livestock, villages such as Sutera and Penjawaan

showed high results, and a trend towards a high total amount could be seen in households raising cows (Figure 12).

Table 13 Ratios of households raising livestock

Village Name	Buffalo	Cow	Pig	Chicken	Duck	Fish
Riam Berasap	0.0%	8.3%	0.0%	50.0%	8.3%	3.3%
Simpang Tiga	0.0%	0.0%	0.0%	56.7%	10.0%	0.0%
Sejahtera	0.0%	7.1%	1.4%	48.6%	18.6%	0.0%
Pampang Harapan	0.0%	11.3%	0.0%	58.8%	28.8%	3.8%
Pangkalan Buton	0.0%	28.3%	0.0%	55.8%	20.8%	0.0%
Sutera	0.0%	32.5%	0.0%	50.0%	32.5%	0.0%
Gunung Sembilan	0.0%	16.7%	0.0%	40.0%	35.0%	0.0%
Benawai Agung	0.0%	1.4%	4.3%	67.1%	25.7%	0.0%
Sedahan Jaya	0.0%	6.7%	17.5%	55.8%	17.5%	9.2%
Rantau Panjang	0.0%	5.0%	1.7%	80.0%	11.7%	0.0%
Batu Barat	0.0%	8.3%	0.0%	51.7%	15.0%	0.8%
Matan Jaya	0.0%	6.7%	0.0%	14.4%	3.3%	0.0%
Teluk Bayur	0.0%	2.5%	0.0%	57.5%	0.0%	10.0%
Sempurna	0.0%	3.8%	0.0%	55.0%	7.5%	0.0%
Jago Bersatu	0.0%	0.0%	0.0%	40.0%	8.0%	8.0%
Penjawaan	0.0%	20.0%	0.0%	60.0%	10.0%	0.0%
Pangkalan Telok	0.0%	1.1%	0.0%	44.4%	6.7%	2.2%
Laman Satong	0.0%	3.3%	63.3%	47.8%	3.3%	0.0%
Padu Banjar	0.0%	0.0%	0.0%	75.0%	10.0%	0.0%
Pemangkat	0.0%	10.0%	0.0%	80.0%	15.0%	0.0%
Pulau Kumbang	0.0%	10.0%	0.0%	70.0%	5.0%	0.0%
Nipah Kuning	0.0%	5.0%	0.0%	70.0%	10.0%	0.0%

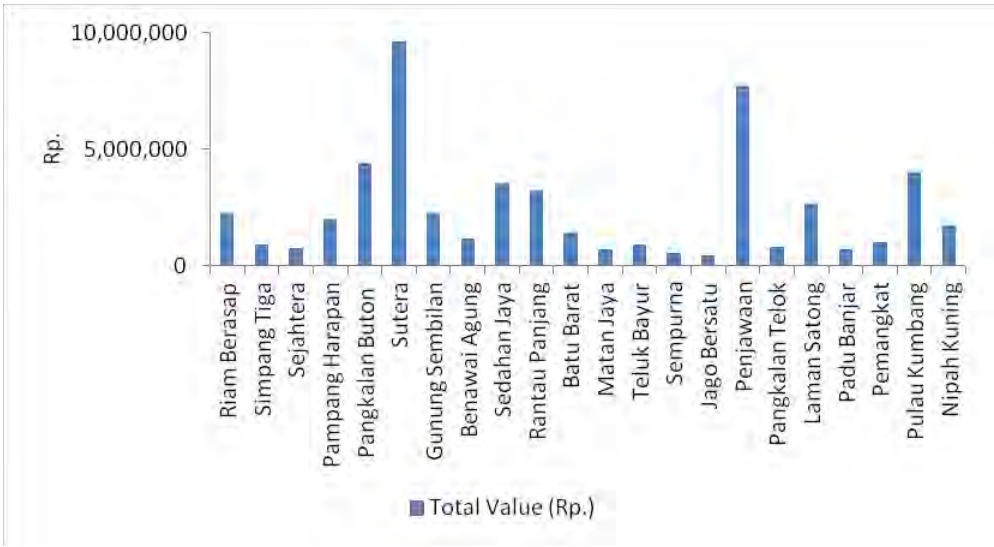


Figure 12 Total amounts of livestock

(2) Satisfaction level of living environment

In terms of satisfaction level of living environment, answers were obtained on a 5-grade sensory scale. On an item-by-item basis, there was low satisfaction with amount of crop productivities, education and health services, and looking on a village-by-village basis, it was ascertained that there were low levels of satisfaction with living environments in Teluk Bayur, Jago Bersatu, Pangkalan Teluk, Penjawaan, Sempurna, and Rantau Panjang.

Table 14 Satisfaction level of living environment

Village	1.Amount of water volume for daily life use	2.Quality of water volume for daily life use	3.Amount of water volume for drinking	4.Quality of water volume for drinking	5.Sufficiency of amount of food for daily life	6.Sufficiency of amount of crop productivities	7.Situation of entertainment	8.Situation of health service	9.Situation of education for your family	10.Situation of transportation	11.Accessibility to road for vehicles
Riam Berasap	3.37	3.32	3.33	3.37	3.12	2.33	2.97	3.08	2.78	3.03	3.87
Simpang Tiga	3.17	2.70	2.63	3.37	2.70	2.47	2.23	2.80	2.03	3.87	2.80
Sejahtera	2.86	2.84	2.84	3.01	2.64	2.28	2.70	2.73	2.67	2.59	2.94
Pampang Harapan	3.45	3.45	3.44	3.46	2.86	1.82	1.76	2.15	1.79	2.24	2.64
Pangkalan Buton	3.34	3.67	3.44	3.70	2.66	2.51	1.54	2.68	2.45	2.71	2.97
Sutera	3.70	4.00	3.88	3.95	3.20	1.78	1.88	2.60	2.63	3.33	3.68
Gunung Sembilan	3.07	3.68	3.07	4.02	2.33	1.50	1.70	2.18	2.25	2.48	3.02
Benawai Agung	3.40	3.86	3.61	4.13	2.90	2.74	2.31	3.41	2.34	2.50	3.04
Sedahan Jaya	3.62	3.78	3.74	3.85	3.04	3.00	2.93	2.85	2.66	2.88	3.17
Rantau Panjang	1.87	2.37	1.80	3.37	2.92	2.03	2.42	3.03	2.95	2.28	2.88
Batu Barat	2.93	2.20	2.62	3.31	2.75	2.42	2.40	3.01	2.30	2.58	3.12
Matan Jaya	3.04	3.26	3.22	3.76	2.83	2.17	2.24	2.96	2.53	2.61	3.04
Teluk Bayur	3.00	2.28	2.95	2.05	2.67	2.03	1.51	1.08	1.03	1.05	1.15
Sempurna	3.25	2.74	3.10	2.65	2.70	2.25	2.40	1.54	1.86	2.34	2.95
Jago Bersatu	3.04	1.84	2.76	2.64	2.88	1.88	1.44	1.16	1.20	1.52	1.76
Penjawaan	3.00	2.43	2.90	1.97	2.83	1.57	1.70	2.43	2.50	2.10	1.93
Pangkalan Telok	3.04	3.00	2.99	2.93	2.83	1.51	1.40	1.37	1.63	1.92	2.19
Laman Satong	3.20	3.30	3.06	3.28	3.18	2.27	2.13	2.43	2.02	2.92	3.32
Padu Banjar	1.30	1.15	1.30	1.74	2.00	2.10	1.70	2.05	1.65	2.15	2.45

Village	1.Amount of water volume for daily life use	2.Quality of water volume for daily life use	3.Amount of water volume for drinking	4.Quality of water volume for drinking	5.Sufficiency of amount of food for daily life	6.Sufficiency of amount of crop productivities	7.Situation of entertainment	8.Situation of health service	9.Situation of education for your family	10.Situation of transportation	11.Accessibility to road for vehicles
Pemangkat	2.75	2.25	2.80	3.35	3.00	2.90	2.60	3.05	1.95	2.80	3.05
Pulau Kumbang	1.10	1.05	1.35	2.50	2.10	1.65	1.20	2.30	2.10	2.60	2.60
Nipah Kuning	1.10	1.11	1.10	1.42	1.90	1.84	1.10	2.20	1.40	2.45	2.45

(3) Natural resources use

With regard to the use of natural resources in the area around the National Park, it was ascertained that many households (60-90% and higher) gather fuel woods. In villages such as Matan Jaya and Gunung Sembilan, there are high ratios of collection of durian (Table 15).

Table 15 Ratios of natural resources use

Village	Fuel woods	Durian	Mushroom	Banana	Honey	Bamboo shoot	Others
Riam Berasap	86.7%	23.3%	1.7%	0.0%	0.0%	0.0%	0.0%
Simpang Tiga	93.3%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Sejahtera	85.7%	15.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Pampang Harapan	93.8%	36.3%	0.0%	6.3%	0.0%	36.3%	13.8%
Pangkalan Buton	60.0%	15.0%	0.0%	2.5%	0.0%	6.7%	1.7%
Sutera	37.5%	20.0%	0.0%	0.0%	0.0%	5.0%	0.0%
Gunung Sembilan	93.3%	45.0%	0.0%	15.0%	1.7%	8.3%	11.7%
Benawai Agung	68.6%	20.0%	0.0%	2.9%	0.0%	11.4%	8.6%
Sedahan Jaya	89.2%	29.2%	8.3%	4.2%	0.0%	53.3%	10.8%
Rantau Panjang	95.0%	8.3%	0.0%	0.0%	0.0%	0.0%	53.3%
Batu Barat	94.2%	3.3%	0.0%	2.5%	0.0%	7.5%	17.5%
Matan Jaya	87.8%	71.1%	0.0%	0.0%	0.0%	52.2%	1.1%
Teluk Bayur	67.5%	7.5%	0.0%	0.0%	0.0%	2.5%	0.0%
Sempurna	60.0%	11.3%	0.0%	0.0%	0.0%	0.0%	1.3%
Jago Bersatu	68.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%
Penjawaan	50.0%	6.7%	0.0%	0.0%	0.0%	40.0%	0.0%
Pangkalan Telok	97.8%	11.1%	0.0%	1.1%	5.6%	23.3%	3.3%
Laman Satong	92.2%	10.0%	0.0%	4.4%	0.0%	67.8%	1.1%
Padu Banjar	95.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pemangkat	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pulau Kumbang	85.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nipah Kuning	95.0%	0.0%	0.0%	0.0%	0.0%	75.0%	0.0%

Collection sites of fuel woods and durian, which have high ratios of use, are shown in the figures below (Figure 13, Figure 14). It was ascertained that fuel woods are used inside the National Park, that there are high ratios of the use of fuel woods in Pampang Harapan, Sedahan Jaya, Sempurna and Benawai Agung, etc., and that there is a use of durian inside the National Park too, with high ratios of durian collection in villages such as Pampang Harapan, Sutera, Gunung Sembilan, Benawai Agung, Sedahan Jaya, Teluk Bayur and Sempurna.

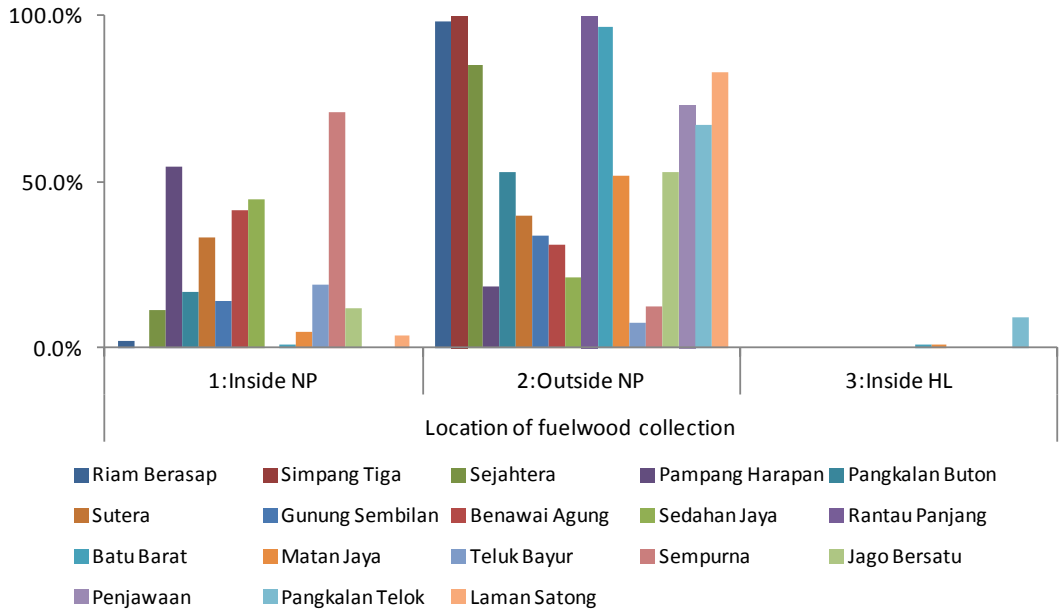


Figure 13 Location of fuel wood collection

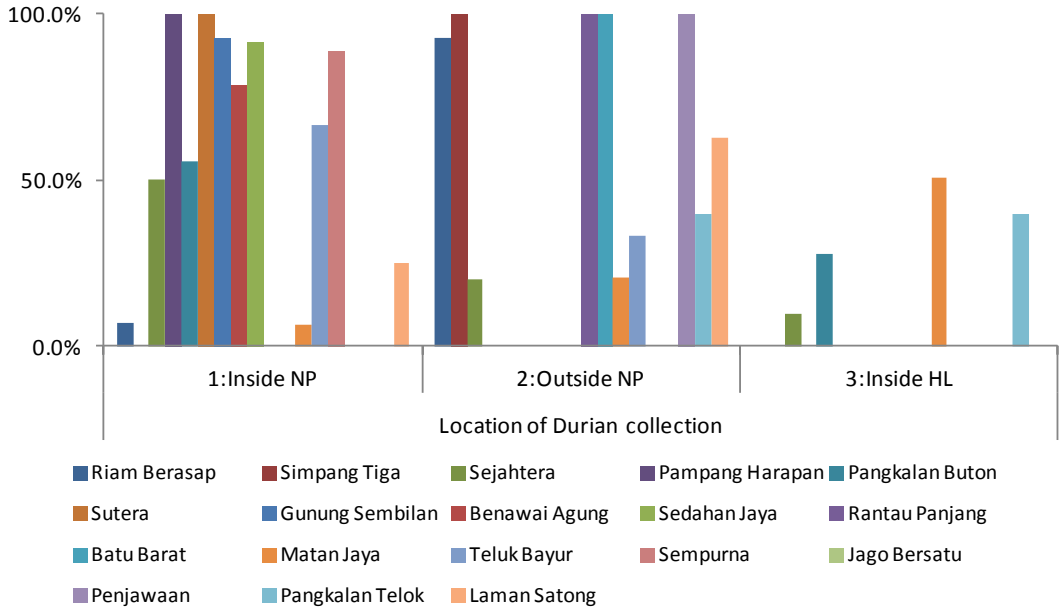


Figure 14 Location of durian collection

(4) Household income and expenditure

The figure below shows average expenditure and income per household. Average expenditure in the 18 villages was 24,749,000 Rp., and average income was 33,565,000 Rp.

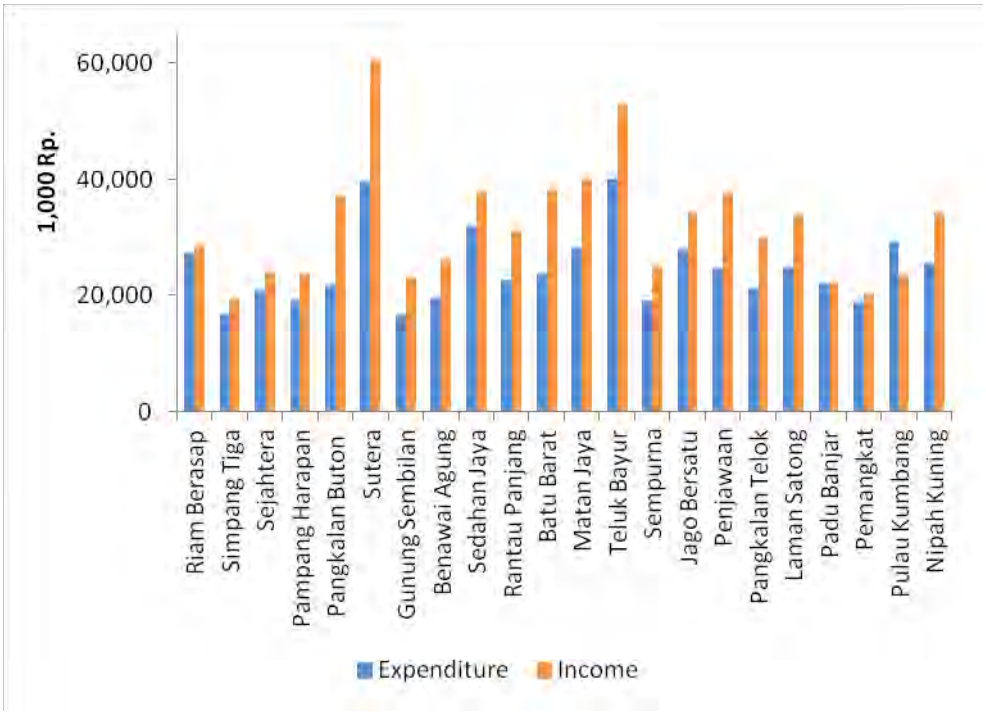


Figure 15 Average expenditure and income of household subjects

Looking at income and expenditure separately, both income and expenditure tended to be below-average in the villages of Simpang Tiga, Gunung Sembilan, Pampang Harapan, Sempurna and Sejahtera.

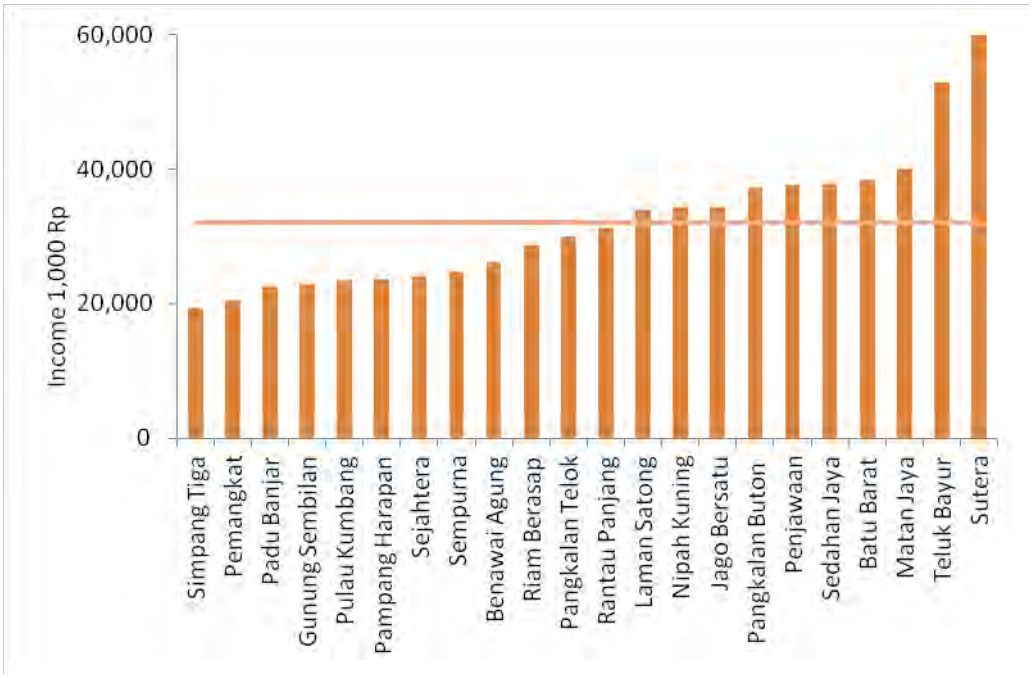


Figure 16 Average income of household subjects (in ascending order)

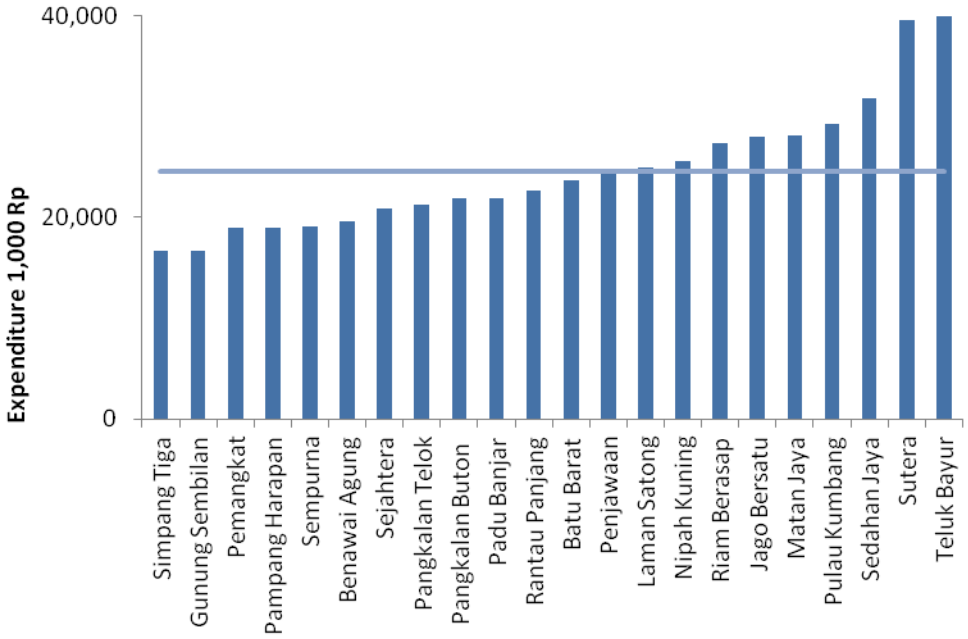


Figure 17 Average expenditure of household subjects (in ascending order)

The survey also studied the main livelihoods (sources of income) in villages around the National Park, examining sources of income in detail by splitting between income from farming and natural resources and income from non-farming sources.

It was ascertained that sources of income from farming and natural resources were wetland paddies, upland paddies, livestock, non-timber products and rubber. Income from rice production in wetland paddies was led by Sudahan Jaya, while income from rice production in upland paddies was led by Sutera, Penjawaan and Pampang Harapan. It was also ascertained that income is earned from timber sales in the villages of Pangkalan Buton, Gunung Sembilan, Benawai Agung, Matan Jaya, Penjawaan, Pangkalan Telok and Laman Satong (Table 16).

In terms of income from non-farming sources, the main livelihoods are wage-based income for work on oil palm plantations or mineral mining, etc. (Table 17)

Table 16 Average income from farming, timber and non-timber forest products (derived from natural resources) (units: Rp.)

Village Name	Wetland paddy	Upland paddy	Vegetable	Livestock	Hunting	NTFP	Fuel woods	Timber	Rubber
Riam Berasap	0	2,366,667	1,233,333	6,620,000	0	5,776,923	0	0	3,988,571
Simpang Tiga	3,476,667	0	0	730,000	0	10,000,000	1,200,000	0	5,508,000
Sejahtera	2,630,244	0	0	870,000	0	6,366,667	0	0	10,434,545
Pampang Harapan	4,939,800	4,209,400	5,461,917	2,347,024	0	5,455,833	0	0	9,311,111
Pangkalan Buton	11,225,142	3,760,000	2,684,091	7,039,366	10,500,001	5,657,481	3	11,500,000	6,514,286
Sutera	11,805,688	9,000,000	4,829,000	13,650,591	0	7,250,000	0	0	6,400,000
Gunung Sembilan	6,003,200	0	6,364,000	3,670,742	0	5,827,097	0	16,000,000	0
Benawai Agung	11,653,411	2,635,889	341,667	2,462,303	0	2,480,000	560,000	1,575,000	10,815,000
Sedahan Jaya	21,350,654	0	3,185,714	4,018,952	175,000	3,868,878	3	0	0
Rantau Panjang	4,247,452	0	4,565,058	6,006,346	0	1,759,766	0	0	8,393,120
Batu Barat	5,186,263	2,927,727	0	7,366,923	0	1,633,333	0	0	6,888,395
Matan Jaya	4,375,000	2,671,556	24,000,000	5,355,000	18,000,000	2,960,769	0	18,500,000	4,265,000
Teluk Bayur	7,136,842	2,666,667	0	1,211,111	0	3,437,500	833,333	0	29,601,600
Sempurna	2,193,333	2,142,308	0	335,000	0	4,000,000	0	0	14,018,789
Jago Bersatu	6,286,154	1,800,000	0	550,000	0	500,000	1,500,000	0	22,250,000
Penjawaan	0	5,298,182	0	8,958,333	0	7,000,000	0	15,000,000	12,257,500
Pangkalan Telok	2,220,000	3,023,900	3,100,000	1,350,313	9,666,667	4,500,000	0	13,100,000	13,098,978
Laman Satong	3,636,000	3,044,143	6,116,667	2,773,462	1,125,000	1,525,000	0	24,910,000	10,412,000
Padu Banjar	1,050,000	3,000,000	18,000,000	0	0	8,400,000	0	0	6,096,000
Pemangkat	0	5,593,750	3,639,824	0	0	0	0	0	6,323,818
Pulau Kumbang	0	4,500,000	0	13,540,000	0	0	20,000,000	0	9,354,571
Nipah Kuning	0	1,490,625	16,000,000	0	0	0	360,000	96,000,000	16,080,000

Table 17 Average income from non-agricultural sources (units: Rp.)

Village Name	Permanent Oil palm	Permanent farming	Permanent mining	Permanent Others	Temporary Oil palm	Temporary farming	Temporary mining	Going outside to work	Temporary others	Private business
Riam Berasap	23,083,652	500,000	0	22,928,571	32,500,000	800,000	0	0	7,631,579	24,200,000
Simpang Tiga	21,840,000	4,800,000	0	8,978,333	12,000,000	960,000	0	7,000,000	7,577,778	1,950,000
Sejahtera	9,575,000	18,000,000	0	15,510,930	20,160,000	1,200,000	0	0	13,351,724	19,200,000
Pampang Harapan	15,392,000	11,575,000	17,400,000	13,362,143	22,500,000	5,179,231	13,056,000	4,457,143	9,772,778	9,600,000
Pangkalan Buton	0	1,700,000	15,692,857	23,904,206	0	3,918,750	5,400,000	9,000,000	15,187,714	34,736,364
Sutera	0	750,000	11,664,000	55,399,258	0	0	0	0	19,273,375	68,925,000
Gunung Sembilan	19,500,000	8,035,000	7,200,000	18,885,135	0	5,550,000	9,000,000	0	7,944,545	13,250,000
Benawai Agung	28,800,000	1,033,333	21,466,667	17,554,118	0	1,055,000	4,415,000	0	10,064,462	13,578,000
Sedahan Jaya	20,400,000	1,422,222	750,000	28,000,679	0	1,819,487	5,000,000	3,000,000	7,283,636	24,033,636
Rantau Panjang	18,440,800	3,816,667	7,000,000	20,424,375	3,928,000	983,333	24,000,000	0	7,632,500	0
Batu Barat	18,249,000	3,163,333	0	16,236,029	11,506,000	0	0	8,000,000	7,558,750	6,900,000
Matan Jaya	22,297,893	15,900,000	25,816,667	26,354,480	13,800,000	0	0	0	14,014,303	9,150,000
Teluk Bayur	22,440,000	200,000	0	40,484,762	0	0	0	0	9,000,000	0
Sempurna	21,497,333	0	0	23,100,000	12,342,353	1,200,000	0	0	13,069,231	5,400,000
Jago Bersatu	24,015,000	0	0	21,450,000	0	0	0	4,000,000	0	0
Penjawaan	20,028,889	0	0	34,620,000	15,750,000	0	0	0	25,080,000	24,000,000
Pangkalan Telok	23,692,129	3,000,000	0	24,240,000	16,504,833	0	0	0	8,068,000	26,137,500
Laman Satong	27,334,947	0	31,600,000	22,733,333	29,762,667	0	12,000,000	0	26,760,000	25,875,000
Padu Banjar	0	625,000	0	14,650,000	3,660,000	3,058,571	0	0	9,150,000	0
Pemangkat	16,200,000	5,040,000	0	16,800,000	0	0	0	0	6,600,000	3,080,000
Pulau Kumbang	0	5,000,000	0	8,348,714	2,200,000	4,600,000	0	0	6,661,538	20,000,000
Nipah Kuning	21,072,000	8,087,500	0	10,508,571	0	300,000	0	0	12,660,000	0

With regards to the amount of income for work at oil palm plantations, it was ascertained that there is a large amount of income (combining fixed-term and non-fixed term work) in villages such as Laman Satong, Riam Berasap, Pangkalan Telok, Pampang Harapan and Matan Jaya (Figure 18).

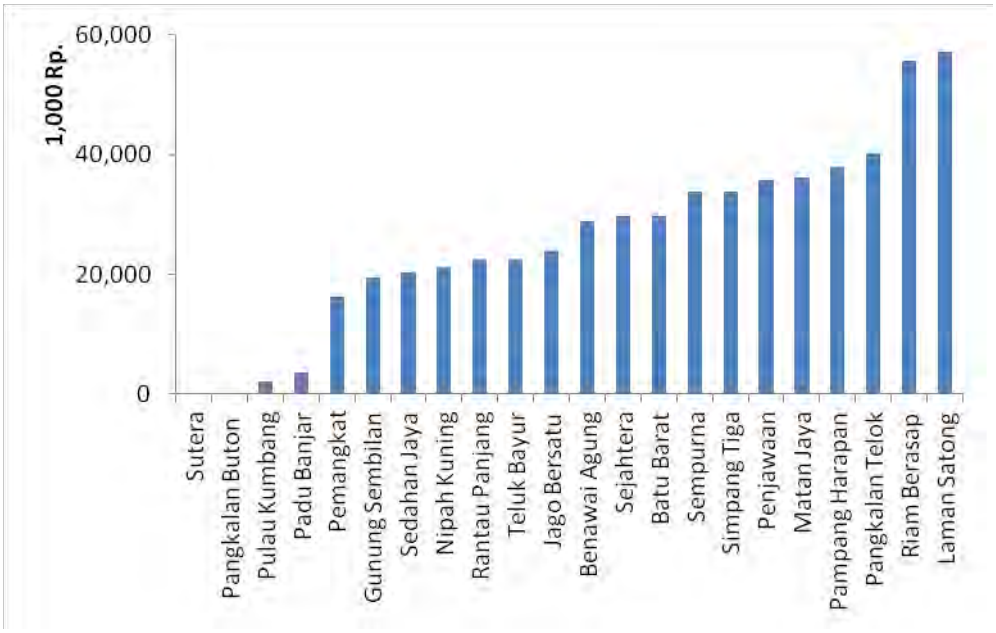


Figure 18 Amounts on income from oil palm plantation work

(5) Productivity of agricultural products

In terms of crop production, planted area and production output were surveyed for corn, cassava, wet land rice, dry land rice, coconut, durian, banana, leaf vegetables, rubber, coffee and mango, etc. From the results of the Household Survey, it was understood that the main crops produced in the surveyed area are the four items of wet land rice, dry land rice, durian and rubber. The planted area and production output of these four main items have been compiled in the table below (Table 18).

Table 18 Planted areas and production output of main planted crops

Village	Wet land paddy		Dry land paddy		Durian		Rubber	
	Area (ha)	Production(kg)	Area (ha)	Production(kg)	Area (ha)	Production(kg)	Area (ha)	Production(kg)
Riam Berasap	6.51	6,240	6.49	4,630	3.75	5,560	12.93	4,090
Simpang Tiga	9.93	8,266	0.00	0	0.70	800	13.78	11,758
Sejahtera	26.55	12,810	0.00	0	5.02	3,000	20.19	30,657
Pampang Harapan	31.81	18,486	1.00	1,200	18.76	12,115	11.00	7,275
Pangkalan Buton	32.75	97,074	0.50	480	1.13	8,800	13.25	9,880
Sutera	6.94	18,826	0.00	0	0.00	0	0.40	800
Gunung Sembilan	8.09	20,609	0.00	0	32.61	10,925	0.00	0
Benawai Agung	30.75	65,640	3.48	4,475	26.85	2,185	14.12	19,220
Sedahan Jaya	121.43	315,670	0.00	0	1.00	950	1.45	0
Rantau Panjang	18.89	5,073	0.50	216	0.01	125	63.24	52,738
Batu Barat	17.82	16,279	21.98	19,688	0.78	15,077	51.84	40,822

Village	Wet land paddy		Dry land paddy		Durian		Rubber	
Matan Jaya	2.18	1,203	11.31	6,690	15.60	24,352	55.23	5,225
Teluk Bayur	22.20	13,100	0.00	0	6.00	4,000	63.80	113,564
Sempurna	25.96	9,844	3.72	980	1.00	150	92.37	174,490
Jago Bersatu	19.50	6,500	1.00	450	0.00	0	33.50	51,340
Penjawaan	0.00	0	0.00	0	0.00	0	85.00	31,869
Pangkalan Telok	2.00	384	0.00	0	0.00	0	58.50	60,406
Laman Satong	16.29	10,148	8.00	2,000	4.30	4,000	39.60	30,614
Padu Banjar	0.00	0	8.65	2,737	0.00	0	0.87	3,200
Pemangkat	0.00	0	3.01	5,902	0.00	0	6.16	180
Pulau Kumbang	0.00	0	11.18	0	0.00	0	15.96	0
Nipah Kuning	0.00	0	0.00	0	0.00	0	0.52	0

It was ascertained that wet land rice production has a large planted area and production output in Sudahan Jaya, while dry land rice production is largest in Batu Barat. It was also found that durian collection in terms of volume is led by the villages of Matan Jaya, Batu Barat, Pampang Harapan and Gunung Sembilan, and that the largest rubber harvests are in Sempruna and Teluk Bayur.

(6) Event history

Changes in logging activities and events such as forest fires over the past 10 or 15 years have been compiled in the table below.

The ratio of engagement in logging from 2005 to 2008 was confirmed, and thereafter there was a general trend towards decrease. On the other hand, 40% of the household subjects in Penjawaan responded that they continue to carry out logging, and around 10-15% of households in Gunung Sembilan and Pampang Harapan responded in the same way even as of the year 2013 (Figure 19).

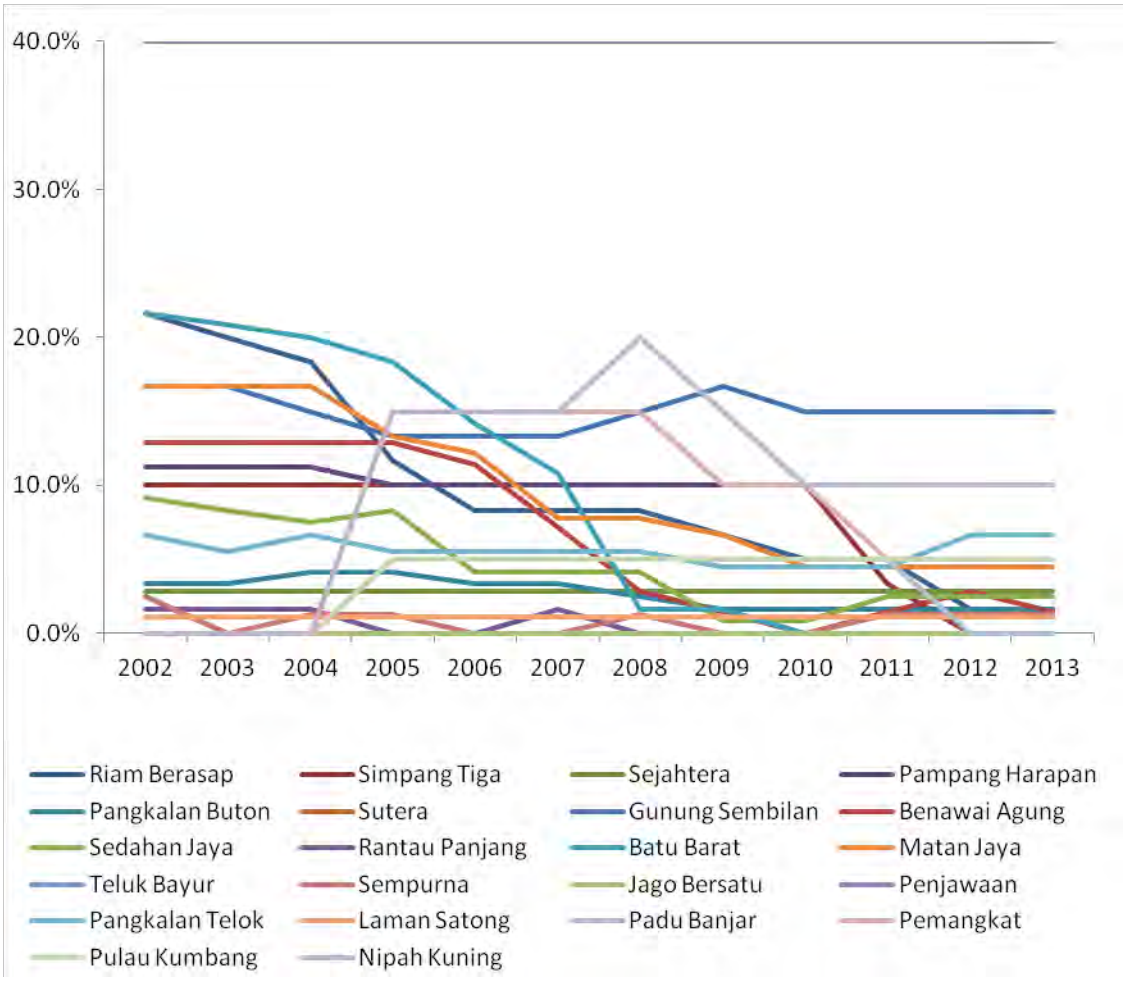


Figure 19 Logging individual

The figure below shows the years in which work was commenced at oil palm plantations. The number of workers are plantations gradually started to increase from the year 2004, and the trend for increase rose during the period from 2006 to 2010.

Of the surveyed villages, villages where 40% of the households surveyed were engaged in oil palm plantation work were as follows: Penjawaan, Jago Bersatu, Batu Barat, Laman Satong, and Matan Jaya. On the other hand, villages where 5% or less of the households surveyed were engaged in oil palm plantation work were as follows: Sejahtera, Pangkalan Buton, Sutera, Sedahan Jaya, Benawai Agung, Pampang Harapan, and Gunung Sembilan (Figure 20).

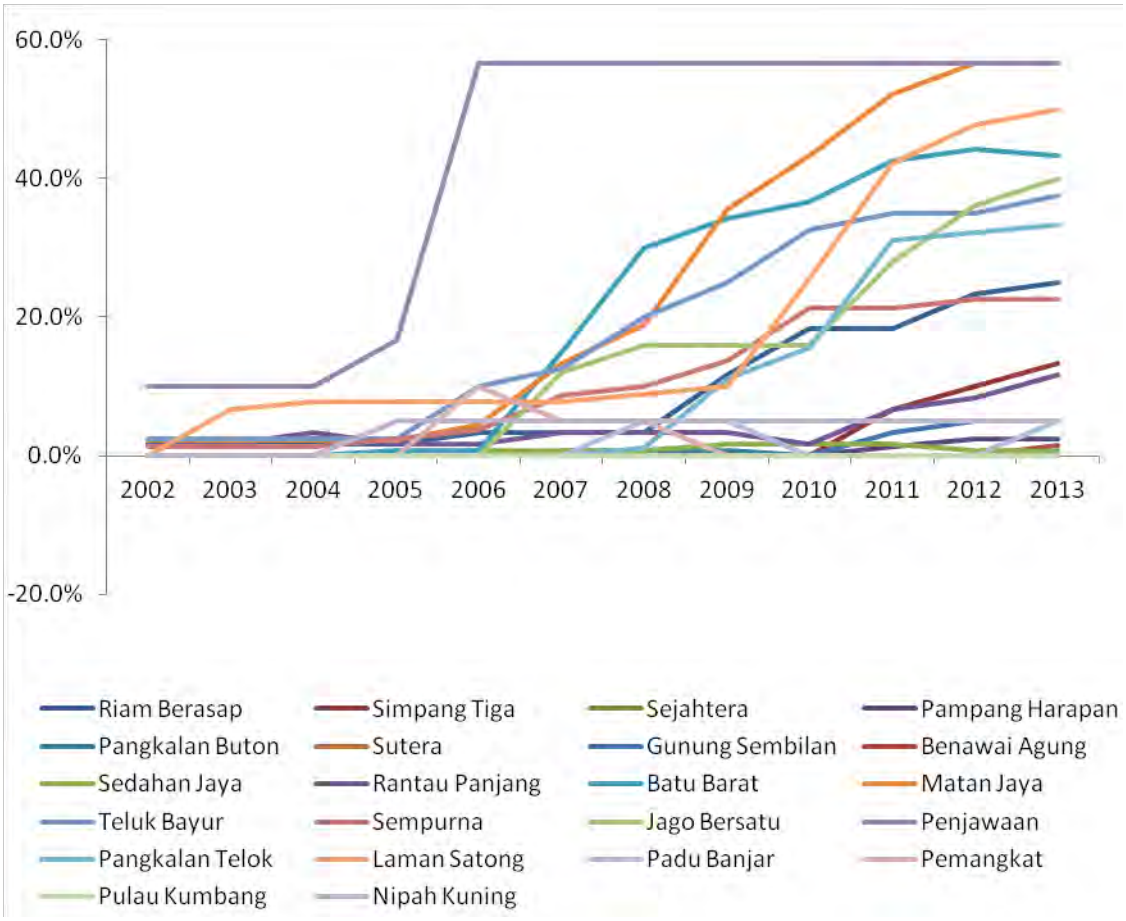


Figure 20 Years in which work commenced at oil palm plantations

Although there were slight increases and decreases in the occurrence of forest fires, significant year-to-year change could be confirmed only in responses from the villages of Simpang Tiga and Batu Barat. In Teluk Bayur, almost 100% of households responded that forest fires occur annually, while 60% of the households in Jago Bersatu and Laman Satong gave the same response (Figure 21).

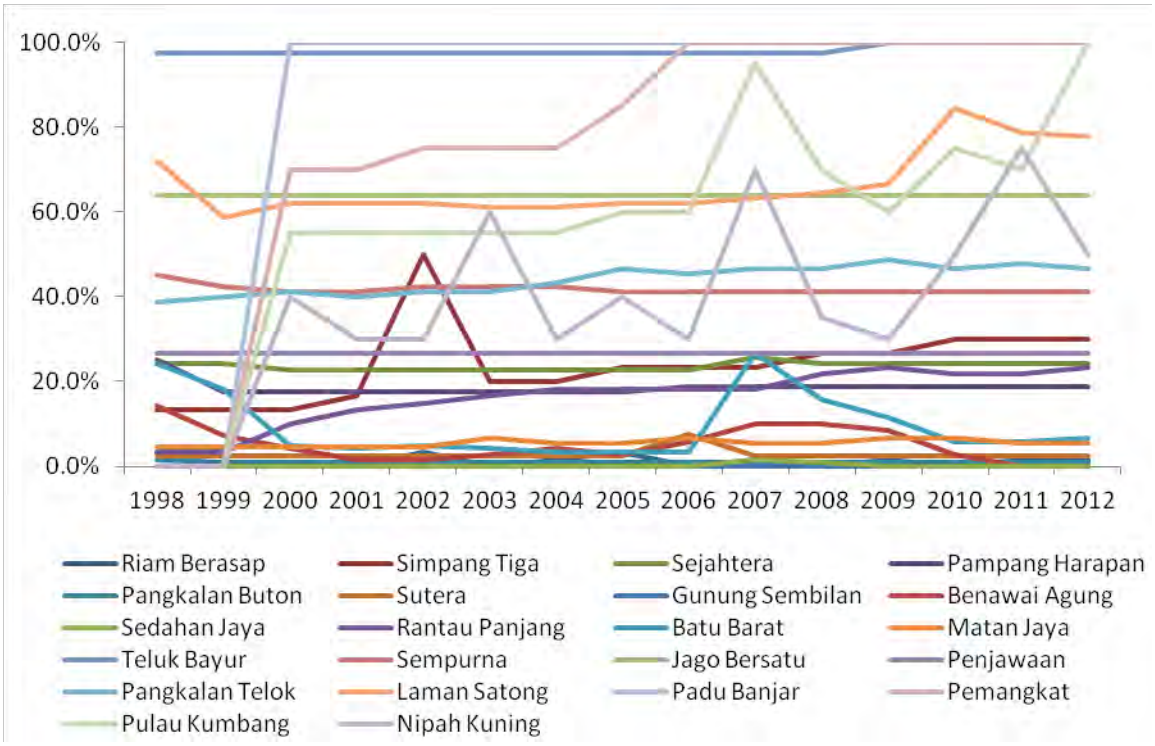


Figure 21 Forest fire

(7) Situation of land-use

The survey looked at the locations of land used for farm areas, plantations and agro-forestry in terms of whether they were inside the National Park, outside the National Park or inside HL. Villages with a high ratio of households owning farm areas inside the National Park were as follows: Sampruna, Pampang Harapan, and Jago Bersatu. Villages with a high ratio of households owning plantations inside the National Park were as follows: Sutera, Sedahan Jaya, Teluk Bayur, Pampang Harapan, Jago Bersatu, and Sempurna. From the above, it could be ascertained that in the villages of Sampruna, Pampang Harapan and Jago Bersatu there is a large number of households using land inside the National Park both for farm areas and plantations (Table 19, Figure 22).

Table 19 Location of crops land, plantation and agro-forestry area

Village Name	Farm area			Plantation			Agro-forestry	
	Inside NP	Outside NP	HL	Inside NP	Outside NP	HL	Inside NP	Outside NP
Riam Berasap	1.7	55.0	0.0	0.0	31.7	0.0	1.7	8.3
Simpang Tiga	0.0	86.7	0.0	0.0	76.7	0.0	0.0	3.3
Sejahtera	8.6	61.4	0.0	11.4	34.3	0.0	1.4	5.7
Pampang Harapan	32.5	30.0	2.5	33.8	1.3	0.0	35.0	3.8

Village Name	Farm area			Plantation			Agro-forestry	
Pangkalan Buton	0.0	55.8	0.0	4.2	16.7	0.0	0.8	7.5
Sutera	0.0	42.5	0.0	20.0	0.0	2.5	5.0	12.5
Gunung Sembilan	5.0	45.0	0.0	8.3	3.3	0.0	41.7	1.7
Benawai Agung	11.4	68.6	0.0	7.1	8.6	0.0	0.0	2.9
Sedahan Jaya	8.3	90.0	0.0	20.8	9.2	0.0	0.0	5.8
Rantau Panjang	0.0	81.7	0.0	0.0	96.7	0.0	0.0	23.3
Batu Barat	0.0	70.0	0.0	0.0	62.5	0.0	0.0	5.0
Matan Jaya	0.0	56.7	0.0	0.0	41.1	0.0	0.0	2.2
Teluk Bayur	2.5	70.0	0.0	25.0	52.5	0.0	0.0	7.5
Sempurna	62.5	16.3	0.0	75.0	16.3	1.3	0.0	1.3
Jago Bersatu	40.0	44.0	0.0	40.0	28.0	0.0	0.0	0.0
Penjawaan	0.0	36.7	0.0	0.0	80.0	0.0	0.0	6.7
Pangkalan Telok	4.4	57.8	13.3	1.1	56.7	7.8	0.0	2.2
Laman Satong	5.6	60.0	1.1	6.7	40.0	0.0	1.1	4.4

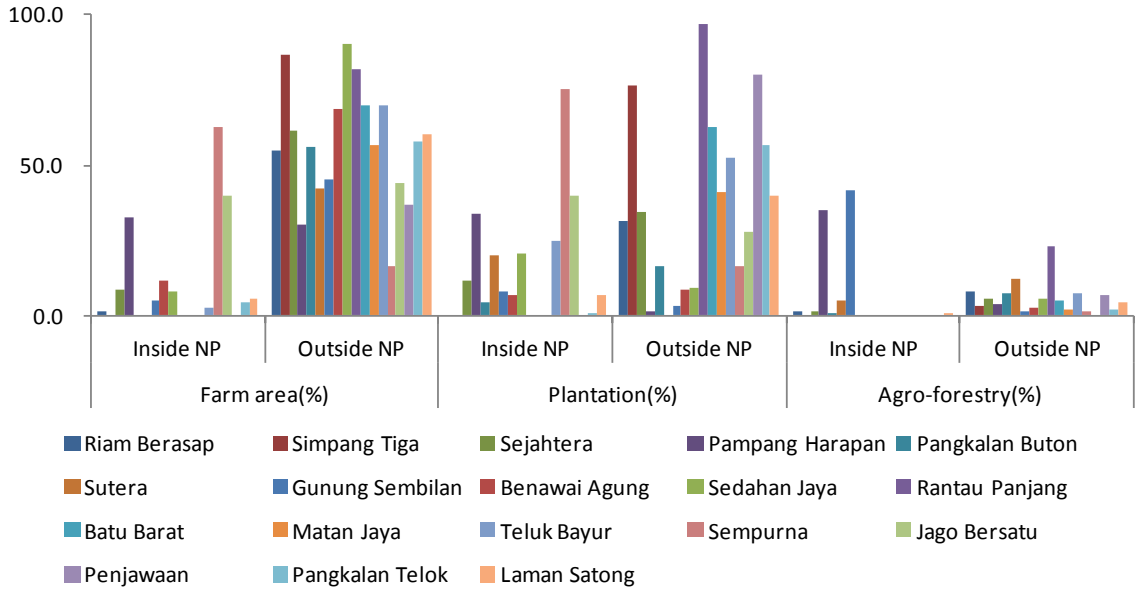


Figure 22 Location of crops land, plantation and agro-forestry area

(8) Recognition of village regulation and customary rules and participation rate of village activities

Levels of familiarity with customary rules in each village have been compiled in the figure below (Figure 23). High levels of familiarity with customary rules were seen in the villages of Sedahan Jaya (74.2%) and Riam Berasap (91.7%). In Penjawaan, none of the households were aware of the existence of customary rules, and it was also thought possible that customary rules do not exist. Sempruna has a low ratio (2.5%), and there was a level of familiarity with customary rules of 20% or

lower even in the villages of Jago Bersatu, Pangkalan Telok, Rantau Panjang, Batu Barat, Gunung Sembilan and Teluk Bayur.

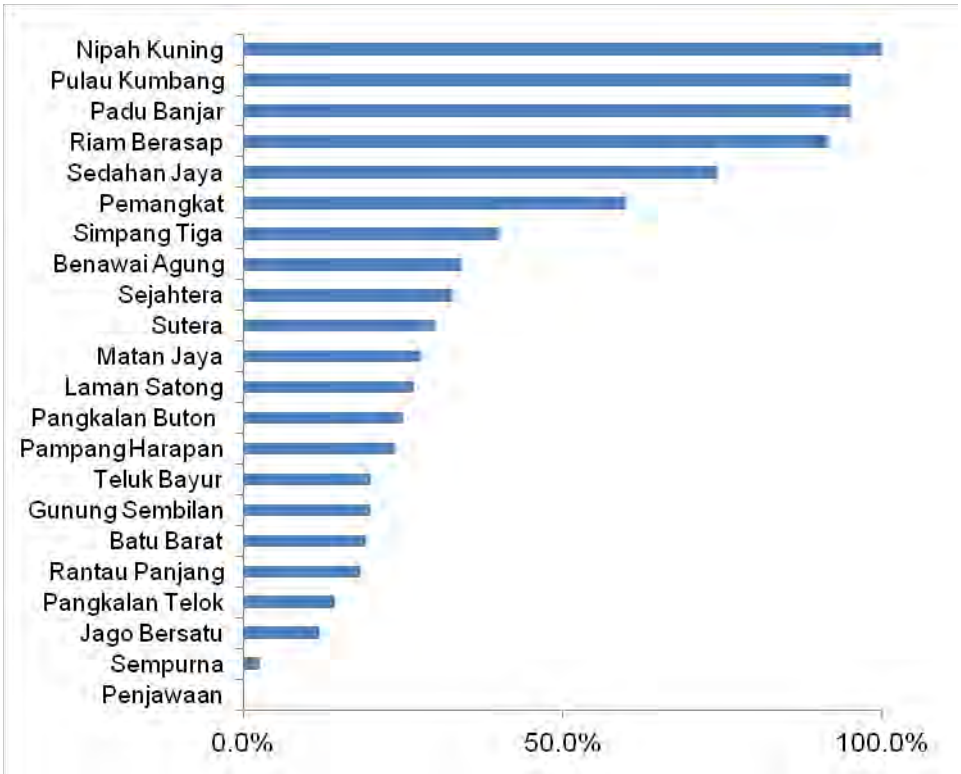


Figure 23 Levels of familiarity with customary rules

(9) Alternative livelihoods

The three most desirable livelihoods to be introduced have been compiled in the figure below. Wetland paddy rice farming was the livelihood most desired to be introduced by the households survey, followed by raising livestock and trading. It was ascertained that the inhabitants have a strong desire to pursue wetland paddy rice farming.

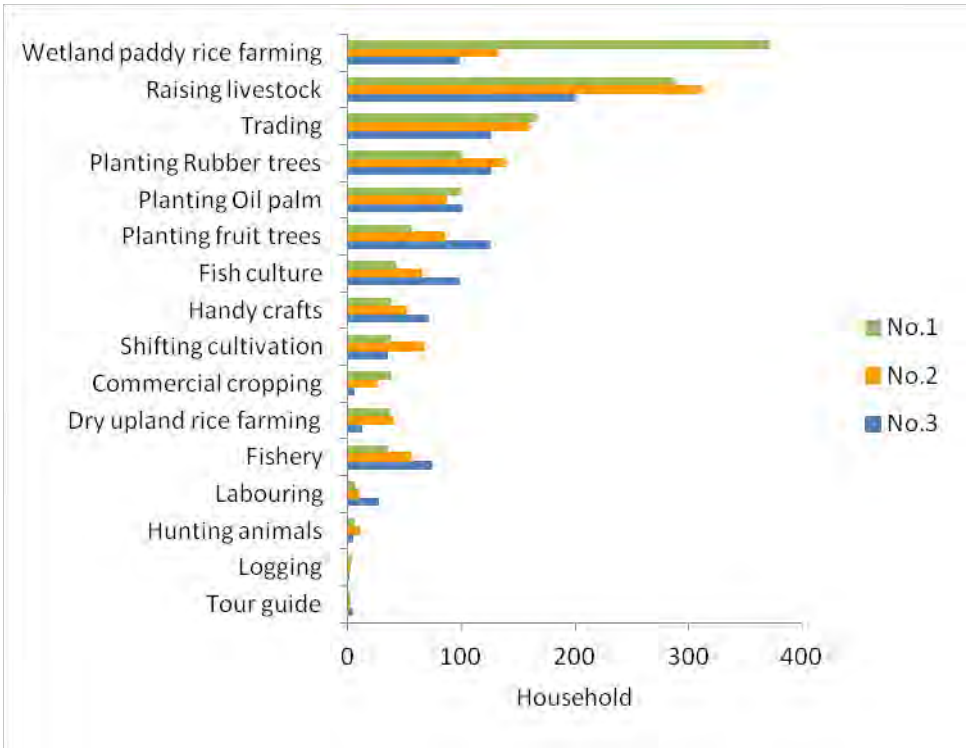


Figure 24 Livelihoods for which introduction is desirable

(10) Support from outside organizations

With regards to support from outside organizations, it was found that support from the Central Government is most common, followed by support from District Governments. Support from private companies in Batu Bara and Matan Jaya is thought to stem from oil palm companies (Table 20). The contents of support vary from village to village, but the items being received by inhabitants include health care, gas stoves for cooking, mosquito nets and monetary support (Table 21).

Table 20 Support from outside (up to 3 replies per household)

Village	Number of Sample	Supported organizations			
		Central Gv.	District Gv.	NGO	Private company
Riam Berasap	60	62	63	1	0
Simpang Tiga	30	83	0	0	0
Sejahtera	70	92	1	0	0
Pampang Harapan	80	55	33	0	0
Pangkalan Buton	120	227	5	3	0
Sutera	40	32	14	3	0
Gunung Sembilan	60	60	43	0	0
Benawai Agung	70	140	10	0	0
Sedahan Jaya	120	124	117	11	1
Rantau Panjang	60	129	16	0	0

Village	Number of Sample	Supported organizations			
		Central Gv.	District Gv.	NGO	Private company
Batu Barat	120	234	52	0	12
Matan Jaya	90	115	45	0	56
Teluk Bayur	40	83	0	1	0
Sempurna	80	117	1	0	0
Jago Bersatu	25	29	1	2	4
Penjawaan	30	55	1	0	0
Pangkalan Telok	90	122	6	0	0
Laman Satong	90	71	30	1	6
Padu Banjar	20	21	2	1	0
Pemangkat	20	3	20	0	0
Pulau Kumbang	20	15	4	0	0
Nipah Kuning	20	3	3	0	0

Up to 3 replies per household

Table 21 Contents of support from outside

Village	Health care	Gas	Money support	Natural resource management	Agriculture technique, tool, material	Plantation	Mosquito net	Raskin	Others
Riam Berasap	0	52	22	0	29	0	0	29	13
Simpang Tiga	0	29	26	0	0	0	27	0	0
Sejahtera	11	35	7	2	1	0	22	1	16
Pampang Harapan	6	12	48	1	1	1	2	0	34
Pangkalan Buton	7	99	3	0	1	0	99	0	1
Sutera	5	10	0	0	2	0	0	1	3
Gunung Sembilan	0	3	3	0	0	0	0	0	5
Benawai Agung	53	44	7	12	3	0	9	0	3
Sedahan Jaya	32	45	54	10	34	5	1	3	73
Rantau Panjang	4	52	41	1	11	16	0	5	17
Batu Barat	65	110	51	0	1	11	65	1	9
Matan Jaya	14	53	41	0	0	0	25	0	89
Teluk Bayur	37	22	25	0	1	0	37	0	0
Sempurna	7	44	5	0	0	0	59	0	0
Jago Bersatu	8	14	9	0	1	6	7	0	0
Penjawaan	33	18	4	1	0	1	20	0	0
Pangkalan Telok	45	28	15	0	0	0	42	0	14
Laman Satong	5	38	6	0	1	5	47	1	1

Up to 3 replies per household

3. Analysis of results of socio-economic survey by means of principal component

analysis

3.1. Purpose of principal component analysis

As seen up to this point, the survey results show that there are differences in the living conditions and farming methods of each community, thus the average values of each community were calculated and analysis was carried out based on these data. Although this produces a disadvantage in this information related to household-specific qualitative differences can no longer be used, it becomes possible to appropriately express spatial characteristics in a survey that is deeply linked to land use.

The following four points outline the purpose of socio-economic surveys:

1. To specify the driver(s) behind deforestation/deterioration of forests. To clarify the principal causes behind the driver(s).
2. To sample community groups relating to the driver(s) behind deforestation/deterioration of forests from a social and spatial perspective.
3. To draft REDD+ activities in order to reduce deforestation/deterioration of forests.

3.2. Explanation of axes of principal components

In order to achieve the purposes described above, it is necessary to integrate and express a large amount of information in compliance with the purposes. For that reason, principal component analysis was conducted by extracting from the socio-economic survey the causes impacting on deforestation inside the National Park and causes likely to mitigate the impact. The tables below show the total amounts of variance (Table 22) and the principal component score coefficient matrix (Table 23).

Table 22 Totals of explained variance

Component	Initial eigenvalue	Sum of loading squares after sampling				
	Total	Variance%	Cumulative %	Total	Variance %	Cumulative %
1	3.397	26.127	26.127	3.397	26.127	26.127
2	2.882	22.171	48.298	2.882	22.171	48.298
3	1.988	15.289	63.586	1.988	15.289	63.586
4	1.310	10.075	73.661	1.310	10.075	73.661
5	.837	6.436	80.097			
6	.736	5.664	85.761			
7	.644	4.956	90.717			
8	.460	3.542	94.259			
9	.307	2.361	96.621			
10	.231	1.780	98.401			
11	.135	1.039	99.440			
12	.048	.368	99.808			
13	.025	.192	100.000			

Table 23 Principal component score coefficient matrix

Item	Component			
	1	2	3	4
Livestock Total Value	.156	-.106	.059	-.002
Farm Inside NP	.079	.296	.105	.159
Farm Outside NP	.074	-.206	.323	-.186
Plantation Outside NP	-.174	-.053	.256	-.207
Plantation Inside NP	.112	.285	.140	.162
On farm Income NTFP	.162	-.026	-.125	.378
Off Income oil palm	-.163	.008	.288	.240
On farm Income Total	.243	.042	.220	-.115
Off farm Income Total	-.125	-.060	.109	.501
Wetland paddy Production	.238	-.117	.137	-.077
Dryland paddy Production	-.129	-.074	.218	.102
Rubber Production	-.024	.260	.237	-.154
Recognition Customary Rules	.120	-.170	.132	.360

Looking at the results obtained from principal component analysis, around a quarter (26%) of all information is collected for the 1st principal component, and approximately half (48%) is collected cumulatively up to and including the 2nd principal component.

From the principal component score, the 1st principal component shows in the positive axis direction the farming and farming income from land owned and relied-on by communities, and in the negative axis direction the farming and non-farming income on land where land use is unauthorized, forming an axis that shows the structure of household finances or community's economic activities. From such axis characteristics it can be ascertained that residents positions on the right (positive) side of the 1st principal component have household economies that are strongly reliant on income from agricultural production in continuous farming (particularly rice crops in wet land paddy fields), while those to the left (negative) side are communities reliant on income from unstable or small-scale farming and non-farming activities.

Next, looking at the 2nd principal component, the axis shows community groups carrying out farming activities inside the National Park located in the positive direction, while groups carrying out farming activities outside the National Park as located in a negative direction, or in other words, this is an axis that evaluates the impact on forests inside the National Park. The 1st and 2nd axes show 48% of all information¥.

Note that the 3rd principal component has an entirely positive coefficient aside from NTFP (a forest byproduct), which results in an axis where communities with large-scale economic activities are distributed on the positive side and communities with small-scale economic activities are distributed on the negative side.

The 4th principal component can be explained as a supplementary action of the 1st and 2nd principal components. Communities with high income from NTFP in non-farming income and high numerical values with burnt fields added are distributed on the positive side, and communities that own land outside the National Park and are reliant on farming income and rubber planting are distributed on the negative side. This can be explained as an axis where the former shows a high risk of

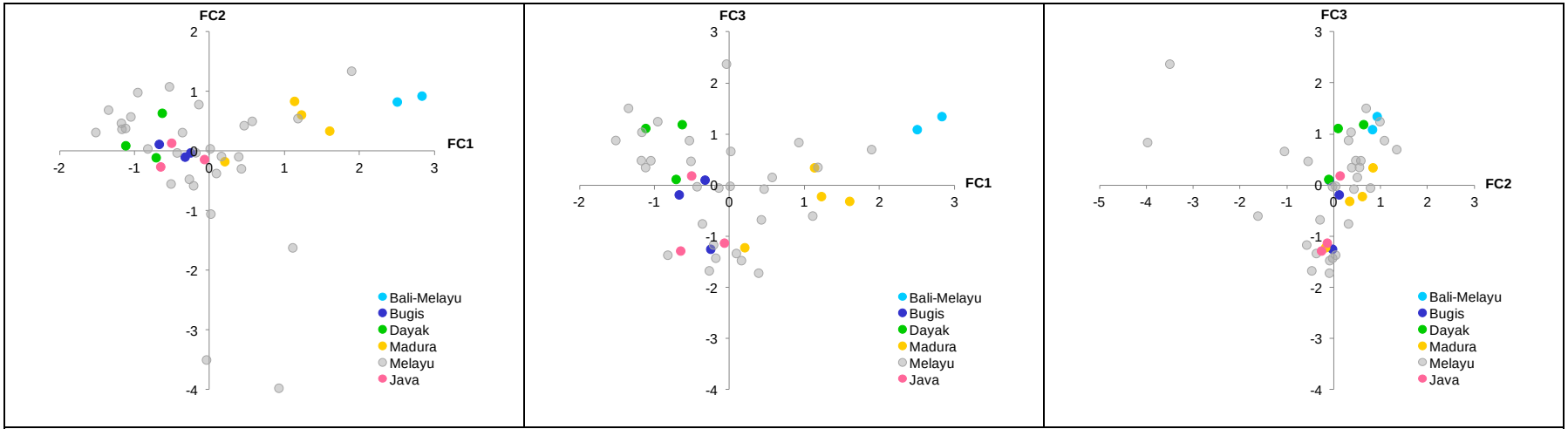
deforestation/deterioration of forests, and the latter shows a low risk. However, this can be analyzed adequately in combination with the 1st and 2nd principal components. Explanations of each principal component have been compiled in the table below.

Table 24 Explanations of components

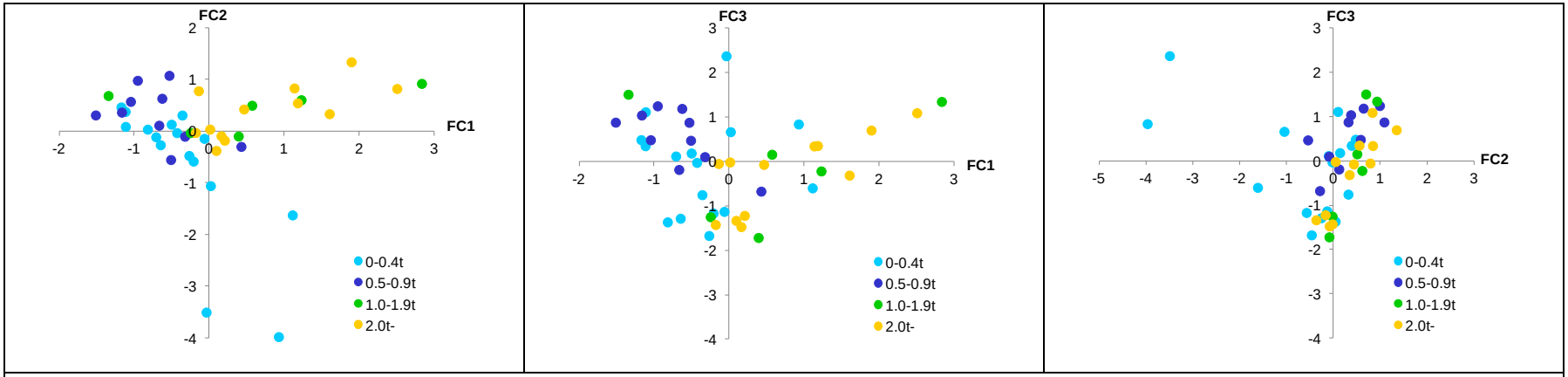
Principal component	Explanation
1st principal component	Farming on owned land and farming on unauthorized land
2nd principal component	Activities outside the National Park (with effects on forests inside the National Park)
3rd principal component	Scale of economic activity
4th principal component	Effects on forests due to livelihood activities

3.3. Explanation of principal component analysis results from spatial perspective

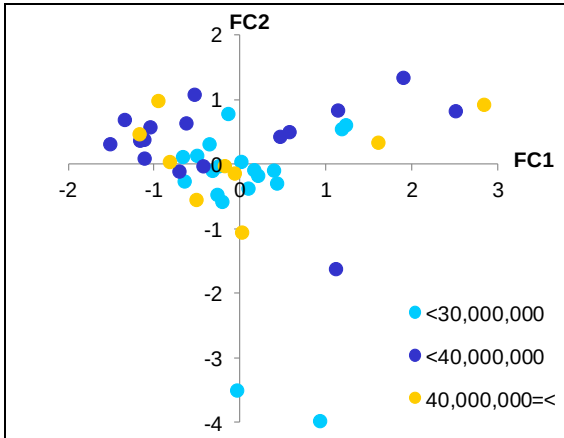
From the results described above, since the 4th principal component shows the supplementary action of the 1st and 2nd principal components, the 1st, 2nd and 3rd principal components were used to explain the results of principal component analysis from a spatial perspective. The figures below show scatter diagrams of each community.

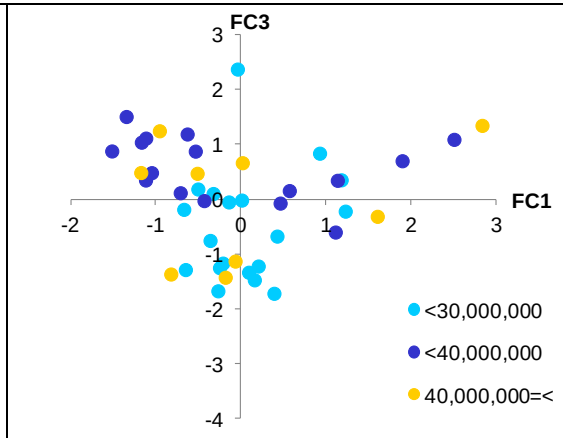


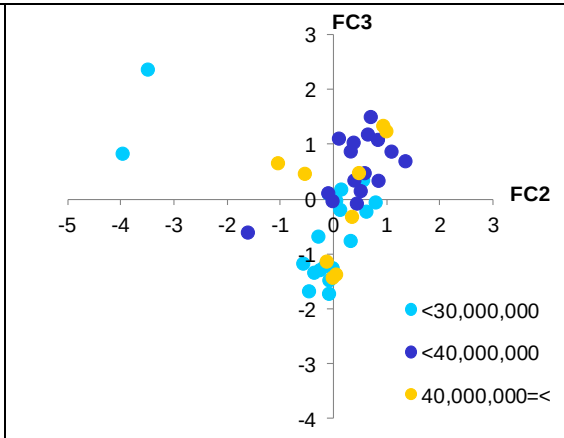
Scattering of peoples: On the FC1-2 axis, Bali and Madura tribe communities carrying out wet paddy land rice production are located on the right side of the 1st axis, and the Dayak, Java and Bugis tribes are located on the left side. In the Melayu tribe, scattering and diversity can be seen in each community. Each people shows similar trends.



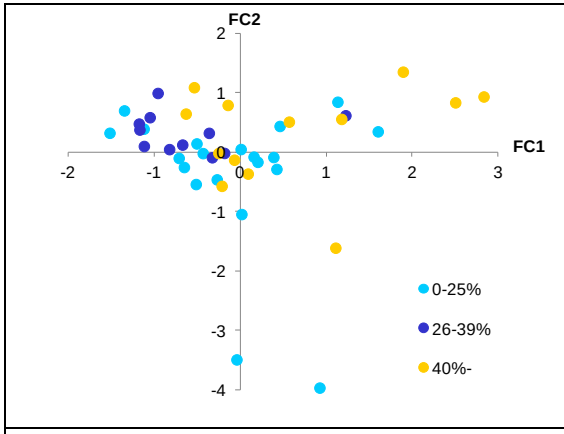
Wet paddy land rice production volume: On the FC1-2 axis, communities with large wet paddy land rice production volume are located on the right side of the 1st axis, and communities with low production volume are located on the left side.

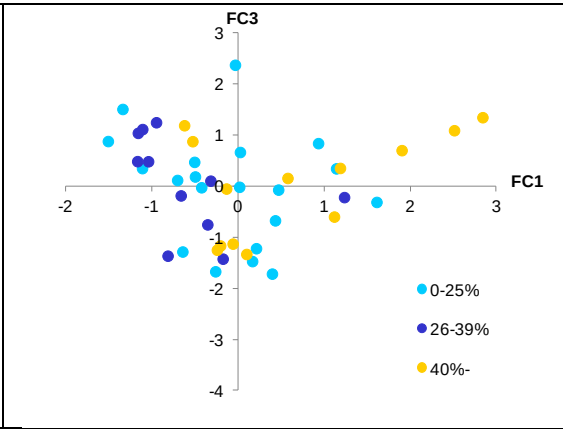


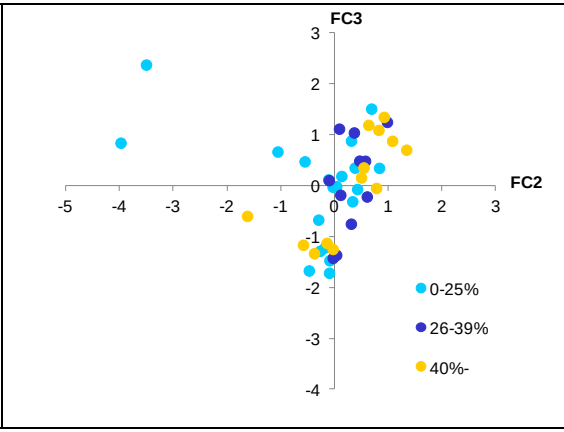




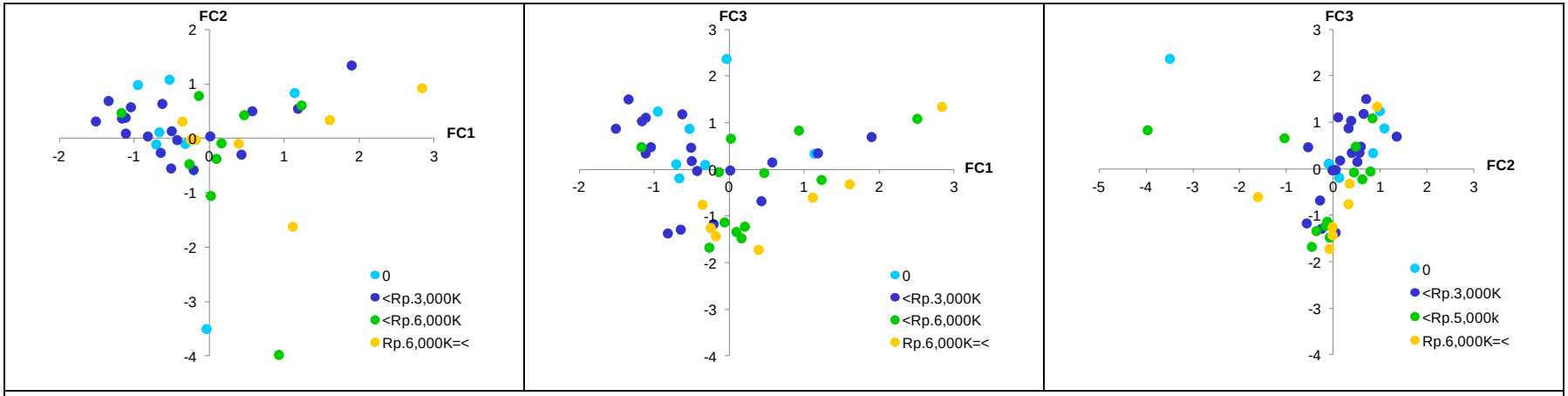
Total income: On the FC1-2 axis, communities with low income are dispersed centrally, while on the FC3 axis they are distributed in a negative direction.







Levels of familiarity with customary rules inside communities: Communities with a high level of familiarity with customary rules are distributed on the positive side of the FC1 axis.



Income from NTFP: On the FC1-2 axis, communities that are not reliant on income from NTFP are dispersed on the negative side of FC2.

Figure 25 Results of principal component analysis

3.4. Compilation of scatter diagrams

From these results, the characteristics of quadrants when the 1st principal component (FC1) is on the vertical axis and the 2nd principal component (FC2) is on the second axis have been compiled in the table below. Since the results of the scatter diagrams show that communities distributed in the 2nd and 3rd quadrants have similar trends, the 2nd and 3rd quadrants have been compiled as one group.

2nd and 3rd quadrants ● Small-scale rainwater rice production (including mobile cultivation) is carried out. ● Non-farming livelihoods are established. ● Level of familiarity with customary rules is low to medium.	1st quadrant ● Wet paddy rice production is carried out, and adequate production volume is secured. ● Farming livelihoods are established. ● Income is obtained from NTFP. ● High level of familiarity with customary rules
	4th quadrant ● Although wet paddy rice production is carried out, production volume is low. ● Inside National Park ● Low level of familiarity with customary rules

3.5. Variance analysis implemented in order to understand differences of each group

From the results of principal component analysis, since the variable of whether or not customary rules are recognized is shown as a singular score (Table 23), this suggested the possibility that customary rules that residents understand could influence land use both inside and outside the National Park.

On the 2nd axis, level of familiarity with customary rules has an effect on land use, which was read as being linked to use of farming areas inside the National Park and use of non-timber forest products, etc., then in order to proceed with analysis of the actions of customary rules, variance analysis was carried out in relation to the 1,274 responding households (1 household did not respond) for the items below according to the level of familiarity with customary rules.

- Farming area inside NP (ha)
- NTFP (Rp.)
- Selling rubber (Rp.)
- Plantation area inside NP (ha)
- Income wetland paddy (Rp.)
- Income dry land paddy (Rp.)

The table below shows the results of variance analysis. The "Observed variance ratio" value exceeded the "F limit value" in all items, thus the fact that there is a relationship between all items and the level of familiarity with customary rules was obtained as a result of this analysis. "Observed variance ratio" values were particularly high in income from selling rubber (35.67) and income from wetland paddy fields. This suggested that the level of familiarity with customary rules affects intensive land use such as wet land rice production and land use where activities are carried out inside (National Park) forests such as rubber forest management.

Table 25 Variance analysis results

	Customary Rule	Sample No.	Total	Average	Variance	Observed variance ratio	F limit value
Farming Area Inside NP (ha)	Yes	385	20.58	0.05	0.07	5.06	3.85
	No	886	87.37	0.10	0.13		
NTFP (Rp.)	Yes	385	467,770,000	1,214,987	2.15E+13	8.10	3.85
	No	885	569,449,500	643,446	6.17E+12		
Selling Rubber (Rp.)	Yes	389	654,121,000	1,681,545	2.05E+13	35.67	3.85
	No	885	3,988,827,003	4,507,149	7.80E+13		
Plantation / Area inside NP (ha)	Yes	389	30.66	0.08	0.09	10.33	3.85
	No	885	173.47	0.20	0.48		
Income wetland paddy (Rp.)	Yes	389	2,585,110,000	6,645,527	1.31E+14	66.32	3.85
	No	885	2,416,982,501	2,731,054	3.26E+13		
Income dry land paddy (Rp.)	Yes	389	139,993,000	359,879	1.44E+12	7.40	3.85
	No	885	541,906,500	612,324	2.71E+12		

Depending on the answers regarding awareness of customary rules (Yes / No responses), clear differences appeared in income from rubber sales (Yes: approx. 1,680,000 Rp., No: approx. 4,500,000 Rp.), income from wet land rice sales (Yes: approx. 6,640,000 Rp., No: approx. 2,730,000 Rp.) and income from dry land rice sales (Yes: approx. 360,000 Rp., No: approx. 610,000 Rp.), suggesting that respondents with a higher level of familiarity with customary rules have continuous livelihoods established, such as wet land rice production.

From the above results, it was interpreted that making customary rules well-known or establishing resource management-related rules is an effective way to manage forest resources. However, even among the households that responded that they were aware of customary rules, it was confirmed that there are some households that use land inside the National Park, with an average of 0.05ha as farming areas and 0.08ha as plantations. Because these communities do not own adequate farming areas, forest resource management cannot be carried out merely with customary rules, therefore instead it has been thought as necessary to also define land use by means of spatial zoning, etc., secure income sources by means of NTFP, and strengthen abilities in order to create opportunities for non-farming income, etc.

4. Interview survey

4.1. Supplementary survey of villagers

In order to carry out a survey to supplement the results of the Household Survey, an interview survey was carried out with villagers in Batu Barat, Matan Jaya and Sedahan Jaya. Among the items confirmed by the supplementary survey, an outline of changes due to use of forest resources, forest fires and oil palm plantation development has been compiled below. (Refer to Annex** for details.)

a. Regarding use of forest resources

- Although the surrounding forests were previously logged and livelihoods were obtained, the development of an oil palm plantation in 2007 led to a reduction of the forest that can be used, which has decreased the number of households carrying out logging and resulted in many communities working at the oil palm plantation. (Batu Barat village)
- Although the surrounding forests were previously logged and livelihoods were obtained, many households stopped logging during the years 2004-2009. Small-scale logging of quantities required locally continues. Today, people are working at oil palm plantations or in the mining of minerals. (Matan Jaya village)
- Collection of fuel woods is tending to decrease since the government started supplying gas stoves. (Matan Jaya and Sedahan Jaya villages)
- The surrounding forests were previously logged and livelihoods were obtained, and this practice was at its peaks from the year 2000 until 2006. Today there is a trend for decrease, but small-scale logging of quantities required locally (house building materials, props and fences for farm areas, and material for construction of houses for swallows) continues, and logging is carried out with permission from the village headman. (Sedahan Jaya village)
- People enter the forest once every 5 days and gather non-timber forest products (NTFP) for consumption in their own homes. Most of the collection sites are inside the National Park. Moreover, each household has its own pipe laid inside the forest and draws in water for domestic use. (Sedahan Jaya village)

b. Regarding forest fires

- Forest fires occur every year, but it is unclear whether the fire sources are from the forest floor or from the floor of farming areas. (Batu Barat village)
- Forest fires occur every year, and the fire sources are mostly from oil palm plantations. (Matan Jaya village)
- Large-scale forest fires occurred in 1997, 2004 and 2007. Coffee plantations and households owning fruit trees in the forest up until those fires lost what they had. Since 2004, officer control has become stricter and activities inside the forest have been regulated, leading to a decrease in the number of forest fires. (Sedahan Jaya village)

c. Changes due to development of oil palm plantations

- Cultivation started from around 2007. Working hours run from 7 a.m. until 2 p.m., and a daily wage of 80,000Rp. (IDR) is paid. The villagers themselves can choose whether or not to work on a given day, and when 20 days or more have been worked in one month, a bonus of 10kg or rice is paid to single persons or 30kg or rice to married persons. Income has increased, living conditions have improved, and it has become possible to spend money on children's education. In recent years there has also been an increase in the number of migrants looking for work at the oil palm plantation. (Batu Barat and Matan Jaya villages)
- Water quality (color and taste) has changed since the oil palm plantation was developed. (Batu Barat village)
- There are cases where land for which land use rights are unassigned is converted into a plantation, and conflicts are arising between villagers and oil palm companies. (Matan Jaya village)
- There are cases where cultivation land has been lost and new farming land has been opened as oil palm plantations have expanded. (Matan Jaya village)
- Development is not progressing, because there is no land on which to develop oil palm plantations. (Sedahan Jaya village)

From the interview survey, it was found that in two villages where oil palm plantations had been developed nearby (Matan Jaya and Batu Barat) there is a trend for decreased logging due to the development of oil palm plantations. It was also ascertained that in some villages there are issues with plantation development causing a decrease of available forest resources and farming land. On the other hand, in the village of Sedahan Jaya, where rice production flourishes, livelihoods are being established without reliance on "non-farming income" such as oil palm plantations, and although forest logging itself is tending to decrease, the use of NTFP is still popular.

4.2. Interviews with stakeholders

NGOs and administrative organizations active in areas around the National Park were interviewed in order to ascertain the activities of relevant parties around the National Park and their perceived issues.

a. Regarding forest management

- There is no more illegal logging on a commercial basis. Small-scale logging is continuing, but the total has reduced in comparison to 10 years ago. It is thought to be difficult to put a complete restriction on logging, as it would affect the activities of communities (where to locate building materials, etc.). (NGO)
- An important activity in the control of illegal logging is the introduction of replacement

livelihoods through sustainable farming activities, which has been implemented since 2007. By using organic composts and organic insecticides, communities can carry out farming without purchasing fertilizers or agricultural chemicals. In the initial socio-economic survey, it was recognized that sustainable agricultural activities were a valid alternative livelihood, and 40% of illegal loggers had already switched their livelihoods to agricultural production. (NGO)

- Land Zoning activities have progressed in the districts of Kayong Utara and Ketapang under the USAID IFACS project. Communities are aware of High Conservation Value land, and have been given incentives for the future for conserving that land and have acquired problem-solving methods to that end, which has created ownership of conservation activities among the community. (NGO)

b. Regarding cooperation of related stakegholders

- In the field of monitoring, cooperation with the National Park has been attempted, but there are issues with budget management and implementation systems on the National Park side, then a valid mechanism has not yet been achieved. (NGO)
- A single organization on its own is not able to implement landscaping initiatives, therefore it is very important to construct a cooperative management framework. Each organization has individual responsibilities (duties) and roles, and the issue is how to proceed with integration. Cooperation of the National Park and local government is essential in order to properly control deforestation and to conserve the environment. A lack of cooperation between officials up to this point has led to deforestation. (NGO)
- On the landscape level approach, there is a wide target area, threfore it is necessary to be discreet about selecting stakeholders (particularly NGOs carrying out activities), information sharing, and Forum participation procedures. It takes time to build relationships of trust. (Private companies)
- As the other party carrying out support in the REDD+ activities on the oil palm plantations in the Laman Satong area tends to want to reduce the High Conservation Value area connected to the Roundtable on Sustainable Palm Oil (RSPO), there is currently no cooperation with the persons in charge, as a compromise could not be reached on this issue. (NGO)

From the interview results, it was found that the following points are perceived as being issues for forest management subject to this project:

- Lack of overall governance (regulation)
- Lack of rules concerning natural resource management and land use, and failure to adequately make these known to local communities
- Lack of coordination of related parties involved with forest management (administrations, private companies, local communities, governments)
- Immature farming technology resulting in low land productivity and failure to make effective use of land

・ Increased pressure on use of forest resources due to population increase

The underlying causes of these issues are known to be not only direct causes such as deforestation due to use of forest resources by local communities and the expansion oil palm plantations, but are also indirect causes or fundamental causes brought about by direct causes.

5. Identification of agents and drivers of deforestation and forest degradation

Based on the sources described above, 1 agent group was identified in planned deforestation and 3 agents group were indentified in unplanned deforestation and forest degradation. Oil palm plantation settler is the main agents responsible for deforestation since around the year of 2007. Other agents, small scale subsistence farmers who converted forest area to crops land and forest resource user, also present in the project area.

a. Planned deforestation

This REDD+ program defines one main agent and drivers of deforestation and forest degradation-converting the forest area to oil palm plantation. These are the dominant agents of deforestation and forest degradation in the area and are expected to be in the coming decades.

Agent 1	Oil palm plantation settler
Driver	In accordance with the satellite imagery analysis, XX area of plantations has been increasing since 2006.

b. Unplanned deforestation and forest degradation

There are other potential agents of deforestation and degradation in the project area however according to expert opinion these do not cause significant deforestation in comparison to agent 1. In order to secure the safeguard aspects the REDD+ program also need to consider following agent;

Agent 2	Subsistence small scale farmer without irrigation system (rice production in dry paddy)
Driver	- Land use conversion for crops land The community who are engaging in upland rice and/or shifting cultivation. Their main income generation is labor salary in oil palm plantation. Instable employment condition has community returned to substantial farming like shifting cultivation and there is a possibility that the number of land conversion to crops land will be increasing by population growth of the target area.

Agent 3	Forest resource user in particular non timber forest products (NTFPs)
Driver	- Growing forest resource utilization pressure The fuel wood is the main source of cooking while propane gas is widely introduced in project area. Approximately 76% (minimum30%- maximum97%) of target households collecting fuel woods in forest area and 19% (minimum3.3%- maximum71.5%) of target households are deriving their income from NTFPs selling. The customary way of natural resource use is sustainable. However there is the possibility that the forest

	utilization pressure will be increasing by population growth of the target area.

Agent 4	Small scale loggers
Driver	- Logging In mainly 1990's, the impact on deforestation caused by illegal logging had been decreasing since the main income source around project area has been shifted to employment of oil palm plantation and logging for self consumption as building materials are continuing on a small scale. However there is the possibility that the timber utilization will be increasing by population growth of the target area.

These agents do not present independently, one agent activities shall be plurality of drives shown in Table 7.

Table 26 Community group and their characteristics

Community group	Main income generation	Dependence of substantial farming	NTFP usage	Underlying problem	General problem
Group A	Harvesting Dry land paddy / NTFP selling/ small scale logger	High	Yes	● Insufficient yield amount ● Lack of agricultural techniques ● Insufficient income	Population growth (immigration) Unrecognized boundary between community area and conservation forest area (NP, HL) Lack of land use and natural resource management policies/ rules and their enforcements Low coordination for forest management among local stakeholders (community, government and NGOs)
Group B	Harvesting rubber plantation	High-Middle	Yes	● Influenced by market price of rubber ● New migrants cannot gain enough land	
Group C	Labor salary in oil palm plantation	Middle	Yes	● Lost own farming area ● Income disparities	
Group D	Harvesting Wetland paddy	Low	Yes	● Conflict over the resource allocation	
Group A	Harvesting Dry land paddy / NTFP selling / small scale logger	High	Yes	● Insufficient yield amount ● Lack of agricultural technique ● Insufficient income	
Group B	Harvesting rubber plantation	High-Middle	Yes	● Influenced by market price of rubber ● New migrants cannot gain enough land	

6. REDD+ activities proposed based on socio-economic survey results

The REDD+ activities being implemented to counteract the drivers of the deforestation are divided and listed between those for the entire project area (Landscape Level) and those for individual agents.

As mentioned above, the landscape level has multi agents and drivers, and multi underlying causes for deforestation and forest degradation. Thus the REDD+ activities are implemented through the two scales to avoid the baseline deforestation and forest degradation. One is small scale activity which carried out by the NGOs in order to approach multi agents and drivers in each village level. The other is wide scale to handle with the underlying causes. This approach ensures that the communities are undertaking activities or benefiting from the inputs that are well suited to their circumstances and needs, and are more likely to succeed since the forest governance condition will be put into place (Figure 26).

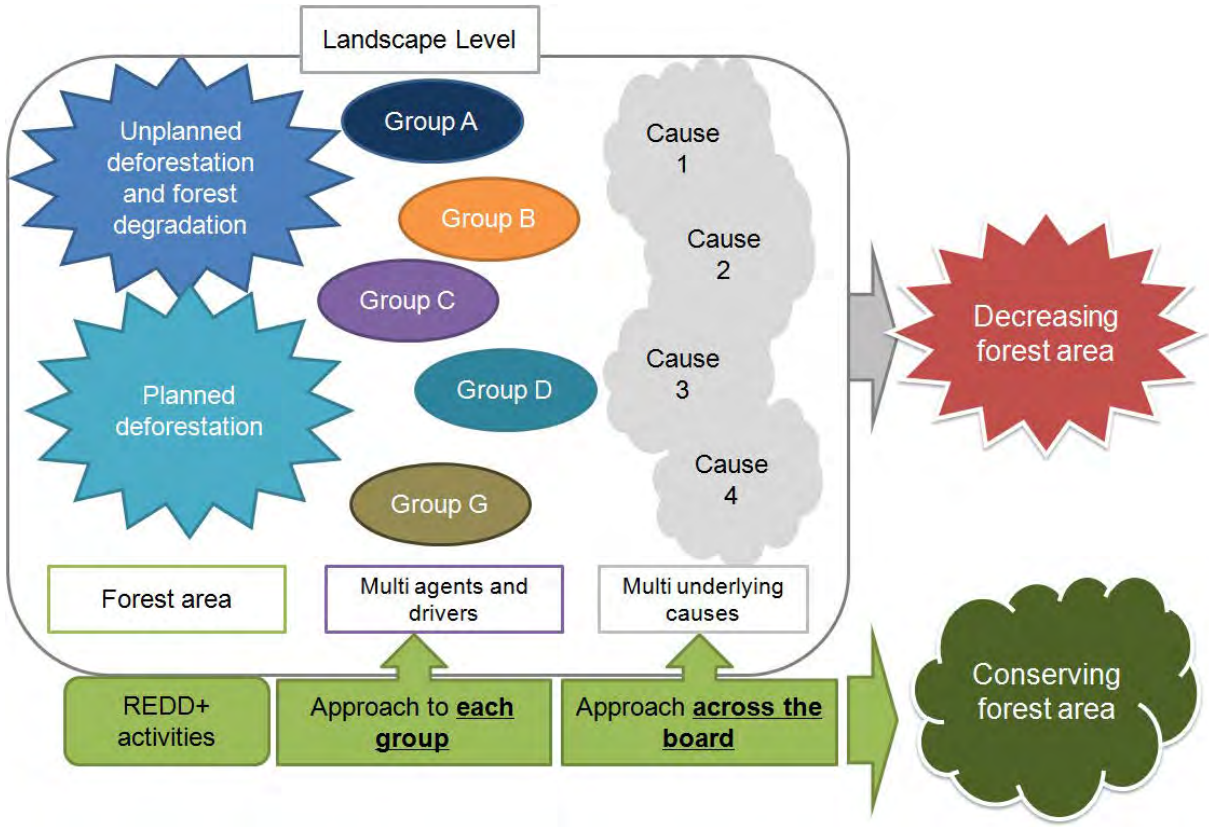


Figure 26 REDD+ approach to landscape level

6.1. Activities for Landscape Level

(1) Facilitation Training for Collaborative Management

As the relationship in the target area between the government agency (the National Parks Office in the case of the National Park, and District Forest Departments in the case of HL) responsible for forest

management and the communities residing in the forest areas has not been properly built up, illegal logging has been taking place in the National Park, and forest development is progressing in HL due to the cultivation of new farming areas, which confirms that forest management is currently lacking. In additional, as there are some uncertainties in the community regarding government activities (unilateral changes to National Park boundaries, etc.), there is some tension between certain communities, and the relationship between the government and the communities has become a problem of conserving the forests in the target area and managing forest reserves, etc.

By implementing Facilitation Training in order to construct cooperative management systems in this project with the aim of improving the relationship between the government and the community, the management abilities of National Park staff and the relationship between government personnel and the community will be strengthened. In addition to such direct effects, it is expected that the importance of community resource use will be recognized, taught and spread through the "Arumonosagashi" feature of Facilitation Training (potential analysis)

(2) Enhancing Forest Governance Structure through the Activities under the Forum

In addition to the above-mentioned communication difficulties between government and local citizens, there is little cooperation between the government and the District Forest Department [1], which is responsible for National Park and HL forest management, and regional forest management systems have not been constructed. Numerous NGOs are carrying out forest preservation and biodiversity preservation activities with local communities in business target areas, but, while there are many village-level activities, smoother cooperation between the government and NGOs is required in order to expand the effectiveness of the activities throughout the area.

Relationship-building between officials is promoted through Forum activities in order to strengthen landscape level forest management governance in this project.

(3) Introducing Land Zoning

A concept note (management plan) for natural resource management has been created in the USAID IFACS project in Kayong Utara district. The concept note recommends community level Land Zoning in order to achieve the sustainable use of natural resources. The government can properly manage forest resources in conservations and sanctuaries by implementing Land Zoning with the agreement of the community, which will ensure the community has the right of access to natural resources in the future.

The ability to use land and resources is to be improved through community forestry (Hutan Desa: HD) activities in the HL area by establishing protected areas and resource use areas, promoting their proper management, and by increasing community ownership.

(4) Introducing Natural Resource Management Rules and Enforcing the Rule

With regard to customary rules for the management of natural resources such as forest resources and

water for irrigation in the surveyed area, the groups were divided into 1) groups with customary rules that have a high level of familiarity with these rules, 2) groups that lack familiarity with the existing customary rules, and 3) groups that do not have customary rules related to natural resource management. Villages with a high level of familiarity with customary rules were the groups that had a high frequency of NTFP use, grew rice in wet paddy fields, and had a high production volume of rice. On the other hand, villages with a low level of familiarity with customary rules were the groups that grew rice inside the National Parks and HL by means of slash-and-burn farming, etc. In the socio-economic survey, 39% of the surveyed villages owned farming areas inside the National Park, and 51% of the surveyed villages owned plantations inside the National Park. Although approval was given for the partial use of special zones that were set up inside the National Park for villages that had been using land within the borders of the National Park before its establishment, some issues remain with regard to related management systems, and it has been confirmed that forests are in decline due to the cultivation of new land inside the National Park by some villages.

These issues are to be processed by constructing the above-mentioned cooperative management systems, and by making rules and agreements with local communities regarding the use of resources and the National Park, and by introducing initiatives for spreading an awareness of those rules. Specifically, in the National Park area, in addition to introducing Land Zoning mentioned in (3), rules are to be established regarding sanctuary monitoring and usage methods for resource use areas. Documentation for the planning of the implementation of Hutan Desa in HL areas is to include a stipulation of the rules of resource management and an agreement with communities regarding those rules.

(5) Spreading awareness of forest resource management through environmental education

Introducing environmental education in the community and deepening the awareness of forest resources and biodiversity is expected to create a better understanding of resource management and to further increase the ripple effects of 1-3 REDD+ activities. Long-term environmental education from the NGO Yayasan Palung is also taking place in the business subject areas. Yayasan Palung is “gaining a quantitative understanding of the positive effects on adult thinking from the participation of children in these activities based on the experiences up to this point,” thus these public awareness activities are focused on the forest management agencies of the future.

7. Activities for Each Drivers Agents

(1) Oil palm plantation settler

- Using the Forum to strengthen cooperation with stakeholders and build monitoring systems

In the oil palm plantation area, building monitoring systems through cooperation with Forum participants and other stakeholders will enable oil palm companies to properly manage the preservation area inside the concession.

(2) Subsistence small scale farmer without irrigation system (rice production in dry paddy)

- Improvement/advancement of farming technology, and review of land use methods

Initiatives such as organic composting and the improvement of agricultural technology, etc., are to be introduced. Improving production volume per unit area from these initiatives will limit deforestation by expanding the farming area and contribute to the improvement of livelihoods in the community. Also, in order for local communities to carry out sustainable farming activities, it is important that a framework is created for activities that can be implemented using resources available to the community. The introduction of organic agricultural technology is to be implemented.

- Introduction of alternative livelihoods

Although the livelihoods of communities of oil palm plantations and the adjacent villages are reliant on work at plantations, it is not clear whether there is the potential for continuous work, and this situation is likely to produce disparity due to the differences in working conditions between villages and households. As farming areas have been reduced due to the development of plantations, there is the potential for the forest to be newly converted to farming areas. Reducing the uncertainty of work at oil palm plantations and increasing the options for non-farming income by, for example, introducing ecotourism, producing and selling handicrafts, and ensuring new places of work are activities that will reduce the impact on the forest and will lead to safeguarding the protection of the rights of communities.

(3) Natural resource users in forest area (non timber forest products)

Rules for resource management, such as those described in 2.1(4), are to be established and sustainable resource use is to be agreed on by the relevant officials. In addition to establishing rules, the livelihoods of local communities can be stabilized by reclaiming markets with added value NTFP and markets where NTFP is traded at a suitable price.

(4) Small scale loggers

As of 2013, illegal logging is on a downward trend, and small scale logging limited to inside community and domestic use is thought to have only a small effect on deforestation. On the other hand, as brought out in interviews with NGOs, completely regulating logging may restrict the lives of local communities, so it is important to create a sustainable environment by approving some use of resources by means of zoning, etc.
In addition to zoning, NGOs and government agencies that monitor logging are to cooperate with each other and to build monitoring systems and other systems for accurate real-time awareness of the situation. Also, as the construction of resident participation-type monitoring systems is preferred in REDD+, communities' understanding of forest resource management can be increased and cooperation among agencies can be strengthened by implementing resident participation-type monitoring systems.

8. Conclusion

As seen so far, there are diverse livelihoods among the villages and communities surrounding the National Park area, and the driver of deforesttarion vary from those with a major impact to those with a minor impact. The REDD+ activities carried out in the project area include not only deforestation control activities but also activities for the improvement of forest governance, enhancement of agency cooperation and facilitation, activities with the potential to improve community's livelihoods, and activities that lead to improvement of the natural environment and social environment around the National Park.

Appendix 1: Survey sheet for the household questionnaire

For Village profile survey

Village Profile Sheet

Date_____ Time: From_____ to_____

Name of Interviewer_____

Desa	
KepalaDesa	
NamaDusun 1	
NamaDusun 2	
NamaDusun 3	
NamaDusun 4	
NamaDusun 5	
NamaDusun 6	
NamaDusun 7	
NamaDusun 8	

1. Demography(2013)	
1) Total population [year]	Total population[ ](male: female)
Dusun [ ]	[ ] (:)
Dusun [ ]	[ ] (:)
Dusun [ ]	[ ] (:)
Dusun [ ]	[ ] (:)
Dusun [ ]	[ ] (:)
Dusun [ ]	[ ] (:)
Dusun [ ]	[ ] (:)
Dusun [ ]	[ ] (:)
2) Total Households [year]	Total[ ] HH
Dusun [ ]	[ ] HH
Dusun [ ]	[ ] HH
Dusun [ ]	[ ] HH
Dusun [ ]	[ ] HH
Dusun [ ]	[ ] HH
Dusun [ ]	[ ] HH
Dusun [ ]	[ ] HH
Dusun [ ]	[ ] HH

3) Proportion of Culture Group group (Not ethnic but group belonging) Dusun [ ] Dusun [ ] Dusun [ ] Dusun [ ] Dusun [ ] Dusun [ ] Dusun [ ] Dusun [ ]	e.g.[Dayak 70%, Bali 30%] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

2. Transportation systems	
1) Mode of transportation (check all the modes of transportation available and percentage of Households)	
☐1.bicycle	☐1. [ ]%
☐2.motorcycle	☐2. [ ]%
☐3.4-weel vehicle (private car)	☐3. [ ]%
☐4.public bus	☐4. [ ]%
☐5.boat	☐5. [ ]%
☐6.others	☐6. [ ]%

3. Utilities and facilities	
1) Main electricity source ☐1. National grid ☐2. Generator ☐3.Solor power ☐4. Others ( )	(if multiple->percentage is required ex:1-10% 2-90%) 1)Dusun: [ ] 2)Dusun: [ ] 3)Dusun: [ ] 4)Dusun: [ ] 5)Dusun: [ ] 6)Dusun: [ ] 7)Dusun: [ ] 8)Dusun: [ ]
2) Main source for drinking water ☐1. Water supply ☐2. Bottled water ☐3. Wells ☐4. Water tank ☐5.River/ steam ☐6.Others[ ]	1)Dusun: [ ] 2)Dusun: [ ] 3)Dusun: [ ] 4)Dusun: [ ] 5)Dusun: [ ] 6)Dusun: [ ] 7)Dusun: [ ] 8)Dusun: [ ]
3) Main water source (Multiple) ☐1. Water supply ☐2. Wells	(if multiple->percentage is required ex:1-10% 2-90%) 1)Dusun: [ ] 2)Dusun: [ ]

2

□3. Water tank □4.River/ steam □5.Others[ ]	3)Dusun: [ ] 4)Dusun: [ ] 5)Dusun: [ ] 6)Dusun: [ ] 7)Dusun: [ ] 8)Dusun: [ ]

4) Indicate the relative value(on village scale) of materialused in construction

3)-1 Floor Encodings the Number of frequency
[1. low (0-30%), 2.mid(30-60%), 3.high(60%-), 4.not exist(0%)]

Desun Name	1.Cement	2. Wood	3. Bamboo	4. Tile	5. Others[ ]
1					
2					
3					
4					
5					
6					
7					
8					

3)-2 Walls Encodings the Number of frequency
[1. low (0-30%), 2.mid(30-60%), 3.high(60%-), 4.not exist(0%)]

Desun Name	1.Cement	2. Wood	3. Bamboo	4. Brick	5.Stone	6. Others[ ]
1						
2						
3						
4						
5						
6						
7						
8						

3)-3 Roof Encodings the Number of frequency
[1. low (0-30%), 2.mid(30-60%), 3.high(60%-), 4.not exist(0%)]

Desun Name	1 Leaves	2. Zinc/tin	3. Bamboo	4. Tile	5.Others [ ]
1.					
2					
3					
4					
5					
6.					
7.					
8.					

4. Accessibility	
4.1 Education	
1) SD	Total number in the desa

3

4. Accessibility	
☐1. Within village-> Number of SD[ ] ☐2. Outside village	number of rooms [ ] number of teachers [ ] number of students (total:) [ ]
2) SMP ☐1. Within village-> Number of SMP[ ] ☐2. Outside village	Total number of the desa number of rooms [ ] number of teachers [ ] number of students (total:) [ ]
3) [ ] ☐1. Within village->[ ] ☐2. Outside village	 number of rooms [ ] number of teachers [ ] number of students (total:) [ ]
4.2 Health Facilities	
Availability of the service [Multiple] Desun name: 1.[ ] 2.[ ] 3.[ ] 4.[ ] 5.[ ] 6.[ ] 7.[ ] 8.[ ]	1.Health center 2.Clinic 3. Traditional healing 4. Mobile clinic 5. Doctor assistance(Manteli) 6. Midwife 7. Traditional midwife 8.Others [ ] 1.[ ] 2.[ ] 3.[ ] 4.[ ] 5.[ ] 6.[ ] 7.[ ] 8.[ ]
4.3 Financial Institution	
Availability of the service [Multiple] Desun name: 1.[ ] 2.[ ] 3.[ ] 4.[ ] 5.[ ] 6.[ ] 7.[ ] 8.[ ]	1. Credit union 2. Bank 3. Village fund 4. Cooperation union 5. Micro finance 6. Personal fund 7.Arison 8. Others[ ] 1.[ ] 2.[ ] 3.[ ] 4.[ ] 5.[ ] 6.[ ] 7.[ ] 8.[ ]

4.4 Market	
Availability of the market [Multiple] Desun name: 1.[ ] 2.[ ] 3.[ ] 4.[ ] 5.[ ] 6.[ ] 7.[ ] 8.[ ]	1. Market (desa) 2. Market (desun) 3.Kiosk 4.Others 1.[ ] 2.[ ] 3.[ ] 4.[ ] 5.[ ] 6.[ ] 7.[ ] 8.[ ]

5. Institutional Aspects / Group Activities/ Custom Group	
1) Existence of village regulation ☐1.Yes =>on what?=> ☐2.No	If select " yes" ☐1. Natural resource management(NTFP) ☐2. Forest management ☐3. Land use/ tenure management ☐4. Conflict management ☐5. Financial management ☐6. Water resource use ☐7. Farming Practice ☐8. Others[ ] ☐9. Others[
2) Existence of customary rule On documentsl ☐1.Yes =>on what?=> ☐2.No	If select " yes" ☐1. Natural resource management(NTFP) ☐2. Forest management ☐3. Land use/ tenure management ☐4. Conflict management ☐5. Financial management ☐6. Water resource use ☐7. Farming Practice ☐8.Traditional dnation for ceremony (wedding/ funeral) ☐9. Others[ ] ☐10. Others[ ]
3) Existence of customary rule On Verbal	If select " yes" ☐1. Natural resource management(NTFP)

5

5. Institutional Aspects / Group Activities/ Custom Group	
☐1.Yes =>on what?=> ☐2.No	☐2. Forest management ☐3. Land use/ tenure management ☐4. Conflict management ☐5. Financial management ☐6. Water resource use ☐7. Farming Practice ☐8.Traditional dnation for ceremony (wedding/ funeral) ☐9 Others[ ] ☐10. Others[ ]

4) Institutional aspects in the village

The group	A. Exsistance	B Frequency	C No. of members
1. Village committee	☐1.Yes☐ 2. No	times/ month	
2. Traditional group for managing customary rule	☐1.Yes☐ 2. No	times/ month	
3. Traditional farmer's group	☐1.Yes☐ 2. No	times/ month	
4.Farmer's group organized by outside support	☐1.Yes☐ 2. No	times/ month	
5. Woman's group	☐1.Yes☐ 2. No	times/ month	
6. Youth union	☐1.Yes☐ 2. No	times/ month	
7.Cultural group	☐1.Yes☐ 2. No	times/ month	
8. Cooperative union	☐1.Yes☐ 2. No	times/ month	
9. Others[ ]	☐1.Yes☐ 2. No	times/ month	

6

6. Supporting from outside organizations within 10 years (2004-2013)(put the "x")

1.History of support from outsiders (G: Government O: Other organizations)

Contents		04	05	06	07	08	09	10	11	12	13
Example				x	x	x			x	x	
1) Health care	G										
	O										
2) Natural resource management(NTFP)	G										
	O										
3) Forest management	G										
	O										
4) Agriculture technique	G										
	O										
5) Technical training for oil palm plantation	G										
	O										
6) Business training	G										
	O										
7) Capacity building	G										
	O										
8) Others[ ]	G										
	O										

2. Please describe the top 3 supports that you think the most effective activities in village

1) Name of organization[ ]

1. Program name

2. Contents:

3. Approach:

4. Period:

5. Target/Beneficiaries:

2) Name of organization[ ]

1. Program name

2. Contents:

3. Approach:

4. Period:

5. Target/Beneficiaries:

7

7. Socio-economic conditions

7-1 Main Income Source (Unit: %)

Desun Name	1. Selling cash crops	2. Animal husbandry	3. Fisheries	4. Labor Palm Plantation	5. Labor mining company	6. Government Officer	7. Private business/ trader/ shop	8. Logger	9. NTFP Selling	10. Others [ ]
1										
2										
3										
4										
5										
6										
7										
8										

7-2. Main agriculture (Unit: %)

Desun Name	1. Wetland rice	2. Dry land rice (shifting cultivation)	3. Shifting cultivation (veg)	4. Rubber plantation	5. Oil Palm plantation	6. Coffee plantation	7. Others [ ]
1							
2							
3							
4							
5							
6							
7							
8							

8. Village History															
1) Established year of village				1. Pioneer[Year] 2. Registered [Year]											
2) Please describe any events regarding village history (put the frequency 1. Few 2. Middle 3. Many times)															
	1998	1999	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Example				3	3	2	1				3	1			
1. Road construction for vehicle															
2. Immigrant from outside															
3. Transmigrates by government policy															
4. Introduction Market															
5. Introduction oil palm plantation															
6. Introduction mining company															
7. Forest fire															
8. Land slide															
9. Flood															
10. Severe dry whether															
11. Others[ ]															

9. Location of village								
1) Distance from border of Taman Nasional/KawasanHutan to the location of Kepala Desun	1 km	2 km	3 km	4 km	5 km	6 km	7 km	8 km
2) Map(north up)								

Following landmark shall be included in the map
☐Each Dusun, ☐Provincial road with year, ☐District road with year, ☐ River, ☐[SP]Sacred Place, ☐Forest area [M Mangrove,R Rubber Plantation,C: Community Forest,] ☐Oil Palm Plantation
☐[MP] Mining Place, ☐[TN]National Park
[KD]Kantor Desa, [SMP]Junior high school, [SD]Elementary school, [C]Health Center/ clinic, [Ps]Pasar, [Pr]Pura, ☐Jetty

For Household questionnaire survey

IJ-REDD

No.

Household Survey Questionnaire

Date: / /

Name of Interviewer:	Name of Interviewee:
Starting time	Ending time

PREFACE

We are staffs from NGO working in collaboration with Gunung Palung National Park office and currently doing household surveys of GPNP surroundings.

We are interviewing the society surroundings the National Park. You are not forced to participate if you do not want to. This interview requires approximately one and half hours or two hours and I will record your answers. There is no correct or wrong answer. You may stop at anytime and decide to not answer the question. There is no punishment if you quit the interview, and will be a reward at the end of the interview.

We want to inform you that all the information given is confidential. It means that your name will not be written in a report and we will not inform to the government or anybody else regarding your private answers. After we study the research, we will compile and analys the infomation to consider the improviment for conditions National Park surrounding area.

By answering the questions of this study might not directly impact you, but we hope this study will share the benefit public condition in the future. We expect you to enjoy the conversation with the interviewer and share your opinions to us.

Please kindly consider and decide whether you are able to join or not. If you decide to participate, please inform me and we will start the interview.

1. Basic information

1) Village name:_____ Sub-Village Name:_____Neighbor Group: _____

2) Interviewee_____ Age_____ Sex_____

3) Relationship with Household head: ☐1.itself or _____ (Selecting the number from below)

4) Accompanying persons(Selecting the number, specify the relationship) _____ _____ _____

2. Father	3. Mother	4. Husband	5.Wife	6. Daughter	7. Son	8. Grandparent
9.Grandchild	10. Nephew	11. Niece	12. Uncle	13. Aunt	14.Others[specify]	

5) Personal Information

1	Ethnic Group	☐1. Dayak ☐2.Javanese ☐3. Melayu ☐4.Balinise ☐5.Chinise ☐6. Bugis ☐7.Madura ☐8.Others( )
2	Religion	☐1. Islam ☐2.Christian ☐3.Catholic ☐4.Hindu ☐5.Bhuddhist ☐6.Others( )
3	Previous living place	☐1. Born here -> Skip the question No.4 ☐2. Migrated from other place-> Please ask the reason at question 4 District( ) Village( ) When( )
4	Reason of migration	1) ☐1.Need land ☐2.Seeking New job ☐4.Coming with families ☐5.Marriage ☐6.Government Policy-Transmigration ☐7. Other Government Policy[ ] ☐8.Others( ) 2) Migration year( )

6) Family member:

Number of families [Living together]	
Number of families [Absentee (Living outside)]	
Total	

1

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Family Member living together

No	Relationship	Sex	Age	Education	Main Occupation	Other Occupation	Birth Place [District] & [Village]
1		☐1.M ☐2.F					[ ]& [ ]
2		☐1.M ☐2.F					[ ]& [ ]
3		☐1.M ☐2.F					[ ]& [ ]
4		☐1.M ☐2.F					[ ]& [ ]
5		☐1.M ☐2.F					[ ]& [ ]
6		☐1.M ☐2.F					[ ]& [ ]
7		☐1.M ☐2.F					[ ]& [ ]
8		☐1.M ☐2.F					[ ]& [ ]

Relationship	Education	Occupation
1. Father	1. SD	1. Farming on own land
2. Mother	2. SMP	2. Farming on rented land
3. Husband	3. SMK	3. Wage labor
4. Wife	4. Non-education	4. Logger
5. Daughter	5. Uncertain	5. Self employed business
6. Son	6. Others -> Specify	6. Student
7. Grandparent		7. Housewife
8. Grandchild		8. Government officer
9. Nephew,Niece		9. Uncertain
10. Uncle, Aunt		10. Others-> Specify
11. Uncertain		
12. Others		

2. Household assets

1) Utility

Category	
1. Water source 1) Drinking water Multiple	☐1.Water Supply ☐2.Well ☐3.River water ☐4.Water from forest area ☐5.Botteled water ☐6.Others[ ] ☐7.Uncertain
2) Water for general use Multiple	☐1.Water Supply ☐2.Well ☐3.River water ☐4.Water from forest area ☐5.Botteled water ☐6.Others[ ] ☐7.Uncertain
2. Energy supply sources 1) Energy for lighting Multiple	☐1.Generator set ☐2.Solar energy ☐3.Kerocene ☐4.Electricity from grid ☐5.Others[ ]☐6.Uncertain
2) Energy for cooking Multiple	☐1.Fuel wood ☐2.Charcoal ☐3.Electricity ☐4.Propane gas ☐5.Kerocene ☐6.Others[ ] ☐7.Uncertain

2

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1) Main materials of the house 1) Floor	☐1.Cement ☐2.Wood ☐3.Bamboo ☐4.Tile ☐5.Others[ ] ☐6.Uncertain
2) Wall	☐1.Brock(Batako) ☐2.Cement ☐3.Wood ☐4.Bamboo ☐5.Others[ ] ☐6.Uncertain
3) Roof	☐1.Leaves/ grasses ☐2.Zinc/ tin ☐3.Roof tile ☐4.Bamboo ☐5.Asbestos ☐6.Others[ ] ☐6.Uncertain

2) Transportation (Working)

Category	a. Number Owned	b. First procuring year	Category	a. Number Owned	b. First procuring year
1. Automobile			2. Boat		
3. Truck			4. Boat engine		
5. Motorcycle			6. Bicycle		
7. Others					

-If they don't have any transportation way, please put number "0"

3) Electrical Goods(Working)

Category	a. Number Owned	b. First installing year	Category	a. Number Owned	b. First installing year
1. Generator			2. TV		
3. Satellite antenna			4. Computer		
5. Regular phone(land line)			6. Mobile phone		
7. AC			8. Others [ ]		

If they don't have any electrical good, please put number "0"

4) Total number of livestock: If they don't have any livestock, please put number "0"

Category	1) Number Owned	2) Owner Code below	3) Grazing Place Code below
1. Buffalo		☐1, ☐2, ☐3 ☐4[ ]	☐1, ☐2, ☐3, ☐4, ☐5, ☐6[ ]
2. Cow		☐1, ☐2, ☐3 ☐4[ ]	☐1, ☐2, ☐3, ☐4, ☐5, ☐6[ ]
3. Pig		☐1, ☐2, ☐3 ☐4[ ]	☐1, ☐2, ☐3, ☐4, ☐5, ☐6[ ]
4. Chicken		☐1, ☐2, ☐3 ☐4[ ]	☐1, ☐2, ☐3, ☐4, ☐5, ☐6[ ]
5. Duck		☐1, ☐2, ☐3 ☐4[ ]	☐1, ☐2, ☐3, ☐4, ☐5, ☐6[ ]
6. Fish		☐1, ☐2, ☐3 ☐4[ ]	☐1, ☐2, ☐3, ☐4, ☐5, ☐6[ ]
7. Others[ ]		☐1, ☐2, ☐3 ☐4[ ]	☐1, ☐2, ☐3, ☐4, ☐5, ☐6[ ]
Total Value	Rp.	-	-

2). Owner
1. Own 2. Group 3.Community 4. Others[specify]

3) .Grazing Place
1. Forest 2. Fallow 3. Surrounding a residential area (Home garden) 4.Farming area 5. In the cage or tied
6. Others[specify]

3

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5) Land Assets
Area of land used and owned by the household
*the detail of agricultural land use shall be asked in other parts.

Category	Area and location	Total Area	Total No. of plot	Land Category [Code]
1. Settlements	☐1. None			
	☐2. Inside NP	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐3. Outside NP	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐4. Inside HL	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐5. Unknown	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐6. Others	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
2. Farming Area	☐1. None			
	☐2. Inside NP	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐3. Outside NP	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐4. Inside HL	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐5. Unknown	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐6. Others	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
3. Plantation [ ]	☐1. None			
	☐2. Inside NP	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐3. Outside NP	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐4. Inside HL	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐5. Unknown	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐6. Others	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
4. Agroforestry (Mix planted area)	☐1. None			
	☐2. Inside NP	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐3. Outside NP	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐4. Inside HL	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐5. Unknown	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
	☐6. Others	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]
5. Others [ ]	☐1. Inside NP ☐2. Outside NP ☐3. Inside HL ☐4. Unknown	ha		☐1, ☐2, ☐3, ☐4, ☐5[ ]

4

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If they don't have any area, please choose "None"

Land Category Code
1.Private land, 2.Rented Land, 3.Government land: Category[Specify], 4.Communual land 5. Others [Specify]

5

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3. Living conditions

Satisfaction about living conditions	Level of appreciation 1-Low 2-Middle Low 3-Middle 4-Middle High 5-High	Reasons
1. Amount of water volume for daily use	1 2 3 4 5	
2. Quality of water volume for daily life use	1 2 3 4 5	
3. Amount of water volume for drinking water		
4. Quality of water volume for drinking water	1 2 3 4 5	
5. Sufficiency of amount of food for daily life	1 2 3 4 5	
6. Sufficiency of amount of crop productivities	1 2 3 4 5	
7. Situation of entertainment	1 2 3 4 5	
8. Situation of health service	1 2 3 4 5	
9. Situation of education for your family	1 2 3 4 5	
10. Situation of transportation	1 2 3 4 5	
11. Accessibility to road for vehicles	1 2 3 4 5 [ ] m	
12. How often do you go outside village?	times/ month	
13. How do you go to outside village?	☐1.By bike ☐2.By bicycle ☐3.By public vehicle, ☐4.By walk ☐5.Others( )	

4. Natural resource usage

1. Changing in frequency of natural resource usage

[Ranking: 0:1:Few 1-5times/year, 2:Mifddle :10-20 times/year 3:Many: Over 20times/year]

Activities	Location	2000-2004	2005-2009	2010-2013
1. Fuel wood collection	A: Inside NP			
	B: Outside NP			
	C: Uncertain			
2. Timber wood collection	A: Inside NP			
	B: Outside NP			
	C: Uncertain			
3. NTFP collection Fuel wood collection	A: Inside NP			
	B: Outside NP			
	C: Uncertain			
4. Logging	A: Inside NP			
	B: Outside NP			
	C: Uncertain			
5. Animal hunting	A: Inside NP			
	B: Outside NP			
	C: Uncertain			

6

IJ-REDD

2. Natural resource usage in 2013

Type of Resource and Activity in 2013		
A) Fuel wood collection	Collecting	☐1.Yes ☐2.No
	1.Frequency	_____ times/ year
	2.Total amount	_____ bundle/ year
	3.Place	☐1.Natural forest, ☐2.Plantation ☐3.Home garden
	4.Area located	☐1.Inside NP, ☐2.Outside NP ☐3.Inside HL, ☐4. Uncertain
	5.Resource type	☐1.Cutting living tree, ☐2.Dead tree ☐3 Collecting branches
	6.Purpose	☐1. Domestic use, ☐2.Selling ☐3. Both
A) Timber collection	Collecting	☐1.Yes ☐2.No
	1.Frequency	_____ times/ year
	2.Total amount	_____ kg/ year
	3.Place	☐1.Natural forest, ☐2.Plantation ☐3.Home garden ☐4. Uncertain
	4.Area located	☐1.Inside NP, ☐2.Outside NP ☐3.Inside HL,
	5.Resource type	☐1.Cutting living tree, ☐2.Dead tree ☐3 Collecting branches
	6.Purpose	☐1. Domestic use, ☐2.Selling ☐3. Both
B) NTFP collection NTFP	Collecting ☐1.Yes ☐2.No ->Skip next question What kinds of NTFP are collecting? ☐1.Durian ☐2.Mushroom ☐3.Banana ☐4.Honey ☐5.Rattan ☐6.Bamboo shoot ☐7. Medicine ☐8. Others( )	
1. Frequency 2. Total amount 3. Place 4. Area located 5. Purpose Mushroom Banana Honey Rattan Damar Bamboo shoot	1) Durian 1._____/ year 2._____kg/year 3.☐1.Natural forest, ☐2.Plantation ☐3.Home garden 4.☐1.Inside NP, ☐2.Outside NP ☐3.Inside HL ☐4. Uncertain 5.☐1. Domestic use ☐2.Selling ☐3. Both 2) Species(_____) 1._____/ year 2._____kg/year 3.☐1.Natural forest, ☐2.Plantation ☐3.Home garden 4.☐1.Inside NP, ☐2.Outside NP ☐3.Inside HL ☐4. Uncertain 5.☐1. Domestic use ☐2.Selling ☐3. Both 3) Species(_____) 1._____/ year 2._____kg/year 3.☐1.Natural forest, ☐2.Plantation ☐3.Home garden 4.☐1.Inside NP, ☐2.Outside NP ☐3.Inside HL ☐4. Uncertain 5.☐1. Domestic use ☐2.Selling ☐3. Both	
D. Animal hunting 1. 2. 3. 4.	1. ☐1.Yes ☐2.No->Skip next question 2. Frequency : _____times/ year 3. Total amount: _____heads/year 4. Place: ☐1.Natural forest, ☐2.Plantation ☐3.Home garden 5. Area located ☐1.Inside NP, ☐2.Outside NP ☐3.Inside HL ☐4. Uncertain 6. Purpose ☐1. Domestic use, ☐2.Selling ☐3. Both	

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5. Expenditure in 2013

Total expenditure per one year _Rp._____

If they don't expense any money, please put number "0"

A) Household expenditure			
Category	**Annual Expenditure**	**whom**	**Note**
1. Food	Rp.		
2. Energy	Rp.	-	
3. Drinking water	Rp.	-	
4. Water for daily use	Rp.		
5. Telephone	Rp.	-	
6. Clothes	Rp.	-	
7. Health	Rp.	-	
8. Education	Rp.	-	
9. Transportation/ Travel	Rp.	-	
10. Wage for labor	Rp.	-	
B) On-farm expenditure			
Category	**Annual Expenditure**	**Whom**	
1. Buying seeds/ seedlings	Rp.	□1, □2, □3, □4,□5,□6	
2. Buying agricultural tools	Rp.	□1, □2, □3, □4,□5,□6	
3. Buying materials(fertilizer/ insecticide etc)	Rp.	□1, □2, □3, □4,□5,□6	
4. Planting/ Maintain trees a) Oil Palm b) Rubber c) Other	a) Rp. b) Rp. c) Rp.	a) □1, □2, □3, □4,□5,□6 b) □1, □2, □3, □4,□5,□6 c) □1, □2, □3, □4,□5,□6	
5. Grazing livestock			
6. Others[ ]	Rp.	□1, □2, □3, □4,□5,□6	
C) Taxes and loan		Whom	
Category	**Annual Expenditure**	**whom**	
1. Loan repayment	Rp.	□1, □2, □3, □4,□5,□6	
2. Tax payment	Rp.	□1, □2, □3, □4,□5,□6	
3. Remittance to family	Rp.	□1, □2, □3, □4,□5,□6	
4. Saving	Rp.	□1, □2, □3, □4,□5,□6	
5. Others[ ]	Rp.	□1, □2, □3, □4,□5,□6	
D) Social life		Whom	
Category	**Annual Expenditure**	**whom**	
1. Donation for social events (wedding, funeral,others)	[Rp.]	□1, □2, □3, □4,□5,□6	

Whom
Code: 1. Villager 2.Market 3.Middleman 4.Company 5. Outside of village 6.Bank

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6. Annual Income (in 2013)

Total income per year Rp.

If they don't earn any income, please put number "0"

Category	Annual Income	whom	Note
[On-farm income]			
1. Cash Crops			
1) Wetland rice	Rp.	□1, □2, □3, □4,□5,□6	
2) Dry upland rice	Rp.	□1, □2, □3, □4,□5,□6	
3) Other vegetables	Rp.	□1, □2, □3, □4,□5,□6	
2. Live stock	Rp.	□1, □2, □3, □4,□5,□6	
3. Selling games of hunting	Rp.	□1, □2, □3, □4,□5,□6	
4. Selling NTFP	Rp.	□1, □2, □3, □4,□5,□6	
5. Selling Fuel Woods	Rp.	□1, □2, □3, □4,□5,□6	
6. Selling Timber	Rp.	□1, □2, □3, □4,□5,□6	
7. Selling Rubber	Rp.	□1, □2, □3, □4,□5,□6	
[Off-farm income]			
Category	**Annual Income**	**Whom**	
1. Employment **(Permanent)**			
1) Labor: Oil palm plantation	Rp.		
2) Labor: Farming	Rp.		
3) Labor: Mining	Rp.		
4) Others[ ]	Rp.		
2. Employment **(Temporary)**			
1) Labor: Oil palm plantation	Rp.		
2) Labor: Farming	Rp.		
3) Labor: Mining	Rp.		
4) Labor: Going away to working			
5) Others[ ]	Rp.		
3. Private Business	Rp.		
4. Loan/ Borrowing	Rp.	□1, □2, □3, □4,□5,□6	
5. Remittance from family	Rp.		
6. Others[ ]	Rp.		

Whom
Code: 1. Villager 2.Market 3.Middleman 4.Company 5. Outside of village 6.Bank

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7. Annual Crop Production

Code for Cropping Pattern:

1. Corn	2.Cassava	3. Wet land paddy	4. Dry land paddy	
5. Soybean	6. Coconut palm	7. Durian	8. Banana	
9. Leaf vegetables	10. Rubber	11. Oil palm	12. Coffee	13. Others (Specify)

1. Major crops planted (Code)

Type of agriculture		Plot1	Plot2	Plot3
1. Shifting cultivation Engaging? ☐1.Yes ☐2.No	1.Production (Code)	1.	1.	1.
	2.Area	2. Ha	2. Ha	2. Ha
	3.Production	3. Kg	3. Kg	3. Kg
	4.Consumption	4. ☐1.Sell ☐2.Domestic ☐3.Both	4. ☐1.Sell ☐2.Domestic ☐3.Both	4. ☐1.Sell ☐2.Domestic ☐3.Both
	5.Unit price	5. Rp./kg[ ]	5. Rp./kg[ ]	5. Rp./kg[ ]
2. Fixed farm Engaging? ☐1.Yes ☐2.No	1.Production (Code)	1.	1.	1.
	2.Area	2. Ha	2. Ha	2. Ha
	3.Production	3. Kg	3. Kg	3. Kg
	4.Consumption	4. ☐1.Sell ☐2.Domestic ☐3.Both	4. ☐1.Sell ☐2.Domestic ☐3.Both	4. ☐1.Sell ☐2.Domestic ☐3.Both
	5.Unit price	5. Rp./kg[ ]	5. Rp./kg[ ]	5. Rp./kg[ ]
3. Home garden Engaging? ☐1.Yes ☐2.No	1.Production (Code)	1.	1.	1.
	2.Area	2. Ha	2. Ha	2. Ha
	3.Production	3. Kg	3. Kg	3. Kg
	4.Consumption	4. ☐1.Sell ☐2.Domestic ☐3.Both	4. ☐1.Sell ☐2.Domestic ☐3.Both	4. ☐1.Sell ☐2.Domestic ☐3.Both
	5.Unit price	5. Rp./kg[ ]	5. Rp./kg[ ]	5. Rp./kg[ ]

2. History of crops planted / harvesting (Code) in 10 years

(Please check the column with "✓")

Item (code)	2000-2004			2005-2009			2010-2013		
	Out NP	In NP	None	Out NP	In NP	None	Out NP	In NP	None
Sample) 3				✓	✓		✓		
Shifting cultivation									
Fixed farming									

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8. **History of engaged activities and events in the village in past 11 years (1998-2013) (after moving the present place)**

Please put "✓" activities they engaged

1. Activities	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Reason of changing or quitting the activities
Example)Logging				✓	✓	✓							Lost a logging area
a. Logging individual													
b. Logging company													
c. Dry upland rice (Shifting cultivation)													
d. Wetland paddy rice cultivation													
e. Installing irrigation systems													
f. NTFP Collection													
g. Hunting													
h. Wage labor (Farming)													
i. Wage labor (Oil palm farm)													
j. Wage labor (Mining company)													
k. Oil palm plantation (Individual)													
l. Rubber plantation (Individual)													
m. Others[ ]													

Events history in the village in past 15years: Please encode the frequency [Low 1 · 2 · 3 High]

2. Events	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Example						3	3	3			1	1				
a. Forest fire																
b. Introduction oil palm plantation																
c. Migration from out side																
d. Others[ ]																

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9. Current Land Use in 2012/2013

Type of Land	1.Use	2.No. of locations used	(a) Land owned and used by the HH			(b) Land rented/ borrowed from others		
	(Yes/ No)	Total No. of Plots used	1.No. of plot	2.Ave Area per plot	3.Land Category [Code]	1.No. of plot	2.Ave Area per plot	3.Land Category [Code]
A. Cultivated								
Example	Y / N	3	2	0.5Ha	5	1	0.5Ha	3
A1.Home Garden	Y / N			Ha			Ha	
A2.Wetland Paddy	Y / N			Ha			Ha	
A3.Upland dry paddy	Y / N			Ha			Ha	
A4. Shifting cultivation Vegetables	Y / N			Ha			Ha	
A5. Agroforestry (Mix Planting)	Y / N			Ha			Ha	
A6. Palm Plantation (Own farm)	Y / N			Ha			Ha	
A7. Rubber Plantation	Y / N			Ha			Ha	
B. Un-cultivated								
B1.Currently unused but kept for shifting cultivation*(Fallow)	Y / N			Ha			Ha	
B2.NTFP Collection	Y / N			-			-	
Others ( )	Y / N			Ha			Ha	

Land Category Code:
1.Inside NP 2. Outside NP 3.HL 3. HP 4. APL 5. Village 6.Communual land
7.Others [ ] 8. Uncertain

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10. Group activities of the village

1. Village Customary Rule		
1) Do you know customary rule in the village ?	☐1. Yes ☐2. No	
2) What are the contents of the customary rules? (Multiple)	☐1. Natural resource management(NTFP) ☐2. Forest management ☐3. Land use/ tenure management ☐4. Conflict management ☐5. Financial management ☐6. Water resource use ☐7. Farming Practice ☐8. Others[ ]	
2. Group activities of village		
1) Do you know practicing group activities in the village? (Multiple)	☐1. Natural resource management ☐2.Social events (wedding, funeral, etc...) ☐3. House construction ☐4. Group farming ☐5. Religious ☐6. Coopa/ Credit Union ☐7. Others[ ]	
2) Do you participate the activities in the village? (Multiple)	☐1. Natural resource management ☐2.Social events (wedding, funeral, etc...) ☐3. House construction ☐4. Group farming ☐5. Religious ☐6. Coopa/ Credit Union ☐7. Others	
3) What is your purpose of the participating the activities?	☐1. To access income resources ☐2. To ensure labor resources ☐3. To collect / share information ☐4. To communicate with the others ☐5. Others[ ].	

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11. **Please answer the following alternative livelihoods you have interesting in and making ranks No.1 to 5.**

Alternative Activities	
1. Commercial cropping	
2. Wetland paddy rice farming	
3. Dry upland rice farming	
4. Shifting cultivation(vegetables)	
5. Raising livestock	
6. Hunting animals	
7. Trading	
8. Labour	
9. Planting fruit trees	
10. Handy crafts	
11. Planting industrial trees: Oil palm,	
12. Planting industrial trees: Rubber trees	
13. Fishery	
14. Fish culture	
15. Logging	
16. Tour guide	
17. Others: [ ]	

No.1 :
No.2 :
No.3 :
No.4 :
No.5 :

12. During past 10 years (2003-2013) what kinds of supports from government / NGO provided on your family

12-1 Have you receive any support from outsider?
☐. Yes -> Please continue to answer the column below ☐2. No

12-2 Detail information of supports from outsiders

1.Organizations and program name	2.Target Multiple	3.Contents Multiple	3. Approach Multiple	5.Period (YYYY-YYYY)	6.Satisfaction
☐1. Central Gv ☐2. District Gv. ☐3. NGO ☐4. Private company ☐5. Others ->specify ( )	☐1. Man ☐2. Woman ☐3. Children ☐4 Family members ☐5. Others ☐6. Others	☐1. Healthcare ☐2. Natural resource management ☐3. Agriculture technical ☐4. Forest management ☐5. Plantation ☐6. Capacity Building ☐7 Business training. ☐8.Others[ ]	☐1. Providing information ☐2. Providing materials ☐3. Training ☐4. Workshop ☐5. Financial support ☐6. Loan ☐7 Others [ ]		1. Satisfaction Low 1 2 3 4 5 High 2. Usefulness Low 1 2 3 4 5 High 3. Sustainability Low 1 2 3 4 5 High
☐1. Central Gv ☐2. District Gv. ☐3. NGO ☐4. Private company ☐5. Others ->specify ( )	☐1. Man ☐2. Woman ☐3. Children ☐4 Family members ☐5. Others ☐6. Others	☐1. Healthcare ☐2. Natural resource management ☐3. Agriculture technical ☐4. Forest management ☐5. Plantation ☐6. Capacity Building ☐7 Business training. ☐8.Others[ ]	☐1. Providing information ☐2. Providing materials ☐3. Training ☐4. Workshop ☐5. Financial support ☐6. Loan ☐7 Others [ ]		1. Satisfaction Low 1 2 3 4 5 High 2. Usefulness Low 1 2 3 4 5 High 3. Sustainability Low 1 2 3 4 5 High
☐1. Central Gv ☐2. District Gv.. ☐3. NGO ☐4. Private company ☐5. Others ->specify ( )	☐1. Man ☐2. Woman ☐3. Children ☐4 Family members ☐5. Others ☐6. Others	☐1. Healthcare ☐2. Natural resource management ☐3. Agriculture technical ☐4. Forest management ☐5. Plantation ☐6. Capacity Building ☐7 Business training. ☐8.Others[ ]	☐1. Providing information ☐2. Providing materials ☐3. Training ☐4. Workshop ☐5. Financial support ☐6. Loan ☐7 Others [ ]		1. Satisfaction Low 1 2 3 4 5 High 2. Usefulness Low 1 2 3 4 5 High 3. Sustainability Low 1 2 3 4 5 High

Appendix 2 : Supplementary interview survey

Dusun Begasing, Desa Sedahan Jaya.

1. Monthly Calendar for Major Crops and NTFP (including information on irrigation, productivity, market, groups, etc.)

   Knowledge on monthly calendar for major crops and NTFP is not varies greatly between male and female respondent. Therefore I don't separate the answers.

   a. Paddy is major crop grown by every respondent in Begasing.
      - Crop calendar: in general, everyone answered that the first planting cycle (called *piama* in local language) is during the month of September through October. The harvest expected to be by the end of December through January.

      The second planting cycle (called *sendua* in local language) then will be between the months of March through April, with one exception (Pak Udin) that plant his second cycle by May, because after first paddy harvest he utilizes his land for growing soya beans. The second harvest is between the months of July through August.

      There is no common agreement on when should the planting season start, usually people will try to plant as early as possible with the hope that they will be the first to harvest, therefore get better price for the rice from the rice mill (see information on market below).
      - Location: everyone have paddy field within the boundary of Desa Sedahan Jaya. Some people (3 that openly admit) have also paddy field within the National Park (by Bayas River). One has paddy field in Segua (purchased from Segua villager, unclarified if actually still within the boundary of Desa Sedahan Jaya or already within Desa Pampang Sejahtera).
      - Irrigation: out of 11 respondents, only 3 answer that their paddy field is irrigated (source of water from irrigation system). The rest answer that their paddy field is using rainwater. The one with rainwater also said that the irrigation canal is actually there, some permanent (made out of concrete) some still traditional (by digging the earth), but the water never really flows through the canal. Only when there is rain, then they will have water flowing through this canal, sometimes even too much water.
      - Productivity: the average harvest is between 250 kg to 350kg per 1,111m^2 (the most common measurement unit of the paddy field is petak that is approximately 1,111m^2 where 1 ha is equals to 9 petaks.)
      - Market: all respondents answer that they sell the harvest to rice mill. The price fluctuates depend on the availability of paddy. The more into the harvest season, the lower the price, because there are more paddies ready to be milled. The price is based on the weight of the rice, not the paddy. Prices during high paddy availability is between Rp 7.500 to Rp 8.500,- per kilogram of rice. During low paddy availability, the price could go as high as Rp 10.000,-/kg. There are six rice mills in Dusun Begasing only, and there are more than 13 overall (in Sedahan and Benawai Agung). Melayu farmers use the price as their preference for choosing which mill to sell their harvest to. Some Balinese farmers do the same, but some only sell their harvest to one specific rice mill in Benawai Agung (Acan, a Chinese man). They said that they choose to always sell their harvest to this mill, because they trusted him more than the others. Apart from providing service of milling the paddy into rice, these rice mills usually also sell fertilizers, pesticide, etc. Farmers can purchase these in cash or by credit with a slightly higher price. However, it is possible that they have credit in one mill and sell their harvest to other mill, simply because the latter provide higher price. So, when farmers have credit for fertilizers, etc. in one mill, they are not obliged to sell their harvest to that mill, they can sell their harvest to other mill with higher price and then pay their debt in cash.
      - Groups: out of 11 respondents in Begasing, only 5 still join farming group. The remaining 6 said that they used to join farming group, but now either the group is dissolved or the respondent stop being a member. **The interesting finding** is that the 5 respondents are all Balinese. They said that the purpose of joining the group is to make it easy for getting fertilizers (through Dinas Pertanian). Some respondents that no longer join a group said that their group is dissolved because the support (cash loans or fertilizers) from Dinas Pertanian is

not circulating among group member and/or the loans get stuck in one or two members only, therefore the support from Dinas to the group is stopped and the member dissolved themselves.

b. Secondary crops are various:
   - Soya beans: one respondent grow it in between first and second paddy planting cycle (sowing February, harvest April). Productivity approximately 800kg/0.5 ha/one harvest. The harvest is usually sold fresh to middle man that come to village.
   - Ground nut: 4 respondents grow it occasionally. Planting period is 3 months, usually during dry season, because if the soil is too wet, it will not successful. Harvest is usually sold fresh to middle man that come to village. But sometime the harvest also sold locally in Sedahan, after dried, as seeds. Only one respondent knows the productivity of his ground nut farm, approximately 200kg/450m2/one harvest. The other respondents say that they are not always sell their harvest, only occasionally when the harvest is good, otherwise it will be only for own consumption, therefore they don't measure the productivity.
   - Vegetables (including chili): two respondents grow chili, one of them also grow various other vegetables (cucumber, eggplant, water spinach). Harvest between every 2 to 3 months, usually only for own consumption, or if abundant, to sell at local shops. No outside middle man come to dusun to purchase vegetables, in fact, it is the other way around, middle man from outside selling vegetables in Dusun.
   - Fruits are various, most common are: durian, rambutan, kweni (*Mangifera odorata*), cempedak (*Artocarpus integer*), langsat (*Lansium parasiticum*), coconut, kedondong (Ambarella) and mango. These fruits trees some are already 20 years old, so mostly are old trees planted by previous generation and later passed on to current generation. Harvest time fluctuates every year, so it is difficult to pinpoint the exact month for harvest. Respondents say, in the past the harvest time is more or less accurate, but it's been a while since the harvest is started to fluctuate every year, some year with no harvest at all, and usually depends on the temperature of the year. For example durian usually flowering in October and fruits are ripe by late December, but in 2014 its flowering in October, yet the extended dry season made all the flowers falling therefore the fruits are very scarce. Similar with kweni, many of the trees are flowering and successfully becoming a fruit, but when it's ripe outside, the pulp inside is becoming bad and not edible, perhaps because of pest.

   Fruit harvest is usually for own consumption, but in case abundant harvest, it will be sold to middle man coming from outside, usually already waiting nearby fruit orchards.

2. History of events in the village in past 11 years (1998 to 2013):

   Respondents seem to have problem remembering the times of events in the village, especially as far as 11 years ago. Mostly only remember an extreme occurrence of events at one certain period of time, therefore the result of the interview only record the extreme event on certain year, and not trend on annual basis. There is some additional information, however, on certain events that they remember as something that going on continuously i.e. logging.

   a. Forest fire: some respondents remember that there is huge forest fire in 1997, and later in 2004 and 2007. Some respondents know nothing of forest fire, or remember there was a forest fire, but don't remember when. Mostly agrees that the one in 1997 is the largest, with fires in the mountain and swamp area. It was remembered because many respondents remember their parents losing the trees in their fruit orchards at the mountain to the fire. One even said that his father used to have coffee farm uphill, but all was burned by the fire, and they never cultivate it again because of restriction from "forestry officer" to farm within protected areas.

      The one in 2004 was remembered because one respondent remember that after that fire, the forest near Bayas river become grassland, and a couple of years later, villagers began clearing the area for paddy field.

      For other years, all respondents said that there was no forest fires, mainly due to restriction from "forestry officer (known with several names: PPA, Kehutanan, TN)" to clear and burn the forest for farming.

   b. Migration from outside: all respondents agree that the major migration from outside occurred before 1998. Some said it was in early 1990s, when approximately 200 household migrated from Java following a government transmigration project. After that, approximately only 1 or 2 people a year, usually relatives of Balinese people. The major migration of Balinese was around mid-1960s.

c. Expansion of farmland: 9 out of 11 respondents said that there are recent expansions of farmland, first is the one in Begasing and second the one nearby Bayas river.
   - The one in Begasing is happening around 2012/2013, located in area known as Air Merah, is part of government project, where a 50 ha peatland is cleared and distributed to 50 household, each get 1 ha. Only one respondent get the allocation of this farmland.
   - The second one nearby Bayas River, mentioned by 5 respondents. Some said it happened in 2010, one said it happened in 2012. Everyone said that they don't know the total area cleared or how many household obtained farmland, but everyone said each household get from 0,5 to 1 ha. All respondent that mentioned this expansion said the reason for clearing the area is because they have no farmland in the village, and there is no more space in the village to open a new farmland.

d. Logging in forest area: all respondents agreed that the logging was rampant up to certain period of time, and then declines afterward. One said that the peak was during 2000 – 2006. Afterwards, it is not stopped entirely, because there still some very small scale logging happened for local needs throughout the year. It is considered 'legal' because prior to cutting down the tree, permission is required from Kepala Desa that will forward the request to National Park staff. Only when Kepala Desa (and/or Park staff) gives approval, people will cut down the tree. All respondents said that the purpose of logging is for local need, to build houses, huts in paddy field, and most recently for swallow houses. Location for logging activities are said to be in Air Merah and nearby Bayas River.

e. Road construction: all respondents said that there is no new road construction in the past 11 years. Only rehabilitation of existing road, usually by renewing the damaged asphalt, and usually only for a very short distance approximately 300 m per year.

f. Farming/Plantation in NP: mostly covered in point C.

g. Expansion of oil palm plantation: not applicable for Dusun Begasing.

3. Customary Rules

a. Customary rules on Natural Resources Management (forest, water, farmland, etc.).

   Currently there are no customary rules on management of Natural Resources. Some respondent said that in the past there are some rituals that people will do in order to ensure the village safety, the successful harvest (regular water, less pest, healthy plants), and this rituals will be conducted under the lead of one 'Kepala Kampung' (dukun or shaman). There are also some restrictions on what you can or cannot do; places/part of the forest not to visit or use for farming, etc. But since the dukun passed away, the rituals stopped and restrictions are slowly forgotten.

   The only surviving customary rules are the ones belong to Balinese people. One respondent explains about all the rituals for farming, for example no Balinese will start planting their field before the ritual of *mungkah* that usually took place in July. These Balinese rules apply only to Balinese people, and although there is no sanction if they don't comply, it is very seldom that people disobey.

b. Government intervention on Natural Resource Management

   All respondent said that government intervention on natural resource is mainly regarding 'protected forest (the most common terms used to refer to national park)'. The rules are: logging and clearing by burning in the forest is not allowed.

   The effect of these rules: whenever anyone needs timber for building houses, first they need to get the permission from Kepala Desa and national park. Also when they have old durian tree, and considering cutting it down for building purpose, they will need to obtain the permission first.

   Another effect is regarding farmland, because clearing by burning is no longer allowed, many people lost the land that they usually use to grow paddy or chili or any other crops in the mountain, and left with only fruits orchards in mountain and farmland in lowland. But areas for farmland in lowland are limited, and it is not possible to open anymore new farmland in lowland.

c. Issues or conflict on Natural Resource Management

   All respondent said that conflict among villagers regarding natural resource is not happening very often, but also quite common. Mainly the conflict is regarding ownership of farmland, due to lack of proper documents. Parties involved usually seek advice from RT; if not successful then they will go to higher level like Kepala Dusun or Kepala Desa.

   Water is also another source of conflict, with no regulation on its usage for farmland; sometime one farmer will block the irrigation canal to get all the water for their farmland, and left the rest without water.

Another conflict that usually happened is regarding the timber from forest. One respondent mention about pas incident in 2009 (?) when national park staff destroy timbers collected by villagers that leads to demonstration to Kantor Kepala Desa.

One respondent mentions also about the border of the village, especially regarding Lubuk Baji. It is still not agreed yet whether Lubuk Baji is part of Desa Sedahan or Desa Pampang Harapan. He also mention that many people from Pampang are now living in the area of Desa Sedahan, and slowly claiming the areas of Desa Sedahan.

d. Regulation in Desa or Dusun

I only interviewed Kepala Dusun regarding this question and he mentions several Perda (Peraturan Daerah – Province/District Decrees) issued in 2002, 2006 and 2014. Asked about what this Perda are about, he said he's not very informed about it, but mainly regarding illegal logging and village administration.

4. Village Structure:

Regarding village structure, there are differences between answers from male and female respondents, therefore I separate them.

List of institutions and groups which are important in Desa/Dusun (formal/informal) with ranking in importance:

- Male respondent:
  a. Farmer groups (approximately 20) and PPL
  b. Pak RT, Kepala Dusun, Kepala Desa and staff Desa
  c. Kapolpos (Police) and Babinsa (Army)
  d. Balinese group.
  e. LPM (Lembaga Pemberdayaan Masyarakat – Community Empowerment Body)
  f. Village NGO (names forgotten, just know the chairman)
  g. Karang Taruna (Youth and Sport Group)
- Female respondent:
  a. PKK
  b. Pengajian (religious group for regular praying)
  c. Arisan (voluntary group for collecting resource (usually cash) and then drawn through lottery usually on monthly basis; i.e. every month every member will gather their money according to agreed amount, and then whoever wins the lottery get that money. The same for the following months until every member wins).

5. NTFP Collection:

NTFP collection is not very different between male and female respondent, and there is no NTFP that is traditionally collected only by male or only by female.

Its very difficult to calculate the amount of NTFP collected per year, because the collection is not for commercial purpose, only for personal consumption. Some, like rebung, is collected almost at least once every month, but for many like various fruits, the collection is depend on the fruiting season.

True, that some fruits are collected for sale (like durian, kweni, rambutan) but the respondent that did so never record the amount.

One respondent give a note that fruit trees in the mountain need to be guarded during fruiting season, otherwise for sure there will be no fruits left for human, because animals from the forest will finish them all.

Bamboo are mainly used for farming, to build huts in the farm, fence for animals or chicken coop, or to make awai-awai (local word for tool to scare the birds away. Not scarecrow, but the one with strings attached to it).

Water is collected through pipeline system built personally. So each household will place a pipe in a river in the forest and build a pipeline until their house.

Two respondents said that they hunt in the forest, usually looking for boar or deer. In the past ony for own consumption, but now there are demand for it, so they also sells them. Usually go every 5 days into the forest, return on the same day.

Species	Place (in/out TN)	Amount (year)
Durian	Inside	
Jengkol	Inside	
Petai	Inside	
Rebung (bamboo shoot)	Inside	

Chili	Inside	
Banana	Inside	
Kweni	Outside	
Cempedak	Inside	
Jackfruit	Inside	
Langsat	Inside	
Lengkeng	Inside	
Rambutan	Inside	
Rattan	Inside	
Bamboo	Inside and outside	
Firewood	Inside	
Water for household	Inside	
Boar	Inside	
Deer	Inside	

Trends of NTFP resources and any other issues recorded:

- Firewood collection is declined, since the introduction of gas stove by government in 2009.
- Water for household use, during dry season usually the water doesn't reach the house through the pipe, or if yes, in a very small amount.

Summary of Findings from Semi-structured interview
Dusun Jelutung, Desa Matan Jaya.

1. Monthly Calendar for Major Crops and NTFP (including information on irrigation, productivity, market, groups, etc.)

   Knowledge on monthly calendar for major crops and NTFP is not varies greatly between male and female respondent. Therefore I don't separate the answers.

   c. Paddy.
   - Crop calendar: All respondent answered that the seeding and planting done around July or August, with the harvest on February or March every year. The type of paddy is the yearly paddy or dry land paddy. Planting is done at the same time by the farmers. There is interesting thing done by the farmer during their farming activity. They usually plant another plant between their paddy field. The plant are eggplant, corn, chilli and cassava. Eggplant, corn and chilli is harvested 3 months after paddy planting and cassava is harvested around 3-4 months after harvesting paddy. The harvest usually only for domestic use, but some also sold. The harvest for the other plant is around 20-70 kg/ha.
   - Location: Out of 6 respondents, 3 have their own farmland. The location is around dusun Matan. The farmland size are 1 ha, 1 ha and 2 ha.
   - Irrigation: All respondent said that they didn't use irrigation, they only depend on the rain water. They call it bawas, which a shifting cultivation. When shifting, the land they are using are their own land. One of the respondent mention that the ppady that they usually plant is Melawi paddy.
   - Productivity: The paddy productivity is varied. Around 100 gantang for the 1 ha land, and 300 gantang for the 2 ha land. The productivity of each year also varies, sometimes they only produce 50-60 gantang for the 2ha land.
   - Market: All respondent said the harvest is not for sale, they only use it by themselves. But they also mention the price for rice is 12.000/kg.
   - Groups: All respondents answered that there are no farming groups in their village.

   d. Secondary crops are various:

   - Rubber Plantation: Only 1 respondent has rubber plantation, with the size of 2 ha. When the rubber is still collected the productivity is around 7-8 kg/10 days. He didn't collect the rubber now since the price is very low.
   - Kebun Sawit: 2 respondents have oil palm plantation. The plantations are 2 ha plasma from the company. The income from the plantation is around Rp. 600.000 – 1.200.000/month. But sometimes, especially during rainy season they only get Rp. 330.000/month.
   - Kebun tanaman buah-buahan: All respondent have durian orchard, but they didn't know the exact size of their orchard. The orchard is inheritance, with the orchard status as family assets. During harvesting season they work together to collect durian, by building small hut inside the orchard. The collecting itself done in turn by the family members.

2. History of events in the village in past 11 years (1998 to 2013):

   Respondents seem to have problem remembering the times of events in the village, especially as far as 11 years ago. Mostly only remember an extreme occurrence of events at one certain period of time, therefore the result of the interview only record the extreme event on certain year, and not trend on annual basis. There is some additional information, however, on certain events that they remember as something that going on continuously i.e. logging.

   h. Forest fire: All respondents said that there is forest fire almost every year, the fire usually happened in the oil palm plantation area. One respondent mention that the fire maybge caused by the cigarettes from the worker.
   i. Migration from outside: all respondents agree that there are migration every year. The main reason is work. The existence of oil palm plantation makes the people from outside move to Batu Barat to be closer with their workplace. Another reasons for migration are marriage and farming land. The most number of migration happened in 2012 and 2013.

j. Expansion of farmland: Respondents know about the opening of farmland in Dusun Air Manis, but they didn't want to talk about it. They don't want to talk about it because it happened in other Dusun. They also didn't really know anything about it.
k. Logging in forest area: All respondent agree that there are logging activities in forest before. The activities continue until 2004, there also respondent who said the activities continue until 2009. The people who are not working in the forest now work in the oil palm plantation or the bauxite mining.
l. Road construction: The first road is contructed in 1970 and then in 2006-2007 the road was widened and there are new roads built which now become the access of villagers.
m. Farming/Plantation in NP: There are no vilagers who do farming or planting activities inside National Park.
n. Expansion of oil palm plantation: From the respondent, they said the oil palm plantations were opened in 1996 by P.T. SMP and 2006 by P.T. CUS.

3. Customary Rules
e. Customary rules on Natural Resources Management (forest, water, farmland, etc.).
There are customary rules for planting and harvesting season. It usually called "krenah kampung". Before the ritual conducted by the spiritual/customary leader, it is forbidden to do any planting or harvesting activity. The ritual itself is conducted before planting and harvesting time, it makes the planting and harvesting activities are done around the same time.
f. Government intervention on Natural Resource Management
2 respondents said there are no government support or program. Another respondent said that there are some government program or support already such as Health Center in 2010, Solar Power Plant in 2011 from local government, Clean Water Pipe in 2014 from PAMSIMAS, Junior High School. In 2011, P.T. CUS also built a dam for clean water, but it cannot fulfill all the villagers' needs.
g. Issues or conflict on Natural Resource Management
According to the respondent, the conflict that happened usually about the sale of land. Mostly about the land certificate. Thyis conflict usually by the conflicting people themselves.
Another conflict is with the oil palm company about their land that still not compensated by the company even though it already converted into oil palm plantation. For this, the villagers go directly to the company. If there are no further response, the villagers can only waiting.
h. Regulation in Desa or Dusun
Most respondent said there are no regulation in Desa or Dusun, but there are respondents who said that the regulation is still the discussion.

Dampak dari Perkebunan Sawit

One respondent is not working in oil palm plantation, he only farming. He also mentioned that the change since oil palm plantation coming is that the livelihood of the villagers become better. As for negative impact, the water become changed both in color and taste because of the fertilizer. Also the land for farming is reduced, and the pest attack that reduce productivity.
Other respondents are working in the plantation as daily worker (BHL). As daily worker they are paid 80.000/day, and the payment will be done monthly (based on the number of days they are working) usually around 11^{th}-15^{th} every month. If they managed to work for at least 20 days in a month, they will get a bonus of 15 kg rice. They working hour is from 07.00 until 14.00, but they can finish earlier if their work are done. The daily worker is work directly under a leader (mandor). The leader have to supervise and instruct the daily worker during the working hour. The benefits from working in the plantation is very helpful for the villagers. By working in the plantation they can fulfill the family needs and pay for their children education. They also mentioned that they become able to calculate their income and expenses with the fixed salary system. Another interesting thing mentioned by the respondents is that they become able and trusted to have tab in the shops because there are income every month. It different when the plantation still not there, they afraid to have tab in the shops since they don't know if they can pay it or not every month.
The respondents also mentioned that the problem with oil palm company is about their overtime payment, which usually late or even didn't paid at all. They usually will complain directly to the company, later the overtime will be paid in the next month payment. Another problem is related with farmland, with the oil palm plantation the available land for farming become smaller, which

in tur forced the villagers to re-open their old farmland that they already neglected before. There also flood problem during rainy season, and they cannot use river water because it already polluted.

Summary of Findings from Semi-structured interview Dusun Matan Raya, Desa Batu Barat.

1. Monthly Calendar for Major Crops and NTFP (including information on irrigation, productivity, market, groups, etc.)

   Knowledge on monthly calendar for major crops and NTFP is not varies greatly between male and female respondent.

   e. Paddy is major crop grown by every respondent in Rembayan.
      - Crop calendar: All respondent answered that the seeding and planting done around August or September, with the harvest on March or April every year. The type of paddy is the yearly paddy or dry land paddy. Planting is done at the same time by the farmers.
      - Location: Almost all respondent own their farming land. While one of the respondents rent the land from other person with 5:1 sharing system after harvest.
      - Irrigation: All respondent said that they didn't use irrigation; they only depend on the rain water.
      - Productivity: The productivity is varied, from 100 – 150 gantang per 0,5 ha.
      - Market: All respondent said the harvest is not for sale, they only use it by themselves. But they also mention the price for rice is 12.000/kg.
      - Groups: All respondent mention that there is no farming group in their dusun.

2. History of events in the village in past 11 years (1998 to 2013):

   Respondents seem to have problem remembering the times of events in the village, especially as far as 11 years ago. Mostly only remember an extreme occurrence of events at one certain period of time, therefore the result of the interview only record the extreme event on certain year, and not trend on annual basis. There is some additional information, however, on certain events that they remember as something that going on continuously i.e. logging.

   o. Forest fire: All respondents said that there is forest fire almost every year, but they not sure whether it in the forest or in the farming area. Most forest fire happening during dry season. One of the respondent also mentioned that the forest fire usually happened in Dusun Rembayan and Teluk Aur, while there is no forest fire in dusun Matan Raya.
   p. Migration from outside: all respondents agree that there are migrations every year. The main reason is work. The existence of oil palm plantation makes the people from outside move to Batu Barat to be closer with their workplace. Other reasons for migration are marriage and farming land.
   q. Expansion of farmland: All respondent didn't know about the opening of farmland in their area.
   r. Logging in forest area: All respondents agreed that there were logging activities in the forest area. The activities are up until 2007. After the opening of oil palm plantation in the 2007, most people start to stop logging and changed profession as oil palm plantation worker. Before that some people also already stopped logging activities and work in the oil palm plantation in Desa Matan Jaya, and they return back to Batu Barat after the opening oil palm plantation in Batu Barat.
   s. Road construction: The road is first constructed in 1989, and then in 2000 the road is re-constructed and made wider.
   t. Farming/Plantation in NP: There are no vilagers who do farming or planting activities inside National Park. Ever since the area is decided as National Park, all villagers moved across the river to the area where they live now.
   u. Expansion of oil palm plantation: Respondents said that the oil palm plantation was opened in 2007, but before that in 2005 the company already makes some activity to inform the villagers.

3. Customary Rules

   i. Customary rules on Natural Resources Management (forest, water, farmland, etc.).

      There are customary rules for planting and harvesting season. It usually called "krenah kampung". Before the ritual conducted by the spiritual/customary leader, it is forbidden to do any planting or harvesting activity. The ritual itself is conducted before planting and harvesting time, it makes the planting and harvesting activities are done around the same time.

   j. Government intervention on Natural Resource Management

      One respondent said that there are government program such as seedling, pesticide and herbicide. While other respondents said there is no program or support from government.

   k. Issues or conflict on Natural Resource Management

All respondent mentioned that there is no conflict among the villagers.

l. Regulation in Desa or Dusun

All respondents didn't understand about regulation in desa or dusun.

4. Impact from Oil Palm Plantation

Most respondents are working in the plantation as daily worker (HK). As daily worker they are paid 80.000/day, and the payment will be done monthly (based on the number of days they are working) usually around 11th-13th every month. If they managed to work for at least 20 days in a month, they will get a bonus of 30 kg rice for the worker who already married and has child/children, and 10 kg of rice for worker who still not married yet.

Their working hour is from 07.00 until 14.00, but they can finish earlier if their works are done. The daily worker is very flexible; they can work when they want to, and just staying at home if they didn't feel like to work. They just need to join morning gathering at 07.00 to confirm that they work for that day. They also didn't work on Sunday and holiday. One respondent is not working in oil palm plantation, but he used to provide some worker for the plantation.

All respondents mentioned that the change since oil palm plantation coming is that the livelihoods of the villagers become better. As for negative impact, the water become changed both in color and taste because of the fertilizer and pesticide/herbicide from the plantation. The most notable changes because of oil palm plantation is the condition of villagers' house, since their livelihood becomes better, the living condition (in this case their houses) in the village also becomes better.

Summary of Findings from Semi-structured interview Dusun Matan, Desa Matan Jaya.

1. Monthly Calendar for Major Crops and NTFP (including information on irrigation, productivity, market, groups, etc.)

   Knowledge on monthly calendar for major crops and NTFP is not varies greatly between male and female respondent. Therefore I don't separate the answers.

   f. Paddy is major crop grown by every respondent in Matan.
      - Crop calendar: in general, everyone answered that the planting cycle is during the month of August through September. The harvest expected to be between March to April.

      There is no common agreement on when should the planting season start, even if there are agreement usually it only within families. So they can help each other during the process.
      - Location: everyone have paddy field within the boundary of Desa Matan Jaya. There are no people who have paddy field inside the national park, but they tell that some people used to have their field inside the Sepuncak protection forest.
      - Irrigation: All respondent answer that their paddy field is using rainwater.
      - Productivity: the average harvest is between 500 kg to 750 kg per around 4,600m^2 (most villagers have the same size for their working field which is around 30 depak x 60 depak/person (1 depak = around 1,6 m) since usually one family working in a big area of land and each family member responsible for a part of it)
      - Market: all respondent answered that they use the harvest for themselves, with some goes to the rice mill. They also sometimes give part of their harvest to other family member who have got bad harvest.
      - Groups: The respondent said that they didn't have any farming group. But they are currently trying to make one now.

   g. Secondary crops are various:
      - Vegetables (including chili): 2 respondent said that they grow vegetables, but most villagers didn't plant any other secondary crop. The reason because the livestock (cow and goat) are not in barn but let loose in the village and damaging most secondary crops. So the other villagers simply didn't plant any other crops. In fact, middle man from outside selling vegetables in Dusun to fulfill most of the villagers need.
      - Fruits are various, most common are: durian, rambutan. These fruits trees some are already 30 years old, so mostly are old trees planted by previous generation and later passed on to current generation. Harvest time fluctuates every year, so it is difficult to pinpoint the exact month for harvest. Respondents say, in the past the harvest time is more or less accurate, but it's been a while since the harvest is started to fluctuate every year, some year with no harvest at all, and usually depends on the temperature of the year.

      Fruit harvest is usually for own consumption, but in case abundant harvest, it will be sold to middle man coming from outside, usually already waiting nearby fruit orchards.

2. History of events in the village in past 11 years (1998 to 2013):

   Respondents seem to have problem remembering the times of events in the village, especially as far as 11 years ago. Mostly only remember an extreme occurrence of events at one certain period of time, therefore the result of the interview only record the extreme event on certain year, and not trend on annual basis. There is some additional information, however, on certain events that they remember as something that going on continuously i.e. logging.

   v. Forest fire: some respondents remember that there is huge forest fire in the end of 90s, around 1997-1999 and some small-scale forest fire occasionally. Some respondents know nothing of forest fire, or remember there was a forest fire, but don't remember when. Mostly agrees that the one in the end of 90s is the largest.

   w. Migration from outside: all respondents agree that the major migration from outside around end of 90s to early 2000s during the logging boom. After that, most people are moving out again with only some of them remain. In recent years, migration happen mostly because of marriage or work. But the frequency is around 1-3 people per year.
      - Expansion of farmland: There is no expansion of farmland, usually just the existing farmland divided or split between families. Or they re-use the old farm that they neglected before.

x. Logging in forest area: all respondents agree that the logging was rampant up to certain period of time, and then declines afterward. One said that the peak was during 2000 – 2005. Afterwards, it is not stopped entirely, because there still some very small scale logging happened for local needs throughout the year and it happened outside national park but sometime inside the protection forest.
y. Road construction: all respondents said that there is no new road construction in the past 11 years. Only rehabilitation of existing road.
z. Farming/Plantation in NP: No farming or plantation in NP, but there used to be farming area in Sepuncak protection forest.
aa. Expansion of oil palm plantation: In dusun Matan, it is mostly only act as transportation point or hub for the oil palm since the plantation is in the other dusun area.

3. Customary Rules
   m. Customary rules on Natural Resources Management (forest, water, farmland, etc.).
      Currently there are no customary rules on management of Natural Resources. Some respondent said that in the past there are some rituals that people will do in order to ensure the village safety, the successful harvest (regular water, less pest, healthy plants), and this rituals will be conducted under the lead of one 'Kepala Kampung' (dukun or shaman). There are also some restrictions on what you can or cannot do; places/part of the forest not to visit or use for farming, etc. It used to be mostly ignored recently, but since the dukun is replaced recently (2014), the rituals starting to become active again even though not as much as in the old time.
   n. Government intervention on Natural Resource Management
      All respondent said that there are almost no government intervention on natural resource except the part that they can't do any activity inside NP which not really matter since the NP area is across the river.
   o. Issues or conflict on Natural Resource Management
      All respondent said that conflict among villagers regarding natural resource is not happening very often. Mainly the conflict is regarding land border, due to lack of proper documents. Parties involved usually seek advice from RT; if not successful then they will go to higher level like Kepala Dusun or Kepala Desa.
   p. Regulation in Desa or Dusun
      All respondent said that they didnt know about nay regulation, even Kepala Dusun also didn't know. If there is any, only the one issued by kecamatan, district or higher auhorities.
4. Village Structure:
      List of institutions and groups which are important in Desa/Dusun (formal/informal) :
   h. Desa (meaning Kepala Desa and his staffs)
   i. Pengajian (religious group)
   j. Klinik (ASRI)
   k. TNGP.
5. NTFP Collection:
      NTFP collection is not very different between male and female respondent, and there is no NTFP that is traditionally collected only by male or only by female.
      Its very difficult to calculate the amount of NTFP collected per year, because the collection is not for commercial purpose, only for personal consumption. Some, like rebung,is collected almost at least once every month, but for many like various fruits, the collection is depend on the fruiting season.
      True, that some fruits are collected for sale (like durian, rambutan) but the respondent that did so never record the amount.
      One respondent give a note that fruit trees in the mountain need to be guarded during fruiting season, otherwise for sure there will be no fruits left for human, because animals from the forest will finish them all.
      Bamboo are mainly used for farming, to build huts in the farm, fence for animals or chicken coop.

   Trends of NTFP resources and any other issues recorded:
   - Firewood collection is declined, since the introduction of gas stove by government.
   - Water for household use, during dry season usually the water doesn't available near the village.

Summary of Findings from Semi-structured interview Dusun Rembayan, Desa Batu Barat.

1. Monthly Calendar for Major Crops and NTFP (including information on irrigation, productivity, market, groups, etc.)

   Knowledge on monthly calendar for major crops and NTFP is not varies greatly between male and female respondent. Therefore I don't separate the answers.

   h. Paddy is major crop grown by every respondent in Rembayan.
      - Crop calendar: All respondent answered that the seeding and planting done around August or September, with the harvest on March or April every year. The type of paddy is the yearly paddy or dry land paddy. Planting is done at the same time by the farmers.
      - Location: From all the respondent, one respondent rent the land from other person while the other own their farmland.
      - Irrigation: All respondent said that they didn't use irrigation, they only depend on the rain water.
      - Productivity: The productivity of paddy varies, averaging in 500 gantang per 1 ha. But some interesting fact is that a respondent with around 0,4 ha only produce 100 gantang while another respondent with land around 0,75 ha managed to get 800 gantang.
      - Market: All respondent said the harvest is not for sale, they only use it by themselves. But they also mention the price for rice is 12.000/kg.
      - Groups: 5 respondent mentioned that there used to be farming groups before, with 1 of the respondents said he joined the group. The groups are not active anymore since 2013. Based from the respondents, the farming groups were formed by PPL Pertanian in 2012. There were 2 groups formed, Maju Jaya group and Rembulan Jaya group. Each group consist of 25 members, with each members get 1 anggar (10 depak x 10 depak) land. The land was cleared using heavy machinery. After one month when the paddy started to grow, it was attacked by pest causing the root to withered. Since that failure, the groups become inactive and the members looking for another land to farm.

   i. Secondary crops are various:

      - Rubber Plantation: 3 respondents have rubber plantation. One respondent lost his rubber plantation to the forest fire. One respondent just planting his rubber, while the other respondent already collecting his rubber (10 kg per collecting). The respondent with the burnt plantation decided to plant again since his land is often get caught in forest fire. Another respondent who have rubber plantation but still haven't collecting it eplain that not only because he still don't have the necessary skill, it also because the rubber price is low. One of the respondent also get seedling from Dinas Pertanian.
      - Oil Palm Plantation: 2 respondents have oil palm plantation. The plantations are 2 ha plasma from the company. The income from oil palm is unstable, it depend on the amount of oil palm that can be transported. Sometimes during rainy season thye oil palm can't be collected because the road condition is very bad. During that time their income is at the lowest, only around 125.000/month. The highest amount that they ever get is 3.800.000/month, but it rarely happened. One respondent said the he planned to plant oil palm in his own land, 67 m x 400 depak in size.
      - Fruit Orchard: Only 1 respondent have fruit orchard. The plants are Durian, Cempedak, Rambutan. The respondent call his orchard as local orchard, with the size 67 m x 400 depak. The productivity of the orchard is not good. There lot of durian trees withered, he said it because soil is not good for durian. From around 12 durian trees, the harvest only amount to 100 fruit. The cempedak is better, in one harvest it can yield Rp. 2.700.000,- with price ranging between Rp. 2000 – 3000/fruit.

2. History of events in the village in past 11 years (1998 to 2013):

   Respondents seem to have problem remembering the times of events in the village, especially as far as 11 years ago. Mostly only remember an extreme occurrence of events at one certain period of time, therefore the result of the interview only record the extreme event on certain year, and not trend on annual basis. There is some additional information, however, on certain events that

they remember as something that going on continuously i.e. logging.

bb. Forest fire: All respondents said that there is forest fire almost every year, but they not sure whether it in the forest or in the farming area. Most forest fire happening during dry season. One of the respondents mention that there is forest fire every year, but the cause is unknown. Another respondent mentioned that the forest fire usually happening during the planting season or during the opening of new farming land. There is a very big forest fire happening in 2009, which made the village to request help from firefighter. Other than that there are also some big forest fire happening in 2009, 2011 and 2012.

cc. Migration from outside: all respondents said that there are migration every year. The main reason is work. The existence of oil palm plantation makes the people from outside move to Batu Barat to be closer with their workplace. Another reasons for migration are marriage and farming land.

dd. Expansion of farmland: Out of all respondents, only one person knows about the opening of new farming land. From his story, the opening of new land is happening every year in Dusun Rembayan area especially along the water canal. The land opened is 1000 m x 500 m in size. There also land opening in Teluk Aur area.

ee. Logging in forest area: All respondents agreed that there were logging activities in the forest area. The activities are up until around 2006 - 2007. After the opening of oil palm plantation, most people start to stop logging and changed profession as oil palm plantation worker. Before that some people also already stopped logging activities and work in the oil palm plantation in Desa Matan Jaya, and they return back to Batu Barat after the opening of oil palm plantation in Batu Barat.

ff. Road construction: Based from respondent, the road was constructed in 1984 with the road width 2 m and the canal alongside the road is 60 cm in width. Then the road re-constructed using asphalt in 2000.

gg. Farming/Plantation in NP: There are no vilagers who do farming or planting activities inside National Park. Ever since the area is decided as National Park, all villagers moved across the river to the area where they live now.

hh. Expansion of oil palm plantation: Respondents said that the oil palm plantation was opened in 2007, but before that in 2005 the company already make some activity to inform the villagers.

3. Customary Rules

q. Customary rules on Natural Resources Management (forest, water, farmland, etc.).
There are customary rules for planting and harvesting season. It usually called “krenah kampung”. Before the ritual conducted by the spiritual/customary leader, it is forbidden to do any planting or harvesting activity. The ritual itself is conducted before planting and harvesting time, it makes the planting and harvesting activities are done around the same time.

r. Government intervention on Natural Resource Management
One respondent mentioned that there are already government program support, such as from PPL Pertaninan in 2012, the opening of new farmland, rubber seedling and the equipment. Another respondent said the same things with addition of clean water tank and electricity in 2013-2014. The other respondents said there are no government support or program.

s. Issues or conflict on Natural Resource Management
All respondents mention there are no conflict amomg the villagers.

t. Regulation in Desa or Dusun
Most respondent didn’t know about regulation in desa or dusun. One respondent said that there is regulation about the prohibition to burn farmland during dry season or to be careful with fire during dry season. Usually the regulation informed by gathering the villagers.

4. Impact from Oil Palm Plantation

One respondent is not working in oil palm plantation, but he used to provide some worker for the plantation. All respondents mentioned that the change since oil palm plantation coming is that the livelihoods of the villagers become better. As for negative impact, the water become changed both in color and taste because of the fertilizer and pesticide/herbicide from the plantation. The most notable changes because of oil palm plantation is the condition of villagers’ house, since their livelihood becomes better, the living condition (in this case their houses) in the village also becomes better.

Other respondents are working in the plantation as daily worker (HK). As daily worker they are paid 80.000/day, and the payment will be done monthly (based on the number of days they are working) usually around 11th-13th every month. If they managed to work for at least 20 days in

a month, they will get a bonus of 30 kg rice for the worker who already married and has child/children, and 10 kg of rice for worker who still not married yet. Their working hour is from 07.00 until 14.00, but they can finish earlier if their works are done. The daily worker is very flexible; they can work when they want to, and just staying at home if they didn't feel like to work. They just need to join morning gathering at 07.00 to confirm that they work for that day. They also didn't work on Sunday and holiday. As daily worker, they have to work under a team leader (mandor), with each team leader usually responsible for 12-15 workers. The team leader has to supervise and instruct the daily worker during the working hour.

Another type of worker in the plantation is contracted worker (SKU). They have fixed salary every month and have to work and join morning gathering every working day. The contracted worker didn't work under mandor and get bonus of rice every month, 30 kg for worker with family and 10 kg for worker who still not married. The benefits from working in the plantation are very helpful for the villagers. By working in the plantation they can fulfill the family needs and pay for their children education. They also mentioned that they become able to calculate their income and expenses with the fixed salary system. Another interesting thing mentioned by the respondents is that they become able and trusted to have tab in the shops because there is income every month. It was different when the plantation still not there, they afraid to have tab in the shops since they don't know if they can pay it or not every month. The respondents also mentioned that so far there are no conflicts or problem in the plantation whether about land, water, colleagues, and custom.

Summary of Findings from Semi-structured interview Dusun Sepakat, Desa Batu Barat.

1. Monthly Calendar for Major Crops and NTFP (including information on irrigation, productivity, market, groups, etc.)

   Knowledge on monthly calendar for major crops and NTFP is not varies greatly between male and female respondent.

   j. Paddy is major crop grown by every respondent in Sepakat.
   - Crop calendar: All respondent answered that the seedling and planting done around August or September, with the harvest on March or April every year. The type of paddy is the yearly paddy or dry land paddy. Planting is done at the same time by the farmers.
   - Location: All respondent own the field by themselves, with one respondent said that a part of his land is worked by other person, he only own the land.
   - Irrigation: All respondent said that they didn't use irrigation; they only depend on the rain water.
   - Productivity: The productivity is various, averaging 300 gantang for 0,5 ha.
   - Market: All respondent said the harvest is not for sale, they only use it by themselves. But they also mention the price for rice is 12.000/kg.
   - Groups: One respondent said that there used to be farming group before, but it become inactive after oil palm plantation coming. The other respondents said that they didn't know about farming group.

   k. Secondary crops are various:

   - Kebun Karet:Only 1 respondent has rubber plantation, but still haven't collected yet.
   - Kebun Sawit: Only one respondent answer he has oil palm plantation, which a plasma. The plantation itself is still new and hasn't produced any.
   - Kebun Durian: Only one respondent has durian orchard. The orchard is 0,5 ha.

2. History of events in the village in past 11 years (1998 to 2013):

   Respondents seem to have problem remembering the times of events in the village, especially as far as 11 years ago. Mostly only remember an extreme occurrence of events at one certain period of time, therefore the result of the interview only record the extreme event on certain year, and not trend on annual basis. There is some additional information, however, on certain events that they remember as something that going on continuously i.e. logging.

   ii. Forest fire: All respondents said that there is forest fire almost every year, but they not sure whether it in the forest or in the farming area. Most forest fire happening during dry season. One of the respondents mention that there is forest fire every year, but the cause is unknown. Another respondent mentioned that the forest fire usually happening during the planting season or during the opening of new farming land.

   jj. Migration from outside: all respondents agree that there are migration every year. The main reason is work. The existence of oil palm plantation makes the people from outside move to Batu Barat to be closer with their workplace. Another reasons for migration are marriage and farming land.

   kk. Expansion of farmland: Out of all respondents, only one person knows about the opening of new farming land. Based on his story, the new farming land is located in the river bank, in the area between Dusun Teluk Aur and Dusun Sepakat.

   ll. Logging in forest area: All respondents agreed that there were logging activities in the forest area. The activities are up until around 2006 - 2007. After the opening of oil palm plantation, most people start to stop logging and changed profession as oil palm plantation worker. Before that some people also already stopped logging activities and work in the oil palm plantation in Desa Matan Jaya, and they return back to Batu Barat after the opening oil palm plantation in Batu Barat.

   mm. Road construction: Based from respondent answers, the road was built on 1983, then there are some road re-construction around 1990-1994.

   nn. Farming/Plantation in NP: There are no vilagers who do farming or planting activities inside National Park. Ever since the area is decided as National Park, all villagers moved across the river to the area where they live now.

oo. Expansion of oil palm plantation: Respondents said that the oil palm plantation was opened in 2007, but before that in 2005 the company already make some activity to inform the villagers.

3. Customary Rules

u. Customary rules on Natural Resources Management (forest, water, farmland, etc.).

There are customary rules for planting and harvesting season. It usually called “krenah kampung”. Before the ritual conducted by the spiritual/customary leader, it is forbidden to do any planting or harvesting activity. The ritual itself is conducted before planting and harvesting time, it makes the planting and harvesting activities are done around the same time.

v. Government intervention on Natural Resource Management

One respondent said that there are government program such as seedling, pesticide and herbicide. While other respondents said there are no program or support from government.

w. Issues or conflict on Natural Resource Management

One respondent mentioned that usually if there is conflict it about land border and it will be solved by village authorities. Other respondents mention there are no conflict amomg the villagers.

x. Regulation in Desa or Dusun

Most respondent didn’t know about regulation in desa or dusun, but one of them mentioned that there is regulation from desa or dusun and usually the villagers will be informed by kepala RT or dusun.

Impact from Oil Palm Plantation

Most respondents are working in the plantation as daily worker (HK). As daily worker they are paid 80.000/day, and the payment will be done monthly (based on the number of days they are working) usually around 11^{th}-13^{th} every month. If they managed to work for at least 20 days in a month, they will get a bonus of 30 kg rice for the worker who already married and has child/children, and 10 kg of rice for worker who still not married yet. They working hour is from 07.00 until 14.00, but they can finish earlier if their work are done. The daily worker is very flexible, they can work when they want to, and just staying at home if they didn’t feel like to work. They just need to join morning gathering at 07.00 to confirm that they work for that day. They also didn’t work on Sunday and holiday.One respondent is not working in oil palm plantation, but he used to provide some worker for the plantation. All respondents mentioned that the change since oil palm plantation coming is that the livelihood of the villagers become better. As for negative impact, the water become changed both in color and taste because of the fertilizer and pesticide/herbicide from the plantation. The most notable changes because of oil palm plantation is the condition of villagers’ house, since their livelihood become better, the living condition (in this case their houses) in the village also become better.

Appendix 3: Follow up workshop in each villages

Further Questions for the survey in Batu Barat:

1. What is the other source for water mean from the survey result?

   The answer "Others" mean rain water, and during dry season the villagers are buying water from Sukadana or Melano.
2. Why there is a higher number and value of livestock in Dusun Matan Raya?

   The number is not appropriate, since some Dusun have less number of livestock than the number in the survey result. For example the duck in Rembayan, rather than 20% of total household it actually only 20% of sample. As for the total value of livestock much higher in Matan Raya, it is because there are cows in Matan Raya.
3. Is there any difference of villagers engagement in paddy before and after the oil palm plantation?

   Yes, there is. The number of villagers engage is higher before the oil palm plantation coming.
   Regarding paddy itself, there is still confusion between wetland paddy and dryland paddy.
   Some terms that usually increases the confusion:
   a. Sawah: in Java, this is definitely wet paddy, but in Batu Barat this refers to fixed paddy field (either with/without irrigation).
   b. Ladang: in Batu Barat this refers to shifting paddy field, but in other areas i.e. Sedahan, this refers to paddy field (either fixed or shifted, to differentiate it from kebun/fruit orchard).
   c. Padi paya: in Batu Barat, this expression is not known, but in some areas i.e. Sedahan, Pampang, Sejahtera, this refers to paddy field in lowland/swamp area, sometimes misunderstood as wet paddy.
   d. Padi natai: in Batu Barat, this expression also not known, but in some areas i.e. Sedahan, Pampang, Sejahtera, this refers to paddy field in highland/hill area, sometimes misunderstood as dry paddy.

   In any case, most paddy field is without irrigation system. But there are paddy fields with makeshift canals (just digging out the soil to let the water flows and to enable damming of rainwater). Are these paddy fields with makeshift canals could be categorized as wet paddy?
4. What is the main reason for the low paddy productivity in Batu Barat?

   The main reason probably because most of the villagers only farming to fulfill their own needs, and the method they are using. They only plant the paddy and then left it until they need to harvest, with some occasional visit to make sure the paddy is not damaged by pest.
5. Is there any difference of villagers engagement in rubber before and after the oil palm plantation?

   What makes the difference of rubber productivity in each dusun?

   Yes there is, the villagers used to collect their rubber before even when the price is dropping. Now, since they have other alternative for income by working in oil palm plantation they prefer to work in oil palm plantation and left their rubber collecting activity. Most rubber plantation now are neglected by the villagers. Another point from the sharing with villagers are the number is also not appropriate, because the rubber plantation is higher in Rembayan and Telok Aur rather than Sepakat and Matan Raya. However, deeper discussion reveals that there is a different perception between the village and our survey regarding the rubber plantation. Because for the village, the information that is recorded is the location of the rubber plantation, while for our survey, the information that is recorded is the location of the owner of the plantation. As such, if there is rubber plantation in Rembayan, owned by someone from Sepakat, in the village record it will show as Rembayan, while in our record it will be shown as Sepakat.
   This applied to most information regarding land use (rubber, palm oil, paddy, etc); the village will record based on the location of the land use, while our survey record it based on the location of the owner.
   Engagement in rubber:
   a. In Telok Aur, engagement in rubber doesn't change much before or after the start of palm oil plantation.
   b. In Rembayan, engagement in rubber is decreased because of the low price. So when the price is low and at the same time there are opportunities in palm oil plantation, resulted in decrease of engagement in rubber.

   Mainly, the change is happened because while the palm oil plantation is opened, the rubber price

hit the floor, so villagers choose to work in palm oil plantation rather than working on their rubber trees.

As for the difference in productivity, it is mostly because of the land condition and number of rubber trees in each dusun. Rembayan have the highest productivity because most rubber plantation are in Rembayan.

6. Is it true that durian only collected by people in Teluk Aur? How about the other NTFP products?

   It is not true, because durian are collected in all dusun.

   a. Durian: Rembayan, Telok Aur, Matan Raya (in Kubang, inside national park).
   b. Coconut (fruit): Matan Raya, Sepakat, Rembayan.
   c. Cempedak (fruit): Rembayan, Telok Aur
   d. Nipah (leaves for roof, mat, storage basket): in all places.
   e. Bamboo (additional material for storage basket)
   f. Pandan (leaves for mat)

7. What is the meaning of others for the firewood gathering location?

   During the sharing with villagers, they mentioned that others mean they didn't have specific location for firewood gathering. They gather firewood wherever they go while doing other activities, so it can be in their farmland area, in the plantation or in the forest.

8. What is the reason people starting to stop logging around 2008?

   The reason is because the forest where they used to do logging is converted into oil palm plantation around 2008. They also thought working in oil palm plantation is better than continuing logging activity.

9. What is the reason of the high number of forest fire in 2007-2008?

   Based on the interview survey, some respondents mention that the forest fire is high during that period because of the oil palm plantation opening. Some areas are burned to clear the land.

10. Why the villagers doesn't know about customary rules? Or why it isn't used anymore?

    Actually there are customary rules in Batu Barat, but because it is done mostly single-handedly by the custom leader/shaman (Kepala Adat) the villagers doesn't know much about it.

Further Questions For Survey in Matan Jaya

1. What are the main purposes for migration to Matan Jaya?

   The main purpose for people migrating to Matan Jaya is for work. During the end of 1990s and early 2000 the migration happened mostly for logging work, since around that period the logging activities in Matan Jaya is very high. After that the main reason is to work in oil palm plantation and bauxite mining.
2. When water supply was started? Any change in water quality in river compared with before?

   The water supply started around 2006. As for the water quality the villagers said there are no changes, but for the water debit it is decreasing. They said before the water will still running even after 3 months in dry season, but now the water will stopped just in 1 month of dry season. The reason is the clearing forest area for oil palm plantation.
3. Is there any reason that only household in Dusun Air Manis possess cow? Or is there any problem in sampling?

   There is problem in sampling, because in fact there are a lot of cow in dusun Matan.
4. Is there any reason that Dusun Matan is higher in engagement paddy? Was this engagement was higher before staring oil palm plantation?

   The reason why people from Matan engagement is higher because of the oil palm plantations which are located in Jelutung and Air Manis area. While the people from Matan still have their farmland, the people in Jelutung and Air Manis are now barely farming after the opening of palm oil since their farmland is converted into oil palm plantation or close to oil palm plantation which make paddy difficult to grow. So yes, the engagement in paddy is higher before oil palm plantation.
5. Are there any reason that Dusun Matan show higher productivity? Are these productivity similar in other years? Any difference with before?

   Matan productivity is higher because the number of people involved in farming is higher compared to Jelutung and Air Manis that now barely farming after the opening of palm oil.
   The productivity is similar in recent years, but it actually higher before oil palm plantation.
6. Households engage in rubber production are increasing or decreasing? Are there any other feasible crop for cash income?

   The engagement in rubber is decreasing because of the price dropping so low. People prefer to work in oil palm plantation than collecting their rubber. There is another feasible crop, vegetables, but the number of people doing it is very low. Less than 5 household in the whole Matan Jaya village.
7. Where is potential “uncertain area” for collecting durian in Dusun Air Manis? Where to sell collected Durian?

   The uncertain area in Dusun Air Manis is most probably outside national park, but inside protection forest (hutan lindung) because they usually gather durian in the same place with other dusun.
   Durian collected by villager usually will be sold to middle man who came to the village, and later will be sold to Pontianak or Ketapang by the middle man.
8. How about other NTFP species? Are there any changes of amount of NTFP compared with before?

   There are no other NTFP products in Matan Jaya. There are changes in amount of NTFP because people from Jelutung and Air Manis is no longer doing that, or if they do, they access it in Matan because there is no more forest in Jelutung and Air Manis. The lack of forest around Jelutung and Air Manis also make the amount of NTFP collected in both dusun lower.
9. Increase of migrant is related with oil palm plantation?

   Yes, the migrant is increased because of people coming to work in oil palm plantation.
10. This shifting cultivation is on going especially in Jelutung? How often (cycle of year) farming area will be shifted?

    Yes, shifting cultivation still happened in all dusun, but mostly are just doing a cycle back to old place, so no longer open a new field. Usually the cycle is once a year.
11. Forest fire in 2003, 2006 and 2009 occurred where?

In the area around Jelutung and Air Manis, outside national park. Happened in the farmland and some oil palm plantation area, especially when opening a new plantation area.

Further Questions for the survey in Sedahan Jaya:

1. Why do they still use the forest water?

   Because the water supply is still enough for them, and the quality is good. Forest water here actually means water supply using pipe from the forest area to the village.
2. What kind of activity is linked to good productivity? (irrigation system, farming skills/ techniques or any other else?)

   The reason for good productivity is because of the irrigation system in most farmland, the farming skills and the usage of pesticide/herbicide and fertilizer. It is also because of the Balinese people who are better farmers in the village.
3. Is there any needs in community to implement farming activities in home garden?

   The home garden in Sedahan is difficult to use as farmland, because the house usually next to each other in small area with their farmland is in another area.
4. Do they have another kind of species cultivating (unlisted crops)?

   Beside paddy, another crops in Sedahan are available even if it is not regular crops, such as:
   - Peanut
   - Soybean
   - Durian
   - Mango (kweni)
   - Sugar palm
   - Vegetables
5. Where was the illegal logging place?

   The illegal logging place is inside the national park, especially near Bayas River (Sidorejo). It also happening in other area such as in Begasing.
6. The reorganization of the customary rules are rising up to 100% in Sidorejo. Does Javanese have the custom setting the rules? Or it seemed that there used to happen some conflicts among the communities.

   It is probably because of conflicts among communities. Usually it about the land tenure (sales of land with conflicting ownership). They usually solved the problem with help from village authorities, it is very rare to involve police. Another conflict source is water for the farmland, some cases about closing the water flow so the lower land cannot get water, or letting the water flow uncontrolled so his land safe while the other land flooded. Water for household use also become problem, because there are no agreement about pipeline to houses, there are lots of pipes in one water source causing the the waterflow become small in quantity. It is different in Tanjung Banjar where they agree to use one big pipe in the water source before dividing it into smaller pipes for each house.

Further Questions for the survey in Sejahtera (mainly Tanjung Gunung):

1. When Orang Bugis, Madura and Jawa migrate to Sejahtera?

   They didn't sure, especially for the Bugis because now the oldest people in the village are the 3rd generation. As for Bugis and Jawa, they said around end of 1990s until early 2000.
2. What is this other source by TanjungGunung?

   The answer "Others" mean rain water, and during dry season the villagers are taking or buying water from Sukadana (Simpang Saut).
3. Is there any special reason that there is no cow in Melinsum?

   This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now.
4. What are main reasons for this low productivity? Water? Soil? Paddy variety? Skill?

   The main reason for the low paddy productivity is the water flood which often happening in Tanjung Gunung. Also the fact that the flood is not only fresh water, but also sea water instrusion. The skill also become one of the reason, because they still farming traditionally.
5. Is it also in TanjungGunung farming inside NP?

   The people in Tanjung Gunung is no longer farming inside National Park.
6. Around when people start farming in the area?

   The farming activity already started since the 1st generation of people in Tanjung Gunung. Even when it still colonial time.
7. Is rubber plantation increasing? Any rule to control expantion?

   No, in fact the rubber plantation is decreasing. Mostly because of fire in 2013, and some people convert their burned ruber plantation into farmland.
8. Around when people start rubber plantation especially in the current NP area?

   This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now and people in Tanjung Gunung dosen't have any plantation inside national park.
9. Is there any reason that many farmer in TanjungGunung while it is just half in Sungai Belit?

   This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now.
10. People in Sungai Belit&Melinsun are more access to off-farm income? Or they are difficult to get farm land?

    This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now.
11. Actually, around how many of household has durian plantation especially in Melinsun?

    Or, Users of durian planation are coming from outside of Sejahtera?

    This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now. But from people in Tanjung Gunung did inform that they also have their durian ochard in Melinsum area.
12. Is there any reason that only small part of people know about customary rules?

    There used to be a customary rules in Tanjung Gunung, but people start to ignore or left it since around 1990. So most people now didn't know about the customary rules.
13. Customary rules are for same ethnic group? Not be applied for new comers?

    This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now.
14. What is content of this forest and land management rule?

    This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now.
15. Is it for specific culture groups?

    This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now.
16. Is this rule effective or working well?

    This is still not confirmed yet with the villagers, since the sharing only done in Tanjung Gunung for now

Further Questions for the survey in Sempurna:

1. Is this ratio and timing of migrant correct?

   Yes, the ratio and timing of migrant is already correct.
2. When Javanese migrate into Sampurna?

   The Javanese starting to migrate to Sempurna from 2000, but only in relatively small number.
3. Is this real situation in Sampurna that not so much livestock?

   Yes, there are not so much livestock in Sempurna.
4. Most of duck is assisted by TN office?

   50% of the duck in Sempurna is from TN staff (not office). The rest is bought by the villager or breeding the existing duck.
5. Is there any reason that Dusun Sawah Sebokor is higher in engagement paddy?

   The reason is because most of the farmland in Sempurna is located in Sawah Sebokor area, even some people from dusun Sempurna have their farmland in Sawah Sebokor area.
6. Was this engagement was higher before staring oil palm plantation?

   There are almost no change with their engagement and productivity after oil palm plantation. Even if they work in the oil palm plantation they still engage in paddy. Their farming activity is done after finishing their work in the oil palm plantation.
7. Are there any reason that Dusun Sampurna show higher productivity even though engagement is lower?

   The reason why productivity in dusun Sempurna is higher because the farmland in dusun Sempurna is given better treatment. They maintain and fertilizing the farmland regularly. The land in Sawah Sebokor didn't given better treatment because the land is inside National Park. They feel worried and afraid, because they know they shouldn't do it. While the people in Sempurna didn't have to worry.
8. Are these productivity similar in other years? Any difference with before?

   There are not much change or difference from year to year.
9. How about other NTFP sepecies?

   There are some other NTFPs like rebung, cempedak, duku, langsat, bamboo shoot, rattan and jengkol, but the market is not available, so usually harvest is only for own consumption.
10. Are there any changes of amount of NTFP compared with before?

    The villagers said that there isn't any change from the amount of NTFP.
11. Is the timing of oil palm plantation correct? 2000 and 2006?

    The opening of oil palm plantation happened in 1997 by P.T. SMP, at that time it only land clearing and preparation for planting. The planting itself started in 2007.
12. This shifting cultivation is on going especially in Sempurna? How often (cycle of year) farming area will be shifted?

    Shifting cultivation is still happening in Sempurna mostly done by Sawah villagers that has no fixed farmland, usually the cycle is every two years.

Appendix 4: All data set of the household survey

01 Basic

【 All 】

Village	Sub-Village	Number of Sample	Age	Sex		Number of Family	Migrant	Ethnic Group								Religion					
				Male	Female			Dayak	Javanese	Melayu	Balinese	Chinise	Bugis	Madura	Others	Islam	Christian	Catholic	Hindu	Bhuddhist	Others
-	-	1,275	41.7	951	321	4.0	334	93	98	895	27	20	58	73	11	1,143	12	87	25	4	4

【 Village 】

Village	Sub-Village	Number of Sample	Age	Sex		Number of Family	Migrant	Ethnic Group								Religion					
				Male	Female			Dayak	Javanese	Melayu	Balinese	Chinise	Bugis	Madura	Others	Islam	Christian	Catholic	Hindu	Bhuddhist	Others
Riam Berasap	-	60	42.7	46	14	4.3	37	0	4	51	0	0	2	3	0	60	0	0	0	0	0
Simpang Tiga	-	30	45.1	19	10	4.5	5	0	0	6	0	0	24	0	0	30	0	0	0	0	0
Sejahtera	-	70	42.2	39	31	4.5	12	4	3	39	0	1	20	3	0	70	0	0	0	0	0
Pampang Harapan	-	80	37.5	54	26	4.5	16	0	3	75	0	0	0	0	2	80	0	0	0	0	0
Pangkalan Buton	-	120	43.7	106	14	3.6	9	1	2	64	0	6	3	43	1	114	2	3	0	1	0
Sutera	-	40	44.2	31	8	4.0	8	0	3	17	0	5	0	15	0	35	4	0	0	1	0
Gunung Sembilan	-	60	39.4	42	18	3.7	13	0	0	52	0	0	0	8	0	60	0	0	0	0	0
Benawai Agung	-	70	47.7	51	19	3.5	20	0	10	48	0	6	5	1	0	63	1	1	0	1	4
Sedahan Jaya	-	120	41.6	94	25	4.1	46	0	24	63	27	0	0	0	6	95	0	0	25	0	0
Rantau Panjang	-	60	43.4	52	8	4.4	42	0	37	23	0	0	0	0	0	58	1	1	0	0	0
Batu Barat	-	120	44.2	71	49	4.3	33	2	6	107	0	1	4	0	0	118	1	0	0	1	0
Matan Jaya	-	90	38.9	74	16	4.2	33	5	3	81	0	1	0	0	0	88	0	2	0	0	0
Teluk Bayur	-	40	41.2	40	0	3.8	8	0	0	40	0	0	0	0	0	40	0	0	0	0	0
Sempurna	-	80	41.4	63	17	3.8	15	0	1	79	0	0	0	0	0	80	0	0	0	0	0
Jago Bersatu	-	25	37.8	24	1	3.7	4	0	0	25	0	0	0	0	0	25	0	0	0	0	0
Penjawaan	-	30	44.2	27	3	3.6	4	0	0	30	0	0	0	0	0	30	0	0	0	0	0
Pangkalan Telok	-	90	40.2	62	28	3.7	10	0	1	88	0	0	0	0	1	89	0	1	0	0	0
Laman Satong	-	90	37.6	56	34	4.1	19	81	1	7	0	0	0	0	1	8	3	79	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Age	Sex		Number of Family	Migrant	Ethnic Group								Religion					
				Male	Female			Dayak	Javanese	Melayu	Balinese	Chinise	Bugis	Madura	Others	Islam	Christian	Catholic	Hindu	Bhuddhist	Others
Riam Berasap	Pangkalan Tapang	30	41.2	28	2	4.2	21	0	2	28	0	0	0	0	0	30	0	0	0	0	0
	Pematang Baros	30	44.2	18	12	4.4	16	0	2	23	0	0	2	3	0	30	0	0	0	0	0
Simpang Tiga	Semanai	10	44.6	7	3	4.6	1	0	0	4	0	0	6	0	0	10	0	0	0	0	0
	Parit Bugis	20	45.3	12	7	4.5	4	0	0	2	0	0	18	0	0	20	0	0	0	0	0
Sejahtera	Sungai Belit	30	37.2	13	17	4.6	1	3	0	22	0	1	4	0	0	30	0	0	0	0	0
	Melinsum	20	47.3	10	10	4.0	7	0	2	17	0	0	1	0	0	20	0	0	0	0	0
	Tanjung Gunung	20	44.4	16	4	4.8	4	1	1	0	0	0	15	3	0	20	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	36.6	19	1	4.4	3	0	0	20	0	0	0	0	0	20	0	0	0	0	0
	Segua	30	38.3	20	10	4.1	5	0	1	27	0	0	0	0	2	30	0	0	0	0	0
	Pampang	30	37.3	15	15	4.9	8	0	2	28	0	0	0	0	0	30	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	46.3	28	2	3.7	1	0	0	20	0	6	2	1	1	25	2	2	0	1	0
	Tanjung Belimbing	30	43.9	24	6	3.7	7	1	1	26	0	0	0	2	0	29	0	1	0	0	0
	Sungai Galik	30	45.5	29	1	3.3	0	0	1	0	0	0	0	29	0	30	0	0	0	0	0
	Air Pauh	30	39.2	25	5	3.5	1	0	0	18	0	0	1	11	0	30	0	0	0	0	0
Sutera	Sukadana	20	45.5	17	2	4.0	5	0	1	14	0	5	0	0	0	15	4	0	0	1	0
	Payak Itam	20	43.0	14	6	4.1	3	0	2	3	0	0	0	15	0	20	0	0	0	0	0
Gunung Sembilan	Nirmala	20	36.2	13	7	3.6	5	0	0	12	0	0	0	8	0	20	0	0	0	0	0
	Tambak Lawang	20	37.3	13	7	3.5	5	0	0	20	0	0	0	0	0	20	0	0	0	0	0
	Sebadal	20	44.8	16	4	4.0	3	0	0	20	0	0	0	0	0	20	0	0	0	0	0
Benawai Agung	Munting	30	46.7	24	6	4.0	12	0	9	20	0	0	0	1	0	30	0	0	0	0	0
	Semanjak	30	48.3	21	9	3.2	5	0	0	19	0	6	5	0	0	23	1	1	0	1	4
	Pelerang	10	48.9	6	4	3.1	3	0	1	9	0	0	0	0	0	10	0	0	0	0	0
Sedahan Jaya	Sawah	30	42.9	25	4	4.3	5	0	1	29	0	0	0	0	0	30	0	0	0	0	0
	Sidorejo	30	41.5	21	9	4.0	28	0	22	2	0	0	0	0	6	30	0	0	0	0	0
	Tanjung Banjar	30	39.6	21	9	3.7	4	0	0	16	14	0	0	0	0	17	0	0	13	0	0
	Begasing	30	42.3	27	3	4.5	9	0	1	16	13	0	0	0	0	18	0	0	12	0	0
Rantau Panjang	Makmur	20	46.5	19	1	4.8	3	0	0	20	0	0	0	0	0	20	0	0	0	0	0
	Sinar Palung	10	42.2	8	2	3.5	10	0	10	0	0	0	0	0	0	9	1	0	0	0	0
	Kebal Manuk	10	42.5	9	1	4.2	10	0	10	0	0	0	0	0	0	10	0	0	0	0	0
	Sinar Selatan	20	41.3	16	4	4.7	19	0	17	3	0	0	0	0	0	19	0	1	0	0	0
Batu Barat	Matan Raya	30	43.9	23	7	4.3	7	2	2	26	0	0	0	0	0	29	1	0	0	0	0
	Sepakat	30	42.8	15	15	4.3	11	0	4	26	0	0	0	0	0	30	0	0	0	0	0
	Telok Aur	30	44.7	18	12	4.3	8	0	0	28	0	0	2	0	0	30	0	0	0	0	0
	Rembayan	30	45.3	15	15	4.1	7	0	0	27	0	1	2	0	0	29	0	0	0	1	0
Matan Jaya	Matan	30	37.3	28	2	4.4	17	4	3	22	0	1	0	0	0	29	0	1	0	0	0
	Jelutung	30	40.2	21	9	3.9	6	0	0	30	0	0	0	0	0	29	0	1	0	0	0
	Air Manis	30	39.2	25	5	4.2	10	1	0	29	0	0	0	0	0	30	0	0	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	39.8	20	0	3.5	4	0	0	20	0	0	0	0	0	20	0	0	0	0	0
	Bayur Indah	20	42.7	20	0	4.0	4	0	0	20	0	0	0	0	0	20	0	0	0	0	0
Sempurna	Sawah Sebokor	40	41.0	32	8	3.7	10	0	1	39	0	0	0	0	0	40	0	0	0	0	0
	Sempurna	40	41.8	31	9	3.9	5	0	0	40	0	0	0	0	0	40	0	0	0	0	0
Jago Bersatu	Sepakat	15	39.8	14	1	3.9	4	0	0	15	0	0	0	0	0	15	0	0	0	0	0
	Bersatu	10	34.8	10	0	3.5	0	0	0	10	0	0	0	0	0	10	0	0	0	0	0
Penjawaan	Kinun	20	44.7	19	1	3.6	4	0	0	20	0	0	0	0	0	20	0	0	0	0	0
	Harapan Baru	10	43.3	8	2	3.6	0	0	0	10	0	0	0	0	0	10	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	38.7	15	15	3.6	1	0	0	30	0	0	0	0	0	30	0	0	0	0	0
	Cali	30	39.3	27	3	3.6	4	0	1	28	0	0	0	0	1	29	0	1	0	0	0
	Pangkalan Jihing	30	42.7	20	10	3.9	5	0	0	30	0	0	0	0	0	30	0	0	0	0	0
Laman Satong	Manjau	30	41.1	18	12	4.7	14	29	0	0	0	0	0	0	1	0	0	30	0	0	0
	Kepayang	30	35.4	14	16	3.6	4	29	1	0	0	0	0	0	0	1	0	29	0	0	0
	Nek Doyan	30	36.3	24	6	4.1	1	23	0	7	0	0	0	0	0	7	3	20	0	0	0

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【 All 】

Village	Sub-Village	Number of Sample	Water source of drinking water							Water source of general use							Energy supply sources / Lighting					
			Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Generator set	Solar energy	Kerocene	Electricity from grid	Others	Uncertain
-	-	1,275	707	172	184	304	60	273	2	684	251	358	277	11	115	1	132	56	139	936	306	0

【 Village 】

Village	Sub-Village	Number of Sample	Water source of drinking water							Water source of general use							Energy supply sources / Lighting					
			Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Generator set	Solar energy	Kerocene	Electricity from grid	Others	Uncertain
Riam Berasap	-	60	30	33	4	15	5	26	0	30	37	7	14	0	0	0	1	0	0	59	1	0
Simpang Tiga	-	30	0	0	1	19	4	30	0	0	19	7	1	0	6	0	0	0	0	30	0	0
Sejahtera	-	70	30	9	0	16	0	21	0	22	16	11	23	0	4	0	0	0	1	64	7	0
Pampang Harapan	-	80	57	0	3	45	0	0	0	60	0	4	45	0	0	0	0	0	19	63	4	0
Pangkalan Buton	-	120	110	0	0	5	11	0	0	117	0	0	3	5	1	0	1	0	9	111	2	0
Sutera	-	40	41	0	1	11	0	0	0	39	2	3	12	0	0	0	0	0	2	40	0	0
Gunung Sembilan	-	60	60	0	0	0	0	0	0	60	0	0	1	0	0	0	2	0	3	55	0	0
Benawai Agung	-	70	31	0	1	44	2	8	0	31	4	16	36	0	2	0	0	0	4	66	1	0
Sedahan Jaya	-	120	119	0	0	57	0	0	0	118	0	0	57	0	0	0	3	1	18	117	46	0
Rantau Panjang	-	60	36	0	0	0	10	59	0	20	14	6	0	3	53	0	5	2	2	50	33	0
Batu Barat	-	120	1	18	22	1	26	114	2	20	66	63	0	2	48	1	59	0	34	38	69	0
Matan Jaya	-	90	83	9	12	8	1	14	0	78	15	34	7	0	0	0	35	53	34	0	35	0
Teluk Bayur	-	40	40	0	0	0	0	0	0	20	0	9	4	0	0	0	0	0	0	40	0	0
Sempurna	-	80	2	3	32	49	0	0	0	2	3	59	28	0	0	0	0	0	4	66	10	0
Jago Bersatu	-	25	0	25	0	1	0	0	0	0	10	9	17	0	0	0	0	0	0	25	0	0
Penjawaan	-	30	0	13	29	0	0	0	0	0	12	30	0	0	0	0	0	0	1	29	1	0
Pangkalan Telok	-	90	28	51	28	4	0	0	0	29	38	47	3	0	0	0	23	0	8	0	81	0
Laman Satong	-	90	39	11	51	29	1	1	0	38	15	53	26	1	1	0	3	0	0	83	16	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Water source of drinking water							Water source of general use							Energy supply sources / Lighting					
			Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Generator set	Solar energy	Kerocene	Electricity from grid	Others	Uncertain
Riam Berasap	Pangkalan Tapang	30	30	7	3	15	0	0	0	30	8	5	14	0	0	0	1	0	0	29	1	0
	Pematang Baros	30	0	26	1	0	5	26	0	0	29	2	0	0	0	0	0	0	0	30	0	0
Simpang Tiga	Semanai	10	0	0	1	8	0	10	0	0	5	5	0	0	1	0	0	0	0	10	0	0
	Parit Bugis	20	0	0	0	11	4	20	0	0	14	2	1	0	5	0	0	0	0	20	0	0
Sejahtera	Sungai Belit	30	15	9	0	7	0	0	0	14	14	0	4	0	0	0	0	0	0	28	4	0
	Melinsum	20	10	0	0	7	0	4	0	7	0	2	10	0	3	0	0	0	1	16	3	0
	Tanjung Gunung	20	5	0	0	2	0	17	0	1	2	9	9	0	1	0	0	0	0	20	0	0
Pampang Harapan	Pasir Mayang	20	17	0	0	6	0	0	0	20	0	0	6	0	0	0	0	0	0	20	0	0
	Segua	30	25	0	2	16	0	0	0	26	0	3	16	0	0	0	0	0	17	13	0	0
	Pampang	30	15	0	1	23	0	0	0	14	0	1	23	0	0	0	0	0	2	30	4	0
Pangkalan Buton	Simpang Empat	30	21	0	0	1	10	0	0	30	0	0	1	0	1	0	1	0	1	28	1	0
	Tanjung Belimbing	30	30	0	0	1	1	0	0	30	0	0	0	3	0	0	0	0	0	30	1	0
	Sungai Galik	30	29	0	0	1	0	0	0	28	0	0	0	2	0	0	0	0	1	30	0	0
	Air Pauh	30	30	0	0	2	0	0	0	29	0	0	2	0	0	0	0	0	7	23	0	0
Sutera	Sukadana	20	20	0	1	0	0	0	0	18	2	3	0	0	0	0	0	0	1	20	0	0
	Payak Itam	20	21	0	0	11	0	0	0	21	0	0	12	0	0	0	0	0	1	20	0	0
Gunung Sembilan	Nirmala	20	20	0	0	0	0	0	0	20	0	0	0	0	0	0	1	0	0	19	0	0
	Tambak Lawang	20	20	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	20	0	0
	Sebadal	20	20	0	0	0	0	0	0	20	0	0	1	0	0	0	1	0	3	16	0	0
Benawai Agung	Munting	30	14	0	0	17	0	0	0	14	3	0	16	0	0	0	0	0	1	29	0	0
	Semanjak	30	12	0	1	20	2	8	0	12	1	16	12	0	2	0	0	0	2	28	1	0
	Pelerang	10	5	0	0	7	0	0	0	5	0	0	8	0	0	0	0	0	1	9	0	0
Sedahan Jaya	Sawah	30	30	0	0	13	0	0	0	30	0	0	13	0	0	0	0	0	4	30	12	0
	Sidorejo	30	30	0	0	0	0	0	0	29	0	0	1	0	0	0	0	0	0	30	0	0
	Tanjung Banjar	30	30	0	0	28	0	0	0	30	0	0	28	0	0	0	0	1	8	28	26	0
	Begasing	30	29	0	0	16	0	0	0	29	0	0	15	0	0	0	3	0	6	29	8	0
Rantau Panjang	Makmur	20	6	0	0	0	6	20	0	3	11	3	0	2	14	0	0	0	0	20	3	0
	Sinar Palung	10	1	0	0	0	2	9	0	0	1	1	0	0	10	0	3	0	0	8	8	0
	Kebal Manuk	10	9	0	0	0	0	10	0	1	0	0	0	1	10	0	0	0	1	8	9	0
	Sinar Selatan	20	20	0	0	0	2	20	0	16	2	2	0	0	19	0	2	2	1	14	13	0
Batu Barat	Matan Raya	30	1	0	9	0	4	29	0	1	4	25	0	0	10	1	24	0	4	2	17	0
	Sepakat	30	0	2	3	0	10	30	1	4	20	13	0	1	14	0	10	0	9	15	15	0
	Telok Aur	30	0	3	1	0	12	29	1	11	21	12	0	1	11	0	20	0	17	3	23	0
	Rembayan	30	0	13	9	1	0	26	0	4	21	13	0	0	13	0	5	0	4	18	14	0
Matan Jaya	Matan	30	26	0	2	3	0	4	0	26	0	5	2	0	0	0	19	1	16	0	12	0
	Jelutung	30	28	4	2	1	1	8	0	27	6	10	2	0	0	0	5	23	16	0	19	0
	Air Manis	30	29	5	8	4	0	2	0	25	9	19	3	0	0	0	11	29	2	0	4	0
Teluk Bayur	Tanjung Harapan Baru	20	20	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	20	0	0
	Bayur Indah	20	20	0	0	0	0	0	0	1	0	9	4	0	0	0	0	0	0	20	0	0
Sempurna	Sawah Sebokor	40	2	0	5	38	0	0	0	1	2	26	23	0	0	0	0	0	3	29	8	0
	Sempurna	40	0	3	27	11	0	0	0	1	1	33	5	0	0	0	0	0	1	37	2	0
Jago Bersatu	Sepakat	15	0	15	0	1	0	0	0	0	0	9	16	0	0	0	0	0	0	15	0	0
	Bersatu	10	0	10	0	0	0	0	0	0	10	0	1	0	0	0	0	0	0	10	0	0
Penjawaan	Kinun	20	0	3	19	0	0	0	0	0	2	20	0	0	0	0	0	0	1	19	0	0
	Harapan Baru	10	0	10	10	0	0	0	0	0	10	10	0	0	0	0	0	0	0	10	1	0
Pangkalan Telok	Teluk Parak	30	0	26	10	0	0	0	0	0	19	19	0	0	0	0	10	0	6	0	23	0
	Cali	30	28	4	6	4	0	0	0	29	4	6	3	0	0	0	8	0	0	0	30	0
	Pangkalan Jihing	30	0	21	12	0	0	0	0	0	15	22	0	0	0	0	5	0	2	0	28	0
Laman Satong	Manjau	30	21	4	11	8	1	0	0	21	4	11	9	0	0	0	0	0	0	29	3	0
	Kepayang	30	0	6	25	9	0	0	0	0	10	26	5	0	1	0	1	0	0	29	1	0
	Nek Doyan	30	18	1	15	12	0	1	0	17	1	16	12	1	0	0	2	0	0	25	12	0

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【 All 】

Village	Sub-Village	Number of Sample	Energy supply sources / Cooking							Animal Grazing							Livestock / Total Value(sum)	Settlements					Farming Area				
			Fuel wood	Charcoal	Electricity	Propane gas	Kerocene	Others	Uncertain	Buffalo	Cow	Pig	Chicken	Duck	Fish	Others		Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others
-	-	1,275	1,003	2	58	834	6	0	0	0	118	83	654	190	25	0	2,970,088,000	69	1,159	2	22	3	124	746	15	1	1

【 Village 】

Village	Sub-Village	Number of Sample	Energy supply sources / Cooking							Animal Grazing							Livestock / Total Value(sum)	Settlements					Farming Area				
			Fuel wood	Charcoal	Electricity	Propane gas	Kerocene	Others	Uncertain	Buffalo	Cow	Pig	Chicken	Duck	Fish	Others		Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others
Riam Berasap	-	60	51	0	0	48	0	0	0	0	5	0	30	5	2	0	133,090,000	0	57	0	3	0	1	33	0	0	0
Simpang Tiga	-	30	29	0	3	18	0	0	0	0	0	0	17	3	0	0	26,270,000	1	29	0	0	0	0	26	0	0	0
Sejahtera	-	70	62	0	5	33	0	0	0	0	5	1	34	13	0	0	53,195,000	2	66	0	1	0	6	43	0	0	0
Pampang Harapan	-	80	73	0	0	40	2	0	0	0	9	0	47	23	3	0	157,587,500	16	57	0	5	0	26	24	2	0	0
Pangkalan Buton	-	120	68	0	21	103	1	0	0	0	34	0	67	25	0	0	531,395,000	1	118	0	1	0	0	67	0	0	1
Sutera	-	40	16	0	24	38	0	0	0	0	13	0	20	13	0	0	384,124,000	0	39	0	0	0	0	17	0	0	0
Gunung Sembilan	-	60	57	0	0	45	0	0	0	0	10	0	24	21	0	0	133,245,000	1	58	0	0	0	3	27	0	0	0
Benawai Agung	-	70	40	1	0	46	0	0	0	0	1	3	47	18	0	0	81,484,500	4	63	0	1	0	8	48	0	0	0
Sedahan Jaya	-	120	105	0	0	112	1	0	0	0	8	21	67	21	11	0	420,416,000	1	114	0	3	0	10	108	0	1	0
Rantau Panjang	-	60	57	0	1	50	1	0	0	0	3	1	48	7	0	0	189,210,000	0	50	0	0	0	0	49	0	0	0
Batu Barat	-	120	104	0	2	77	0	0	0	0	10	0	62	18	1	0	168,446,000	0	120	0	0	1	0	84	0	0	0
Matan Jaya	-	90	82	0	0	64	1	0	0	0	6	0	13	3	0	0	62,060,000	0	88	0	0	2	0	51	0	0	0
Teluk Bayur	-	40	12	0	0	12	0	0	0	0	1	0	23	0	4	0	35,830,000	0	40	0	0	0	1	28	0	0	0
Sempurna	-	80	46	1	1	33	0	0	0	0	3	0	44	6	0	0	42,545,000	42	37	1	0	0	50	13	0	0	0
Jago Bersatu	-	25	17	0	0	18	0	0	0	0	0	0	10	2	2	0	10,450,000	0	25	0	0	0	10	11	0	0	0
Penjawaan	-	30	15	0	0	15	0	0	0	0	6	0	18	3	0	0	231,140,000	0	29	0	0	0	0	11	0	0	0
Pangkalan Telok	-	90	87	0	1	23	0	0	0	0	1	0	40	6	2	0	72,300,000	0	81	1	7	0	4	52	12	0	0
Laman Satong	-	90	82	0	0	59	0	0	0	0	3	57	43	3	0	0	237,300,000	1	88	0	1	0	5	54	1	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Energy supply sources / Cooking							Animal Grazing							Livestock / Total Value(sum)	Settlements					Farming Area				
			Fuel wood	Charcoal	Electricity	Propane gas	Kerocene	Others	Uncertain	Buffalo	Cow	Pig	Chicken	Duck	Fish	Others		Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others
Riam Berasap	Pangkalan Tapang	30	24	0	0	22	0	0	0	0	2	0	14	3	2	0	48,870,000	0	27	0	3	0	1	12	0	0	0
	Pematang Baros	30	27	0	0	26	0	0	0	0	3	0	16	2	0	0	84,220,000	0	30	0	0	0	0	21	0	0	0
Simpang Tiga	Semanai	10	10	0	0	4	0	0	0	0	0	0	7	2	0	0	19,910,000	0	10	0	0	0	0	9	0	0	0
	Parit Bugis	20	19	0	3	14	0	0	0	0	0	0	10	1	0	0	6,360,000	1	19	0	0	0	0	17	0	0	0
Sejahtera	Sungai Belit	30	24	0	2	19	0	0	0	0	2	0	14	5	0	0	16,955,000	1	28	0	0	0	0	17	0	0	0
	Melinsum	20	18	0	1	6	0	0	0	0	0	0	9	4	0	0	3,790,000	0	19	0	1	0	6	8	0	0	0
	Tanjung Gunung	20	20	0	2	8	0	0	0	0	3	1	11	4	0	0	32,450,000	1	19	0	0	0	0	18	0	0	0
Pampang Harapan	Pasir Mayang	20	16	0	0	11	0	0	0	0	2	0	11	5	0	0	41,855,000	5	13	0	2	0	2	2	1	0	0
	Segua	30	30	0	0	10	0	0	0	0	5	0	22	11	3	0	75,465,000	6	19	0	3	0	8	18	1	0	0
	Pampang	30	27	0	0	19	2	0	0	0	2	0	14	7	0	0	40,267,500	5	25	0	0	0	16	4	0	0	0
Pangkalan Buton	Simpang Empat	30	7	0	6	29	0	0	0	0	1	0	13	3	0	0	41,810,000	0	30	0	0	0	0	2	0	0	0
	Tanjung Belimbing	30	13	0	9	27	0	0	0	0	4	0	14	2	0	0	78,265,000	0	30	0	0	0	0	19	0	0	0
	Sungai Galik	30	24	0	4	27	1	0	0	0	13	0	21	13	0	0	220,320,000	0	30	0	0	0	0	25	0	0	0
	Air Pauh	30	24	0	2	20	0	0	0	0	16	0	19	7	0	0	191,000,000	1	28	0	1	0	0	21	0	0	1
Sutera	Sukadana	20	6	0	14	20	0	0	0	0	0	0	7	3	0	0	78,535,000	0	20	0	0	0	0	0	0	0	0
	Payak Itam	20	10	0	10	18	0	0	0	0	13	0	13	10	0	0	305,589,000	0	19	0	0	0	0	17	0	0	0
Gunung Sembilan	Nirmala	20	20	0	0	15	0	0	0	0	10	0	8	5	0	0	124,005,000	0	20	0	0	0	1	9	0	0	0
	Tambak Lawang	20	18	0	0	18	0	0	0	0	0	0	6	7	0	0	3,625,000	0	20	0	0	0	0	9	0	0	0
	Sebadal	20	19	0	0	12	0	0	0	0	0	0	10	9	0	0	5,615,000	1	18	0	0	0	2	9	0	0	0
Benawai Agung	Munting	30	16	1	0	21	0	0	0	0	0	0	15	9	0	0	8,845,000	0	29	0	1	0	1	24	0	0	0
	Semanjak	30	19	0	0	19	0	0	0	0	0	3	24	7	0	0	44,894,500	0	28	0	0	0	3	18	0	0	0
	Pelerang	10	5	0	0	6	0	0	0	0	1	0	8	2	0	0	27,745,000	4	6	0	0	0	4	6	0	0	0
Sedahan Jaya	Sawah	30	28	0	0	28	1	0	0	0	3	0	15	7	0	0	39,280,000	0	29	0	0	0	2	26	0	0	0
	Sidorejo	30	23	0	0	29	0	0	0	0	2	0	21	1	8	0	70,340,000	0	30	0	0	0	0	27	0	0	0
	Tanjung Banjar	30	26	0	0	27	0	0	0	0	0	12	14	4	0	0	98,056,000	1	26	0	2	0	2	27	0	1	0
	Begasing	30	28	0	0	28	0	0	0	0	3	9	17	9	3	0	212,740,000	0	29	0	1	0	6	28	0	0	0
Rantau Panjang	Makmur	20	20	0	0	19	0	0	0	0	1	0	15	2	0	0	20,230,000	0	20	0	0	0	0	19	0	0	0
	Sinar Palung	10	8	0	0	9	1	0	0	0	1	1	8	1	0	0	110,850,000	0	0	0	0	0	0	3	0	0	0
	Kebal Manuk	10	10	0	0	5	0	0	0	0	0	0	10	1	0	0	2,550,000	0	10	0	0	0	0	8	0	0	0
	Sinar Selatan	20	19	0	1	17	0	0	0	0	1	0	15	3	0	0	55,580,000	0	20	0	0	0	0	19	0	0	0
Batu Barat	Matan Raya	30	24	0	0	21	0	0	0	0	7	0	20	7	0	0	134,945,000	0	30	0	0	1	0	24	0	0	0
	Sepakat	30	26	0	1	21	0	0	0	0	1	0	17	6	1	0	6,406,000	0	30	0	0	0	0	26	0	0	0
	Telok Aur	30	27	0	0	23	0	0	0	0	1	0	14	1	0	0	18,250,000	0	30	0	0	0	0	18	0	0	0
	Rembayan	30	27	0	1	12	0	0	0	0	1	0	11	4	0	0	8,845,000	0	30	0	0	0	0	16	0	0	0
Matan Jaya	Matan	30	27	0	0	22	0	0	0	0	0	0	7	1	0	0	3,510,000	0	30	0	0	0	0	18	0	0	0
	Jelutung	30	29	0	0	20	1	0	0	0	0	0	5	1	0	0	2,550,000	0	30	0	0	0	0	18	0	0	0
	Air Manis	30	26	0	0	22	0	0	0	0	6	0	1	1	0	0	56,000,000	0	28	0	0	2	0	15	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	11	0	0	8	0	0	0	0	1	0	8	0	2	0	11,800,000	0	20	0	0	0	0	13	0	0	0
	Bayur Indah	20	1	0	0	4	0	0	0	0	0	0	15	0	2	0	24,030,000	0	20	0	0	0	1	15	0	0	0
Sempurna	Sawah Sebokor	40	32	0	0	8	0	0	0	0	1	0	19	4	0	0	7,395,000	19	20	1	0	0	30	5	0	0	0
	Sempurna	40	14	1	1	25	0	0	0	0	2	0	25	2	0	0	35,150,000	23	17	0	0	0	20	8	0	0	0
Jago Bersatu	Sepakat	15	7	0	0	15	0	0	0	0	0	0	8	2	1	0	9,750,000	0	15	0	0	0	0	11	0	0	0
	Bersatu	10	10	0	0	3	0	0	0	0	0	0	2	0	1	0	700,000	0	10	0	0	0	10	0	0	0	0
Penjawaan	Kinun	20	10	0	0	10	0	0	0	0	3	0	9	2	0	0	55,980,000	0	20	0	0	0	0	7	0	0	0
	Harapan Baru	10	5	0	0	5	0	0	0	0	3	0	9	1	0	0	175,160,000	0	9	0	0	0	0	4	0	0	0
Pangkalan Telok	Teluk Parak	30	27	0	0	11	0	0	0	0	1	0	12	3	1	0	32,855,000	0	30	0	0	0	0	17	0	0	0
	Cali	30	30	0	0	8	0	0	0	0	0	0	9	2	1	0	33,895,000	0	22	1	7	0	4	7	12	0	0
	Pangkalan Jihing	30	30	0	1	4	0	0	0	0	0	0	19	1	0	0	5,550,000	0	29	0	0	0	0	28	0	0	0
Laman Satong	Manjau	30	25	0	0	21	0	0	0	0	1	23	15	3	0	0	109,530,000	0	30	0	0	0	0	22	0	0	0
	Kepayang	30	28	0	0	20	0	0	0	0	2	15	16	0	0	0	64,505,000	0	30	0	0	0	2	15	0	0	0
	Nek Doyan	30	29	0	0	18	0	0	0	0	0	19	12	0	0	0	63,265,000	1	28	0	1	0	3	17	1	0	0

02 Asset

【 All 】

Village	Sub-Village	Number of Sample	Plantation					Agroforestry					others				
			Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others
-	-	1,275	170	428	9	27	7	59	71	0	3	0	26	58	3	6	3

【 Village 】

Village	Sub-Village	Number of Sample	Plantation					Agroforestry					others				
			Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others
Riam Berasap	-	60	0	19	0	0	0	1	5	0	0	0	0	5	0	0	0
Simpang Tiga	-	30	0	23	0	0	0	0	1	0	0	0	0	0	0	0	0
Sejahtera	-	70	8	24	0	2	0	1	4	0	0	0	5	4	0	1	0
Pampang Harapan	-	80	27	1	0	0	1	28	3	0	1	0	10	0	0	0	0
Pangkalan Buton	-	120	5	20	0	1	0	1	9	0	0	0	1	0	1	0	0
Sutera	-	40	8	0	1	0	0	2	5	0	0	0	1	2	0	0	0
Gunung Sembilan	-	60	5	2	0	0	0	25	1	0	0	0	0	0	0	0	0
Benawai Agung	-	70	5	6	0	2	0	0	2	0	0	0	1	1	0	0	0
Sedahan Jaya	-	120	25	11	0	0	0	0	7	0	0	0	2	2	0	0	0
Rantau Panjang	-	60	0	58	0	0	0	0	14	0	0	0	0	5	0	0	0
Batu Barat	-	120	0	75	0	0	0	0	6	0	0	0	0	9	0	0	0
Matan Jaya	-	90	0	37	0	0	3	0	2	0	0	0	1	9	2	3	3
Teluk Bayur	-	40	10	21	0	0	0	0	3	0	0	0	1	14	0	0	0
Sempurna	-	80	60	13	1	1	0	0	1	0	0	0	3	1	0	0	0
Jago Bersatu	-	25	10	7	0	0	0	0	0	0	0	0	0	1	0	0	0
Penjawaan	-	30	0	24	0	0	0	0	2	0	0	0	0	1	0	0	0
Pangkalan Telok	-	90	1	51	7	11	0	0	2	0	0	0	0	3	0	0	0
Laman Satong	-	90	6	36	0	10	3	1	4	0	2	0	1	1	0	2	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Plantation					Agroforestry					others				
			Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others	Inside NP	Outside NP	Inside HL	Unknown	Others
Riam Berasap	Pangkalan Tapang	30	0	12	0	0	0	1	3	0	0	0	0	4	0	0	0
	Pematang Baros	30	0	7	0	0	0	0	2	0	0	0	0	1	0	0	0
Simpang Tiga	Semanai	10	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	1	5	0	1	0	0	1	0	0	0	1	0	0	0	0
	Melinsum	20	6	3	0	1	0	1	1	0	0	0	3	0	0	1	0
	Tanjung Gunung	20	1	16	0	0	0	0	2	0	0	0	1	4	0	0	0
Pampang Harapan	Pasir Mayang	20	3	0	0	0	0	6	2	0	0	0	0	0	0	0	0
	Segua	30	3	1	0	0	0	9	1	0	1	0	0	0	0	0	0
	Pampang	30	21	0	0	0	1	13	0	0	0	0	10	0	0	0	0
Pangkalan Buton	Simpang Empat	30	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0
	Tanjung Belimbing	30	2	9	0	1	0	1	1	0	0	0	1	0	0	0	0
	Sungai Galik	30	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0
	Air Pauh	30	2	5	0	0	0	0	3	0	0	0	0	0	0	0	0
Sutera	Sukadana	20	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
	Payak Itam	20	7	0	1	0	0	2	4	0	0	0	1	1	0	0	0
Gunung Sembilan	Nirmala	20	4	1	0	0	0	1	1	0	0	0	0	0	0	0	0
	Tambak Lawang	20	1	0	0	0	0	10	0	0	0	0	0	0	0	0	0
	Sebadal	20	0	1	0	0	0	14	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	4	5	0	2	0	0	1	0	0	0	1	1	0	0	0
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pelerang	10	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	9	3	0	0	0	0	0	0	0	0	0	1	0	0	0
	Sidorejo	30	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	6	0	0	0	0	0	3	0	0	0	0	0	0	0	0
	Begasing	30	9	7	0	0	0	0	4	0	0	0	2	1	0	0	0
Rantau Panjang	Makmur	20	0	18	0	0	0	0	2	0	0	0	0	5	0	0	0
	Sinar Palung	10	0	10	0	0	0	0	3	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	10	0	0	0	0	4	0	0	0	0	0	0	0	0
	Sinar Selatan	20	0	20	0	0	0	0	5	0	0	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	13	0	0	0	0	2	0	0	0	0	2	0	0	0
	Sepakat	30	0	18	0	0	0	0	0	0	0	0	0	1	0	0	0
	Telok Aur	30	0	22	0	0	0	0	3	0	0	0	0	5	0	0	0
	Rembayan	30	0	22	0	0	0	0	1	0	0	0	0	1	0	0	0
Matan Jaya	Matan	30	0	11	0	0	0	0	1	0	0	0	0	1	1	0	2
	Jelutung	30	0	11	0	0	0	0	1	0	0	0	0	3	0	0	1
	Air Manis	30	0	15	0	0	3	0	0	0	0	0	1	5	1	3	0
Teluk Bayur	Tanjung Harapan Baru	20	0	11	0	0	0	0	0	0	0	0	0	3	0	0	0
	Bayur Indah	20	10	10	0	0	0	0	3	0	0	0	1	11	0	0	0
Sempurna	Sawah Sebokor	40	34	1	0	0	0	0	1	0	0	0	1	0	0	0	0
	Sempurna	40	26	12	1	1	0	0	0	0	0	0	2	1	0	0	0
Jago Bersatu	Sepakat	15	0	7	0	0	0	0	0	0	0	0	0	1	0	0	0
	Bersatu	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	0	18	0	0	0	0	1	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	6	0	0	0	0	1	0	0	0	0	1	0	0	0
Pangkalan Telok	Teluk Parak	30	0	22	0	0	0	0	1	0	0	0	0	2	0	0	0
	Cali	30	0	6	6	11	0	0	1	0	0	0	0	0	0	0	0
	Pangkalan Jihing	30	1	23	1	0	0	0	0	0	0	0	0	1	0	0	0
Laman Satong	Manjau	30	0	19	0	1	3	0	1	0	1	0	0	0	0	0	0
	Kepayang	30	1	8	0	7	0	1	0	0	1	0	0	0	0	1	0
	Nek Doyan	30	5	9	0	2	0	0	3	0	0	0	1	1	0	1	0

03 Living Condition

【 All 】

Village	Sub-Village	Number of Sample	Sum											Standard deviation										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles	Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
-	-	1,275	4020.000	3988.000	3981.000	4275.000	3612.000	2467.000	2737.000	3183.000	2870.000	3211.000	3708.000	0.576	0.632	0.592	0.557	0.564	0.795	0.733	0.658	0.770	1.092	0.802

【 Village 】

Village	Sub-Village	Number of Sample	Sum											Standard deviation										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles	Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
Riam Berasap	-	60	202.000	199.000	200.000	202.000	187.000	107.000	178.000	185.000	164.000	179.000	232.000	0.486	0.469	0.475	0.486	0.372	0.920	0.258	0.334	0.559	0.414	0.791
Simpang Tiga	-	30	95.000	81.000	79.000	101.000	81.000	74.000	67.000	84.000	61.000	116.000	84.000	0.461	0.702	0.490	0.490	0.596	0.776	0.774	0.407	0.669	5.519	0.407
Sejahtera	-	70	200.000	196.000	199.000	211.000	185.000	153.000	186.000	191.000	187.000	179.000	206.000	0.391	0.441	0.404	0.120	0.638	0.735	0.649	0.448	0.531	0.602	0.376
Pampang Harapan	-	80	276.000	276.000	275.000	277.000	229.000	129.000	141.000	172.000	143.000	179.000	211.000	0.593	0.614	0.592	0.635	0.611	0.867	0.889	0.887	0.896	0.889	1.225
Pangkalan Buton	-	120	401.000	440.000	409.000	422.000	316.000	188.000	185.000	316.000	289.000	309.000	356.000	0.655	0.540	0.606	0.531	0.741	0.778	0.721	0.783	1.067	0.795	0.733
Sutera	-	40	148.000	160.000	155.000	158.000	128.000	71.000	75.000	104.000	105.000	133.000	147.000	0.608	0.226	0.463	0.316	0.687	1.121	0.463	0.709	0.667	0.656	0.572
Gunung Sembilan	-	60	184.000	221.000	184.000	241.000	140.000	90.000	102.000	131.000	135.000	149.000	181.000	0.516	0.504	0.312	0.504	0.752	0.813	0.809	0.948	1.144	1.017	0.833
Benawai Agung	-	70	238.000	270.000	253.000	289.000	203.000	181.000	162.000	239.000	164.000	175.000	213.000	0.824	0.666	0.906	0.563	0.705	0.771	0.692	0.691	0.740	0.608	0.550
Sedahan Jaya	-	120	434.000	453.000	449.000	462.000	365.000	351.000	352.000	342.000	319.000	346.000	377.000	0.597	0.526	0.527	0.560	0.272	0.525	0.530	0.669	0.587	0.676	1.076
Rantau Panjang	-	60	112.000	142.000	108.000	202.000	175.000	122.000	145.000	182.000	177.000	137.000	173.000	0.747	1.193	0.879	0.581	0.381	0.863	0.850	0.258	0.565	0.904	0.761
Batu Barat	-	120	351.000	264.000	314.000	397.000	330.000	244.000	288.000	361.000	276.000	310.000	374.000	0.452	0.442	0.537	0.482	0.523	0.667	0.782	0.728	0.705	0.559	0.522
Matan Jaya	-	90	274.000	293.000	290.000	335.000	255.000	117.000	202.000	266.000	228.000	235.000	274.000	0.394	0.572	0.418	0.427	0.404	0.795	0.676	0.332	0.722	0.513	0.422
Teluk Bayur	-	40	120.000	91.000	118.000	82.000	104.000	71.000	59.000	43.000	41.000	42.000	46.000	0.000	0.960	0.316	1.011	0.577	0.857	0.721	0.350	0.158	0.316	0.427
Sempurna	-	80	260.000	219.000	248.000	212.000	216.000	178.000	192.000	123.000	149.000	185.000	236.000	0.849	0.978	0.836	0.858	0.624	0.808	0.821	0.594	0.759	0.830	1.157
Jago Bersatu	-	25	76.000	46.000	69.000	66.000	72.000	47.000	36.000	29.000	30.000	38.000	44.000	0.351	1.028	0.436	0.700	0.332	0.881	0.821	0.473	0.577	0.823	0.970
Penjawaan	-	30	90.000	73.000	87.000	59.000	85.000	47.000	51.000	73.000	75.000	63.000	58.000	0.000	0.568	0.305	0.414	0.791	0.817	0.877	0.626	0.682	0.548	0.583
Pangkalan Telok	-	90	274.000	270.000	269.000	264.000	255.000	136.000	126.000	123.000	147.000	173.000	197.000	0.364	0.367	0.382	0.445	0.525	0.782	0.761	0.661	0.965	0.890	1.080
Laman Satong	-	90	285.000	294.000	275.000	295.000	286.000	161.000	190.000	219.000	180.000	263.000	299.000	0.756	0.572	0.853	0.619	0.532	0.985	0.932	0.875	0.812	0.640	0.684

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Sum											Standard deviation										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles	Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
Riam Berasap	Pangkalan Tapang	30	111.000	108.000	109.000	111.000	97.000	51.000	87.000	95.000	78.000	87.000	101.000	0.466	0.498	0.490	0.466	0.504	0.403	0.305	0.379	0.660	0.463	0.490
	Pematang Baros	30	91.000	91.000	91.000	91.000	90.000	56.000	91.000	90.000	86.000	92.000	131.000	0.183	0.183	0.183	0.183	0.000	0.776	0.183	0.263	0.434	0.365	0.718
Simpang Tiga	Semanai	10	31.000	27.000	25.000	33.000	27.000	26.000	23.000	27.000	24.000	27.000	27.000	0.316	0.823	0.527	0.483	0.823	0.966	0.675	0.483	0.516	0.483	0.483
	Parit Bugis	20	64.000	54.000	54.000	68.000	54.000	48.000	44.000	57.000	37.000	89.000	57.000	0.523	0.657	0.470	0.503	0.470	0.681	0.834	0.366	0.671	6.732	0.366
Sejahtera	Sungai Belit	30	86.000	86.000	90.000	90.000	81.000	61.000	80.000	86.000	83.000	83.000	90.000	0.346	0.186	0.000	0.000	0.466	0.772	0.636	0.346	0.430	0.351	0.371
	Melinsum	20	58.000	60.000	60.000	61.000	55.000	50.000	57.000	60.000	57.000	55.000	60.000	0.308	0.000	0.324	0.224	0.639	0.597	0.366	0.000	0.489	0.550	0.324
	Tanjung Gunung	20	56.000	50.000	49.000	60.000	49.000	42.000	49.000	45.000	47.000	41.000	56.000	0.523	0.688	0.510	0.000	0.826	0.718	0.826	0.444	0.587	0.605	0.410
Pampang Harapan	Pasir Mayang	20	66.000	66.000	67.000	65.000	60.000	26.000	37.000	50.000	41.000	54.000	60.000	0.470	0.470	0.489	0.550	0.000	0.705	0.813	0.513	0.826	0.470	0.725
	Segua	30	92.000	92.000	93.000	94.000	76.000	55.000	34.000	38.000	34.000	44.000	40.000	0.365	0.365	0.403	0.346	0.681	0.834	0.434	0.583	0.434	0.681	0.661
	Pampang	30	118.000	118.000	115.000	118.000	93.000	48.000	70.000	84.000	68.000	81.000	111.000	0.521	0.583	0.592	0.640	0.607	0.949	0.884	0.551	0.907	0.750	0.535
Pangkalan Buton	Simpang Empat	30	95.000	109.000	98.000	108.000	83.000	7.000	59.000	87.000	81.000	87.000	88.000	0.592	0.615	0.583	0.528	0.971	1.155	0.850	0.759	1.048	0.629	0.868
	Tanjung Belimbing	30	87.000	106.000	93.000	109.000	76.000	55.000	49.000	66.000	80.000	86.000	95.000	0.548	0.629	0.481	0.615	0.730	0.802	0.765	0.922	1.124	0.626	0.747
	Sungai Galik	30	115.000	115.000	112.000	99.000	81.000	65.000	36.000	90.000	73.000	68.000	95.000	0.379	0.379	0.351	0.200	0.596	0.797	0.484	0.310	1.006	0.700	0.461
	Air Pauh	30	104.000	110.000	106.000	106.000	76.000	61.000	41.000	73.000	55.000	68.000	78.000	0.681	0.479	0.681	0.571	0.622	0.714	0.490	0.728	0.900	0.907	0.675
Sutera	Sukadana	20	73.000	79.000	75.000	77.000	66.000	20.000	37.000	47.000	59.000	72.000	79.000	0.671	0.224	0.550	0.366	0.571	0.000	0.366	0.875	0.510	0.681	0.510
	Payak Itam	20	75.000	81.000	80.000	81.000	62.000	51.000	38.000	57.000	46.000	61.000	68.000	0.550	0.224	0.324	0.224	0.788	1.146	0.553	0.366	0.657	0.510	0.503
Gunung Sembilan	Nirmala	20	63.000	73.000	63.000	79.000	50.000	34.000	28.000	43.000	40.000	47.000	55.000	0.671	0.587	0.366	0.686	0.761	0.923	0.598	0.988	1.214	1.040	0.967
	Tambak Lawang	20	61.000	74.000	60.000	82.000	49.000	29.000	41.000	51.000	48.000	64.000	62.000	0.224	0.470	0.000	0.553	0.686	0.826	0.826	0.759	1.142	0.523	0.308
	Sebadal	20	60.000	74.000	61.000	80.000	41.000	27.000	33.000	37.000	47.000	38.000	64.000	0.562	0.470	0.394	0.000	0.759	0.671	0.875	0.988	1.089	0.968	1.005
Benawai Agung	Munting	30	109.000	124.000	122.000	131.000	90.000	86.000	72.000	107.000	77.000	81.000	90.000	0.890	0.730	0.944	0.669	0.830	0.900	0.621	0.774	0.935	0.651	0.371
	Semanjak	30	91.000	107.000	93.000	119.000	82.000	64.000	67.000	96.000	65.000	66.000	91.000	0.718	0.568	0.712	0.414	0.583	0.582	0.728	0.610	0.531	0.484	0.615
	Pelerang	10	38.000	39.000	38.000	39.000	31.000	31.000	23.000	36.000	22.000	28.000	32.000	0.422	0.316	0.422	0.316	0.568	0.568	0.823	0.516	0.422	0.422	0.789
Sedahan Jaya	Sawah	30	112.000	115.000	113.000	114.000	90.000	86.000	88.000	87.000	80.000	90.000	106.000	0.521	0.461	0.504	0.484	0.371	0.421	0.521	0.403	0.547	0.525	0.670
	Sidorejo	30	118.000	118.000	118.000	118.000	90.000	82.000	89.000	73.000	80.000	64.000	54.000	0.254	0.254	0.254	0.254	0.000	0.539	0.490	0.679	0.547	0.507	0.551
	Tanjung Banjar	30	91.000	104.000	103.000	106.000	93.000	91.000	86.000	84.000	72.000	90.000	105.000	0.183	0.507	0.504	0.507	0.305	0.320	0.434	0.610	0.621	0.000	0.777
	Begasing	30	113.000	116.000	115.000	124.000	92.000	92.000	89.000	98.000	87.000	102.000	112.000	0.774	0.681	0.648	0.730	0.254	0.711	0.669	0.691	0.548	0.675	0.868
Rantau Panjang	Makmur	20	43.000	32.000	35.000	65.000	57.000	43.000	56.000	61.000	57.000	53.000	57.000	0.813	0.598	0.639	0.716	0.366	0.875	0.523	0.224	0.587	0.671	0.489
	Sinar Palung	10	20.000	34.000	26.000	39.000	29.000	26.000	28.000	30.000	31.000	27.000	32.000	0.471	0.966	0.699	0.316	0.738	0.699	0.422	0.000	0.738	0.823	0.422
	Kebal Manuk	10	14.000	14.000	10.000	30.000	29.000	12.000	16.000	30.000	28.000	15.000	26.000	0.516	0.843	0.000	0.000	0.316	0.422	0.966	0.000	0.632	0.850	0.516
	Sinar Selatan	20	35.000	62.000	37.000	68.000	60.000	41.000	45.000	61.000	61.000	42.000	58.000	0.786	1.021	1.040	0.503	0.000	0.826	0.910	0.394	0.394	0.912	1.119
Batu Barat	Matan Raya	30	86.000	65.000	77.000	95.000	79.000	61.000	74.000	90.000	77.000	77.000	95.000	0.819	0.379	0.568	0.461	0.669	0.594	0.776	0.743	0.774	0.626	0.648
	Sepakat	30	89.000	61.000	76.000	102.000	85.000	74.000	66.000	92.000	63.000	73.000	89.000	0.183	0.414	0.629	0.498	0.379	0.678	0.847	0.691	0.662	0.626	0.490
	Telok Aur	30	87.000	72.000	80.000	101.000	86.000	49.000	77.000	95.000	67.000	80.000	98.000	0.305	0.498	0.479	0.490	0.434	0.686	0.679	0.648	0.568	0.479	0.450
	Rembayan	30	89.000	66.000	81.000	99.000	80.000	60.000	71.000	84.000	69.000	80.000	92.000	0.183	0.407	0.466	0.466	0.547	0.679	0.809	0.805	0.750	0.479	0.450
Matan Jaya	Matan	30	94.000	102.000	100.000	110.000	87.000	47.000	69.000	88.000	80.000	85.000	94.000	0.346	0.621	0.479	0.479	0.403	0.697	0.651	0.450	0.711	0.379	0.346
	Jelutung	30	89.000	98.000	95.000	111.000	86.000	43.000	63.000	91.000	72.000	74.000	89.000	0.320	0.521	0.379	0.466	0.346	0.875	0.759	0.183	0.770	0.571	0.615
	Air Manis	30	91.000	93.000	95.000	114.000	82.000	27.000	70.000	87.000	76.000	76.000	91.000	0.490	0.548	0.379	0.258	0.450	0.676	0.606	0.305	0.681	0.507	0.183
Teluk Bayur	Tanjung Harapan Baru	20	60.000	60.000	58.000	22.000	47.000	22.000	35.000	21.000	21.000	22.000	24.000	0.000	0.000	0.447	0.447	0.697	0.743	0.765	0.224	0.224	0.447	0.523
	Bayur Indah	20	60.000	31.000	60.000	60.000	57.000	49.000	24.000	22.000	20.000	20.000	22.000	0.000	0.887	0.000	0.000	0.366	0.686	0.523	0.447	0.000	0.000	0.308
Sempurna	Sawah Sebokor	40	134.000	128.000	136.000	126.000	101.000	86.000	83.000	56.000	66.000	74.000	117.000	0.864	0.791	0.810	0.483	0.751	0.833	0.888	0.545	0.662	0.834	0.730
	Sempurna	40	126.000	91.000	112.000	86.000	115.000	92.000	109.000	67.000	83.000	111.000	119.000	0.834	0.933	0.758	0.864	0.404	0.791	0.599	0.616	0.797	0.432	1.476
Jago Bersatu	Sepakat	15	45.000	16.000	40.000	37.000	44.000	32.000	17.000	15.000	15.000	15.000	15.000	0.000	0.258	0.488	0.834	0.258	0.834	0.516	0.000	0.000	0.000	0.000
	Bersatu	10	31.000	30.000	29.000	29.000	28.000	15.000	19.000	14.000	15.000	23.000	29.000	0.568	0.471	0.316	0.316	0.422	0.850	0.994	0.699	0.850	0.823	0.316
Penjawaan	Kinun	20	60.000	47.000	57.000	38.000	55.000	33.000	41.000	50.000	47.000	42.000	42.000	0.000	0.587	0.366	0.447	0.851	0.875	0.887	0.688	0.671	0.641	0.553
	Harapan Baru	10	30.000	26.000	30.000	21.000	30.000	14.000	10.000	23.000	28.000	21.000	16.000	0.000	0.516	0.000	0.316	0.667	0.699	0.000	0.483	0.632	0.316	0.516
Pangkalan Telok	Teluk Parak	30	90.000	88.000	87.000	84.000	84.000	44.000	51.000	53.000	56.000	59.000	73.000	0.263	0.365	0.403	0.484	0.610	0.681	0.952	0.898	1.074	0.964	0.935
	Cali	30	95.000	94.000	94.000	94.000	86.000	54.000	44.000	39.000	51.000	62.000	76.000	0.379	0.346	0.346	0.346	0.507	0.925	0.776	0.466	1.055	0.828	1.224
	Pangkalan Jihing	30	89.000	88.000	88.000	86.000	85.000	38.000	31.000	31.000	40.000	52.000	48.000	0.414	0.365	0.365	0.434	0.461	0.640	0.183	0.183	0.661	0.868	0.814
Laman Satong	Manjau	30	117.000	115.000	117.000	113.000	101.000	69.000	49.000	87.000	74.000	94.000	107.000	0.662	0.648	0.548	0.679	0.718	0.905	0.930	0.481	0.819	0.681	0.774
	Kepayang	30	78.000	86.000	72.000	90.000	94.000	41.000	75.000	88.000	56.000	88.000	94.000	0.541	0.186	0.563	0.455	0.434	0.805	0.820	0.365	0.651	0.691	0.629
	Nek Doyan	30	90.000	93.000	86.000	92.000	91.000	51.000	66.000	44.000	50.000	81.000	98.000	0.455	0.305	0.629	0.365	0.320	0.847	0.887	0.730	0.758	0.466	0.583

04 NR usage

【 All 】

Village	Sub-Village	Number of Sample	Natural Resource Usage(Fuel wood,Timber wood,NTFP)						NTFP species								
			Fuel wood 2010-2013 inside NP	Fuel wood 2010-2013 outside NP	Timber wood 2010-2013 inside NP	Timber wood 2010-2013 outside NP	NTFP 2010-2013 inside NP	NTFP 2010-2013 outside NP	Fuel woods	Durian	Mushroom	Banana	Honey	Rattan	Bamboo shoot	Medecine	Others
-	-	1,275	255	840	9	20	142	213	1,040	263	11	32	6	4	272	1	98

【 Village 】

Village	Sub-Village	Number of Sample	Natural Resource Usage(Fuel wood,Timber wood,NTFP)						NTFP species								
			Fuel wood 2010-2013 inside NP	Fuel wood 2010-2013 outside NP	Timber wood 2010-2013 inside NP	Timber wood 2010-2013 outside NP	NTFP 2010-2013 inside NP	NTFP 2010-2013 outside NP	Fuel woods	Durian	Mushroom	Banana	Honey	Rattan	Bamboo shoot	Medecine	Others
Riam Berasap	-	60	1	52	0	4	1	15	52	14	1	0	0	0	0	0	0
Simpang Tiga	-	30	0	29	0	0	0	0	28	1	0	0	0	0	0	0	0
Sejahtera	-	70	5	57	0	0	1	1	60	11	0	0	0	0	0	0	0
Pampang Harapan	-	80	55	30	0	0	24	2	75	29	0	5	0	0	29	0	11
Pangkalan Buton	-	120	9	64	0	1	11	4	72	18	0	3	0	0	8	0	2
Sutera	-	40	3	14	0	0	0	0	15	8	0	0	0	0	2	0	0
Gunung Sembilan	-	60	8	40	0	0	22	2	56	27	0	9	1	0	5	0	7
Benawai Agung	-	70	26	29	0	0	11	7	48	14	0	2	0	0	8	0	6
Sedahan Jaya	-	120	77	53	9	2	52	7	107	35	10	5	0	1	64	0	13
Rantau Panjang	-	60	0	57	0	0	0	0	57	5	0	0	0	0	0	0	32
Batu Barat	-	120	1	112	0	4	0	60	113	4	0	3	0	0	9	0	21
Matan Jaya	-	90	1	82	0	0	5	43	79	64	0	0	0	1	47	0	1
Teluk Bayur	-	40	28	28	0	0	3	2	27	3	0	0	0	0	1	0	0
Sempurna	-	80	39	11	0	1	10	0	48	9	0	0	0	0	0	0	1
Jago Bersatu	-	25	0	17	0	0	1	2	17	0	0	0	0	0	5	0	0
Penjawaan	-	30	0	15	0	5	0	5	15	2	0	0	0	0	12	0	0
Pangkalan Telok	-	90	0	75	0	2	0	6	88	10	0	1	5	0	21	0	3
Laman Satong	-	90	2	75	0	1	1	57	83	9	0	4	0	2	61	1	1

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Natural Resource Usage(Fuel wood,Timber wood,NTFP)						NTFP species								
			Fuel wood 2010-2013 inside NP	Fuel wood 2010-2013 outside NP	Timber wood 2010-2013 inside NP	Timber wood 2010-2013 outside NP	NTFP 2010-2013 inside NP	NTFP 2010-2013 outside NP	Fuel woods	Durian	Mushroom	Banana	Honey	Rattan	Bamboo shoot	Medecine	Others
Riam Berasap	Pangkalan Tapang	30	1	23	0	4	1	15	24	14	1	0	0	0	0	0	0
	Pematang Baros	30	0	29	0	0	0	0	28	0	0	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	10	0	0	0	0	9	1	0	0	0	0	0	0	0
	Parit Bugis	20	0	19	0	0	0	0	19	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	2	22	0	0	0	0	24	3	0	0	0	0	0	0	0
	Melinsum	20	3	16	0	0	1	0	17	4	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	19	0	0	0	1	19	4	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	11	7	0	0	0	0	17	2	0	0	0	0	2	0	0
	Segua	30	21	17	0	0	1	0	29	5	0	1	0	0	6	0	1
	Pampang	30	23	6	0	0	23	2	29	22	0	4	0	0	21	0	10
Pangkalan Buton	Simpang Empat	30	0	7	0	0	3	1	8	4	0	1	0	0	0	0	2
	Tanjung Belimbing	30	4	11	0	0	3	2	14	9	0	1	0	0	0	0	0
	Sungai Galik	30	3	24	0	1	0	0	25	0	0	0	0	0	0	0	0
	Air Pauh	30	2	22	0	0	5	1	25	5	0	1	0	0	8	0	0
Sutera	Sukadana	20	0	5	0	0	0	0	5	2	0	0	0	0	0	0	0
	Payak Itam	20	3	9	0	0	0	0	10	6	0	0	0	0	2	0	0
Gunung Sembilan	Nirmala	20	2	14	0	0	5	1	19	4	0	0	0	0	0	0	0
	Tambak Lawang	20	1	12	0	0	6	0	18	7	0	1	0	0	1	0	1
	Sebadal	20	5	14	0	0	11	1	19	16	0	8	1	0	4	0	6
Benawai Agung	Munting	30	14	13	0	0	8	5	20	9	0	1	0	0	6	0	3
	Semanjak	30	11	13	0	0	3	1	23	3	0	1	0	0	2	0	3
	Pelerang	10	1	3	0	0	0	1	5	2	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	21	15	3	0	20	5	27	10	6	0	0	0	21	0	10
	Sidorejo	30	2	21	0	0	5	1	21	2	1	0	0	0	6	0	2
	Tanjung Banjar	30	29	2	1	0	1	0	30	6	0	1	0	0	11	0	0
	Begasing	30	25	15	5	2	26	1	29	17	3	4	0	1	26	0	1
Rantau Panjang	Makmur	20	0	20	0	0	0	0	20	3	0	0	0	0	0	0	8
	Sinar Palung	10	0	8	0	0	0	0	8	1	0	0	0	0	0	0	8
	Kebal Manuk	10	0	10	0	0	0	0	10	0	0	0	0	0	0	0	5
	Sinar Selatan	20	0	19	0	0	0	0	19	1	0	0	0	0	0	0	11
Batu Barat	Matan Raya	30	1	27	0	0	0	27	27	0	0	0	0	0	4	0	3
	Sepakat	30	0	29	0	0	0	3	29	0	0	2	0	0	0	0	9
	Telok Aur	30	0	30	0	0	0	4	30	4	0	1	0	0	3	0	7
	Rembayan	30	0	26	0	4	0	26	27	0	0	0	0	0	2	0	2
Matan Jaya	Matan	30	1	27	0	0	4	15	25	17	0	0	0	0	20	0	1
	Jelutung	30	0	29	0	0	1	17	29	20	0	0	0	0	16	0	0
	Air Manis	30	0	26	0	0	0	11	25	27	0	0	0	1	11	0	0
Teluk Bayur	Tanjung Harapan Baru	20	12	12	0	0	3	1	12	2	0	0	0	0	1	0	0
	Bayur Indah	20	16	16	0	0	0	1	15	1	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	29	4	0	0	9	0	32	8	0	0	0	0	0	0	0
	Sempurna	40	10	7	0	1	1	0	16	1	0	0	0	0	0	0	1
Jago Bersatu	Sepakat	15	0	7	0	0	0	0	7	0	0	0	0	0	2	0	0
	Bersatu	10	0	10	0	0	1	2	10	0	0	0	0	0	3	0	0
Penjawaan	Kinun	20	0	10	0	5	0	1	10	1	0	0	0	0	5	0	0
	Harapan Baru	10	0	5	0	0	0	4	5	1	0	0	0	0	7	0	0
Pangkalan Telok	Teluk Parak	30	0	26	0	2	0	6	28	6	0	1	4	0	6	0	0
	Cali	30	0	24	0	0	0	0	30	4	0	0	1	0	4	0	3
	Pangkalan Jihing	30	0	25	0	0	0	0	30	0	0	0	0	0	11	0	0
Laman Satong	Manjau	30	0	23	0	1	0	19	26	2	0	0	0	1	19	0	1
	Kepayang	30	0	28	0	0	0	14	28	0	0	0	0	0	13	0	0
	Nek Doyan	30	2	24	0	0	1	24	29	7	0	4	0	1	29	1	0

04 NR usage

【 All 】 ※ 収穫量

Village	Sub-Village	Number of Sample	Location of fuelwood collection					Location of Timber collection					Location of Durian collection					Location of Mushroom collection					Location of Banana collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
-	-	1,275	13,329	57,918	1,126	14,025	96	1,996	948	0	1,339	0	69,883	37,221	16,160	21,570	0	542	200	0	0	0	63,478	13,282	100	0	0

【 Village 】 ※ 収穫量

Village	Sub-Village	Number of Sample	Location of fuelwood collection					Location of Timber collection					Location of Durian collection					Location of Mushroom collection					Location of Banana collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
Riam Berasap	-	60	180	4,029	0	0	0	0	0	0	0	0	100	12,700	0	0	0	0	0	0	0	0	0	200	0	0	0
Simpang Tiga	-	30	0	4,294	0	0	0	0	0	0	0	0	0	600	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	-	70	636	5,063	0	0	0	0	0	0	0	0	2,350	150	350	300	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	-	80	3,355	1,384	0	744	0	0	0	0	0	0	11,995	0	0	0	0	0	0	0	0	0	1,987	600	0	0	0
Pangkalan Buton	-	120	1,069	2,174	0	1,596	0	50	50	0	0	0	11,550	0	2,400	0	0	0	0	0	0	0	0	6,260	0	0	0
Sutera	-	40	375	470	0	162	0	0	0	0	0	0	5,855	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	-	60	672	1,825	0	2,525	0	0	0	0	221	0	14,325	0	0	1,200	0	0	0	0	0	0	61,449	675	0	0	0
Benawai Agung	-	70	1,220	623	0	280	0	0	0	0	8	0	2,498	0	0	160	0	0	0	0	0	0	0	257	0	0	0
Sedahan Jaya	-	120	3,069	863	0	178	0	724	0	0	0	0	12,965	0	0	0	0	542	0	0	0	0	42	1,985	0	0	0
Rantau Panjang	-	60	0	2,267	0	0	0	0	0	0	0	0	0	585	0	0	0	0	200	0	0	0	0	0	0	0	0
Batu Barat	-	120	100	6,144	80	0	0	0	0	0	0	0	0	2,526	0	0	0	0	0	0	0	0	0	2,170	0	0	0
Matan Jaya	-	90	428	5,276	96	3,442	0	0	50	0	110	0	4,420	15,410	11,360	17,110	0	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	-	40	102	48	0	0	0	0	0	0	0	0	1,250	500	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	-	80	1,779	444	0	108	0	22	0	0	0	0	2,400	0	0	250	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	-	25	224	365	0	910	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	-	30	0	8,768	0	0	0	0	350	0	0	0	0	950	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	-	90	0	9,885	950	3,300	0	0	498	0	1,000	0	0	2,000	2,050	1,000	0	0	0	0	0	0	0	1,000	100	0	0
Laman Satong	-	90	120	3,996	0	780	96	1,200	0	0	0	0	175	1,800	0	1,550	0	0	0	0	0	0	0	135	0	0	0

【 Sub-Village 】 ※ 収穫量

Village	Sub-Village	Number of Sample	Location of fuelwood collection					Location of Timber collection					Location of Durian collection					Location of Mushroom collection					Location of Banana collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
Riam Berasap	Pangkalan Tapang	30	180	2,589	0	0	0	0	0	0	0	0	100	12,700	0	0	0	0	0	0	0	0	0	200	0	0	0
	Pematang Baros	30	0	1,440	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	1,568	0	0	0	0	0	0	0	0	0	600	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	2,726	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	300	1,628	0	0	0	0	0	0	0	0	100	0	0	50	0	0	0	0	0	0	0	0	0	0	0
	Melinsum	20	336	824	0	0	0	0	0	0	0	0	2,000	0	350	250	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	2,611	0	0	0	0	0	0	0	0	250	150	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	1,010	454	0	250	0	0	0	0	0	0	1,250	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Segua	30	494	832	0	270	0	0	0	0	0	0	2,900	0	0	0	0	0	0	0	0	0	0	600	0	0	0
	Pampang	30	1,851	98	0	224	0	0	0	0	0	0	7,845	0	0	0	0	0	0	0	0	0	1,987	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	148	0	588	0	0	50	0	0	0	5,450	0	0	0	0	0	0	0	0	0	0	6,000	0	0	0
	Tanjung Belimbing	30	148	486	0	432	0	50	0	0	0	0	3,050	0	2,150	0	0	0	0	0	0	0	0	60	0	0	0
	Sungai Galik	30	128	944	0	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Pauh	30	793	596	0	308	0	0	0	0	0	0	3,050	0	250	0	0	0	0	0	0	0	0	200	0	0	0
Sutera	Sukadana	20	0	258	0	42	0	0	0	0	0	0	280	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	375	212	0	120	0	0	0	0	0	0	5,575	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	48	696	0	911	0	0	0	0	24	0	1,500	0	0	1,000	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	48	601	0	862	0	0	0	0	151	0	1,925	0	0	0	0	0	0	0	0	0	1,350	0	0	0	0
	Sebadal	20	576	528	0	752	0	0	0	0	46	0	10,900	0	0	200	0	0	0	0	0	0	60,099	675	0	0	0
Benawai Agung	Munting	30	421	82	0	92	0	0	0	0	0	0	1,373	0	0	110	0	0	0	0	0	0	0	240	0	0	0
	Semanjak	30	754	541	0	84	0	0	0	0	8	0	335	0	0	50	0	0	0	0	0	0	0	17	0	0	0
	Pelerang	10	45	0	0	104	0	0	0	0	0	0	790	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	499	231	0	0	0	7	0	0	0	0	2,856	0	0	0	0	24	0	0	0	0	0	0	0	0	0
	Sidorejo	30	36	500	0	0	0	0	0	0	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	1,356	120	0	178	0	15	0	0	0	0	1,350	0	0	0	0	0	0	0	0	0	0	15	0	0	0
	Begasing	30	1,178	12	0	0	0	702	0	0	0	0	8,585	0	0	0	0	518	0	0	0	0	42	1,970	0	0	0
Rantau Panjang	Makmur	20	0	577	0	0	0	0	0	0	0	0	0	450	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Palung	10	0	274	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	507	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Selatan	20	0	909	0	0	0	0	0	0	0	0	0	135	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	1,655	0	0	0	0	0	0	0	0	0	700	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sepakat	30	100	1,705	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,120	0	0	0
	Telok Aur	30	0	1,300	80	0	0	0	0	0	0	0	0	326	0	0	0	0	0	0	0	0	0	50	0	0	0
	Rembayan	30	0	1,484	0	0	0	0	0	0	0	0	0	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0
Matan Jaya	Matan	30	236	870	0	1,232	0	0	0	0	0	0	1,420	1,100	4,080	2,000	0	0	0	0	0	0	0	0	0	0	0
	Jelutung	30	192	2,788	96	578	0	0	50	0	0	0	3,000	950	5,030	0	0	0	0	0	0	0	0	0	0	0	0
	Air Manis	30	0	1,618	0	1,632	0	0	0	0	110	0	0	13,360	2,250	15,110	0	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	30	48	0	0	0	0	0	0	0	0	1,250	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bayur Indah	20	72	0	0	0	0	0	0	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	1,460	48	0	108	0	0	0	0	0	0	1,900	0	0	250	0	0	0	0	0	0	0	0	0	0	0
	Sempurna	40	319	396	0	0	0	22	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	24	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bersatu	10	200	260	0	910	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	0	8,000	0	0	0	0	350	0	0	0	0	450	0	0	0	0	0	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	768	0	0	0	0	0	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	3,017	0	250	0	0	18	0	1,000	0	0	2,000	0	1,000	0	0	0	0	0	0	0	1,000	0	0	0
	Cali	30	0	1,878	950	1,500	0	0	480	0	0	0	0	0	2,050	0	0	0	0	0	0	0	0	0	100	0	0
	Pangkalan Jihing	30	0	4,990	0	1,550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laman Satong	Manjau	30	10	1,410	0	284	96	0	0	0	0	0	0	200	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kepayang	30	0	1,458	0	0	0	1,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nek Doyan	30	110	1,128	0	496	0	0	0	0	0	0	175	1,600	0	1,550	0	0	0	0	0	0	0	135	0	0	0

04 NR usage

【 All 】

Village	Sub-Village	Number of Sample	Location of Honey collection					Location of Rattan collection					Location of Bamboo Shoot collection					Location of Medice collection					Location of Animal Hunting collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
-	-	1,275	0	300	0	100	0	0	650	200	0	0	32,977	131,952	2,564	22,016	0	0	20	0	0	0	61	20	0	160	0

【 Village 】

Village	Sub-Village	Number of Sample	Location of Honey collection					Location of Rattan collection					Location of Bamboo Shoot collection					Location of Medice collection					Location of Animal Hunting collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
Riam Berasap	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
Simpang Tiga	-	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	-	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Pampang Harapan	-	80	0	0	0	0	0	0	0	0	0	0	4,460	0	30	970	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	-	120	0	0	0	0	0	0	0	0	0	0	8,572	0	0	210	0	0	0	0	0	0	0	0	0	0	0
Sutera	-	40	0	0	0	0	0	0	0	0	0	0	1,520	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	-	60	0	0	0	0	0	0	0	0	0	0	1,440	1,690	0	0	0	0	0	0	0	0	20	0	0	0	0
Benawai Agung	-	70	0	0	0	0	0	0	0	0	0	0	10,064	0	0	0	0	0	0	0	0	0	6	0	0	0	0
Sedahan Jaya	-	120	0	0	0	0	0	0	0	0	0	0	2,011	0	0	0	0	0	0	0	0	0	13	0	0	0	0
Rantau Panjang	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	-	120	0	0	0	0	0	0	0	0	0	0	0	165	0	0	0	0	10	0	0	0	0	0	0	0	0
Matan Jaya	-	90	0	0	0	0	0	0	0	200	0	0	300	1,988	2,534	108	0	0	0	0	0	0	12	0	0	20	0
Teluk Bayur	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	-	80	0	0	0	0	0	0	0	0	0	0	0	120	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	0	4,000	3,400	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	-	30	0	0	0	0	0	0	0	0	0	0	0	3,909	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	-	90	0	300	0	100	0	0	0	0	0	0	600	8,480	0	948	0	0	0	0	0	0	0	0	0	80	0
Laman Satong	-	90	0	0	0	0	0	0	650	0	0	0	10	112,200	0	19,780	0	0	10	0	0	0	10	14	0	60	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Location of Honey collection					Location of Rattan collection					Location of Bamboo Shoot collection					Location of Medice collection					Location of Animal Hunting collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
Riam Berasap	Pangkalan Tapang	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
	Pematang Baros	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	650	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Segua	30	0	0	0	0	0	0	0	0	0	0	2,760	0	0	500	0	0	0	0	0	0	0	0	0	0	0
	Pampang	30	0	0	0	0	0	0	0	0	0	0	1,050	0	30	470	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sungai Galik	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Pauh	30	0	0	0	0	0	0	0	0	0	0	8,572	0	0	210	0	0	0	0	0	0	0	0	0	0	0
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0	0	0	1,520	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	0	0	0	0	0	0	0	1,200	0	0	0	0	0	0	0	0	20	0	0	0	0
	Sebadal	20	0	0	0	0	0	0	0	0	0	0	1,440	490	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	0	0	0	0	0	0	0	0	0	0	9,980	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	84	0	0	0	0	0	0	0	0	0	6	0	0	0	0
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	0	419	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	185	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	0	0	0	0	0	1,311	0	0	0	0	0	0	0	0	0	13	0	0	0	0
Rantau Panjang	Makmur	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	0	10	0	0	0	0	0	0	0	0
	Sepakat	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Telok Aur	30	0	0	0	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rembayan	30	0	0	0	0	0	0	0	0	0	0	0	81	0	0	0	0	0	0	0	0	0	0	0	0	0
Matan Jaya	Matan	30	0	0	0	0	0	0	0	0	0	0	300	314	1,672	48	0	0	0	0	0	0	12	0	0	20	0
	Jelutung	30	0	0	0	0	0	0	0	0	0	0	0	1,330	226	0	0	0	0	0	0	0	0	0	0	0	0
	Air Manis	30	0	0	0	0	0	0	0	200	0	0	0	344	636	60	0	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bayur Indah	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sempurna	40	0	0	0	0	0	0	0	0	0	0	0	120	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	4,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	3,400	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	0	0	0	0	0	0	0	0	0	0	0	582	0	0	0	0	0	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	3,327	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	300	0	100	0	0	0	0	0	0	0	1,900	0	0	0	0	0	0	0	0	0	0	0	30	0
	Cali	30	0	0	0	0	0	0	0	0	0	0	600	500	0	448	0	0	0	0	0	0	0	0	0	50	0
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	0	0	6,080	0	500	0	0	0	0	0	0	0	0	0	0	0
Laman Satong	Manjau	30	0	0	0	0	0	0	150	0	0	0	0	64,640	0	2,880	0	0	0	0	0	0	0	10	0	40	0
	Kepayang	30	0	0	0	0	0	0	0	0	0	0	0	8,820	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nek Doyan	30	0	0	0	0	0	0	500	0	0	0	10	38,740	0	16,900	0	0	10	0	0	0	10	4	0	20	0

04 NR usage

【 All 】 ※ 収穫者数

Village	Sub-Village	Number of Sample	Location of fuelwood collection					Location of Timber collection					Location of Durian collection					Location of Mushroom collection					Location of Banana collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
-	-	1,275	190	607	10	136	1	12	4	0	15	0	113	45	38	22	0	4	1	0	0	0	14	15	1	0	0

【 Village 】 ※ 収穫者数

Village	Sub-Village	Number of Sample	Location of fuelwood collection					Location of Timber collection					Location of Durian collection					Location of Mushroom collection					Location of Banana collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
Riam Berasap	-	60	1	51	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0	0	0	0	1	0	0	0
Simpang Tiga	-	30	0	28	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	-	70	7	51	0	0	0	0	0	0	0	0	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	-	80	41	14	0	6	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0	3	1	0	0	0
Pangkalan Buton	-	120	12	38	0	16	0	1	1	0	0	0	4	0	4	0	0	0	0	0	0	0	0	1	0	0	0
Sutera	-	40	5	6	0	4	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	-	60	8	19	0	29	0	0	0	0	11	0	23	0	0	2	0	0	0	0	0	0	9	1	0	0	0
Benawai Agung	-	70	20	15	0	7	0	0	0	0	1	0	8	0	0	3	0	0	0	0	0	0	0	1	0	0	0
Sedahan Jaya	-	120	48	23	0	4	0	7	0	0	0	0	32	0	0	0	0	4	0	0	0	0	2	3	0	0	0
Rantau Panjang	-	60	0	56	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0
Batu Barat	-	120	1	109	1	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	3	0	0	0
Matan Jaya	-	90	4	41	1	32	0	0	1	0	2	0	4	11	29	12	0	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	-	40	5	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	-	80	33	6	0	2	0	3	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	-	25	2	9	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	-	30	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	-	90	0	59	8	20	0	0	2	0	1	0	0	3	4	2	0	0	0	0	0	0	0	0	1	0	0
Laman Satong	-	90	3	69	0	10	1	1	0	0	0	0	2	5	0	2	0	0	0	0	0	0	0	4	0	0	0

【 Sub-Village 】 ※ 収穫者数

Village	Sub-Village	Number of Sample	Location of fuelwood collection					Location of Timber collection					Location of Durian collection					Location of Mushroom collection					Location of Banana collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
Riam Berasap	Pangkalan Tapang	30	1	23	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0	0	0	0	1	0	0	0
	Pematang Baros	30	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	4	18	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Melinsum	20	3	14	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	19	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	9	5	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Segua	30	9	7	0	3	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Pampang	30	23	2	0	2	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	2	0	6	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	1	8	0	3	0	1	0	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0
	Sungai Galik	30	2	18	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Pauh	30	9	10	0	4	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0
Sutera	Sukadana	20	0	3	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	5	3	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	1	7	0	11	0	0	0	0	1	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	1	7	0	10	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Sebadal	20	6	5	0	8	0	0	0	0	4	0	14	0	0	1	0	0	0	0	0	0	8	1	0	0	0
Benawai Agung	Munting	30	11	4	0	3	0	0	0	0	0	0	6	0	0	2	0	0	0	0	0	0	0	0	0	0	0
	Semanjak	30	7	11	0	2	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0
	Pelerang	10	2	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	11	6	0	0	0	1	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sidorejo	30	1	15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	20	1	0	4	0	1	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Begasing	30	16	1	0	0	0	5	0	0	0	0	16	0	0	0	0	4	0	0	0	0	2	2	0	0	0
Rantau Panjang	Makmur	20	0	20	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Palung	10	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Selatan	20	0	19	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	25	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sepakat	30	1	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
	Telok Aur	30	0	29	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0
	Rembayan	30	0	27	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Matan Jaya	Matan	30	2	10	0	12	0	0	0	0	0	0	3	2	8	1	0	0	0	0	0	0	0	0	0	0	0
	Jelutung	30	2	20	1	6	0	0	1	0	0	0	1	3	15	0	0	0	0	0	0	0	0	0	0	0	0
	Air Manis	30	0	11	0	14	0	0	0	0	2	0	0	6	6	11	0	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bayur Indah	20	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	26	1	0	2	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sempurna	40	7	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bersatu	10	1	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	27	0	1	0	0	1	0	1	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0
	Cali	30	0	10	8	12	0	0	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0
	Pangkalan Jihing	30	0	22	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laman Satong	Manjau	30	1	20	0	4	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kepayang	30	0	28	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nek Doyan	30	2	21	0	6	0	0	0	0	0	0	2	3	0	2	0	0	0	0	0	0	0	4	0	0	0

04 NR usage

【 All 】

Village	Sub-Village	Number of Sample	Location of Honey collection					Location of Rattan collection					Location of Bamboo Shoot collection					Location of Medice collection					Location of Animal Hunting collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
-	-	1,275	0	2	0	1	0	1	2	1	0	0	107	105	21	15	0	0	2	0	0	0	6	4	0	4	0

【 Village 】

Village	Sub-Village	Number of Sample	Location of Honey collection					Location of Rattan collection					Location of Bamboo Shoot collection					Location of Medice collection					Location of Animal Hunting collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
Riam Berasap	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Simpang Tiga	-	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	-	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Pampang Harapan	-	80	0	0	0	0	0	0	0	0	0	0	24	0	1	3	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	-	120	0	0	0	0	0	0	0	0	0	0	7	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Sutera	-	40	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	-	60	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
Benawai Agung	-	70	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	-	120	0	0	0	0	0	1	0	0	0	0	60	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Rantau Panjang	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	-	120	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	1	0	0	0	0	0	0	0	0
Matan Jaya	-	90	0	0	0	0	0	0	0	1	0	0	3	19	20	2	0	0	0	0	0	0	1	0	0	1	0
Teluk Bayur	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	-	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	-	30	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	-	90	0	2	0	1	0	0	0	0	0	0	1	17	0	3	0	0	0	0	0	0	0	0	0	2	0
Laman Satong	-	90	0	0	0	0	0	0	2	0	0	0	1	51	0	6	0	0	1	0	0	0	2	2	0	1	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Location of Honey collection					Location of Rattan collection					Location of Bamboo Shoot collection					Location of Medice collection					Location of Animal Hunting collection				
			Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All	Inside NP	Outside NP	Inside HL	Uncertain	All
Riam Berasap	Pangkalan Tapang	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Pematang Baros	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Segua	30	0	0	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	Pampang	30	0	0	0	0	0	0	0	0	0	0	18	0	1	2	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sungai Galik	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Pauh	30	0	0	0	0	0	0	0	0	0	0	7	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Sebadal	20	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	1	0	0	0	0	26	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Rantau Panjang	Makmur	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0
	Sepakat	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Telok Aur	30	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rembayan	30	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Matan Jaya	Matan	30	0	0	0	0	0	0	0	0	0	0	3	4	10	1	0	0	0	0	0	0	1	0	0	1	0
	Jelutung	30	0	0	0	0	0	0	0	0	0	0	0	11	5	0	0	0	0	0	0	0	0	0	0	0	0
	Air Manis	30	0	0	0	0	0	0	0	1	0	0	0	4	5	1	0	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bayur Indah	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sempurna	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	2	0	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	1	0
	Cali	30	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	1	0
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	0	0	10	0	1	0	0	0	0	0	0	0	0	0	0	0
Laman Satong	Manjau	30	0	0	0	0	0	0	1	0	0	0	0	17	0	1	0	0	0	0	0	0	0	1	0	0	0
	Kepayang	30	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nek Doyan	30	0	0	0	0	0	0	1	0	0	0	1	22	0	5	0	0	1	0	0	0	2	1	0	1	0

05 Ex & 06 Income

【 All 】

Village	Sub-Village	Number of Sample	Expenditure Sum(per one year) Total	Household_Food Annual	Household_EnergyAnnual	Household_Drinking WaterAnnual	Household_WaterdailyAnnual	Household_TelephoneAnnual	Household_ClothesAnnual	Household_HealthAnnual	Household_EducationAnnual	Household_TransportationAnnual	Household_Wage for laborAnnual	On-farm activities_Buying seeds/ seedlingsAnnual	On-farm activities_Buying agricultural toolsAnnual	On-farm activities_Buying agricultural materialsAnnual	On-farm activities_PlantingtreesAnnual	On-farm activities_Grazing livestocksAnnual	On-farm activities_Others Annual	On-farm activities_Loan repaymentAnnual	On-farm activities_Tax paymentAnnual	On-farm activities_Remittance to familyAnnual	On-farm activities_SavingAnnual	On-farm activities_Others Annual	Social life_Donation for social eventsAnnual
-	-	1,275	30,931,260,550	16,979,657,050	1,550,359,788	50,557,000	3,616,000	557,425,000	1,000,180,000	577,328,000	1,412,184,000	2,878,476,000	751,469,000	39,951,000	102,693,000	698,492,000	256,140,000	124,050,000	1,600,000	1,057,610,000	194,930,077	279,860,000	991,415,000	42,640,000	321,669,000

【 Village 】

Village	Sub-Village	Number of Sample	Expenditure Sum(per one year) Total	Household_Food Annual	Household_EnergyAnnual	Household_Drinking WaterAnnual	Household_WaterdailyAnnual	Household_TelephoneAnnual	Household_ClothesAnnual	Household_HealthAnnual	Household_EducationAnnual	Household_TransportationAnnual	Household_Wage for laborAnnual	On-farm activities_Buying seeds/ seedlingsAnnual	On-farm activities_Buying agricultural toolsAnnual	On-farm activities_Buying agricultural materialsAnnual	On-farm activities_PlantingtreesAnnual	On-farm activities_Grazing livestocksAnnual	On-farm activities_Others Annual	On-farm activities_Loan repaymentAnnual	On-farm activities_Tax paymentAnnual	On-farm activities_Remittance to familyAnnual	On-farm activities_SavingAnnual	On-farm activities_Others Annual	Social life_Donation for social eventsAnnual
Riam Berasap	-	60	1,639,201,700	842,080,000	67,567,000	4,596,000	840,000	19,976,000	62,050,000	38,390,000	120,852,000	212,734,000	16,820,000	670,000	2,355,000	11,901,000	3,160,000	2,400,000	0	9,600,000	12,801,577	10,560,000	46,780,000	0	12,070,000
Simpang Tiga	-	30	498,289,500	402,120,000	20,480,000	1,578,000	0	5,054,000	14,450,000	1,990,000	180,000	22,532,000	1,040,000	100,000	2,000,000	4,725,000	0	0	0	7,350,000	2,716,000	0	0	200,000	5,430,000
Sejahtera	-	70	1,459,381,000	1,039,000,000	46,896,000	540,000	0	35,204,000	52,640,000	32,450,000	41,418,000	171,534,000	0	950,000	640,000	4,205,000	0	0	0	24,040,000	100,500	10,800,000	0	0	4,751,000
Pampang Harapan	-	80	1,520,135,500	943,160,000	48,329,000	0	0	24,080,000	49,600,000	25,492,000	64,910,000	145,003,000	4,100,000	5,580,000	3,370,000	20,700,000	400,000	200,000	0	5,000,000	2,688,500	0	10,200,000	0	13,265,000
Pangkalan Buton	-	120	2,618,541,600	1,655,586,000	145,313,000	12,424,000	273,000	84,757,000	107,895,000	8,280,000	38,870,000	218,164,000	173,823,000	11,885,000	4,778,000	30,910,000	0	6,480,000	0	50,037,000	25,212,500	7,950,000	18,000,000	2,260,000	34,085,000
Sutera	-	40	1,582,489,900	810,120,000	73,258,000	2,430,000	0	41,190,000	54,635,000	12,990,000	40,660,000	70,845,000	59,008,000	4,320,000	500,000	18,590,000	500,000	48,200,000	0	7,560,000	25,282,000	12,400,000	5,000,000	0	18,090,000
Gunung Sembilan	-	60	1,000,329,500	695,248,050	35,692,000	0	0	26,100,000	27,250,000	16,230,000	43,200,000	69,772,000	8,395,000	2,180,000	2,850,000	13,050,000	0	0	600,000	5,390,000	3,936,500	23,500,000	0	0	5,250,000
Benawai Agung	-	70	1,371,460,000	794,560,000	48,430,000	0	0	20,110,000	59,670,000	175,210,000	24,212,000	80,469,000	52,423,000	2,148,000	3,515,000	46,042,000	0	2,000,000	0	28,621,000	4,898,500	17,650,000	5,500,000	0	15,230,000
Sedahan Jaya	-	120	3,819,658,000	1,479,652,000	157,349,500	2,016,000	180,000	56,166,000	103,790,000	60,789,000	266,541,000	369,271,000	208,800,000	0	47,388,000	477,934,000	1,750,000	48,510,000	0	230,032,000	14,146,500	1,800,000	214,975,000	0	43,170,000
Rantau Panjang	-	60	1,357,106,000	635,289,000	45,537,888	14,713,000	1,923,000	20,386,000	36,585,000	18,962,000	91,025,000	119,586,000	7,790,000	2,633,000	4,045,000	11,765,000	2,500,000	0	0	73,980,000	3,941,000	22,300,000	75,900,000	0	13,613,000
Batu Barat	-	120	2,836,282,400	1,672,745,000	317,159,400	11,300,000	400,000	34,369,000	103,120,000	30,425,000	67,110,000	251,002,000	62,000,000	3,525,000	5,272,000	13,760,000	3,260,000	0	0	130,807,000	6,690,000	4,800,000	2,000,000	1,300,000	25,090,000
Matan Jaya	-	90	2,530,285,000	1,450,920,000	179,632,000	0	0	37,380,000	71,880,000	33,070,000	83,135,000	273,796,000	60,870,000	2,960,000	5,530,000	2,700,000	2,000,000	0	0	137,455,000	9,375,000	4,600,000	6,000,000	0	14,720,000
Teluk Bayur	-	40	1,604,820,000	615,725,000	46,385,000	0	0	29,700,000	27,650,000	19,640,000	65,800,000	111,300,000	58,000,000	2,500,000	13,600,000	26,000,000	188,100,000	0	0	36,300,000	11,420,000	24,700,000	302,000,000	0	35,800,000
Sempurna	-	80	1,508,662,050	923,332,000	51,030,000	0	0	28,408,000	73,550,000	32,780,000	42,915,000	152,752,000	32,400,000	0	2,550,000	5,000,000	36,000,000	520,000	0	17,608,000	622,000	21,600,000	16,500,000	5,556,000	16,935,000
Jago Bersatu	-	25	700,301,000	346,400,000	17,420,000	0	0	12,070,000	13,140,000	5,260,000	29,300,000	97,280,000	6,000,000	0	2,000,000	3,500,000	16,500,000	2,000,000	0	31,500,000	3,286,000	21,000,000	76,200,000	6,600,000	13,620,000
Penjawaan	-	30	736,506,000	478,440,000	18,982,000	0	0	15,450,000	19,000,000	8,640,000	10,760,000	34,170,000	0	0	0	0	0	2,590,000	0	123,700,000	890,000	8,200,000	2,000,000	0	8,250,000
Pangkalan Telok	-	90	1,906,742,400	1,165,580,000	130,183,000	0	0	24,904,000	43,205,000	17,930,000	209,358,000	183,694,000	0	500,000	550,000	1,500,000	1,000,000	8,750,000	0	0	828,500	25,000,000	65,600,000	0	14,800,000
Laman Satong	-	90	2,241,069,000	1,029,700,000	100,716,000	960,000	0	42,121,000	80,070,000	38,800,000	171,938,000	294,572,000	0	0	1,750,000	6,210,000	970,000	2,400,000	1,000,000	138,630,000	66,095,000	63,000,000	144,760,000	26,724,000	27,500,000

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Expenditure Sum(per one year) Total	Household_Food Annual	Household_EnergyAnnual	Household_Drinking WaterAnnual	Household_WaterdailyAnnual	Household_TelephoneAnnual	Household_ClothesAnnual	Household_HealthAnnual	Household_EducationAnnual	Household_TransportationAnnual	Household_Wage for laborAnnual	On-farm activities_Buying seeds/ seedlingsAnnual	On-farm activities_Buying agricultural toolsAnnual	On-farm activities_Buying agricultural materialsAnnual	On-farm activities_PlantingtreesAnnual	On-farm activities_Grazing livestocksAnnual	On-farm activities_Others Annual	On-farm activities_Loan repaymentAnnual	On-farm activities_Tax paymentAnnual	On-farm activities_Remittance to familyAnnual	On-farm activities_SavingAnnual	On-farm activities_Others Annual	Social life_Donation for social eventsAnnual
Riam Berasap	Pangkalan Tapang	30	820,427,700	461,680,000	32,087,000	840,000	840,000	9,056,000	44,950,000	18,230,000	80,260,000	94,214,000	640,000	670,000	2,155,000	4,301,000	3,160,000	1,000,000	0	0	287,000	10,560,000	780,000	0	6,170,000
	Pematang Baros	30	818,774,000	380,400,000	35,480,000	3,756,000	0	10,920,000	17,100,000	20,160,000	40,592,000	118,520,000	16,180,000	0	200,000	7,600,000	0	1,400,000	0	9,600,000	12,514,577	0	46,000,000	0	5,900,000
Simpang Tiga	Semanai	10	175,876,000	136,800,000	8,516,000	538,000	0	1,864,000	4,950,000	940,000	0	13,104,000	640,000	0	2,000,000	2,440,000	0	0	0	0	1,088,000	0	0	0	2,365,000
	Parit Bugis	20	322,413,500	265,320,000	11,964,000	1,040,000	0	3,190,000	9,500,000	1,050,000	180,000	9,428,000	400,000	100,000	0	2,285,000	0	0	0	7,350,000	1,628,000	0	0	200,000	3,065,000
Sejahtera	Sungai Belit	30	663,212,000	455,080,000	17,276,000	540,000	0	15,484,000	26,140,000	5,795,000	21,956,000	98,236,000	0	200,000	230,000	1,620,000	0	0	0	10,100,000	78,000	10,800,000	0	0	2,817,000
	Melinsum	20	335,194,500	266,400,000	15,640,000	0	0	6,580,000	9,700,000	4,575,000	5,632,000	24,886,000	0	750,000	200,000	540,000	0	0	0	0	15,000	0	0	0	469,000
	Tanjung Gunung	20	460,974,500	317,520,000	13,980,000	0	0	13,140,000	16,800,000	22,080,000	13,830,000	48,412,000	0	0	210,000	2,045,000	0	0	0	13,940,000	7,500	0	0	0	1,465,000
Pampang Harapan	Pasir Mayang	20	433,803,500	266,400,000	17,187,000	0	0	9,500,000	9,350,000	9,790,000	23,878,000	64,426,000	0	4,350,000	0	850,000	400,000	0	0	0	246,500	0	7,200,000	0	3,650,000
	Segua	30	414,981,000	307,140,000	13,860,000	0	0	3,666,000	20,250,000	7,680,000	13,102,000	22,257,000	4,100,000	600,000	2,150,000	15,250,000	0	0	0	5,000,000	127,000	0	0	0	4,970,000
	Pampang	30	671,351,000	369,620,000	17,282,000	0	0	10,914,000	20,000,000	8,022,000	27,930,000	58,320,000	0	630,000	1,220,000	4,600,000	0	200,000	0	0	2,315,000	0	3,000,000	0	4,645,000
Pangkalan Buton	Simpang Empat	30	861,324,000	533,280,000	62,324,000	10,838,000	15,000	52,640,000	30,940,000	3,850,000	20,950,000	84,264,000	59,360,000	320,000	388,000	2,370,000	0	0	0	37,500,000	14,537,000	0	0	0	10,040,000
	Tanjung Belimbing	30	673,244,100	424,400,000	33,032,000	1,506,000	258,000	18,595,000	28,475,000	3,100,000	17,920,000	56,720,000	55,817,000	3,668,000	1,600,000	8,450,000	0	0	0	9,600,000	4,546,500	0	17,000,000	0	8,430,000
	Sungai Galik	30	616,220,500	384,174,000	29,055,000	60,000	0	6,940,000	34,390,000	230,000	0	47,926,000	43,526,000	4,355,000	1,680,000	11,340,000	0	0	0	0	4,470,500	7,350,000	1,000,000	2,260,000	8,495,000
	Air Pauh	30	467,753,000	313,732,000	20,902,000	20,000	0	6,582,000	14,090,000	1,100,000	0	29,254,000	15,120,000	3,542,000	1,110,000	8,750,000	0	6,480,000	0	2,937,000	1,658,500	600,000	0	0	7,120,000
Sutera	Sukadana	20	1,015,423,400	449,560,000	51,404,000	1,830,000	0	32,384,000	31,020,000	9,280,000	16,100,000	41,182,000	30,960,000	0	0	0	0	48,000,000	0	0	14,540,000	0	5,000,000	0	11,870,000
	Payak Itam	20	567,066,500	360,560,000	21,854,000	600,000	0	8,806,000	23,615,000	3,710,000	24,560,000	29,663,000	28,048,000	4,320,000	500,000	18,590,000	500,000	200,000	0	7,560,000	10,742,000	12,400,000	0	0	6,220,000
Gunung Sembilan	Nirmala	20	324,924,000	230,928,050	12,408,000	0	0	7,920,000	8,400,000	4,150,000	10,800,000	24,592,000	2,765,000	1,140,000	690,000	3,830,000	0	0	0	600,000	1,343,000	1,300,000	0	0	1,810,000
	Tambak Lawang	20	330,437,000	219,840,000	12,808,000	0	0	10,200,000	11,050,000	8,330,000	23,400,000	18,792,000	4,055,000	400,000	1,230,000	4,100,000	0	0	600,000	2,261,000	1,651,000	13,200,000	0	0	1,344,000
	Sebadal	20	344,968,500	244,480,000	10,476,000	0	0	7,980,000	7,800,000	3,750,000	9,000,000	26,388,000	1,575,000	640,000	930,000	5,120,000	0	0	0	2,529,000	942,500	9,000,000	0	0	2,096,000
Benawai Agung	Munting	30	646,322,500	372,600,000	21,738,000	0	0	11,040,000	31,850,000	12,790,000	16,756,000	59,999,000	31,580,000	1,548,000	1,885,000	24,590,000	0	0	0	22,669,000	2,591,000	17,150,000	5,500,000	0	6,825,000
	Semanjak	30	568,540,500	320,160,000	19,828,000	0	0	6,760,000	21,680,000	156,840,000	6,456,000	14,710,000	14,298,000	432,000	1,630,000	8,242,000	0	2,000,000	0	5,952,000	1,535,500	0	0	0	5,510,000
	Pelerang	10	156,597,000	101,800,000	6,864,000	0	0	2,310,000	6,140,000	5,580,000	1,000,000	5,760,000	6,545,000	168,000	0	13,210,000	0	0	0	0	772,000	500,000	0	0	2,895,000
Sedahan Jaya	Sawah	30	713,539,500	333,060,000	39,020,000	0	18,000	11,840,000	26,000,000	7,670,000	60,312,000	59,138,000	20,380,000	0	9,355,000	68,554,000	0	0	0	35,000,000	2,917,500	500,000	34,750,000	0	6,975,000
	Sidorejo	30	876,045,000	280,800,000	47,549,000	2,016,000	60,000	9,240,000	19,400,000	15,180,000	49,740,000	97,594,000	36,320,000	0	8,555,000	107,640,000	0	46,510,000	0	73,320,000	3,239,000	0	43,800,000	0	3,300,000
	Tanjung Banjar	30	966,390,000	490,400,000	34,895,000	0	102,000	17,370,000	23,690,000	12,330,000	77,105,000	51,955,000	24,040,000	0	18,578,000	124,095,000	0	0	0	6,500,000	1,074,000	300,000	83,625,000	0	14,135,000
	Begasing	30	1,263,683,500	375,392,000	35,885,500	0	0	17,716,000	34,700,000	25,609,000	79,384,000	160,584,000	128,060,000	0	10,900,000	177,645,000	1,750,000	2,000,000	0	115,212,000	6,916,000	1,000,000	52,800,000	0	18,760,000
Rantau Panjang	Makmur	20	520,096,000	247,956,000	14,795,000	3,804,000	0	5,880,000	11,900,000	3,600,000	22,259,000	44,290,000	5,790,000	300,000	685,000	2,050,000	0	0	0	33,000,000	859,000	10,600,000	43,200,000	0	4,688,000
	Sinar Palung	10	262,885,000	112,800,000	13,726,000	8,810,000	815,000	6,246,000	7,750,000	2,400,000	20,392,000	33,800,000	2,000,000	1,025,000	1,710,000	2,860,000	1,000,000	0	0	26,580,000	2,113,000	2,500,000	2,700,000	0	3,050,000
	Kebal Manuk	10	157,804,000	55,143,000	5,812,888	120,000	120,000	2,880,000	3,600,000	7,316,000	12,356,000	14,628,000	0	450,000	745,000	1,245,000	1,500,000	0	0	0	0	0	6,000,000	0	1,450,000
	Sinar Selatan	20	416,321,000	219,390,000	11,204,000	1,979,000	988,000	5,380,000	13,335,000	5,646,000	36,018,000	26,868,000	0	858,000	905,000	5,610,000	0	0	0	14,400,000	969,000	9,200,000	24,000,000	0	4,425,000
Batu Barat	Matan Raya	30	966,239,400	489,080,000	116,552,400	2,060,000	0	12,020,000	28,400,000	13,740,000	28,850,000	49,168,000	60,000,000	1,700,000	2,000,000	3,200,000	1,400,000	0	0	119,838,000	5,599,000	4,800,000	0	0	6,730,000
	Sepakat	30	608,902,000	404,995,000	44,500,000	6,840,000	0	7,164,000	21,120,000	7,850,000	11,240,000	58,698,000	1,500,000	825,000	1,775,000	4,010,000	1,860,000	0	0	0	741,000	0	0	0	6,950,000
	Telok Aur	30	728,430,000	403,200,000	115,354,000	2,400,000	400,000	9,590,000	30,800,000	4,340,000	17,100,000	91,486,000	500,000	0	877,000	4,500,000	0	0	0	5,496,000	154,500	0	2,000,000	0	6,675,000
	Rembayan	30	532,711,000	375,470,000	40,753,000	0	0	5,595,000	22,800,000	4,495,000	9,920,000	51,650,000	0	1,000,000	620,000	2,050,000	0	0	0	5,473,000	195,500	0	0	1,300,000	4,735,000
Matan Jaya	Matan	30	762,424,000	502,360,000	79,972,000	0	0	17,100,000	28,880,000	7,340,000	19,240,000	55,416,000	1,500,000	2,800,000	1,550,000	1,300,000	2,000,000	0	0	21,356,000	1,322,000	3,600,000	3,000,000	0	4,730,000
	Jelutung	30	1,020,903,000	479,060,000	43,088,000	0	0	8,340,000	21,100,000	14,850,000	33,335,000	163,750,000	39,670,000	160,000	2,280,000	900,000	0	0	0	88,955,000	925,000	1,000,000	3,000,000	0	4,590,000
	Air Manis	30	746,958,000	469,500,000	56,572,000	0	0	11,940,000	21,900,000	10,880,000	30,560,000	54,630,000	19,700,000	0	1,700,000	500,000	0	0	0	27,144,000	7,128,000	0	0	0	5,400,000
Teluk Bayur	Tanjung Harapan Baru	20	714,435,000	337,800,000	30,400,000	0	0	17,100,000	14,300,000	10,190,000	17,200,000	42,200,000	20,000,000	2,500,000	6,300,000	12,700,000	75,500,000	0	0	11,100,000	5,945,000	7,700,000	76,000,000	0	17,500,000
	Bayur Indah	20	890,385,000	277,925,000	15,985,000	0	0	12,600,000	13,350,000	9,450,000	48,600,000	69,100,000	38,000,000	0	7,300,000	13,300,000	112,600,000	0	0	25,200,000	5,475,000	17,000,000	226,000,000	0	18,300,000
Sempurna	Sawah Sebokor	40	644,238,550	447,252,000	14,730,000	0	0	8,564,000	30,300,000	12,990,000	15,340,000	65,430,000	0	0	550,000	0	0	0	0	1,600,000	272,000	12,000,000	0	0	11,075,000
	Sempurna	40	864,423,500	476,080,000	36,300,000	0	0	19,844,000	43,250,000	19,790,000	27,575,000	87,322,000	32,400,000	0	2,000,000	5,000,000	36,000,000	520,000	0	16,008,000	350,000	9,600,000	16,500,000	5,556,000	5,860,000
Jago Bersatu	Sepakat	15	484,442,000	201,600,000	11,420,000	0	0	7,900,000	6,350,000	3,900,000	21,160,000	75,340,000	6,000,000	0	2,000,000	3,500,000	16,500,000	2,000,000	0	31,500,000	3,122,000	21,000,000	55,200,000	6,600,000	11,850,000
	Bersatu	10	215,859,000	144,800,000	6,000,000	0	0	4,170,000	6,790,000	1,360,000	8,140,000	21,940,000	0	0	0	0	0	0	0	0	164,000	0	21,000,000	0	1,770,000
Penjawaan	Kinun	20	392,920,000	294,840,000	11,662,000	0	0	7,950,000	12,600,000	7,040,000	4,410,000	20,778,000	0	0	0	0	0	1,590,000	0	21,400,000	640,000	200,000	2,000,000	0	5,400,000
	Harapan Baru	10	343,586,000	183,600,000	7,320,000	0	0	7,500,000	6,400,000	1,600,000	6,350,000	13,392,000	0	0	0	0	0	1,000,000	0	102,300,000	250,000	8,000,000	0	0	2,850,000
Pangkalan Telok	Teluk Parak	30	639,768,100	409,400,000	43,330,000	0	0	10,590,000	17,250,000	7,750,000	45,160,000	84,214,000	0	0	550,000	1,500,000	500,000	2,000,000	0	0	611,200	0	26,600,000	0	5,370,000
	Cali	30	607,068,300	319,860,000	36,124,000	0	0	11,774,000	16,705,000	9,460,000	73,338,000	53,020,000	0	500,000	0	0	500,000	6,750,000	0	0	100,300	25,000,000	39,000,000	0	5,270,000
	Pangkalan Jihing	30	659,906,000	436,320,000	50,729,000	0	0	2,540,000	9,250,000	720,000	90,860,000	46,460,000	0	0	0	0	0	0	0	0	117,000	0	0	0	4,160,000
Laman Satong	Manjau	30	711,897,000	345,300,000	34,572,000	0	0	21,960,000	28,970,000	9,900,000	44,516,000	87,636,000	0	0	0	560,000	0	0	0	39,840,000	1,085,000	32,400,000	28,800,000	26,724,000	8,550,000
	Kepayang	30	776,598,000	292,800,000	39,580,000	960,000	0	9,991,000	23,300,000	16,900,000	65,470,000	120,516,000	0	0	850,000	500,000	970,000	2,400,000	0	58,950,000	64,876,500	0	59,160,000	0	10,100,000
	Nek Doyan	30	752,574,000	391,600,000	26,564,000	0	0	10,170,000	27,800,000	12,000,000	61,952,000	86,420,000	0	0	900,000	5,150,000	0	0	1,000,000	39,840,000	133,500	30,600,000	56,800,000	0	8,850,000

05 Ex & 06 Income

【 All 】

Village	Sub-Village	Number of Sample	Income Sum(per one year) Total	On-farm income_Wetland paddy	On-farm income_Dryland paddy	On-farm income_Other vegetables	On-farm income_Livestock	On-farm income_Selling Hunting	On-farm income_Selling NTFP	On-farm income_Selling Fuel woods	On-farm income_Selling timber	On-farm income_Selling Rubber	Off-farm income_Permanent Oil palm	Off-farm income_Permanent farming	Off-farm income_Permanent mining	Off-farm income_Permanent Others	Off-farm income_Temporary Oil palm	Off-farm income_Temporary farming	Off-farm income_Temporary mining	Off-farm income_Going outside to work	Off-farm income_Temporary Others	Off-farm income_Private business	Off-farm income_Loan	Off-farm income_Remittance	Off-farm income_Others
-	-	1,275	42,393,489,564	5,002,092,501	681,899,500	540,360,325	1,704,138,500	93,675,002	1,037,719,500	6,320,015	320,105,000	4,642,948,003	5,953,632,960	259,980,000	580,164,000	0	1,227,337,000	198,400,000	148,740,000	62,200,000	3,597,162,000	1,595,800,000	157,000,000	223,040,500	2,494,075,000

【 Village 】

Village	Sub-Village	Number of Sample	Income Sum(per one year) Total	On-farm income_Wetland paddy	On-farm income_Dryland paddy	On-farm income_Other vegetables	On-farm income_Livestock	On-farm income_Selling Hunting	On-farm income_Selling NTFP	On-farm income_Selling Fuel woods	On-farm income_Selling timber	On-farm income_Selling Rubber	Off-farm income_Permanent Oil palm	Off-farm income_Permanent farming	Off-farm income_Permanent mining	Off-farm income_Permanent Others	Off-farm income_Temporary Oil palm	Off-farm income_Temporary farming	Off-farm income_Temporary mining	Off-farm income_Going outside to work	Off-farm income_Temporary Others	Off-farm income_Private business	Off-farm income_Loan	Off-farm income_Remittance	Off-farm income_Others
Riam Berasap	-	60	1,716,464,000	0	14,200,000	3,700,000	39,720,000	0	75,100,000	0	0	27,920,000	530,924,000	500,000	0	0	65,000,000	800,000	0	0	145,000,000	96,800,000	0	18,000,000	52,200,000
Simpang Tiga	-	30	579,900,000	83,440,000	0	0	3,650,000	0	20,000,000	1,200,000	0	110,160,000	109,200,000	4,800,000	0	0	36,000,000	960,000	0	7,000,000	68,200,000	3,900,000	0	5,400,000	19,050,000
Sejahtera	-	70	1,686,390,000	107,840,000	0	0	2,610,000	0	19,100,000	0	0	229,560,000	38,300,000	36,000,000	0	0	20,160,000	1,200,000	0	0	387,200,000	38,400,000	0	12,400,000	118,550,000
Pampang Harapan	-	80	1,894,116,500	172,893,000	63,141,000	196,629,000	49,287,500	0	130,940,000	0	0	83,800,000	46,176,000	92,600,000	34,800,000	0	22,500,000	67,330,000	65,280,000	31,200,000	175,910,000	9,600,000	0	23,400,000	248,000,000
Pangkalan Buton	-	120	4,475,621,100	752,084,501	7,520,000	59,050,000	499,795,000	42,000,002	152,752,000	12	23,000,000	91,200,003	0	6,800,000	109,850,000	0	0	31,350,000	10,800,000	9,000,000	531,570,000	382,100,000	0	0	63,500,000
Sutera	-	40	2,428,376,000	188,891,000	9,000,000	48,290,000	300,313,000	0	58,000,000	0	0	6,400,000	0	750,000	11,664,000	0	0	0	0	0	308,374,000	275,700,000	25,000,000	18,240,000	0
Gunung Sembilan	-	60	1,379,534,000	180,096,000	0	31,820,000	113,793,000	0	180,640,000	0	64,000,000	0	39,000,000	32,140,000	7,200,000	0	0	11,100,000	9,000,000	0	174,780,000	53,000,000	0	21,600,500	15,700,000
Benawai Agung	-	70	1,828,496,000	524,403,500	23,723,000	1,025,000	81,256,000	0	42,160,000	1,120,000	1,575,000	173,040,000	86,400,000	6,200,000	64,400,000	0	0	10,550,000	17,660,000	0	261,676,000	135,780,000	0	51,400,000	20,480,000
Sedahan Jaya	-	120	4,539,981,400	2,284,520,000	0	22,300,000	253,194,000	175,000	189,575,000	3	0	0	40,800,000	12,800,000	750,000	0	0	70,960,000	10,000,000	3,000,000	240,360,000	264,370,000	43,000,000	30,800,000	123,475,000
Rantau Panjang	-	60	1,880,694,000	89,196,500	0	104,996,325	156,165,000	0	56,312,500	0	0	419,656,000	92,204,000	22,900,000	7,000,000	0	19,640,000	2,950,000	24,000,000	0	122,120,000	0	89,000,000	23,800,000	1,140,000
Batu Barat	-	120	4,599,326,000	197,078,000	96,615,000	0	95,770,000	0	14,700,000	0	0	261,759,000	1,021,944,000	9,490,000	0	0	115,060,000	0	0	8,000,000	241,880,000	27,600,000	0	11,700,000	1,028,400,000
Matan Jaya	-	90	3,566,946,960	26,250,000	120,220,000	48,000,000	10,710,000	18,000,000	38,490,000	0	37,000,000	34,120,000	1,048,000,960	31,800,000	154,900,000	0	41,400,000	0	0	0	462,472,000	18,300,000	0	3,600,000	161,600,000
Teluk Bayur	-	40	2,118,030,000	135,600,000	8,000,000	0	10,900,000	0	13,750,000	2,500,000	0	740,040,000	336,600,000	200,000	0	0	0	0	0	0	18,000,000	0	0	0	7,200,000
Sempurna	-	80	1,963,004,000	98,700,000	27,850,000	0	1,340,000	0	8,000,000	0	0	995,334,000	322,460,000	0	0	0	209,820,000	1,200,000	0	0	169,900,000	5,400,000	0	1,200,000	720,000
Jago Bersatu	-	25	861,300,000	81,720,000	1,800,000	0	1,100,000	0	1,000,000	1,500,000	0	333,750,000	288,180,000	0	0	0	0	0	0	4,000,000	0	0	0	1,500,000	56,000,000
Penjawaan	-	30	1,130,115,000	0	58,280,000	0	26,875,000	0	7,000,000	0	15,000,000	294,180,000	180,260,000	0	0	0	63,000,000	0	0	0	75,240,000	24,000,000	0	0	67,200,000
Pangkalan Telok	-	90	2,691,101,604	6,660,000	166,314,500	6,200,000	21,605,000	29,000,000	18,000,000	0	104,800,000	602,553,000	734,456,000	3,000,000	0	0	99,029,000	0	0	0	80,680,000	209,100,000	0	0	213,960,000
Laman Satong	-	90	3,054,093,000	72,720,000	85,236,000	18,350,000	36,055,000	4,500,000	12,200,000	0	74,730,000	239,476,000	1,038,728,000	0	189,600,000	0	535,728,000	0	12,000,000	0	133,800,000	51,750,000	0	0	296,900,000

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Income Sum(per one year) Total	On-farm income_Wetland paddy	On-farm income_Dryland paddy	On-farm income_Other vegetables	On-farm income_Livestock	On-farm income_Selling Hunting	On-farm income_Selling NTFP	On-farm income_Selling Fuel woods	On-farm income_Selling timber	On-farm income_Selling Rubber	Off-farm income_Permanent Oil palm	Off-farm income_Permanent farming	Off-farm income_Permanent mining	Off-farm income_Permanent Others	Off-farm income_Temporary Oil palm	Off-farm income_Temporary farming	Off-farm income_Temporary mining	Off-farm income_Going outside to work	Off-farm income_Temporary Others	Off-farm income_Private business	Off-farm income_Loan	Off-farm income_Remittance	Off-farm income_Others
Riam Berasap	Pangkalan Tapang	30	805,604,000	0	0	2,400,000	6,720,000	0	75,100,000	0	0	4,160,000	273,324,000	0	0	0	1,400,000	0	0	0	80,500,000	92,000,000	0	6,000,000	0
	Pematang Baros	30	910,860,000	0	14,200,000	1,300,000	33,000,000	0	0	0	0	23,760,000	257,600,000	500,000	0	0	63,600,000	800,000	0	0	64,500,000	4,800,000	0	12,000,000	52,200,000
Simpang Tiga	Semanai	10	236,410,000	55,100,000	0	0	3,350,000	0	20,000,000	1,200,000	0	10,560,000	49,200,000	0	0	0	18,000,000	0	0	0	16,800,000	1,500,000	0	0	0
	Parit Bugis	20	343,490,000	28,340,000	0	0	300,000	0	0	0	0	99,600,000	60,000,000	4,800,000	0	0	18,000,000	960,000	0	7,000,000	51,400,000	2,400,000	0	5,400,000	19,050,000
Sejahtera	Sungai Belit	30	838,850,000	33,570,000	0	0	250,000	0	15,000,000	0	0	14,280,000	26,300,000	18,000,000	0	0	0	0	0	0	171,900,000	36,000,000	0	4,000,000	33,250,000
	Melinsum	20	358,600,000	15,990,000	0	0	2,360,000	0	4,100,000	0	0	19,380,000	10,800,000	18,000,000	0	0	0	0	0	0	99,300,000	2,400,000	0	8,400,000	35,900,000
	Tanjung Gunung	20	488,940,000	58,280,000	0	0	0	0	0	0	0	195,900,000	1,200,000	0	0	0	20,160,000	1,200,000	0	0	116,000,000	0	0	0	49,400,000
Pampang Harapan	Pasir Mayang	20	462,617,000	448,000	12,240,000	44,240,000	4,805,000	0	10,000,000	0	0	0	21,600,000	0	34,800,000	0	0	0	65,280,000	0	79,920,000	0	0	19,200,000	79,000,000
	Segua	30	466,034,000	155,440,000	0	60,874,000	6,800,000	0	11,200,000	0	0	0	0	92,600,000	0	0	0	60,780,000	0	21,200,000	32,040,000	0	0	4,200,000	2,000,000
	Pampang	30	965,465,500	17,005,000	50,901,000	91,515,000	37,682,500	0	109,740,000	0	0	83,800,000	24,576,000	0	0	0	22,500,000	6,550,000	0	10,000,000	63,950,000	9,600,000	0	0	167,000,000
Pangkalan Buton	Simpang Empat	30	1,512,781,000	27,104,000	0	0	34,640,000	42,000,002	50,300,000	12	20,000,000	18,152,003	0	0	26,400,000	0	0	0	0	0	306,320,000	330,000,000	0	0	32,300,000
	Tanjung Belimbing	30	1,143,755,600	211,068,000	7,520,000	18,600,000	74,245,000	0	41,540,000	0	3,000,000	42,968,000	0	2,800,000	8,400,000	0	0	1,200,000	0	0	107,450,000	35,100,000	0	0	31,200,000
	Sungai Galik	30	932,831,000	304,921,001	0	16,000,000	220,230,000	0	0	0	0	12,960,000	0	0	18,000,000	0	0	22,150,000	0	9,000,000	62,200,000	13,000,000	0	0	0
	Air Pauh	30	886,253,500	208,991,500	0	24,450,000	170,680,000	0	60,912,000	0	0	17,120,000	0	4,000,000	57,050,000	0	0	8,000,000	10,800,000	0	55,600,000	4,000,000	0	0	0
Sutera	Sukadana	20	1,461,239,000	0	0	600,000	3,080,000	0	2,310,000	0	0	0	0	0	0	0	0	0	0	0	233,784,000	271,700,000	0	0	0
	Payak Itam	20	967,137,000	188,891,000	9,000,000	47,690,000	297,233,000	0	55,690,000	0	0	6,400,000	0	750,000	11,664,000	0	0	0	0	0	74,590,000	4,000,000	25,000,000	18,240,000	0
Gunung Sembilan	Nirmala	20	509,630,000	58,880,000	0	28,000,000	87,760,000	0	15,400,000	0	0	0	0	10,140,000	7,200,000	0	0	11,100,000	0	0	58,100,000	34,000,000	0	0	500,000
	Tambak Lawang	20	439,318,000	68,800,000	0	600,000	21,618,000	0	57,800,000	0	54,000,000	0	39,000,000	17,000,000	0	0	0	0	9,000,000	0	58,600,000	0	0	3,600,500	0
	Sebadal	20	430,586,000	52,416,000	0	3,220,000	4,415,000	0	107,440,000	0	10,000,000	0	0	5,000,000	0	0	0	0	0	0	58,080,000	19,000,000	0	18,000,000	15,200,000
Benawai Agung	Munting	30	931,583,500	306,343,500	3,187,500	1,025,000	8,850,000	0	24,160,000	0	0	11,520,000	30,000,000	1,600,000	30,000,000	0	0	2,550,000	13,560,000	0	186,220,000	121,800,000	0	28,900,000	19,700,000
	Semanjak	30	616,602,500	84,560,000	20,535,500	0	45,656,000	0	9,500,000	1,120,000	1,575,000	153,920,000	37,200,000	800,000	34,400,000	0	0	7,500,000	4,100,000	0	45,576,000	9,180,000	0	21,000,000	780,000
	Pelerang	10	280,310,000	133,500,000	0	0	26,750,000	0	8,500,000	0	0	7,600,000	19,200,000	3,800,000	0	0	0	500,000	0	0	29,880,000	4,800,000	0	1,500,000	0
Sedahan Jaya	Sawah	30	867,302,400	293,600,000	0	0	14,760,000	0	34,470,000	3	0	0	19,200,000	4,600,000	750,000	0	0	20,100,000	10,000,000	0	82,760,000	84,720,000	8,000,000	20,500,000	25,150,000
	Sidorejo	30	945,480,000	455,800,000	0	900,000	92,100,000	0	33,100,000	0	0	0	21,600,000	3,200,000	0	0	0	13,700,000	0	3,000,000	74,000,000	20,400,000	0	10,000,000	0
	Tanjung Banjar	30	1,166,229,000	798,800,000	0	8,000,000	88,154,000	175,000	18,975,000	0	0	0	0	0	0	0	0	19,860,000	0	0	24,100,000	139,000,000	0	300,000	61,125,000
	Begasing	30	1,560,970,000	736,320,000	0	13,400,000	58,180,000	0	103,030,000	0	0	0	0	5,000,000	0	0	0	17,300,000	0	0	59,500,000	20,250,000	35,000,000	0	37,200,000
Rantau Panjang	Makmur	20	699,384,500	63,984,500	0	2,000,000	18,330,000	0	24,190,000	0	0	170,256,000	22,464,000	1,000,000	0	0	7,180,000	250,000	0	0	62,800,000	0	0	5,000,000	840,000
	Sinar Palung	10	470,470,000	1,890,000	0	27,570,000	90,850,000	0	24,220,000	0	0	94,400,000	0	0	0	0	0	0	0	0	3,500,000	0	81,000,000	0	0
	Kebal Manuk	10	191,938,000	1,428,000	0	22,176,325	0	0	2,870,000	0	0	32,580,000	5,000,000	12,000,000	7,000,000	0	0	0	0	0	4,800,000	0	0	18,300,000	0
	Sinar Selatan	20	518,901,500	21,894,000	0	53,250,000	46,985,000	0	5,032,500	0	0	122,420,000	64,740,000	9,900,000	0	0	12,460,000	2,700,000	24,000,000	0	51,020,000	0	8,000,000	500,000	300,000
Batu Barat	Matan Raya	30	1,508,777,000	37,450,000	30,900,000	0	72,275,000	0	0	0	0	10,152,000	226,200,000	0	0	0	17,000,000	0	0	0	131,400,000	0	0	300,000	250,200,000
	Sepakat	30	1,014,006,000	73,058,000	48,090,000	0	9,370,000	0	600,000	0	0	38,444,000	276,054,000	9,490,000	0	0	0	0	0	0	28,900,000	18,000,000	0	2,400,000	221,800,000
	Telok Aur	30	1,166,895,000	68,330,000	7,050,000	0	13,150,000	0	9,100,000	0	0	110,555,000	309,290,000	0	0	0	70,400,000	0	0	8,000,000	23,940,000	9,600,000	0	0	315,000,000
	Rembayan	30	909,648,000	18,240,000	10,575,000	0	975,000	0	5,000,000	0	0	102,608,000	210,400,000	0	0	0	27,660,000	0	0	0	57,640,000	0	0	9,000,000	241,400,000
Matan Jaya	Matan	30	954,848,760	21,750,000	48,635,000	36,000,000	710,000	18,000,000	8,950,000	0	0	10,600,000	143,007,760	19,800,000	72,000,000	0	23,400,000	0	0	0	139,272,000	0	0	0	21,000,000
	Jelutung	30	1,560,961,800	0	51,560,000	12,000,000	0	0	16,040,000	0	25,000,000	11,000,000	446,901,800	12,000,000	46,900,000	0	0	0	0	0	204,400,000	18,300,000	0	3,600,000	122,600,000
	Air Manis	30	1,051,136,400	4,500,000	20,025,000	0	10,000,000	0	13,500,000	0	12,000,000	12,520,000	458,091,400	0	36,000,000	0	18,000,000	0	0	0	118,800,000	0	0	0	18,000,000
Teluk Bayur	Tanjung Harapan Baru	20	1,051,620,000	85,200,000	8,000,000	0	8,700,000	0	8,750,000	1,000,000	0	303,720,000	271,800,000	200,000	0	0	0	0	0	0	0	0	0	0	0
	Bayur Indah	20	1,066,410,000	50,400,000	0	0	2,200,000	0	5,000,000	1,500,000	0	436,320,000	64,800,000	0	0	0	0	0	0	0	18,000,000	0	0	0	7,200,000
Sempurna	Sawah Sebokor	40	803,194,000	59,610,000	10,000,000	0	240,000	0	8,000,000	0	0	456,894,000	64,200,000	0	0	0	63,600,000	0	0	0	55,900,000	5,400,000	0	0	0
	Sempurna	40	1,159,810,000	39,090,000	17,850,000	0	1,100,000	0	0	0	0	538,440,000	258,260,000	0	0	0	146,220,000	1,200,000	0	0	114,000,000	0	0	1,200,000	720,000
Jago Bersatu	Sepakat	15	582,540,000	51,000,000	0	0	1,100,000	0	1,000,000	1,500,000	0	252,040,000	129,600,000	0	0	0	0	0	0	4,000,000	0	0	0	1,500,000	50,000,000
	Bersatu	10	278,760,000	30,720,000	1,800,000	0	0	0	0	0	0	81,710,000	158,580,000	0	0	0	0	0	0	0	0	0	0	0	6,000,000
Penjawaan	Kinun	20	620,180,000	0	25,880,000	0	0	0	0	0	15,000,000	198,960,000	137,060,000	0	0	0	48,600,000	0	0	0	3,000,000	24,000,000	0	0	0
	Harapan Baru	10	509,935,000	0	32,400,000	0	26,875,000	0	7,000,000	0	0	95,220,000	43,200,000	0	0	0	14,400,000	0	0	0	72,240,000	0	0	0	67,200,000
Pangkalan Telok	Teluk Parak	30	841,155,000	2,700,000	15,544,000	1,200,000	1,020,000	4,000,000	0	0	47,200,000	59,904,000	436,368,000	0	0	0	77,429,000	0	0	0	34,240,000	4,000,000	0	0	64,600,000
	Cali	30	1,084,967,604	1,800,000	60,304,000	5,000,000	20,585,000	25,000,000	18,000,000	0	57,600,000	231,872,000	189,888,000	3,000,000	0	0	21,600,000	0	0	0	7,200,000	185,900,000	0	0	37,680,000
	Pangkalan Jihing	30	764,979,000	2,160,000	90,466,500	0	0	0	0	0	0	310,777,000	108,200,000	0	0	0	0	0	0	0	39,240,000	19,200,000	0	0	111,680,000
Laman Satong	Manjau	30	1,051,245,000	49,280,000	8,864,000	3,600,000	1,875,000	0	2,500,000	0	0	153,726,000	366,000,000	0	189,600,000	0	38,400,000	0	12,000,000	0	81,600,000	0	0	0	7,800,000
	Kepayang	30	953,682,000	13,488,000	36,224,000	14,400,000	21,120,000	0	0	0	74,730,000	61,650,000	326,400,000	0	0	0	78,000,000	0	0	0	52,200,000	36,000,000	0	0	200,300,000
	Nek Doyan	30	1,049,166,000	9,952,000	40,148,000	350,000	13,060,000	4,500,000	9,700,000	0	0	24,100,000	346,328,000	0	0	0	419,328,000	0	0	0	0	15,750,000	0	0	88,800,000

05 Ex & 06 Income

【 All 】

Village	Sub-Village	Number of Sample	On-farm Income Total	Off-farm Income Total
-	-	1,275	14,029,258,346	28,588,609,860

【 Village 】

Village	Sub-Village	Number of Sample	On-farm Income Total	Off-farm Income Total
Riam Berasap	-	60	160,640,000	1,551,224,000
Simpang Tiga	-	30	218,450,000	362,250,000
Sejahtera	-	70	359,110,000	1,319,180,000
Pampang Harapan	-	80	696,690,500	1,190,936,000
Pangkalan Buton	-	120	1,627,401,518	2,650,935,000
Sutera	-	40	610,894,000	2,357,105,000
Gunung Sembilan	-	60	570,349,000	1,062,270,500
Benawai Agung	-	70	848,302,500	952,966,000
Sedahan Jaya	-	120	2,749,764,003	1,764,337,400
Rantau Panjang	-	60	826,326,325	1,058,334,000
Batu Barat	-	120	665,922,000	3,568,124,000
Matan Jaya	-	90	332,790,000	3,239,796,960
Teluk Bayur	-	40	910,790,000	1,212,180,000
Sempurna	-	80	1,131,224,000	941,700,000
Jago Bersatu	-	25	420,870,000	435,480,000
Penjawaan	-	30	401,335,000	686,660,000
Pangkalan Telok	-	90	955,132,500	1,703,825,000
Laman Satong	-	90	543,267,000	2,531,306,000

【 Sub-Village 】

Village	Sub-Village	Number of Sample	On-farm Income Total	Off-farm Income Total
Riam Berasap	Pangkalan Tapang	30	88,380,000	717,224,000
	Pematang Baros	30	72,260,000	834,000,000
Simpang Tiga	Semanai	10	90,210,000	147,000,000
	Parit Bugis	20	128,240,000	215,250,000
Sejahtera	Sungai Belit	30	63,100,000	775,750,000
	Melinsum	20	41,830,000	308,670,000
	Tanjung Gunung	20	254,180,000	234,760,000
Pampang Harapan	Pasir Mayang	20	71,733,000	394,040,000
	Segua	30	234,314,000	234,720,000
	Pampang	30	390,643,500	562,176,000
Pangkalan Buton	Simpang Empat	30	192,196,017	1,326,795,000
	Tanjung Belimbing	30	398,941,000	678,350,000
	Sungai Galik	30	554,111,001	368,380,000
	Air Pauh	30	482,153,500	277,410,000
Sutera	Sukadana	20	5,990,000	1,973,339,000
	Payak Itam	20	604,904,000	383,766,000
Gunung Sembilan	Nirmala	20	190,040,000	323,390,000
	Tambak Lawang	20	202,818,000	348,600,500
	Sebadal	20	177,491,000	390,280,000
Benawai Agung	Munting	30	355,086,000	557,170,000
	Semanjak	30	316,866,500	291,836,000
	Pelerang	10	176,350,000	103,960,000
Sedahan Jaya	Sawah	30	342,830,003	507,022,400
	Sidorejo	30	581,900,000	328,180,000
	Tanjung Banjar	30	914,104,000	244,385,000
	Begasing	30	910,930,000	684,750,000
Rantau Panjang	Makmur	20	278,760,500	420,134,000
	Sinar Palung	10	238,930,000	237,700,000
	Kebal Manuk	10	59,054,325	131,560,000
	Sinar Selatan	20	249,581,500	268,940,000
Batu Barat	Matan Raya	30	150,777,000	1,020,200,000
	Sepakat	30	169,562,000	819,444,000
	Telok Aur	30	208,185,000	971,430,000
	Rembayan	30	137,398,000	757,050,000
Matan Jaya	Matan	30	144,645,000	824,003,760
	Jelutung	30	115,600,000	1,436,301,800
	Air Manis	30	72,545,000	979,491,400
Teluk Bayur	Tanjung Harapan Baru	20	415,370,000	631,100,000
	Bayur Indah	20	495,420,000	581,080,000
Sempurna	Sawah Sebokor	40	534,744,000	265,900,000
	Sempurna	40	596,480,000	675,800,000
Jago Bersatu	Sepakat	15	306,640,000	270,900,000
	Bersatu	10	114,230,000	164,580,000
Penjawaan	Kinun	20	239,840,000	379,220,000
	Harapan Baru	10	161,495,000	307,440,000
Pangkalan Telok	Teluk Parak	30	131,568,000	710,437,000
	Cali	30	420,161,000	633,108,000
	Pangkalan Jihing	30	403,403,500	360,280,000
Laman Satong	Manjau	30	219,845,000	831,400,000
	Kepayang	30	221,612,000	749,300,000
	Nek Doyan	30	101,810,000	950,606,000

07 Crops

【 All 】

Village	Sub-Village	Number of Sample	Corn			Cassava			Wet land paddy			Dry land paddy			Soybean			Coconut palm			Durian			Banana		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
-	-	1,275	1.45	3,820.00	2,634.48	2.26	8,150.00	3,609.39	399.60	626,151.50	1,566.94	57.98	40,808.50	703.87	0.50	600.00	1,200.00	0.94	100.00	106.38	117.51	92,039.00	783.22	7.88	60,566.50	7,684.15

【 Village 】

Village	Sub-Village	Number of Sample	Corn			Cassava			Wet land paddy			Dry land paddy			Soybean			Coconut palm			Durian			Banana		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Riam Berasap	-	60	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	6.51	6,240.00	959.26	6.49	4,630.00	713.74	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	3.75	5,560.00	1,482.17	0.00	0.00	#DIV/0!
Simpang Tiga	-	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	9.93	8,266.00	832.54	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.14	100.00	714.29	0.70	800.00	1,142.86	0.00	0.00	#DIV/0!
Sejahtera	-	70	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	26.55	12,810.00	482.45	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	5.02	3,000.00	597.47	0.00	60.00	60,000.00
Pampang Harapan	-	80	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	31.81	18,486.00	581.14	1.00	1,200.00	1,200.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	18.76	12,115.00	645.71	3.10	3,931.50	1,267.82
Pangkalan Buton	-	120	0.25	20.00	80.00	0.03	250.00	9,259.26	32.75	97,074.00	2,963.73	0.50	480.00	960.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.13	8,800.00	7,787.61	0.03	800.00	26,666.67
Sutera	-	40	0.00	0.00	#DIV/0!	0.02	200.00	10,000.00	6.94	18,826.00	2,713.07	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.13	300.00	2,400.00
Gunung Sembilan	-	60	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	8.09	20,609.00	2,547.15	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	32.61	10,925.00	335.02	4.39	55,385.00	12,630.56
Benawai Agung	-	70	0.00	0.00	#DIV/0!	0.14	200.00	1,428.57	30.75	65,640.00	2,134.58	3.48	4,475.00	1,285.92	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	26.85	2,185.00	81.38	0.14	40.00	285.71
Sedahan Jaya	-	120	1.00	2,800.00	2,800.00	2.00	7,000.00	3,500.00	121.43	315,670.00	2,599.64	0.00	0.00	#DIV/0!	0.50	600.00	1,200.00	0.00	0.00	#DIV/0!	1.00	950.00	950.00	0.00	0.00	#DIV/0!
Rantau Panjang	-	60	0.00	0.00	#DIV/0!	0.07	500.00	7,042.25	18.89	5,073.00	268.55	0.50	216.00	432.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.01	125.00	23,148.15	0.00	0.00	#DIV/0!
Batu Barat	-	120	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	17.82	16,279.00	913.42	21.98	19,687.50	895.82	0.00	0.00	#DIV/0!	0.80	0.00	0.00	0.78	15,077.00	19,230.87	0.00	0.00	#DIV/0!
Matan Jaya	-	90	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.18	1,202.50	551.61	11.31	6,690.00	591.36	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	15.60	24,352.00	1,561.03	0.00	0.00	#DIV/0!
Teluk Bayur	-	40	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	22.20	13,100.00	590.09	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	6.00	4,000.00	666.67	0.00	0.00	#DIV/0!
Sempurna	-	80	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	25.96	9,844.00	379.17	3.72	980.00	263.44	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.00	150.00	150.00	0.00	0.00	#DIV/0!
Jago Bersatu	-	25	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	19.50	6,500.00	333.33	1.00	450.00	450.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Penjawaan	-	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Pangkalan Telok	-	90	0.20	1,000.00	5,000.00	0.00	0.00	#DIV/0!	2.00	384.00	192.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Laman Satong	-	90	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	16.29	10,148.00	622.96	8.00	2,000.00	250.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	4.30	4,000.00	930.23	0.10	50.00	500.00

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Corn			Cassava			Wet land paddy			Dry land paddy			Soybean			Coconut palm			Durian			Banana		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Riam Berasap	Pangkalan Tapang	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.12	2,240.00	2,000.00	0.68	1,160.00	1,705.88	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	3.75	5,560.00	1,482.17	0.00	0.00	#DIV/0!
	Pematang Baros	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	5.39	4,000.00	742.80	5.81	3,470.00	597.55	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Simpang Tiga	Semanai	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	4.74	5,516.00	1,164.03	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.14	100.00	714.29	0.70	800.00	1,142.86	0.00	0.00	#DIV/0!
	Parit Bugis	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	5.19	2,750.00	529.87	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Sejahtera	Sungai Belit	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	8.56	3,347.00	391.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.11	100.00	934.58	0.00	0.00	#DIV/0!
	Melinsum	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	7.30	2,415.00	330.69	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.57	2,250.00	875.49	0.00	60.00	60,000.00
	Tanjung Gunung	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	10.69	7,048.00	659.37	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.34	650.00	277.28	0.00	0.00	#DIV/0!
Pampang Harapan	Pasir Mayang	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.80	1,000.00	1,250.00	2.51	2,011.50	801.39
	Segua	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	29.59	17,471.00	590.44	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.26	1,100.00	4,230.77	0.59	1,920.00	3,248.73
	Pampang	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.22	1,015.00	457.21	1.00	1,200.00	1,200.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	17.70	10,015.00	565.75	0.00	0.00	#DIV/0!
Pangkalan Buton	Simpang Empat	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.76	3,388.00	4,481.48	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.45	3,500.00	7,777.78	0.00	0.00	#DIV/0!
	Tanjung Belimbing	30	0.25	20.00	80.00	0.00	0.00	#DIV/0!	6.46	27,032.00	4,182.91	0.50	480.00	960.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.25	1,000.00	4,000.00	0.00	0.00	#DIV/0!
	Sungai Galik	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	10.02	39,686.00	3,960.52	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Air Pauh	30	0.00	0.00	#DIV/0!	0.03	250.00	9,259.26	15.52	26,968.00	1,738.18	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.43	4,300.00	10,000.00	0.03	800.00	26,666.67
Sutera	Sukadana	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.13	300.00	2,400.00
	Payak Itam	20	0.00	0.00	#DIV/0!	0.02	200.00	10,000.00	6.94	18,826.00	2,713.07	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Gunung Sembilan	Nirmala	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.92	6,490.00	3,380.21	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.50	3,450.00	1,380.00	0.00	0.00	#DIV/0!
	Tambak Lawang	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.72	8,302.00	3,052.21	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	4.25	1,925.00	452.94	0.25	1,350.00	5,400.00
	Sebadal	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	3.45	5,817.00	1,685.60	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	25.86	5,550.00	214.62	4.14	54,035.00	13,067.71
Benawai Agung	Munting	30	0.00	0.00	#DIV/0!	0.14	200.00	1,428.57	18.10	34,958.00	1,930.89	0.25	375.00	1,500.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	26.26	1,260.00	47.98	0.14	40.00	285.71
	Semanjak	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	5.31	14,632.00	2,753.38	3.23	4,100.00	1,269.35	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	300.00	600.00	0.00	0.00	#DIV/0!
	Pelerang	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	7.33	16,050.00	2,189.03	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.09	625.00	6,944.44	0.00	0.00	#DIV/0!
Sedahan Jaya	Sawah	30	1.00	2,800.00	2,800.00	2.00	7,000.00	3,500.00	21.84	55,900.00	2,559.73	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	700.00	1,400.00	0.00	0.00	#DIV/0!
	Sidorejo	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	30.00	77,700.00	2,590.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Tanjung Banjar	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	30.50	105,750.00	3,467.21	0.00	0.00	#DIV/0!	0.50	600.00	1,200.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Begasing	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	39.09	76,320.00	1,952.42	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	250.00	500.00	0.00	0.00	#DIV/0!
Rantau Panjang	Makmur	20	0.00	0.00	#DIV/0!	0.07	500.00	7,042.25	7.64	3,068.00	401.57	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.01	125.00	23,148.15	0.00	0.00	#DIV/0!
	Sinar Palung	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Kebal Manuk	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	4.75	175.00	36.84	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Sinar Selatan	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	5.50	1,830.00	332.73	0.50	216.00	432.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Batu Barat	Matan Raya	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	4.43	3,105.00	700.27	9.43	6,240.00	661.72	0.00	0.00	#DIV/0!	0.80	0.00	0.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Sepakat	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	7.80	8,666.00	1,111.03	6.06	6,615.00	1,091.22	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Telok Aur	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	3.43	3,328.00	970.83	2.66	1,495.00	561.61	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.56	77.00	137.75	0.00	0.00	#DIV/0!
	Rembayan	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.16	1,180.00	546.30	3.82	5,337.50	1,396.15	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.23	15,000.00	66,666.67	0.00	0.00	#DIV/0!
Matan Jaya	Matan	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.90	750.00	833.33	9.16	5,500.00	600.44	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.00	2,900.00	1,450.00	0.00	0.00	#DIV/0!
	Jelutung	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.50	800.00	533.33	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	5.00	1,250.00	250.00	0.00	0.00	#DIV/0!
	Air Manis	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.28	452.50	353.52	0.65	390.00	597.24	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	8.60	20,202.00	2,349.07	0.00	0.00	#DIV/0!
Teluk Bayur	Tanjung Harapan Baru	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	7.80	6,800.00	871.79	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	4.00	3,000.00	750.00	0.00	0.00	#DIV/0!
	Bayur Indah	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	14.40	6,300.00	437.50	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.00	1,000.00	500.00	0.00	0.00	#DIV/0!
Sempurna	Sawah Sebokor	40	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	19.28	6,671.00	346.06	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.00	150.00	150.00	0.00	0.00	#DIV/0!
	Sempurna	40	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	6.69	3,173.00	474.64	3.72	980.00	263.44	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Jago Bersatu	Sepakat	15	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	16.50	5,450.00	330.30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Bersatu	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	3.00	1,050.00	350.00	1.00	450.00	450.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Penjawaan	Kinun	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Harapan Baru	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Pangkalan Telok	Teluk Parak	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Cali	30	0.20	1,000.00	5,000.00	0.00	0.00	#DIV/0!	1.00	150.00	150.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Pangkalan Jihing	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.00	234.00	234.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Laman Satong	Manjau	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	8.79	7,118.00	809.78	0.50	200.00	400.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Kepayang	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	5.00	1,986.00	397.20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Nek Doyan	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.50	1,044.00	417.60	7.50	1,800.00	240.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	4.30	4,000.00	930.23	0.10	50.00	500.00

07 Crops

【 All 】

Village	Sub-Village	Number of Sample	Leaf vegetables			Rubber			Oil palm			Coffee			Mango			Others (Specify)		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
-	-	1,275	8.83	22,780.00	2,581.30	630.20	644,747.52	1,023.08	56.50	487,446.00	8,627.36	5.64	1,427.00	252.92	3.18	5,170.00	1,625.79	21.51	31,677.00	1,472.87

【 Village 】

Village	Sub-Village	Number of Sample	Leaf vegetables			Rubber			Oil palm			Coffee			Mango			Others (Specify)		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Riam Berasap	-	60	0.88	1,120.00	1,272.73	12.93	4,090.00	316.29	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Simpang Tiga	-	30	0.00	0.00	#DIV/0!	13.78	11,758.00	853.14	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Sejahtera	-	70	0.00	0.00	#DIV/0!	20.19	30,657.00	1,518.80	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.04	350.00	171.57	0.00	0.00	#DIV/0!
Pampang Harapan	-	80	2.08	2,070.00	995.19	11.00	7,275.00	661.36	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.20	150.00	750.00	3.69	6,892.00	1,866.23
Pangkalan Buton	-	120	0.60	7,125.00	11,974.79	13.25	9,880.00	745.66	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.01	600.00	60,000.00
Sutera	-	40	0.20	5,950.00	30,512.82	0.40	800.00	2,000.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.19	1,500.00	7,894.74	0.00	0.00	#DIV/0!
Gunung Sembilan	-	60	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.25	170.00	680.00	0.00	0.00	#DIV/0!
Benawai Agung	-	70	0.00	0.00	#DIV/0!	14.12	19,220.00	1,361.67	0.00	0.00	#DIV/0!	0.07	0.00	0.00	0.00	0.00	#DIV/0!	2.00	500.00	250.00
Sedahan Jaya	-	120	0.75	800.00	1,066.67	1.45	0.00	0.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	3,000.00	6,000.00	0.00	0.00	#DIV/0!
Rantau Panjang	-	60	2.13	3,690.00	1,736.47	63.24	52,738.00	833.93	0.00	0.00	#DIV/0!	3.47	717.00	206.63	0.00	0.00	#DIV/0!	2.75	11,950.00	4,339.14
Batu Barat	-	120	0.00	0.00	#DIV/0!	51.84	40,821.52	787.42	2.50	6,000.00	2,400.00	1.10	630.00	572.73	0.00	0.00	#DIV/0!	12.75	11,700.00	917.65
Matan Jaya	-	90	1.20	1,500.00	1,250.00	55.23	5,225.00	94.60	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Teluk Bayur	-	40	0.00	0.00	#DIV/0!	63.80	113,564.00	1,780.00	48.00	428,700.00	8,931.25	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Sempurna	-	80	0.00	0.00	#DIV/0!	92.37	174,490.00	1,889.03	4.00	34,746.00	8,686.50	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Jago Bersatu	-	25	0.00	0.00	#DIV/0!	33.50	51,340.00	1,532.54	2.00	18,000.00	9,000.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Penjawaan	-	30	0.00	0.00	#DIV/0!	85.00	31,869.00	374.93	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Pangkalan Telok	-	90	0.50	400.00	800.00	58.50	60,406.00	1,032.58	0.00	0.00	#DIV/0!	1.00	80.00	80.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Laman Satong	-	90	0.50	125.00	250.00	39.60	30,614.00	773.08	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.30	35.00	116.67

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Leaf vegetables			Rubber			Oil palm			Coffee			Mango			Others (Specify)		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Riam Berasap	Pangkalan Tapang	30	0.06	120.00	2,000.00	3.83	70.00	18.27	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Pematang Baros	30	0.82	1,000.00	1,219.51	9.10	4,020.00	441.76	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Simpang Tiga	Semanai	10	0.00	0.00	#DIV/0!	1.50	720.00	480.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Parit Bugis	20	0.00	0.00	#DIV/0!	12.28	11,038.00	898.71	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Sejahtera	Sungai Belit	30	0.00	0.00	#DIV/0!	0.76	3.00	3.95	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Melinsum	20	0.00	0.00	#DIV/0!	4.83	299.00	61.90	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.04	350.00	171.57	0.00	0.00	#DIV/0!
	Tanjung Gunung	20	0.00	0.00	#DIV/0!	14.60	30,355.00	2,079.82	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Pampang Harapan	Pasir Mayang	20	0.08	800.00	10,000.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.50	2,942.00	1,176.80
	Segua	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.20	150.00	750.00	0.69	3,750.00	5,411.26
	Pampang	30	2.00	1,270.00	635.00	11.00	7,275.00	661.36	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	200.00	400.00
Pangkalan Buton	Simpang Empat	30	0.00	0.00	#DIV/0!	1.50	1,024.00	682.67	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Tanjung Belimbing	30	0.26	325.00	1,250.00	9.00	5,096.00	566.22	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.01	600.00	60,000.00
	Sungai Galik	30	0.25	1,500.00	6,000.00	1.00	1,620.00	1,620.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Air Pauh	30	0.09	5,300.00	62,352.94	1.75	2,140.00	1,222.86	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Sutera	Sukadana	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Payak Itam	20	0.20	5,950.00	30,512.82	0.40	800.00	2,000.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.19	1,500.00	7,894.74	0.00	0.00	#DIV/0!
Gunung Sembilan	Nirmala	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Tambak Lawang	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.25	170.00	680.00	0.00	0.00	#DIV/0!
	Sebadal	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Benawai Agung	Munting	30	0.00	0.00	#DIV/0!	0.50	1,920.00	3,840.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Semanjak	30	0.00	0.00	#DIV/0!	13.38	16,340.00	1,221.68	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.00	500.00	250.00
	Pelerang	10	0.00	0.00	#DIV/0!	0.24	960.00	4,000.00	0.00	0.00	#DIV/0!	0.07	0.00	0.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Sedahan Jaya	Sawah	30	0.00	0.00	#DIV/0!	0.70	0.00	0.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	3,000.00	6,000.00	0.00	0.00	#DIV/0!
	Sidorejo	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Tanjung Banjar	30	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Begasing	30	0.75	800.00	1,066.67	0.75	0.00	0.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Rantau Panjang	Makmur	20	0.00	0.00	#DIV/0!	19.24	22,032.00	1,145.11	0.00	0.00	#DIV/0!	3.47	717.00	206.63	0.00	0.00	#DIV/0!	0.00	1,200.00	300,000.00
	Sinar Palung	10	0.13	240.00	1,920.00	19.75	8,920.00	451.65	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	400.00	800.00
	Kebal Manuk	10	0.50	1,300.00	2,600.00	7.25	4,440.00	612.41	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.25	10,350.00	4,600.00
	Sinar Selatan	20	1.50	2,150.00	1,433.33	17.00	17,346.00	1,020.35	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Batu Barat	Matan Raya	30	0.00	0.00	#DIV/0!	8.52	2,884.00	338.46	0.50	6,000.00	12,000.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Sepakat	30	0.00	0.00	#DIV/0!	20.36	10,898.52	535.37	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Telok Aur	30	0.00	0.00	#DIV/0!	14.77	15,574.00	1,054.79	2.00	0.00	0.00	0.70	180.00	257.14	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Rembayan	30	0.00	0.00	#DIV/0!	8.20	11,465.00	1,398.26	0.00	0.00	#DIV/0!	0.40	450.00	1,125.00	0.00	0.00	#DIV/0!	12.75	11,700.00	917.65
Matan Jaya	Matan	30	1.00	300.00	300.00	24.83	1,610.00	64.83	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Jelutung	30	0.20	1,200.00	6,000.00	23.40	2,095.00	89.53	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Air Manis	30	0.00	0.00	#DIV/0!	7.00	1,520.00	217.14	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Teluk Bayur	Tanjung Harapan Baru	20	0.00	0.00	#DIV/0!	13.10	50,620.00	3,864.12	20.00	175,500.00	8,775.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Bayur Indah	20	0.00	0.00	#DIV/0!	50.70	62,944.00	1,241.50	28.00	253,200.00	9,042.86	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Sempurna	Sawah Sebokor	40	0.00	0.00	#DIV/0!	43.32	61,312.00	1,415.33	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Sempurna	40	0.00	0.00	#DIV/0!	49.05	113,178.00	2,307.40	4.00	34,746.00	8,686.50	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Jago Bersatu	Sepakat	15	0.00	0.00	#DIV/0!	21.50	42,080.00	1,957.21	2.00	18,000.00	9,000.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Bersatu	10	0.00	0.00	#DIV/0!	12.00	9,260.00	771.67	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Penjawaan	Kinun	20	0.00	0.00	#DIV/0!	72.50	21,289.00	293.64	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Harapan Baru	10	0.00	0.00	#DIV/0!	12.50	10,580.00	846.40	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Pangkalan Telok	Teluk Parak	30	0.50	400.00	800.00	8.50	7,648.00	899.76	0.00	0.00	#DIV/0!	1.00	80.00	80.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Cali	30	0.00	0.00	#DIV/0!	25.00	31,339.00	1,253.56	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Pangkalan Jihing	30	0.00	0.00	#DIV/0!	25.00	21,419.00	856.76	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Laman Satong	Manjau	30	0.50	125.00	250.00	23.60	16,744.00	709.49	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Kepayang	30	0.00	0.00	#DIV/0!	5.00	9,020.00	1,804.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Nek Doyan	30	0.00	0.00	#DIV/0!	11.00	4,850.00	440.91	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.30	35.00	116.67

08 Historical

【 All 】

Village	Sub-Village	Number of Sample	Logging individua												Logging company											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	1,275	125	118	117	105	89	79	65	56	49	51	51	50	5	5	5	7	20	19	13	12	13	12	12	12

【 Village 】

Village	Sub-Village	Number of Sample	Logging individua												Logging company											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	-	60	13	12	11	7	5	5	5	4	3	3	1	1	3	3	3	4	4	4	1	1	1	0	0	0
Simpang Tiga	-	30	3	3	3	3	3	3	3	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	-	70	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	-	80	9	9	9	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	-	120	4	4	5	5	4	4	3	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Sutera	-	40	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	-	60	10	10	9	8	8	8	9	10	9	9	9	9	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	-	70	9	9	9	9	8	5	2	1	0	1	2	1	1	1	1	1	1	1	0	0	0	0	0	0
Sedahan Jaya	-	120	11	10	9	10	5	5	5	1	1	3	3	3	0	0	0	1	3	2	1	0	0	0	0	0
Rantau Panjang	-	60	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	-	120	26	25	24	22	17	13	2	2	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
Matan Jaya	-	90	15	15	15	12	11	7	7	6	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	-	80	2	0	1	1	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	-	30	12	12	12	12	12	12	12	12	12	12	12	12	0	0	0	0	11	11	11	11	11	11	11	11
Pangkalan Telok	-	90	6	5	6	5	5	5	5	4	4	4	6	6	0	0	0	0	0	0	0	0	1	1	1	1
Laman Satong	-	90	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Logging individua												Logging company											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	Pangkalan Tapang	30	8	7	6	5	5	5	5	4	3	3	1	1	3	3	3	3	3	3	1	1	1	0	0	0
	Pematang Baros	30	5	5	5	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
Simpang Tiga	Semanai	10	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parit Bugis	20	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Segua	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pampang	30	9	9	9	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	3	3	3	3	3	3	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Sungai Galik	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Pauh	30	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0
	Sebadal	20	2	2	2	2	2	2	3	4	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	6	6	6	6	5	4	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semanjak	30	3	3	3	3	3	1	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	7	7	6	5	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Sidorejo	30	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	1	1	2	3	0	0	1	1	0	0	0	0	0	1	3	2	1	0	0	0	0
	Begasing	30	3	2	2	3	3	2	1	1	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Rantau Panjang	Makmur	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Palung	10	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Selatan	20	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	Matan Raya	30	12	11	11	10	8	7	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
	Sepakat	30	6	6	6	6	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Telok Aur	30	6	6	5	4	2	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rembayan	30	2	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Matan Jaya	Matan	30	3	3	3	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Jelutung	30	4	4	4	4	3	1	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
	Air Manis	30	8	8	8	6	6	5	4	3	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bayur Indah	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sempurna	40	2	0	1	1	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	12	12	12	12	12	12	12	12	12	12	12	12	0	0	0	0	11	11	11	11	11	11	11	11
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	1	1	1	1	1	1	1	1	1	1	2	2	0	0	0	0	0	0	0	0	1	1	1	1
	Cali	30	5	4	5	4	4	4	4	3	3	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laman Satong	Manjau	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kepayang	30	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Nek Doyan	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

08 Historical

【 All 】

Village	Sub-Village	Number of Sample	Shifting cultivation(upland rice)												Wetland Paddy rice											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	1,275	229	230	233	236	240	235	238	222	220	206	201	199	529	531	548	556	582	584	591	597	603	595	596	593

【 Village 】

Village	Sub-Village	Number of Sample	Shifting cultivation(upland rice)												Wetland Paddy rice											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	-	60	20	20	20	18	19	19	18	16	16	15	17	17	13	13	13	12	12	13	13	12	12	12	12	12
Simpang Tiga	-	30	0	0	0	0	0	0	0	0	0	0	0	0	26	26	26	25	25	27	27	27	27	25	25	25
Sejahtera	-	70	2	2	2	2	3	3	3	2	3	2	2	2	34	35	35	36	36	37	38	38	39	38	38	38
Pampang Harapan	-	80	15	15	15	16	17	16	15	15	16	16	16	16	32	32	32	32	33	33	35	36	37	35	36	35
Pangkalan Buton	-	120	2	2	1	1	1	1	2	2	1	1	1	1	56	56	56	55	56	57	58	61	62	63	66	66
Sutera	-	40	0	0	0	0	0	0	0	0	0	0	0	1	12	12	12	12	13	13	15	15	15	15	15	15
Gunung Sembilan	-	60	1	1	2	1	1	1	1	1	0	0	0	0	25	25	25	26	27	27	29	29	29	29	30	30
Benawai Agung	-	70	2	1	1	0	0	0	0	0	0	0	0	0	43	44	44	45	48	48	49	50	53	53	54	53
Sedahan Jaya	-	120	0	0	0	0	0	0	0	0	0	0	0	0	100	99	101	101	107	108	108	110	110	109	109	110
Rantau Panjang	-	60	6	7	5	7	7	7	7	7	8	8	8	7	5	5	18	24	33	28	23	24	23	23	18	16
Batu Barat	-	120	7	7	7	7	7	7	6	6	8	7	7	7	70	70	69	69	72	71	70	68	67	66	66	65
Matan Jaya	-	90	44	43	44	47	47	44	47	42	40	39	36	36	8	8	9	9	9	9	10	9	10	10	10	10
Teluk Bayur	-	40	3	1	3	1	3	1	3	1	3	2	2	3	23	23	23	23	23	24	24	24	24	24	24	24
Sempurna	-	80	9	9	9	9	9	10	10	10	10	10	10	10	34	35	37	39	40	42	43	44	46	46	46	46
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	0	0	0	18	18	18	18	18	17	17	17	17	17	17	17
Penjawaan	-	30	16	16	16	16	16	16	16	16	16	16	15	14	1	1	1	1	1	1	1	1	1	1	1	1
Pangkalan Telok	-	90	58	61	63	65	64	64	64	60	60	53	53	52	3	3	3	3	3	3	4	4	4	3	3	4
Laman Satong	-	90	44	45	45	46	46	46	46	44	39	37	34	33	26	26	26	26	26	26	27	28	27	26	26	26

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Shifting cultivation(upland rice)												Wetland Paddy rice											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	Pangkalan Tapang	30	5	5	6	5	5	5	6	6	7	6	7	7	10	10	10	9	9	10	10	9	9	9	9	9
	Pematang Baros	30	15	15	14	13	14	14	12	10	9	9	10	10	3	3	3	3	3	3	3	3	3	3	3	3
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	0	0	9	9	9	9	9	9	9	9	8	8	8	8
	Parit Bugis	20	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	16	16	18	18	18	19	17	17	17
Sejahtera	Sungai Belit	30	1	1	1	1	2	2	2	1	2	1	1	1	10	11	11	11	11	12	12	12	12	12	12	13
	Melinsum	20	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	7	7	8	8	9	9	9	8
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	18	18	18	18	18	18	17	17	17
Pampang Harapan	Pasir Mayang	20	2	2	2	2	2	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	1	1	1
	Segua	30	0	0	0	0	0	0	0	0	0	0	0	0	23	23	23	23	24	24	25	26	27	27	28	28
	Pampang	30	13	13	13	14	15	15	14	14	15	15	15	15	7	7	7	7	7	7	7	7	7	7	7	6
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Tanjung Belimbing	30	1	1	1	1	1	1	2	2	1	1	1	1	15	15	15	14	15	15	15	17	17	17	18	18
	Sungai Galik	30	0	0	0	0	0	0	0	0	0	0	0	0	21	21	21	21	21	21	22	22	23	24	25	25
	Air Pauh	30	1	1	0	0	0	0	0	0	0	0	0	0	19	19	19	19	19	20	20	21	21	21	22	22
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0	0	0	0	1	12	12	12	12	13	13	15	15	15	15	15	15
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	8	8	8	9	9	9	9	10	10
	Tambak Lawang	20	0	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8	8	8	9	9	9	9	9	9
	Sebadal	20	1	1	2	1	1	1	1	1	0	0	0	0	10	10	10	10	11	11	11	11	11	11	11	11
Benawai Agung	Munting	30	2	1	1	0	0	0	0	0	0	0	0	0	20	20	20	20	22	22	22	21	22	22	22	21
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	0	0	15	16	16	16	17	17	18	19	21	21	22	22
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	8	8	8	9	9	9	9	10	10	10	10	10
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	0	0	0	22	22	22	22	25	26	26	26	27	26	26	26
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	0	0	24	24	24	24	25	25	25	27	26	26	25	26
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	0	0	29	28	28	28	29	29	29	29	29	30	30	30
	Begasing	30	0	0	0	0	0	0	0	0	0	0	0	0	25	25	27	27	28	28	28	28	28	27	28	28
Rantau Panjang	Makmur	20	6	7	5	5	5	5	5	5	6	6	6	5	5	5	6	6	8	8	9	9	7	7	8	6
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	4	2	1	1	2	2	1	1
	Kebal Manuk	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6	7	7	7	7	6	6	4	4
	Sinar Selatan	20	0	0	0	2	2	2	2	2	2	2	2	2	0	0	4	6	14	11	6	7	8	8	5	5
Batu Barat	Matan Raya	30	3	3	3	3	3	3	2	2	2	1	1	1	22	22	22	21	23	23	23	24	23	24	23	23
	Sepakat	30	1	1	1	1	1	1	1	1	2	2	2	2	22	22	21	21	21	20	20	20	20	19	20	19
	Telok Aur	30	2	2	2	2	2	2	2	2	2	2	2	2	16	16	16	16	17	16	15	14	14	13	13	13
	Rembayan	30	1	1	1	1	1	1	1	1	2	2	2	2	10	10	10	11	11	12	12	10	10	10	10	10
Matan Jaya	Matan	30	15	14	14	14	15	14	15	13	12	12	9	9	3	3	4	4	4	5	5	5	6	6	6	6
	Jelutung	30	19	19	20	22	21	20	21	19	18	17	18	18	1	1	1	1	1	1	1	0	0	0	0	0
	Air Manis	30	10	10	10	11	11	10	11	10	10	10	9	9	4	4	4	4	4	3	4	4	4	4	4	4
Teluk Bayur	Tanjung Harapan Baru	20	3	1	3	1	3	1	3	1	3	2	2	3	9	9	9	9	9	10	10	10	10	10	10	10
	Bayur Indah	20	0	0	0	0	0	0	0	0	0	0	0	0	14	14	14	14	14	14	14	14	14	14	14	14
Sempurna	Sawah Sebokor	40	3	3	3	3	3	3	3	3	3	3	3	3	21	22	24	26	26	27	28	29	30	30	30	30
	Sempurna	40	6	6	6	6	6	7	7	7	7	7	7	7	13	13	13	13	14	15	15	15	16	16	16	16
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	0	0	11	11	11	11	11	11	11	11	11	11	11	11
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7	7	6	6	6	6	6	6	6
Penjawaan	Kinun	20	13	13	13	13	13	13	13	13	13	13	12	11	1	1	1	1	1	1	1	1	1	1	1	1
	Harapan Baru	10	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	16	17	17	17	17	17	17	13	13	7	7	6	0	0	0	0	0	0	0	0	0	0	0	0
	Cali	30	20	21	21	22	20	20	20	20	20	19	19	19	2	2	2	2	2	2	3	3	3	2	2	2
	Pangkalan Jihing	30	22	23	25	26	27	27	27	27	27	27	27	27	1	1	1	1	1	1	1	1	1	1	1	2
Laman Satong	Manjau	30	6	6	6	6	6	6	6	4	2	2	2	2	20	20	20	20	20	20	21	21	20	20	20	20
	Kepayang	30	17	18	18	19	18	18	18	18	15	14	12	11	5	5	5	5	5	5	5	6	6	5	4	4
	Nek Doyan	30	21	21	21	21	22	22	22	22	22	21	20	20	1	1	1	1	1	1	1	1	1	1	2	2

08 Historical

【 All 】

Village	Sub-Village	Number of Sample	Installing irrigation system												NTFP collection											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	1,275	62	62	61	66	64	65	68	70	73	77	85	97	268	268	276	279	288	296	302	309	320	326	344	347

【 Village 】

Village	Sub-Village	Number of Sample	Installing irrigation system												NTFP collection											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	-	60	1	1	1	1	0	1	1	1	1	1	1	1	12	12	12	12	12	12	12	12	13	13	13	14
Simpang Tiga	-	30	3	3	3	5	5	5	5	5	5	5	5	7	2	2	2	2	2	2	2	2	2	1	1	1
Sejahtera	-	70	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2
Pampang Harapan	-	80	15	15	15	15	15	15	16	16	17	17	17	17	25	25	25	25	25	25	25	25	26	26	27	28
Pangkalan Buton	-	120	8	8	8	8	8	8	8	9	10	12	13	13	20	19	18	17	16	19	21	20	19	19	25	25
Sutera	-	40	7	7	7	7	7	7	7	7	7	8	8	9	5	5	5	5	6	6	6	6	6	6	6	6
Gunung Sembilan	-	60	23	23	23	25	25	25	27	27	28	28	29	30	16	17	15	16	18	16	16	19	17	18	24	24
Benawai Agung	-	70	2	2	2	2	2	2	2	2	2	2	2	2	10	10	10	10	10	10	10	13	13	13	14	14
Sedahan Jaya	-	120	1	1	1	2	1	1	1	1	1	1	1	1	36	35	38	38	39	41	41	42	41	42	43	43
Rantau Panjang	-	60	1	0	0	0	0	0	0	0	0	0	0	0	8	10	16	20	22	23	24	26	28	29	29	29
Batu Barat	-	120	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	17	17	18	16	16	18	20	20	20
Matan Jaya	-	90	1	1	1	1	1	1	1	2	2	2	2	2	36	35	38	37	39	41	44	42	49	50	53	53
Teluk Bayur	-	40	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7	7	7	7	7	7	8	8	8
Sempurna	-	80	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	4	5	5	5	5	5	5	5
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	3	3	3	4	4	4	4
Penjawaan	-	30	0	0	0	0	0	0	0	0	0	1	7	7	16	16	16	16	16	16	16	16	16	16	16	16
Pangkalan Telok	-	90	0	0	0	0	0	0	0	0	0	0	0	0	7	7	6	6	7	7	7	8	8	8	8	8
Laman Satong	-	90	0	0	0	0	0	0	0	0	0	0	0	7	43	43	43	43	44	44	46	46	46	46	46	47

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Installing irrigation system												NTFP collection											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	Pangkalan Tapang	30	0	0	0	0	0	0	0	0	0	0	0	0	12	12	12	12	12	12	12	12	13	13	13	14
	Pematang Baros	30	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Simpang Tiga	Semanai	10	3	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1
	Parit Bugis	20	0	0	0	2	2	2	2	2	2	2	2	4	1	1	1	1	1	1	1	1	1	0	0	0
Sejahtera	Sungai Belit	30	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
	Melinsum	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
	Segua	30	15	15	15	15	15	15	16	16	17	17	17	17	1	1	1	1	1	1	1	1	2	2	2	2
	Pampang	30	0	0	0	0	0	0	0	0	0	0	0	0	24	24	24	24	24	24	24	24	24	24	24	24
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5	4	4	5	4	5	5	4	6	6
	Tanjung Belimbing	30	3	3	3	3	3	3	3	3	3	4	4	4	8	8	7	6	6	8	8	6	6	7	10	10
	Sungai Galik	30	2	2	2	2	2	2	2	2	3	4	5	5	0	0	0	0	0	0	0	0	0	0	0	0
	Air Pauh	30	3	3	3	3	3	3	3	4	4	4	4	4	7	6	6	7	6	6	9	9	8	8	9	9
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Payak Itam	20	7	7	7	7	7	7	7	7	7	8	8	9	4	4	4	4	5	5	5	5	5	5	5	5
Gunung Sembilan	Nirmala	20	7	7	7	8	8	8	9	9	9	9	10	10	3	3	3	2	4	3	3	4	3	2	5	5
	Tambak Lawang	20	8	8	8	8	8	8	9	9	9	9	9	9	1	2	1	2	3	2	1	3	2	1	4	4
	Sebadal	20	8	8	8	9	9	9	9	9	10	10	10	11	12	12	11	12	11	11	12	12	12	15	15	15
Benawai Agung	Munting	30	2	2	2	2	2	2	2	2	2	2	2	2	6	6	6	6	6	6	6	9	9	9	9	9
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	3	3
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	0	0	0	9	9	9	9	9	9	9	10	10	10	10	10
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	2	2	2	2	2	2
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	0	0	6	5	6	6	7	7	7	7	6	7	7	7
	Begasing	30	1	1	1	2	1	1	1	1	1	1	1	1	20	20	21	21	21	23	23	23	23	23	24	24
Rantau Panjang	Makmur	20	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7	8	9	9	9	9	9	9	9
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	5	5	5	6	6	7	7	7	7
	Kebal Manuk	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	3	4	5	5	5	5
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	6	6	6	6	7	7	8	8	8
Batu Barat	Matan Raya	30	0	0	0	0	0	0	0	0	0	0	0	0	6	6	6	6	6	6	5	5	5	5	5	5
	Sepakat	30	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	3	2	2	4	5	5	5
	Telok Aur	30	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	5	5	5
	Rembayan	30	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	4	4	4	4	4	5	5	5
Matan Jaya	Matan	30	1	1	1	1	1	1	1	1	1	1	1	1	11	11	13	12	12	13	14	13	15	16	17	17
	Jelutung	30	0	0	0	0	0	0	0	1	1	1	1	1	11	11	11	12	13	14	14	14	14	14	15	15
	Air Manis	30	0	0	0	0	0	0	0	0	0	0	0	0	14	13	14	13	14	14	16	15	20	20	21	21
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	6	6	6
	Bayur Indah	20	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2
Sempurna	Sawah Sebokor	40	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	4	5	5	5	5	5	5	5
	Sempurna	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3
Penjawaan	Kinun	20	0	0	0	0	0	0	0	0	0	1	7	7	10	10	10	10	10	10	10	10	10	10	10	10
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6
Pangkalan Telok	Teluk Parak	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Cali	30	0	0	0	0	0	0	0	0	0	0	0	0	6	6	5	5	6	6	6	7	7	7	7	7
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laman Satong	Manjau	30	0	0	0	0	0	0	0	0	0	0	0	7	21	21	21	21	22	22	23	23	23	23	23	23
	Kepayang	30	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	4	4	5	5	5	5	5	5
	Nek Doyan	30	0	0	0	0	0	0	0	0	0	0	0	0	18	18	18	18	18	18	18	18	18	18	18	19

08 Historical

【 All 】

Village	Sub-Village	Number of Sample	Hunting												Wage labor (Farming)											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	1,275	24	22	23	22	21	21	19	20	24	23	23	24	58	60	65	69	77	78	82	84	94	100	103	105

【 Village 】

Village	Sub-Village	Number of Sample	Hunting												Wage labor (Farming)											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	3	3	2	3
Simpang Tiga	-	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Sejahtera	-	70	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	-	80	3	2	2	1	1	1	1	1	1	1	1	1	7	7	7	7	7	7	7	7	9	10	13	13
Pangkalan Buton	-	120	1	1	1	1	1	1	1	1	1	1	1	1	6	6	6	6	7	7	7	6	7	7	7	6
Sutera	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Gunung Sembilan	-	60	0	0	0	0	0	0	0	1	1	1	1	1	5	5	5	5	5	6	6	7	7	7	8	8
Benawai Agung	-	70	1	1	1	0	0	0	0	0	0	0	0	0	2	3	3	3	3	2	2	2	5	7	8	8
Sedahan Jaya	-	120	2	1	1	1	1	2	2	2	4	3	3	3	33	33	34	35	37	37	37	38	38	39	39	40
Rantau Panjang	-	60	1	1	1	1	1	1	1	1	1	1	1	1	0	0	5	7	8	7	7	7	7	8	8	8
Batu Barat	-	120	1	1	1	1	1	2	1	1	1	1	1	1	3	3	3	3	3	3	5	5	5	5	4	4
Matan Jaya	-	90	6	6	6	5	5	4	4	4	5	5	5	5	0	0	0	1	2	2	2	2	2	4	4	4
Teluk Bayur	-	40	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Sempurna	-	80	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	2
Penjawaan	-	30	3	3	3	3	2	1	1	1	2	2	2	2	0	0	0	0	1	1	1	1	1	1	1	1
Pangkalan Telok	-	90	2	2	2	2	2	3	3	3	3	3	3	3	1	2	1	1	1	2	2	3	3	2	2	3
Laman Satong	-	90	4	4	5	5	5	5	5	5	5	5	5	6	0	0	0	0	1	1	1	1	2	2	2	2

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Hunting												Wage labor (Farming)											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	Pangkalan Tapang	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	Pematang Baros	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	1	2
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	Parit Bugis	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Melinsum	20	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Segua	30	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	7	7	7	7	8	9	12	12
	Pampang	30	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Pangkalan Buton	Simpang Empat	30	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2
	Sungai Galik	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Air Pauh	30	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	4	4	4	3	4	4	4	3
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2	2	2	2	3	3
	Tambak Lawang	20	0	0	0	0	0	0	0	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3
	Sebadal	20	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	2	2	2	2
Benawai Agung	Munting	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	3	3
	Semanjak	30	1	1	1	0	0	0	0	0	0	0	0	0	1	2	2	2	2	1	1	1	2	3	3	3
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	2
Sedahan Jaya	Sawah	30	0	0	0	0	0	1	1	1	2	2	2	2	11	11	11	11	14	14	13	14	13	14	14	14
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	0	0	11	11	11	12	10	10	10	10	11	11	11	12
	Tanjung Banjar	30	1	1	1	1	1	1	1	1	1	1	1	1	5	5	6	6	7	7	8	8	8	8	8	8
	Begasing	30	1	0	0	0	0	0	0	0	1	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6
Rantau Panjang	Makmur	20	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	4	4	4	4	5	5	5
Batu Barat	Matan Raya	30	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0
	Sepakat	30	0	0	0	0	0	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
	Telok Aur	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	Rembayan	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Matan Jaya	Matan	30	2	2	2	2	2	2	2	2	2	2	3	3	0	0	0	0	0	0	0	0	0	1	1	1
	Jelutung	30	3	3	3	2	2	2	2	2	3	3	2	2	0	0	0	1	1	1	1	1	1	2	2	2
	Air Manis	30	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Bayur Indah	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sempurna	40	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	2
Penjawaan	Kinun	20	3	3	3	3	2	1	1	1	2	2	2	2	0	0	0	0	1	1	1	1	1	1	1	1
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	0	0	0	0	0
	Cali	30	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	3	3	2	2
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Laman Satong	Manjau	30	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1
	Kepayang	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nek Doyan	30	3	3	4	4	4	4	4	4	4	4	4	5	0	0	0	0	1	1	1	1	1	1	1	1

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【 All 】

Village	Sub-Village	Number of Sample	Labor of oil palm plantatior												Labor of Mining company											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	1,275	9	15	17	20	40	74	105	146	185	241	262	271	11	11	13	13	13	15	18	20	24	30	37	38

【 Village 】

Village	Sub-Village	Number of Sample	Labor of oil palm plantatior												Labor of Mining company											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	-	60	1	1	1	1	2	2	2	7	11	11	14	15	0	0	0	0	0	0	1	1	2	3	3	3
Simpang Tiga	-	30	0	0	0	0	0	0	0	0	0	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	-	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	-	80	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	1	1	1	2	3	3
Pangkalan Buton	-	120	0	0	0	0	0	0	1	1	0	0	0	0	8	8	9	8	8	10	10	10	10	10	10	10
Sutera	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	-	60	0	0	0	0	0	0	0	0	0	2	3	3	0	0	0	0	0	0	0	0	0	0	0	1
Benawai Agung	-	70	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	3	2	2	2	1
Sedahan Jaya	-	120	0	0	0	0	1	1	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Rantau Panjang	-	60	1	1	2	1	1	2	2	2	1	4	5	7	1	1	2	3	3	3	3	3	4	4	4	4
Batu Barat	-	120	0	0	0	1	1	18	36	41	44	51	53	52	0	0	0	0	0	0	0	0	0	0	0	0
Matan Jaya	-	90	2	2	2	2	4	12	17	32	39	47	51	51	0	0	0	0	0	0	0	0	2	2	8	9
Teluk Bayur	-	40	1	1	1	1	4	5	8	10	13	14	14	15	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	-	80	1	1	1	2	3	7	8	11	17	17	18	18	1	1	1	1	1	1	1	2	2	2	2	2
Jago Bersatu	-	25	0	0	0	0	0	3	4	4	4	7	9	10	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	-	30	3	3	3	5	17	17	17	17	17	17	17	17	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	-	90	0	0	0	0	0	0	1	10	14	28	29	30	0	0	0	0	0	0	0	0	1	1	1	1
Laman Satong	-	90	0	6	7	7	7	7	8	9	23	38	43	45	0	0	0	0	0	0	0	0	0	4	4	4

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Labor of oil palm plantatior												Labor of Mining company											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	Pangkalan Tapang	30	1	1	1	1	1	1	1	2	4	4	7	8	0	0	0	0	0	0	1	1	2	2	2	2
	Pematang Baros	30	0	0	0	0	1	1	1	5	7	7	7	7	0	0	0	0	0	0	0	0	0	1	1	1
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	1	2	3	3
	Segua	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pampang	30	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Tanjung Belimbing	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	1	1	1	1	1	1
	Sungai Galik	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Air Pauh	30	0	0	0	0	0	0	1	1	0	0	0	0	5	5	5	5	5	7	7	7	7	7	7	7
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	0	0	0	0	0	2	3	3	0	0	0	0	0	0	0	0	0	0	0	1
	Sebadal	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	2	2	2	2	1
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Sidorejo	30	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rantau Panjang	Makmur	20	1	1	1	0	0	0	0	0	0	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
	Sinar Palung	10	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	0	1	1	1	1	1	1	1	1	1	2	0	0	1	1	1	1	1	1	1	1	1	1
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	2	3	3	0	0	0	0	1	1	1	1	2	2	2	2
Batu Barat	Matan Raya	30	0	0	0	0	0	7	13	13	15	16	17	17	0	0	0	0	0	0	0	0	0	0	0	0
	Sepakat	30	0	0	0	1	1	6	12	12	12	13	15	14	0	0	0	0	0	0	0	0	0	0	0	0
	Telok Aur	30	0	0	0	0	0	3	9	12	13	15	14	14	0	0	0	0	0	0	0	0	0	0	0	0
	Rembayan	30	0	0	0	0	0	2	2	4	4	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0
Matan Jaya	Matan	30	2	2	2	2	2	3	4	7	9	10	13	13	0	0	0	0	0	0	0	0	1	1	4	5
	Jelutung	30	0	0	0	0	0	4	6	13	15	20	20	20	0	0	0	0	0	0	0	0	1	1	3	3
	Air Manis	30	0	0	0	0	2	5	7	12	15	17	18	18	0	0	0	0	0	0	0	0	0	0	1	1
Teluk Bayur	Tanjung Harapan Baru	20	1	1	1	1	3	4	7	9	12	12	12	12	0	0	0	0	0	0	0	0	0	0	0	0
	Bayur Indah	20	0	0	0	0	1	1	1	1	1	2	2	3	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	0	0	0	0	1	3	3	4	6	6	6	6	0	0	0	0	0	0	0	1	1	1	1	1
	Sempurna	40	1	1	1	2	2	4	5	7	11	11	12	12	1	1	1	1	1	1	1	1	1	1	1	1
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	3	5	6	0	0	0	0	0	0	0	0	0	0	0	0
	Bersatu	10	0	0	0	0	0	3	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	3	3	3	5	14	14	14	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	0	0	0	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	0	0	0	0	0	0	9	12	21	21	21	0	0	0	0	0	0	0	0	1	1	1	1
	Cali	30	0	0	0	0	0	0	1	1	2	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
Laman Satong	Manjau	30	0	0	0	0	0	0	0	0	9	9	9	9	0	0	0	0	0	0	0	0	0	4	4	4
	Kepayang	30	0	0	0	0	0	0	0	0	4	11	14	13	0	0	0	0	0	0	0	0	0	0	0	0
	Nek Doyan	30	0	6	7	7	7	7	8	9	10	18	20	23	0	0	0	0	0	0	0	0	0	0	0	0

08 Historical

【 All 】

Village	Sub-Village	Number of Sample	Oil palm plantation												Rubber plantation											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	1,275	27	27	29	30	32	35	46	51	52	54	60	61	316	324	338	368	383	397	401	402	421	432	438	438

【 Village 】

Village	Sub-Village	Number of Sample	Oil palm plantation												Rubber plantation											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	-	60	1	1	1	1	1	1	1	2	2	2	2	2	7	7	7	9	10	10	11	11	11	13	15	14
Simpang Tiga	-	30	0	0	0	0	0	0	0	0	0	0	0	0	16	16	17	18	18	18	19	19	20	20	20	20
Sejahtera	-	70	0	0	0	0	0	0	0	0	0	0	0	0	19	19	19	20	20	20	20	21	21	21	21	21
Pampang Harapan	-	80	0	0	0	0	0	0	0	0	0	0	0	0	8	8	8	9	11	11	11	11	11	12	13	13
Pangkalan Buton	-	120	0	0	0	0	0	0	0	1	1	1	1	1	4	4	4	4	4	6	6	6	9	11	11	11
Sutera	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Gunung Sembilan	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	-	70	0	0	0	0	0	0	0	0	0	0	0	0	10	11	11	11	12	13	14	14	15	15	15	15
Sedahan Jaya	-	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4
Rantau Panjang	-	60	0	0	0	0	0	0	0	1	1	1	1	1	14	15	25	33	39	42	42	47	51	53	53	54
Batu Barat	-	120	1	1	1	1	2	4	15	14	15	16	19	19	33	35	36	41	40	43	42	42	47	55	56	56
Matan Jaya	-	90	0	0	0	0	0	0	0	1	1	1	2	2	10	11	11	13	14	15	16	15	19	23	23	24
Teluk Bayur	-	40	20	20	20	20	20	20	20	20	21	21	21	21	23	23	23	23	23	23	23	23	23	23	23	23
Sempurna	-	80	3	3	5	5	6	6	6	7	7	7	7	7	51	53	54	59	61	62	64	64	68	67	68	68
Jago Bersatu	-	25	1	1	1	1	1	2	2	2	2	2	2	2	16	16	16	16	16	16	15	16	15	15	15	15
Penjawaan	-	30	1	1	1	1	1	1	1	1	1	1	1	1	25	25	25	25	25	25	25	25	25	25	25	25
Pangkalan Telok	-	90	0	0	0	1	1	1	1	2	1	1	1	1	56	57	58	63	64	67	66	61	58	52	50	49
Laman Satong	-	90	0	0	0	0	0	0	0	0	0	1	3	4	24	24	24	24	26	26	27	27	27	26	25	25

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Oil palm plantation												Rubber plantation											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	Pangkalan Tapang	30	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	8	8	8	8	8	8	9	10	9
	Pematang Baros	30	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	2	2	3	3	3	4	5	5
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	2	2	2	2	2	2	2
	Parit Bugis	20	0	0	0	0	0	0	0	0	0	0	0	0	16	16	16	16	16	16	17	17	18	18	18	18
Sejahtera	Sungai Belit	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	5	5	5	5	6	6	6	6	6
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	15	15	15	15	15	15	15	15	15	15	15	15
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2
	Segua	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pampang	30	0	0	0	0	0	0	0	0	0	0	0	0	8	8	8	9	11	11	11	11	11	11	11	11
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	2	2	2	3	3	3	3
	Tanjung Belimbing	30	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	3	3	3	3
	Sungai Galik	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Air Pauh	30	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	4	4	4
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sebadal	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	0	0	9	9	9	9	10	11	12	12	13	13	13	13
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Rantau Panjang	Makmur	20	0	0	0	0	0	0	0	0	0	0	0	0	14	14	15	16	16	17	16	17	16	17	16	16
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	6	6	6	7	9	10	10	10	10
	Kebal Manuk	10	0	0	0	0	0	0	0	1	1	1	1	1	0	0	1	5	6	6	6	7	8	8	9	9
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6	11	13	13	14	17	18	18	19
Batu Barat	Matan Raya	30	0	0	0	0	1	2	3	3	4	5	6	6	2	2	2	2	2	2	3	3	4	9	10	10
	Sepakat	30	0	0	0	0	0	1	7	7	7	7	7	6	9	9	9	10	9	11	11	11	13	15	15	15
	Telok Aur	30	0	0	0	0	0	0	4	4	4	4	6	7	13	13	14	16	16	17	15	14	15	17	18	18
	Rembayan	30	1	1	1	1	1	1	1	0	0	0	0	0	9	11	11	13	13	13	13	14	15	14	13	13
Matan Jaya	Matan	30	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	4	4	4	5	5	6	9	8	9
	Jelutung	30	0	0	0	0	0	0	0	0	0	0	1	1	4	4	4	5	6	6	6	6	6	7	8	8
	Air Manis	30	0	0	0	0	0	0	0	1	1	1	1	1	4	4	4	4	4	5	5	4	7	7	7	7
Teluk Bayur	Tanjung Harapan Baru	20	6	6	6	6	6	6	6	6	7	7	7	7	6	6	6	6	6	6	6	6	6	6	6	6
	Bayur Indah	20	14	14	14	14	14	14	14	14	14	14	14	14	17	17	17	17	17	17	17	17	17	17	17	17
Sempurna	Sawah Sebokor	40	2	2	3	3	3	3	3	3	3	3	3	3	19	21	22	26	26	27	28	28	30	30	31	31
	Sempurna	40	1	1	2	2	3	3	3	4	4	4	4	4	32	32	32	33	35	35	36	36	38	37	37	37
Jago Bersatu	Sepakat	15	1	1	1	1	1	2	2	2	2	2	2	2	6	6	6	6	6	6	6	7	7	7	7	7
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	10	9	9	8	8	8	8
Penjawaan	Kinun	20	1	1	1	1	1	1	1	1	1	1	1	1	18	18	18	18	18	18	18	18	18	18	18	18
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	0	7	7	7	7	7	7	7	7	7	7	7	7
Pangkalan Telok	Teluk Parak	30	0	0	0	1	1	1	1	2	1	1	1	1	16	16	16	19	19	19	18	13	10	6	6	6
	Cali	30	0	0	0	0	0	0	0	0	0	0	0	0	17	17	17	18	18	21	21	21	20	18	18	18
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	0	0	0	23	24	25	26	27	27	27	27	28	28	26	25
Laman Satong	Manjau	30	0	0	0	0	0	0	0	0	0	0	0	0	19	19	19	19	19	19	19	19	18	17	17	17
	Kepayang	30	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	2	2	2	2	2	2	2	2
	Nek Doyan	30	0	0	0	0	0	0	0	0	0	1	2	3	3	3	3	3	5	5	6	6	7	7	6	6

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【 All 】

Village	Sub-Village	Number of Sample	Forest fire 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
-	-	1,275	290	256	244	243	259	250	253	257	260	295	283	284	286	280	280

【 Village 】

Village	Sub-Village	Number of Sample	Forest fire 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Riam Berasap	-	60	2	0	0	0	2	0	1	2	0	1	0	1	0	1	1
Simpang Tiga	-	30	4	4	4	5	15	6	6	7	7	7	8	8	9	9	9
Sejahtera	-	70	17	17	16	16	16	16	16	16	16	18	17	17	17	17	17
Pampang Harapan	-	80	20	14	14	14	14	14	14	14	15	15	15	15	15	15	15
Pangkalan Buton	-	120	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sutera	-	40	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1
Gunung Sembilan	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	-	70	10	5	3	1	1	2	3	2	4	7	7	6	2	0	0
Sedahan Jaya	-	120	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0
Rantau Panjang	-	60	2	2	6	8	9	10	11	11	11	11	13	14	13	13	14
Batu Barat	-	120	29	22	6	5	6	5	4	4	4	32	19	14	7	7	8
Matan Jaya	-	90	4	4	4	4	4	6	5	5	6	5	5	6	6	5	5
Teluk Bayur	-	40	39	39	39	39	39	39	39	39	39	39	39	40	40	40	40
Sempurna	-	80	36	34	33	33	34	34	34	33	33	33	33	33	33	33	33
Jago Bersatu	-	25	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Penjawaan	-	30	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Pangkalan Telok	-	90	35	36	37	36	37	37	39	42	41	42	42	44	42	43	42
Laman Satong	-	90	65	53	56	56	56	55	55	56	56	57	58	60	76	71	70

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Forest fire 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Riam Berasap	Pangkalan Tapang	30	2	0	0	0	2	0	1	2	0	1	0	1	0	1	1
	Pematang Baros	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
	Parit Bugis	20	4	4	4	5	15	6	6	7	7	7	7	7	8	8	8
Sejahtera	Sungai Belit	30	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2
	Melinsum	20	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2
	Tanjung Gunung	20	12	12	12	12	12	12	12	12	12	13	13	13	13	13	13
Pampang Harapan	Pasir Mayang	20	13	13	13	13	13	13	13	13	14	14	14	14	14	14	14
	Segua	30	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Pampang	30	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sungai Galik	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Air Pauh	30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sebadal	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	3	4	3	1	0	1	0	0	2	3	4	3	1	0	0
	Semanjak	30	4	1	0	0	0	0	1	0	0	2	2	2	1	0	0
	Pelerang	10	3	0	0	0	1	1	2	2	2	2	1	1	0	0	0
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Rantau Panjang	Makmur	20	2	2	6	8	9	9	9	9	9	9	9	9	9	9	10
	Sinar Palung	10	0	0	0	0	0	1	1	1	1	1	3	4	3	3	2
	Kebal Manuk	10	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Batu Barat	Matan Raya	30	4	1	1	0	1	0	0	0	0	8	4	1	0	0	0
	Sepakat	30	7	6	2	2	2	2	2	2	2	12	7	6	3	3	4
	Telok Aur	30	8	7	1	1	1	1	1	1	1	7	4	3	2	2	2
	Rembayan	30	10	8	2	2	2	2	1	1	1	5	4	4	2	2	2
Matan Jaya	Matan	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Jelutung	30	1	1	1	1	1	3	2	2	3	2	2	3	3	2	2
	Air Manis	30	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Teluk Bayur	Tanjung Harapan Baru	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Bayur Indah	20	19	19	19	19	19	19	19	19	19	19	19	20	20	20	20
Sempurna	Sawah Sebokor	40	11	9	8	8	9	9	9	8	8	8	8	8	8	8	8
	Sempurna	40	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Jago Bersatu	Sepakat	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	Bersatu	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Penjawaan	Kinun	20	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	7	7	7	7	7	7	7	7	7	7	7	7	7	8	8
	Cali	30	4	5	5	4	4	4	5	7	5	6	5	7	5	5	4
	Pangkalan Jihing	30	24	24	25	25	26	26	27	28	29	29	30	30	30	30	30
Laman Satong	Manjau	30	28	15	15	14	14	14	14	14	14	14	14	15	30	24	23
	Kepayang	30	25	25	27	28	29	28	28	28	28	28	29	29	29	29	29
	Nek Doyan	30	12	13	14	14	13	13	13	14	14	15	15	16	17	18	18

08 Historical

【 All 】

Village	Sub-Village	Number of Sample	Introduction oil palm plantatio															
			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	1,275	61	59	96	65	66	79	87	101	231	340	315	280	326	373	368	370

【 Village 】

Village	Sub-Village	Number of Sample	Introduction oil palm plantatio															
			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	-	60	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Simpang Tiga	-	30	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0
Sejahtera	-	70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pampang Harapan	-	80	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	1
Pangkalan Buton	-	120	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sutera	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	-	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	-	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rantau Panjang	-	60	0	0	0	0	0	0	1	1	2	2	2	3	2	2	2	2
Batu Barat	-	120	0	0	0	0	0	0	0	0	0	105	78	1	1	2	2	2
Matan Jaya	-	90	1	0	0	0	0	0	5	15	83	86	75	72	72	72	72	72
Teluk Bayur	-	40	39	39	39	39	39	39	39	39	40	39	39	40	40	40	40	40
Sempurna	-	80	2	2	39	7	7	6	6	8	36	25	27	45	30	32	28	30
Jago Bersatu	-	25	15	15	15	15	15	15	15	15	15	25	25	25	25	25	25	25
Penjawaan	-	30	0	0	0	1	0	0	0	0	28	28	29	30	30	30	30	30
Pangkalan Telok	-	90	1	1	1	1	1	1	1	1	2	4	12	29	44	88	87	87
Laman Satong	-	90	0	0	0	0	2	15	16	20	21	22	25	32	79	79	79	79

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Introduction oil palm plantatio															
			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	Pangkalan Tapang	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pematang Baros	30	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Melinsum	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Segua	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pampang	30	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	1
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sungai Galik	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Air Pauh	30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sebadal	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rantau Panjang	Makmur	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	1	1	2	2	2	2	2	2	2	2
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Batu Barat	Matan Raya	30	0	0	0	0	0	0	0	0	0	25	20	1	1	1	1	1
	Sepakat	30	0	0	0	0	0	0	0	0	0	26	26	0	0	1	1	1
	Telok Aur	30	0	0	0	0	0	0	0	0	0	29	22	0	0	0	0	0
	Rembayan	30	0	0	0	0	0	0	0	0	0	25	10	0	0	0	0	0
Matan Jaya	Matan	30	0	0	0	0	0	0	0	2	26	27	25	24	24	24	24	24
	Jelutung	30	1	0	0	0	0	0	1	1	28	29	26	25	25	25	25	25
	Air Manis	30	0	0	0	0	0	0	4	12	29	30	24	23	23	23	23	23
Teluk Bayur	Tanjung Harapan Baru	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Bayur Indah	20	19	19	19	19	19	19	19	19	20	19	19	20	20	20	20	20
Sempurna	Sawah Sebokor	40	2	2	12	4	5	4	4	4	4	20	20	21	27	29	25	26
	Sempurna	40	0	0	27	3	2	2	2	4	32	5	7	24	3	3	3	4
Jago Bersatu	Sepakat	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	Bersatu	10	0	0	0	0	0	0	0	0	0	10	10	10	10	10	10	10
Penjawaan	Kinun	20	0	0	0	0	0	0	0	0	19	19	20	20	20	20	20	20
	Harapan Baru	10	0	0	0	1	0	0	0	0	9	9	9	10	10	10	10	10
Pangkalan Telok	Teluk Parak	30	1	1	1	1	1	1	1	1	1	3	7	20	28	29	29	29
	Cali	30	0	0	0	0	0	0	0	0	0	0	1	1	4	29	29	29
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	1	1	4	8	12	30	29	29
Laman Satong	Manjau	30	0	0	0	0	0	0	0	0	0	0	0	1	30	30	30	30
	Kepayang	30	0	0	0	0	0	1	2	2	2	3	6	12	29	29	29	29
	Nek Doyan	30	0	0	0	0	2	14	14	18	19	19	19	19	20	20	20	20

08 Historical

【 All 】

Village	Sub-Village	Number of Sample	Migration from out side 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	1,275	912	912	921	921	934	942	926	934	936	953	972	986	997	996	1,000	992

【 Village 】

Village	Sub-Village	Number of Sample	Migration from out side 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	-	60	11	11	20	23	31	34	25	23	21	21	26	31	38	39	44	43
Simpang Tiga	-	30	29	29	29	29	29	29	29	29	29	29	29	30	30	30	30	30
Sejahtera	-	70	20	20	20	20	21	21	21	21	21	22	22	23	25	24	23	23
Pampang Harapan	-	80	65	65	62	60	60	59	61	62	65	71	73	71	71	69	69	69
Pangkalan Buton	-	120	119	119	119	119	119	119	119	119	118	119	119	119	119	119	119	118
Sutera	-	40	18	18	18	17	18	19	18	20	25	25	27	29	30	28	28	27
Gunung Sembilan	-	60	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	55
Benawai Agung	-	70	52	54	53	53	53	52	52	52	53	54	54	55	53	53	53	53
Sedahan Jaya	-	120	47	46	45	43	42	32	17	6	3	2	2	2	2	2	2	2
Rantau Panjang	-	60	17	17	18	18	18	36	43	51	49	51	51	52	52	53	55	53
Batu Barat	-	120	98	98	100	100	100	98	98	107	107	112	115	115	114	114	113	114
Matan Jaya	-	90	85	85	85	85	85	85	84	85	85	86	86	86	86	86	86	86
Teluk Bayur	-	40	39	39	39	39	39	39	39	39	39	39	39	40	40	40	40	40
Sempurna	-	80	50	49	50	51	54	54	54	56	55	55	57	61	65	66	66	65
Jago Bersatu	-	25	25	25	25	24	25	25	25	25	25	25	25	25	25	25	25	25
Penjawaan	-	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Pangkalan Telok	-	90	65	65	65	65	65	64	65	65	67	68	70	70	70	71	70	70
Laman Satong	-	90	84	84	85	87	87	88	88	86	86	86	89	89	89	89	89	89

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Migration from out side 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Riam Berasap	Pangkalan Tapang	30	9	9	15	14	17	19	19	19	19	20	21	21	22	23	24	24
	Pematang Baros	30	2	2	5	9	14	15	6	4	2	1	5	10	16	16	20	19
Simpang Tiga	Semanai	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Parit Bugis	20	19	19	19	19	19	19	19	19	19	19	19	20	20	20	20	20
Sejahtera	Sungai Belit	30	4	4	4	4	4	4	4	4	4	5	5	5	7	6	5	5
	Melinsum	20	7	7	7	7	8	8	8	8	8	8	8	9	9	9	9	9
	Tanjung Gunung	20	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Pampang Harapan	Pasir Mayang	20	19	19	19	19	19	19	19	19	19	20	20	20	20	20	20	20
	Segua	30	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
	Pampang	30	17	17	14	12	12	11	13	14	17	22	24	22	22	20	20	20
Pangkalan Buton	Simpang Empat	30	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	28
	Tanjung Belimbing	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Sungai Galik	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Air Pauh	30	30	30	30	30	30	30	30	30	29	30	30	30	30	30	30	30
Sutera	Sukadana	20	6	6	6	6	6	6	5	6	10	11	13	13	13	13	13	13
	Payak Itam	20	12	12	12	11	12	13	13	14	15	14	14	16	17	15	15	14
Gunung Sembilan	Nirmala	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	19
	Tambak Lawang	20	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	18
	Sebadal	20	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	18
Benawai Agung	Munting	30	22	22	21	21	22	21	21	21	21	21	21	21	21	21	21	21
	Semanjak	30	21	22	22	22	21	21	21	21	22	23	23	24	22	22	22	22
	Pelerang	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Sedahan Jaya	Sawah	30	14	13	14	14	14	7	3	1	1	1	1	1	1	1	1	1
	Sidorejo	30	29	29	27	25	24	22	12	3	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	4	4	4	4	4	3	2	2	2	1	1	1	1	1	1	1
Rantau Panjang	Makmur	20	16	16	16	16	16	20	19	20	19	19	19	19	19	19	19	19
	Sinar Palung	10	0	0	0	0	0	10	10	10	9	9	9	10	10	9	10	10
	Kebal Manuk	10	0	0	0	0	0	1	6	6	6	6	6	7	7	7	8	8
	Sinar Selatan	20	1	1	2	2	2	5	8	15	15	17	17	16	16	18	18	16
Batu Barat	Matan Raya	30	25	25	25	25	25	25	25	26	26	27	29	29	29	29	29	29
	Sepakat	30	27	27	27	27	27	27	26	28	29	30	29	30	30	30	30	30
	Telok Aur	30	22	22	24	24	24	23	23	28	27	29	30	29	29	29	28	29
	Rembayan	30	24	24	24	24	24	23	24	25	25	26	27	27	26	26	26	26
Matan Jaya	Matan	30	26	26	26	26	26	26	25	26	27	27	27	27	27	27	27	27
	Jelutung	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Air Manis	30	29	29	29	29	29	29	29	29	28	29	29	29	29	29	29	29
Teluk Bayur	Tanjung Harapan Baru	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Bayur Indah	20	19	19	19	19	19	19	19	19	19	19	19	20	20	20	20	20
Sempurna	Sawah Sebokor	40	21	20	20	20	20	21	21	21	20	21	23	26	29	31	31	30
	Sempurna	40	29	29	30	31	34	33	33	35	35	34	34	35	36	35	35	35
Jago Bersatu	Sepakat	15	15	15	15	14	15	15	15	15	15	15	15	15	15	15	15	15
	Bersatu	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Penjawaan	Kinun	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	Harapan Baru	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Pangkalan Telok	Teluk Parak	30	29	29	29	29	29	28	29	29	29	29	29	29	29	29	29	29
	Cali	30	24	24	24	24	24	24	24	24	25	25	27	26	26	27	26	26
	Pangkalan Jihing	30	12	12	12	12	12	12	12	12	13	14	14	15	15	15	15	15
Laman Satong	Manjau	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Kepayang	30	24	24	25	27	27	28	28	26	27	27	29	29	29	29	29	29
	Nek Doyan	30	30	30	30	30	30	30	30	30	29	29	30	30	30	30	30	30

09 Current Land

【 All 】

Village	Sub-Village	Number of Sample	Home Garden Own land								Home Garden Rented land								Wetland Paddy Own land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
-	-	1,275	8	304	0	0	16	0	1	6	0	2	0	0	9	0	0	0	65	397	0	7	19	1	0	7

【 Village 】

Village	Sub-Village	Number of Sample	Home Garden Own land								Home Garden Rented land								Wetland Paddy Own land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Riam Berasap	-	60	0	47	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	11	0	0	1	0	0	0
Simpang Tiga	-	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0
Sejahtera	-	70	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	33	0	0	0	0	0	0
Pampang Harapan	-	80	5	7	0	0	0	0	0	2	0	0	0	0	0	0	0	0	9	22	0	0	0	0	0	1
Pangkalan Buton	-	120	1	27	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	53	0	1	1	0	0	1
Sutera	-	40	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0
Gunung Sembilan	-	60	1	56	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	28	0	0	0	0	0	0
Benawai Agung	-	70	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	28	0	0	0	0	0	0
Sedahan Jaya	-	120	0	93	0	0	0	0	1	2	0	1	0	0	0	0	0	0	5	98	0	0	0	0	0	1
Rantau Panjang	-	60	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0
Batu Barat	-	120	0	10	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	1
Matan Jaya	-	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0
Teluk Bayur	-	40	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	4	0	0	0
Sempurna	-	80	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	9	0	0	1	0	0	1
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	2	9	0	0	0
Penjawaan	-	30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	-	90	0	2	0	0	10	0	0	0	0	0	0	0	9	0	0	0	0	4	0	0	0	0	0	2
Laman Satong	-	90	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	3	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Home Garden Own land								Home Garden Rented land								Wetland Paddy Own land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Riam Berasap	Pangkalan Tapang	30	0	17	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	9	0	0	0	0	0	0
	Pematang Baros	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
	Parit Bugis	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	11	0	0	0	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	7	0	0	0	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Segua	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	20	0	0	0	0	0	1
	Pampang	30	5	6	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	1	0	0	0	0
	Sungai Galik	30	1	13	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0
	Air Pauh	30	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	1	0	0	1
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0
	Tambak Lawang	20	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
	Sebadal	20	0	19	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	8	0	0	0	0	0	0
Benawai Agung	Munting	30	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	15	0	0	0	0	0	0
	Semanjak	30	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0
	Pelerang	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	24	0	0	0	0	0	0
	Sidorejo	30	0	26	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	26	0	0	0	0	0	0
	Tanjung Banjar	30	0	17	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	27	0	0	0	0	0	1
	Begasing	30	0	25	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	21	0	0	0	0	0	0
Rantau Panjang	Makmur	20	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
	Sinar Palung	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Kebal Manuk	10	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
	Sinar Selatan	20	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
	Sepakat	30	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0
	Telok Aur	30	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1
	Rembayan	30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
Matan Jaya	Matan	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Jelutung	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Manis	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	2	0	0	0
	Bayur Indah	20	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	2	0	0	0
Sempurna	Sawah Sebokor	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	3	0	0	1	0	0	0
	Sempurna	40	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	0	0	0	0	0	1
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	9	0	0	0
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	0
Penjawaan	Kinun	20	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	1	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
	Cali	30	0	1	0	0	7	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	2
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
Laman Satong	Manjau	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	3	0	0	0
	Kepayang	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
	Nek Doyan	30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0

09 Current Land

【 All 】

Village	Sub-Village	Number of Sample	Wetland Paddy Rented land								Upland Dry Paddy Own land								Upland Dry Paddy Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
-	-	1,275	0	40	1	0	0	0	1	0	25	106	0	4	1	3	0	6	0	7	0	0	1	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Wetland Paddy Rented land								Upland Dry Paddy Own land								Upland Dry Paddy Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Riam Berasap	-	60	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Simpang Tiga	-	30	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	-	70	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	-	80	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	-	120	0	10	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sutera	-	40	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Gunung Sembilan	-	60	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	-	70	0	7	0	0	0	0	1	0	3	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Sedahan Jaya	-	120	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Rantau Panjang	-	60	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	-	120	0	5	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	4	0	0	0	0	0	0
Matan Jaya	-	90	0	0	0	0	0	0	0	0	0	3	0	4	0	3	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Sempurna	-	80	0	0	0	0	0	0	0	0	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	-	30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	-	90	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Laman Satong	-	90	0	0	0	0	0	0	0	0	3	20	0	0	0	0	0	3	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Wetland Paddy Rented land								Upland Dry Paddy Own land								Upland Dry Paddy Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Riam Berasap	Pangkalan Tapang	30	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pematang Baros	30	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Segua	30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pampang	30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sungai Galik	30	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Pauh	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sebadal	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	0	4	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Semanjak	30	0	2	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pelerang	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sidorejo	30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Rantau Panjang	Makmur	20	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sepakat	30	0	2	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Telok Aur	30	0	3	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Rembayan	30	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Matan Jaya	Matan	30	0	0	0	0	0	0	0	0	0	2	0	4	0	2	0	0	0	0	0	0	0	0	0	0
	Jelutung	30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Air Manis	30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Bayur Indah	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sempurna	40	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Bersatu	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Cali	30	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0
	Pangkalan Jihing	30	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laman Satong	Manjau	30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kepayang	30	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	3	0	0	0	0	0	0	0	0
	Nek Doyan	30	0	0	0	0	0	0	0	0	2	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0

09 Current Land

【 All 】

Village	Sub-Village	Number of Sample	Shifting Cultivation for Vegetables Own land								Shifting Cultivation for Vegetables Rented land								Rubber Plantation Own land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
-	-	1,275	25	64	2	6	0	9	0	14	0	0	0	1	0	2	0	1	94	327	4	7	8	8	1	20

【 Village 】

Village	Sub-Village	Number of Sample	Shifting Cultivation for Vegetables Own land								Shifting Cultivation for Vegetables Rented land								Rubber Plantation Own land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Riam Berasap	-	60	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16	0	0	1	0	0	0
Simpang Tiga	-	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0
Sejahtera	-	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	21	0	0	0	0	0	0
Pampang Harapan	-	80	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	1	0	0	0	0	0	0
Pangkalan Buton	-	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12	1	1	1	0	0	1
Sutera	-	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Gunung Sembilan	-	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Benawai Agung	-	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12	0	0	0	0	0	0
Sedahan Jaya	-	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
Rantau Panjang	-	60	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	0	0	0	0	0	0
Batu Barat	-	120	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	0	0	0	0	0	1
Matan Jaya	-	90	1	18	0	4	0	7	0	0	0	0	0	0	0	0	0	0	1	15	1	5	0	7	0	3
Teluk Bayur	-	40	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	10	0	0	1	0	0	0
Sempurna	-	80	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	12	0	0	0	0	0	0
Jago Bersatu	-	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	1	4	0	0	0
Penjawaan	-	30	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0
Pangkalan Telok	-	90	0	23	2	2	0	2	0	13	0	0	0	1	0	2	0	1	0	29	2	0	0	1	0	12
Laman Satong	-	90	1	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	20	0	0	1	0	1	3

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Shifting Cultivation for Vegetables Own land								Shifting Cultivation for Vegetables Rented land								Rubber Plantation Own land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Riam Berasap	Pangkalan Tapang	30	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0
	Pematang Baros	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	1	0	0	0
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
	Parit Bugis	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Segua	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pampang	30	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0
	Tanjung Belimbing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	1	0	0	0	1
	Sungai Galik	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Air Pauh	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	0	0	0
Sutera	Sukadana	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	Sebadal	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Benawai Agung	Munting	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Semanjak	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12	0	0	0	0	0	0
	Pelerang	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
	Sidorejo	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Rantau Panjang	Makmur	20	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0
	Sinar Palung	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0
	Sinar Selatan	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0
	Sepakat	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0
	Telok Aur	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	1
	Rembayan	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0
Matan Jaya	Matan	30	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	3	0	3	0	0
	Jelutung	30	0	12	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	5	1	1	0	2	0	0
	Air Manis	30	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	5	0	1	0	2	0	3
Teluk Bayur	Tanjung Harapan Baru	20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	1	0	0	0
	Bayur Indah	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	1	0	0	0	0	0	0
	Sempurna	40	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	11	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	4	0	0	0
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0
Penjawaan	Kinun	20	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0
	Harapan Baru	10	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
	Cali	30	0	2	2	1	0	2	0	9	0	0	0	1	0	2	0	1	0	3	2	0	0	1	0	11
	Pangkalan Jihing	30	0	17	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	1
Laman Satong	Manjau	30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	1	0	1	0
	Kepayang	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	2
	Nek Doyan	30	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	1

09 Current Land

【 All 】

Village	Sub-Village	Number of Sample	Rubber Plantation Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
-	-	1,275	0	3	0	0	1	1	0	2

【 Village 】

Village	Sub-Village	Number of Sample	Rubber Plantation Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Riam Berasap	-	60	0	0	0	0	0	0	0	0
Simpang Tiga	-	30	0	0	0	0	0	0	0	0
Sejahtera	-	70	0	0	0	0	0	0	0	0
Pampang Harapan	-	80	0	0	0	0	0	0	0	0
Pangkalan Buton	-	120	0	1	0	0	0	0	0	0
Sutera	-	40	0	0	0	0	0	0	0	0
Gunung Sembilan	-	60	0	0	0	0	0	0	0	0
Benawai Agung	-	70	0	0	0	0	0	0	0	0
Sedahan Jaya	-	120	0	0	0	0	0	0	0	0
Rantau Panjang	-	60	0	0	0	0	0	0	0	0
Batu Barat	-	120	0	0	0	0	0	0	0	0
Matan Jaya	-	90	0	0	0	0	0	0	0	0
Teluk Bayur	-	40	0	0	0	0	1	0	0	0
Sempurna	-	80	0	0	0	0	0	0	0	0
Jago Bersatu	-	25	0	0	0	0	0	0	0	0
Penjawaan	-	30	0	0	0	0	0	0	0	0
Pangkalan Telok	-	90	0	2	0	0	0	1	0	2
Laman Satong	-	90	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Rubber Plantation Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Riam Berasap	Pangkalan Tapang	30	0	0	0	0	0	0	0	0
	Pematang Baros	30	0	0	0	0	0	0	0	0
Simpang Tiga	Semanai	10	0	0	0	0	0	0	0	0
	Parit Bugis	20	0	0	0	0	0	0	0	0
Sejahtera	Sungai Belit	30	0	0	0	0	0	0	0	0
	Melinsum	20	0	0	0	0	0	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	0	0	0	0	0	0	0
	Segua	30	0	0	0	0	0	0	0	0
	Pampang	30	0	0	0	0	0	0	0	0
Pangkalan Buton	Simpang Empat	30	0	0	0	0	0	0	0	0
	Tanjung Belimbing	30	0	1	0	0	0	0	0	0
	Sungai Galik	30	0	0	0	0	0	0	0	0
	Air Pauh	30	0	0	0	0	0	0	0	0
Sutera	Sukadana	20	0	0	0	0	0	0	0	0
	Payak Itam	20	0	0	0	0	0	0	0	0
Gunung Sembilan	Nirmala	20	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	0	0	0	0
	Sebadal	20	0	0	0	0	0	0	0	0
Benawai Agung	Munting	30	0	0	0	0	0	0	0	0
	Semanjak	30	0	0	0	0	0	0	0	0
	Pelerang	10	0	0	0	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	0	0	0	0	0	0	0
	Sidorejo	30	0	0	0	0	0	0	0	0
	Tanjung Banjar	30	0	0	0	0	0	0	0	0
	Begasing	30	0	0	0	0	0	0	0	0
Rantau Panjang	Makmur	20	0	0	0	0	0	0	0	0
	Sinar Palung	10	0	0	0	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	0	0
	Sinar Selatan	20	0	0	0	0	0	0	0	0
Batu Barat	Matan Raya	30	0	0	0	0	0	0	0	0
	Sepakat	30	0	0	0	0	0	0	0	0
	Telok Aur	30	0	0	0	0	0	0	0	0
	Rembayan	30	0	0	0	0	0	0	0	0
Matan Jaya	Matan	30	0	0	0	0	0	0	0	0
	Jelutung	30	0	0	0	0	0	0	0	0
	Air Manis	30	0	0	0	0	0	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	1	0	0	0
	Bayur Indah	20	0	0	0	0	0	0	0	0
Sempurna	Sawah Sebokor	40	0	0	0	0	0	0	0	0
	Sempurna	40	0	0	0	0	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	0	0	0	0
	Bersatu	10	0	0	0	0	0	0	0	0
Penjawaan	Kinun	20	0	0	0	0	0	0	0	0
	Harapan Baru	10	0	0	0	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	0	0	0	0	0	0	0
	Cali	30	0	1	0	0	0	1	0	2
	Pangkalan Jihing	30	0	1	0	0	0	0	0	0
Laman Satong	Manjau	30	0	0	0	0	0	0	0	0
	Kepayang	30	0	0	0	0	0	0	0	0
	Nek Doyan	30	0	0	0	0	0	0	0	0

10 Decision Making

【 All 】

Village	Sub-Village	Number of Sample	Customary Rules									Group activities_Practicing group activities							Group activities_Participation in the activities						
			■I know the Village of rules	Natural resource management	Forest management	Landuse/ tenure	Conflict management	Financial management	Water resource use	Farming practice	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others
-	-	1,275	385	15	76	86	99	87	132	91	58	55	1,221	308	504	1,217	272	27	38	1,222	230	320	1,182	170	21

【 Village 】

Village	Sub-Village	Number of Sample	Customary Rules									Group activities_Practicing group activities							Group activities_Participation in the activities						
			■I know the Village of rules	Natural resource management	Forest management	Landuse/ tenure	Conflict management	Financial management	Water resource use	Farming practice	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others
Riam Berasap	-	60	55	0	18	22	24	0	27	4	0	0	60	28	19	59	0	0	0	59	25	6	59	0	0
Simpang Tiga	-	30	12	0	0	0	0	5	0	1	7	0	30	11	21	30	1	0	0	30	5	12	30	1	0
Sejahtera	-	70	23	1	7	7	2	3	3	3	6	3	61	9	41	67	1	4	2	61	10	17	58	0	4
Pampang Harapan	-	80	19	5	2	1	1	6	8	3	7	2	80	9	24	79	4	7	2	77	6	15	76	1	4
Pangkalan Buton	-	120	30	1	1	0	0	24	4	0	2	18	113	24	57	120	33	3	8	116	7	20	115	8	1
Sutera	-	40	12	0	0	2	0	9	4	1	0	7	40	35	20	38	21	1	1	40	8	11	39	2	0
Gunung Sembilan	-	60	12	0	0	0	0	5	0	0	13	5	60	0	21	58	2	0	3	60	1	5	58	1	0
Benawai Agung	-	70	24	0	11	5	0	0	21	12	0	7	65	36	20	58	9	1	7	67	28	13	57	0	2
Sedahan Jaya	-	120	89	0	8	29	55	6	52	42	3	0	107	6	112	117	4	8	2	107	7	96	116	2	6
Rantau Panjang	-	60	11	0	1	8	0	0	3	9	0	0	60	13	24	60	0	0	1	59	12	25	57	0	0
Batu Barat	-	120	23	3	2	5	0	20	0	1	1	0	116	38	44	109	89	0	0	118	25	31	108	80	0
Matan Jaya	-	90	25	1	2	0	1	5	0	1	17	2	88	8	48	88	40	1	2	88	2	34	80	25	2
Teluk Bayur	-	40	8	0	2	3	0	0	7	3	0	0	39	3	7	35	2	1	0	38	2	7	39	0	0
Sempurna	-	80	2	0	1	2	0	0	1	1	0	2	77	19	11	77	14	0	2	79	22	3	75	1	0
Jago Bersatu	-	25	3	0	0	1	0	0	0	2	0	0	25	1	3	24	0	0	0	25	1	1	25	1	0
Penjawaan	-	30	0	0	0	0	0	0	0	0	0	0	30	2	8	29	11	0	0	30	4	8	29	10	0
Pangkalan Telok	-	90	13	3	9	0	0	3	1	0	1	6	82	33	3	81	6	0	4	81	31	3	78	4	1
Laman Satong	-	90	24	1	12	1	16	1	1	8	1	3	88	33	21	88	35	1	4	87	34	13	83	34	1

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Customary Rules									Group activities_Practicing group activities							Group activities_Participation in the activities						
			■I know the Village of rules	Natural resource management	Forest management	Landuse/ tenure	Conflict management	Financial management	Water resource use	Farming practice	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others
Riam Berasap	Pangkalan Tapang	30	28	0	1	0	0	0	27	3	0	0	30	27	2	30	0	0	0	30	24	2	30	0	0
	Pematang Baros	30	27	0	17	22	24	0	0	1	0	0	30	1	17	29	0	0	0	29	1	4	29	0	0
Simpang Tiga	Semanai	10	6	0	0	0	0	2	0	1	4	0	10	3	7	10	1	0	0	10	3	2	10	0	0
	Parit Bugis	20	6	0	0	0	0	3	0	0	3	0	20	8	14	20	0	0	0	20	2	10	20	1	0
Sejahtera	Sungai Belit	30	9	0	1	1	0	2	3	0	2	2	26	6	16	28	1	4	2	25	5	7	25	0	4
	Melinsum	20	8	1	4	4	1	1	0	2	3	1	17	1	9	19	0	0	0	18	2	3	18	0	0
	Tanjung Gunung	20	6	0	2	2	1	0	0	1	1	0	18	2	16	20	0	0	0	18	3	7	15	0	0
Pampang Harapan	Pasir Mayang	20	4	4	0	0	0	3	4	1	0	0	20	3	0	20	2	0	1	20	3	0	20	1	0
	Segua	30	2	0	1	0	0	1	2	1	0	1	30	2	11	30	0	0	0	29	1	9	29	0	0
	Pampang	30	13	1	1	1	1	2	2	1	7	1	30	4	13	29	2	7	1	28	2	6	27	0	4
Pangkalan Buton	Simpang Empat	30	8	0	1	0	0	6	0	0	2	6	30	3	9	30	11	1	3	30	0	0	29	4	0
	Tanjung Belimbing	30	7	0	0	0	0	6	2	0	0	2	29	8	14	30	16	1	0	29	2	4	29	2	0
	Sungai Galik	30	7	1	0	0	0	5	1	0	0	8	27	9	22	30	3	1	2	29	2	11	28	0	1
	Air Pauh	30	8	0	0	0	0	7	1	0	0	2	27	4	12	30	3	0	3	28	3	5	29	2	0
Sutera	Sukadana	20	7	0	0	1	0	4	4	1	0	2	20	17	2	18	14	0	0	20	2	2	19	1	0
	Payak Itam	20	5	0	0	1	0	5	0	0	0	5	20	18	18	20	7	1	1	20	6	9	20	1	0
Gunung Sembilan	Nirmala	20	2	0	0	0	0	2	0	0	2	3	20	0	8	20	1	0	3	20	0	1	19	1	0
	Tambak Lawang	20	5	0	0	0	0	1	0	0	6	1	20	0	6	18	0	0	0	20	0	2	19	0	0
	Sebadal	20	5	0	0	0	0	2	0	0	5	1	20	0	7	20	1	0	0	20	1	2	20	0	0
Benawai Agung	Munting	30	14	0	8	5	0	0	14	9	0	3	30	21	9	25	4	0	3	30	18	8	25	0	0
	Semanjak	30	5	0	2	0	0	0	3	1	0	1	27	11	7	25	4	1	2	28	7	3	24	0	2
	Pelerang	10	5	0	1	0	0	0	4	2	0	3	8	4	4	8	1	0	2	9	3	2	8	0	0
Sedahan Jaya	Sawah	30	18	0	6	8	11	1	14	5	1	0	30	0	28	29	1	1	1	30	0	20	29	2	1
	Sidorejo	30	30	0	0	17	29	1	29	3	0	0	30	3	28	30	0	3	0	29	3	21	30	0	2
	Tanjung Banjar	30	17	0	0	0	0	1	0	17	0	0	30	0	28	30	3	1	0	30	1	29	30	0	0
	Begasing	30	24	0	2	4	15	3	9	17	2	0	17	3	28	28	0	3	1	18	3	26	27	0	3
Rantau Panjang	Makmur	20	1	0	0	0	0	0	0	1	0	0	20	8	2	20	0	0	0	20	7	3	19	0	0
	Sinar Palung	10	6	0	0	6	0	0	3	4	0	0	10	2	8	10	0	0	1	9	3	8	8	0	0
	Kebal Manuk	10	0	0	0	0	0	0	0	0	0	0	10	0	2	10	0	0	0	10	0	2	10	0	0
	Sinar Selatan	20	4	0	1	2	0	0	0	4	0	0	20	3	12	20	0	0	0	20	2	12	20	0	0
Batu Barat	Matan Raya	30	8	1	0	0	0	6	0	0	1	0	29	7	13	26	25	0	0	30	9	12	27	21	0
	Sepakat	30	4	1	1	1	0	4	0	0	0	0	30	12	10	29	19	0	0	30	7	8	29	15	0
	Telok Aur	30	9	1	1	4	0	8	0	1	0	0	30	10	9	30	28	0	0	29	6	5	30	27	0
	Rembayan	30	2	0	0	0	0	2	0	0	0	0	27	9	12	24	17	0	0	29	3	6	22	17	0
Matan Jaya	Matan	30	9	0	2	0	1	3	0	1	5	1	29	2	14	29	10	0	1	29	1	5	28	1	1
	Jelutung	30	9	0	0	0	0	1	0	0	6	0	29	3	16	29	12	1	0	30	0	14	25	8	1
	Air Manis	30	7	1	0	0	0	1	0	0	6	1	30	3	18	30	18	0	1	29	1	15	27	16	0
Teluk Bayur	Tanjung Harapan Baru	20	3	0	0	0	0	0	2	0	0	0	20	3	2	19	1	1	0	20	2	3	20	0	0
	Bayur Indah	20	5	0	2	3	0	0	5	3	0	0	19	0	5	16	1	0	0	18	0	4	19	0	0
Sempurna	Sawah Sebokor	40	1	0	0	1	0	0	0	0	0	1	39	7	3	37	1	0	1	39	9	1	36	0	0
	Sempurna	40	1	0	1	1	0	0	1	1	0	1	38	12	8	40	13	0	1	40	13	2	39	1	0
Jago Bersatu	Sepakat	15	3	0	0	1	0	0	0	2	0	0	15	0	2	15	0	0	0	15	0	1	15	1	0
	Bersatu	10	0	0	0	0	0	0	0	0	0	0	10	1	1	9	0	0	0	10	1	0	10	0	0
Penjawaan	Kinun	20	0	0	0	0	0	0	0	0	0	0	20	0	8	20	10	0	0	20	1	8	20	9	0
	Harapan Baru	10	0	0	0	0	0	0	0	0	0	0	10	2	0	9	1	0	0	10	3	0	9	1	0
Pangkalan Telok	Teluk Parak	30	4	1	2	0	0	3	1	0	0	1	25	10	0	29	2	0	0	25	9	0	27	1	1
	Cali	30	8	2	7	0	0	0	0	0	0	5	27	8	0	22	0	0	4	27	7	0	22	0	0
	Pangkalan Jihing	30	1	0	0	0	0	0	0	0	1	0	30	15	3	30	4	0	0	29	15	3	29	3	0
Laman Satong	Manjau	30	14	1	11	1	7	0	1	8	1	2	28	6	19	28	9	1	2	28	7	11	28	7	1
	Kepayang	30	1	0	1	0	1	0	0	0	0	1	30	14	2	30	8	0	1	30	13	1	28	9	0
	Nek Doyan	30	9	0	0	0	8	1	0	0	0	0	30	13	0	30	18	0	1	29	14	1	27	18	0

10 Decision Making

【 All 】

Village	Sub-Village	Number of Sample	Group activities_Purpose of the participation				
			To access income resources	To ensure labor resources	To collect / share information	To communicate with the others	Others
-	-	1,275	224	100	841	1,171	117

【 Village 】

Village	Sub-Village	Number of Sample	Group activities_Purpose of the participation				
			To access income resources	To ensure labor resources	To collect / share information	To communicate with the others	Others
Riam Berasap	-	60	2	0	41	57	11
Simpang Tiga	-	30	4	0	9	28	24
Sejahtera	-	70	5	1	34	56	29
Pampang Harapan	-	80	10	2	56	75	3
Pangkalan Buton	-	120	28	20	78	115	5
Sutera	-	40	6	0	21	39	4
Gunung Sembilan	-	60	16	14	38	59	2
Benawai Agung	-	70	12	2	25	47	10
Sedahan Jaya	-	120	21	12	104	119	2
Rantau Panjang	-	60	4	1	51	55	8
Batu Barat	-	120	66	10	96	116	12
Matan Jaya	-	90	37	29	61	87	6
Teluk Bayur	-	40	2	3	33	38	0
Sempurna	-	80	2	2	60	75	1
Jago Bersatu	-	25	0	0	20	21	0
Penjawaan	-	30	1	1	26	25	0
Pangkalan Telok	-	90	0	2	33	78	0
Laman Satong	-	90	8	1	55	81	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Group activities_Purpose of the participation				
			To access income resources	To ensure labor resources	To collect / share information	To communicate with the others	Others
Riam Berasap	Pangkalan Tapang	30	0	0	12	29	10
	Pematang Baros	30	2	0	29	28	1
Simpang Tiga	Semanai	10	0	0	5	10	8
	Parit Bugis	20	4	0	4	18	16
Sejahtera	Sungai Belit	30	3	0	15	27	10
	Melinsum	20	0	0	14	16	7
	Tanjung Gunung	20	2	1	5	13	12
Pampang Harapan	Pasir Mayang	20	3	1	12	18	1
	Segua	30	7	1	19	29	0
	Pampang	30	0	0	25	28	2
Pangkalan Buton	Simpang Empat	30	10	10	18	29	1
	Tanjung Belimbing	30	8	8	23	29	0
	Sungai Galik	30	7	0	21	28	2
	Air Pauh	30	3	2	16	29	2
Sutera	Sukadana	20	0	0	10	20	3
	Payak Itam	20	6	0	11	19	1
Gunung Sembilan	Nirmala	20	7	4	15	19	0
	Tambak Lawang	20	5	5	12	20	2
	Sebadal	20	4	5	11	20	0
Benawai Agung	Munting	30	8	0	14	16	4
	Semanjak	30	2	2	7	24	4
	Pelerang	10	2	0	4	7	2
Sedahan Jaya	Sawah	30	2	1	27	30	1
	Sidorejo	30	9	8	30	30	0
	Tanjung Banjar	30	0	0	20	30	0
	Begasing	30	10	3	27	29	1
Rantau Panjang	Makmur	20	0	0	17	18	5
	Sinar Palung	10	2	0	7	8	2
	Kebal Manuk	10	0	0	10	10	0
	Sinar Selatan	20	2	1	17	19	1
Batu Barat	Matan Raya	30	19	4	29	29	6
	Sepakat	30	13	3	24	28	4
	Telok Aur	30	18	2	22	30	1
	Rembayan	30	16	1	21	29	1
Matan Jaya	Matan	30	11	8	21	29	2
	Jelutung	30	11	8	21	29	1
	Air Manis	30	15	13	19	29	3
Teluk Bayur	Tanjung Harapan Baru	20	0	1	14	18	0
	Bayur Indah	20	2	2	19	20	0
Sempurna	Sawah Sebokor	40	1	2	31	38	0
	Sempurna	40	1	0	29	37	1
Jago Bersatu	Sepakat	15	0	0	14	12	0
	Bersatu	10	0	0	6	9	0
Penjawaan	Kinun	20	1	0	17	16	0
	Harapan Baru	10	0	1	9	9	0
Pangkalan Telok	Teluk Parak	30	0	1	15	25	0
	Cali	30	0	1	12	27	0
	Pangkalan Jihing	30	0	0	6	26	0
Laman Satong	Manjau	30	3	1	23	28	0
	Kepayang	30	1	0	17	27	0
	Nek Doyan	30	4	0	15	26	0

11 Altntv livelihood rank

【 All 】

Village	Sub-Village	Number of Sample	No.1 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
-	-	1,275	32	353	33	33	282	6	162	6	56	38	99	79	31	41	2	2	15

【 Village 】

Village	Sub-Village	Number of Sample	No.1 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Riam Berasap	-	60	0	14	0	1	11	1	12	0	3	1	1	7	2	4	1	0	1
Simpang Tiga	-	30	1	7	1	0	1	0	11	0	1	1	5	1	0	0	0	0	1
Sejahtera	-	70	3	22	1	0	7	0	4	0	2	2	19	1	6	0	0	0	2
Pampang Harapan	-	80	1	31	1	2	14	1	13	0	3	1	1	4	4	1	0	0	3
Pangkalan Buton	-	120	7	36	0	5	14	2	16	1	15	6	5	4	3	4	1	0	1
Sutera	-	40	0	5	0	0	1	0	17	0	6	1	0	5	1	3	0	0	1
Gunung Sembilan	-	60	2	32	1	1	10	0	7	1	3	0	0	0	0	0	0	1	2
Benawai Agung	-	70	4	36	0	0	7	0	6	0	10	2	0	0	2	1	0	0	1
Sedahan Jaya	-	120	1	26	1	0	45	0	23	0	2	3	1	7	1	9	0	0	1
Rantau Panjang	-	60	1	10	0	3	16	1	11	0	0	2	2	9	2	2	0	0	1
Batu Barat	-	120	4	26	4	5	22	0	15	0	4	5	20	11	2	0	0	1	1
Matan Jaya	-	90	2	23	17	1	17	0	4	2	2	3	9	3	4	3	0	0	0
Teluk Bayur	-	40	1	2	0	2	21	0	1	0	0	2	4	0	3	4	0	0	0
Sempurna	-	80	4	16	0	2	16	0	3	0	1	5	20	8	0	5	0	0	0
Jago Bersatu	-	25	0	4	0	1	15	0	1	0	0	0	2	0	1	1	0	0	0
Penjawaan	-	30	0	6	1	0	9	0	4	0	0	0	4	5	0	1	0	0	0
Pangkalan Telok	-	90	1	40	4	3	27	0	4	1	1	1	3	3	0	0	0	0	0
Laman Satong	-	90	0	17	2	7	29	1	10	1	3	3	3	11	0	3	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	No.1 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Riam Berasap	Pangkalan Tapang	30	0	10	0	1	3	1	1	0	3	1	1	5	1	2	0	0	1
	Pematang Baros	30	0	4	0	0	8	0	11	0	0	0	0	2	1	2	1	0	0
Simpang Tiga	Semanai	10	0	2	0	0	1	0	5	0	0	0	1	0	0	0	0	0	1
	Parit Bugis	20	1	5	1	0	0	0	6	0	1	1	4	1	0	0	0	0	0
Sejahtera	Sungai Belit	30	2	11	0	0	7	0	2	0	1	0	0	1	4	0	0	0	2
	Melinsum	20	1	10	1	0	0	0	2	0	1	2	0	0	2	0	0	0	0
	Tanjung Gunung	20	0	1	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	1	3	0	0	4	1	4	0	1	0	0	3	3	0	0	0	0
	Segua	30	0	22	0	0	3	0	0	0	0	1	0	1	1	1	0	0	1
	Pampang	30	0	6	1	2	7	0	9	0	2	0	1	0	0	0	0	0	2
Pangkalan Buton	Simpang Empat	30	1	14	0	0	2	1	7	0	2	0	1	0	2	0	0	0	0
	Tanjung Belimbing	30	1	12	0	1	1	0	3	0	3	2	1	1	0	3	1	0	1
	Sungai Galik	30	5	2	0	4	6	0	4	0	3	2	2	1	1	0	0	0	0
	Air Pauh	30	0	8	0	0	5	1	2	1	7	2	1	2	0	1	0	0	0
Sutera	Sukadana	20	0	4	0	0	0	0	14	0	0	0	0	1	0	1	0	0	0
	Payak Itam	20	0	1	0	0	1	0	3	0	6	1	0	4	1	2	0	0	1
Gunung Sembilan	Nirmala	20	0	10	0	0	6	0	3	0	0	0	0	0	0	0	0	1	0
	Tambak Lawang	20	0	11	1	0	3	0	2	0	2	0	0	0	0	0	0	0	1
	Sebadal	20	2	11	0	1	1	0	2	1	1	0	0	0	0	0	0	0	1
Benawai Agung	Munting	30	3	18	0	0	1	0	3	0	5	0	0	0	0	0	0	0	0
	Semanjak	30	1	10	0	0	6	0	3	0	5	2	0	0	2	0	0	0	0
	Pelerang	10	0	8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Sedahan Jaya	Sawah	30	1	9	1	0	10	0	6	0	1	1	0	0	1	0	0	0	0
	Sidorejo	30	0	5	0	0	12	0	4	0	0	0	1	2	0	5	0	0	1
	Tanjung Banjar	30	0	5	0	0	18	0	5	0	0	0	0	0	0	2	0	0	0
	Begasing	30	0	7	0	0	5	0	8	0	1	2	0	5	0	2	0	0	0
Rantau Panjang	Makmur	20	0	6	0	0	2	1	4	0	0	0	0	4	2	0	0	0	1
	Sinar Palung	10	1	0	0	0	5	0	0	0	0	0	1	3	0	0	0	0	0
	Kebal Manuk	10	0	0	0	3	2	0	3	0	0	1	0	1	0	0	0	0	0
	Sinar Selatan	20	0	4	0	0	7	0	4	0	0	1	1	1	0	2	0	0	0
Batu Barat	Matan Raya	30	0	3	1	1	7	0	5	0	1	1	4	5	0	0	0	1	1
	Sepakat	30	2	8	2	0	4	0	5	0	0	1	5	2	1	0	0	0	0
	Telok Aur	30	0	7	1	0	7	0	1	0	2	2	8	1	1	0	0	0	0
	Rembayan	30	2	8	0	4	4	0	4	0	1	1	3	3	0	0	0	0	0
Matan Jaya	Matan	30	1	12	3	0	4	0	2	1	1	1	3	0	0	2	0	0	0
	Jelutung	30	1	6	11	0	6	0	0	0	1	1	3	0	1	0	0	0	0
	Air Manis	30	0	5	3	1	7	0	2	1	0	1	3	3	3	1	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	1	2	0	0	9	0	1	0	0	1	4	0	0	2	0	0	0
	Bayur Indah	20	0	0	0	2	12	0	0	0	0	1	0	0	3	2	0	0	0
Sempurna	Sawah Sebokor	40	2	11	0	1	8	0	1	0	0	3	5	5	0	4	0	0	0
	Sempurna	40	2	5	0	1	8	0	2	0	1	2	15	3	0	1	0	0	0
Jago Bersatu	Sepakat	15	0	2	0	1	10	0	0	0	0	0	1	0	1	0	0	0	0
	Bersatu	10	0	2	0	0	5	0	1	0	0	0	1	0	0	1	0	0	0
Penjawaan	Kinun	20	0	6	1	0	6	0	2	0	0	0	3	1	0	1	0	0	0
	Harapan Baru	10	0	0	0	0	3	0	2	0	0	0	1	4	0	0	0	0	0
Pangkalan Telok	Teluk Parak	30	0	9	2	1	14	0	1	0	0	0	1	0	0	0	0	0	0
	Cali	30	1	17	1	0	8	0	2	0	0	0	1	0	0	0	0	0	0
	Pangkalan Jihing	30	0	14	1	2	5	0	1	1	1	1	1	3	0	0	0	0	0
Laman Satong	Manjau	30	0	6	0	2	10	1	4	1	2	1	0	3	0	0	0	0	0
	Kepayang	30	0	4	2	3	11	0	2	0	0	2	0	4	0	2	0	0	0
	Nek Doyan	30	0	7	0	2	8	0	4	0	1	0	3	4	0	1	0	0	0

11 Altntv livelihood rank

【 All 】

Village	Sub-Village	Number of Sample	No.2 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
-	-	1,275	20	124	40	65	302	11	152	10	81	48	83	121	51	65	1	2	17

【 Village 】

Village	Sub-Village	Number of Sample	No.2 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Riam Berasap	-	60	1	5	0	1	18	0	6	1	5	2	2	10	0	6	0	0	0
Simpang Tiga	-	30	0	2	0	0	2	0	2	0	10	1	0	9	0	1	0	0	1
Sejahtera	-	70	3	10	2	2	13	0	6	0	2	1	0	4	6	2	0	0	2
Pampang Harapan	-	80	0	10	2	10	26	0	9	1	4	1	0	3	4	1	0	1	6
Pangkalan Buton	-	120	4	11	6	5	24	1	13	0	13	9	18	12	1	1	0	0	2
Sutera	-	40	0	3	0	0	5	0	0	0	7	2	4	4	5	5	0	0	5
Gunung Sembilan	-	60	0	7	2	12	19	1	2	3	6	2	0	0	0	1	0	1	1
Benawai Agung	-	70	0	7	6	6	23	0	4	2	8	2	2	3	3	1	0	0	0
Sedahan Jaya	-	120	1	19	0	2	38	2	20	2	1	2	1	4	7	16	0	0	0
Rantau Panjang	-	60	3	6	1	2	10	0	9	0	4	2	1	7	2	1	0	0	0
Batu Barat	-	120	7	6	2	1	19	0	11	0	4	8	26	18	10	5	0	0	0
Matan Jaya	-	90	0	9	8	8	27	4	2	0	4	4	6	10	0	6	1	0	0
Teluk Bayur	-	40	0	1	0	1	5	0	20	0	0	1	1	5	1	4	0	0	0
Sempurna	-	80	0	6	2	5	16	1	3	0	4	5	13	18	7	0	0	0	0
Jago Bersatu	-	25	0	1	0	0	6	0	14	0	0	0	2	0	0	2	0	0	0
Penjawaan	-	30	0	1	1	0	8	0	5	0	1	0	2	2	0	10	0	0	0
Pangkalan Telok	-	90	1	9	5	1	21	0	14	1	1	0	2	3	5	1	0	0	0
Laman Satong	-	90	0	11	3	9	22	2	12	0	7	6	3	9	0	2	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	No.2 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Riam Berasap	Pangkalan Tapang	30	1	2	0	1	2	0	2	1	5	2	2	8	0	2	0	0	0
	Pematang Baros	30	0	3	0	0	16	0	4	0	0	0	0	2	0	4	0	0	0
Simpang Tiga	Semanai	10	0	1	0	0	1	0	1	0	5	0	0	2	0	0	0	0	0
	Parit Bugis	20	0	1	0	0	1	0	1	0	5	1	0	7	0	1	0	0	1
Sejahtera	Sungai Belit	30	1	6	1	1	8	0	5	0	2	0	0	0	2	2	0	0	1
	Melinsum	20	1	2	1	1	5	0	1	0	0	1	0	1	3	0	0	0	1
	Tanjung Gunung	20	1	2	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	5	0	2	6	0	4	0	2	0	0	0	1	0	0	0	0
	Segua	30	0	3	1	6	11	0	1	0	0	0	0	0	0	1	0	1	5
	Pampang	30	0	2	1	2	9	0	4	1	2	1	0	3	3	0	0	0	1
Pangkalan Buton	Simpang Empat	30	0	3	0	0	5	0	3	0	11	1	4	2	0	0	0	0	1
	Tanjung Belimbing	30	0	2	2	5	8	0	2	0	1	2	3	5	0	0	0	0	0
	Sungai Galik	30	4	2	0	0	3	1	6	0	0	3	7	3	0	1	0	0	0
	Air Pauh	30	0	4	4	0	8	0	2	0	1	3	4	2	1	0	0	0	1
Sutera	Sukadana	20	0	2	0	0	4	0	0	0	5	0	1	0	3	2	0	0	3
	Payak Itam	20	0	1	0	0	1	0	0	0	2	2	3	4	2	3	0	0	2
Gunung Sembilan	Nirmala	20	0	4	1	3	7	0	1	2	0	0	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	6	8	1	1	0	1	2	0	0	0	0	0	1	0
	Sebadal	20	0	3	1	3	4	0	0	1	5	0	0	0	0	1	0	0	1
Benawai Agung	Munting	30	0	6	1	4	10	0	3	1	3	0	0	2	0	0	0	0	0
	Semanjak	30	0	1	5	0	10	0	1	1	4	0	2	1	3	0	0	0	0
	Pelerang	10	0	0	0	2	3	0	0	0	1	2	0	0	0	1	0	0	0
Sedahan Jaya	Sawah	30	0	5	0	0	13	0	5	0	0	0	0	1	3	3	0	0	0
	Sidorejo	30	0	1	0	1	10	0	3	0	1	0	1	0	1	11	0	0	0
	Tanjung Banjar	30	0	9	0	1	6	1	10	0	0	1	0	0	1	0	0	0	0
	Begasing	30	1	4	0	0	9	1	2	2	0	1	0	3	2	2	0	0	0
Rantau Panjang	Makmur	20	0	4	1	0	2	0	4	0	2	0	0	2	0	1	0	0	0
	Sinar Palung	10	0	0	0	1	0	0	1	0	2	1	0	3	2	0	0	0	0
	Kebal Manuk	10	0	1	0	0	3	0	1	0	0	0	1	0	0	0	0	0	0
	Sinar Selatan	20	3	1	0	1	5	0	3	0	0	1	0	2	0	0	0	0	0
Batu Barat	Matan Raya	30	1	2	1	1	3	0	4	0	1	3	3	5	4	2	0	0	0
	Sepakat	30	3	2	0	0	3	0	1	0	3	1	10	2	4	0	0	0	0
	Telok Aur	30	2	0	0	0	5	0	4	0	0	2	6	7	1	2	0	0	0
	Rembayan	30	1	2	1	0	8	0	2	0	0	2	7	4	1	1	0	0	0
Matan Jaya	Matan	30	0	3	2	4	10	2	1	0	2	0	2	2	0	0	1	0	0
	Jelutung	30	0	2	3	4	9	0	0	0	0	2	3	5	0	2	0	0	0
	Air Manis	30	0	4	3	0	8	2	1	0	2	2	1	3	0	4	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	1	3	0	7	0	0	1	1	4	0	2	0	0	0
	Bayur Indah	20	0	1	0	0	2	0	13	0	0	0	0	1	1	2	0	0	0
Sempurna	Sawah Sebokor	40	0	3	1	5	9	1	2	0	3	2	7	4	3	0	0	0	0
	Sempurna	40	0	3	1	0	7	0	1	0	1	3	6	14	4	0	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	3	0	11	0	0	0	0	0	0	1	0	0	0
	Bersatu	10	0	1	0	0	3	0	3	0	0	0	2	0	0	1	0	0	0
Penjawaan	Kinun	20	0	0	1	0	7	0	2	0	1	0	0	1	0	8	0	0	0
	Harapan Baru	10	0	1	0	0	1	0	3	0	0	0	2	1	0	2	0	0	0
Pangkalan Telok	Teluk Parak	30	0	4	4	0	7	0	3	0	0	0	0	0	1	1	0	0	0
	Cali	30	0	0	0	0	10	0	7	0	1	0	1	2	3	0	0	0	0
	Pangkalan Jihing	30	1	5	1	1	4	0	4	1	0	0	1	1	1	0	0	0	0
Laman Satong	Manjau	30	0	2	0	4	9	1	8	0	4	1	0	0	0	0	0	0	0
	Kepayang	30	0	9	2	3	4	0	0	0	1	3	1	2	0	2	0	0	0
	Nek Doyan	30	0	0	1	2	9	1	4	0	2	2	2	7	0	0	0	0	0

11 Altntv livelihood rank

【 All 】

Village	Sub-Village	Number of Sample	No.3 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
-	-	1,275	5	88	12	35	187	5	121	27	121	69	96	121	73	98	1	5	12

【 Village 】

Village	Sub-Village	Number of Sample	No.3 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Riam Berasap	-	60	1	6	0	1	3	0	7	1	3	1	0	10	2	10	0	0	0
Simpang Tiga	-	30	0	2	0	1	4	0	4	0	3	1	4	3	1	3	0	0	0
Sejahtera	-	70	0	8	3	1	7	0	3	1	8	2	1	7	2	2	0	1	0
Pampang Harapan	-	80	0	3	1	1	14	0	9	0	9	2	0	7	5	6	0	0	5
Pangkalan Buton	-	120	0	3	1	5	20	1	9	5	10	9	19	18	9	7	0	1	2
Sutera	-	40	0	0	0	0	2	0	2	0	7	3	5	4	7	8	0	1	1
Gunung Sembilan	-	60	0	3	0	3	16	0	9	8	9	4	0	0	0	1	0	1	1
Benawai Agung	-	70	0	3	1	3	14	0	7	6	9	4	0	4	4	2	0	1	0
Sedahan Jaya	-	120	1	22	0	1	9	0	16	0	4	3	1	9	12	13	1	0	2
Rantau Panjang	-	60	0	5	0	3	7	0	7	1	5	1	5	6	0	1	0	0	0
Batu Barat	-	120	0	5	3	2	15	0	9	0	18	4	16	16	13	8	0	0	1
Matan Jaya	-	90	0	3	0	6	15	0	8	2	17	12	3	12	3	4	0	0	0
Teluk Bayur	-	40	0	0	0	0	7	0	3	0	0	12	9	2	2	4	0	0	0
Sempurna	-	80	0	11	1	1	18	3	3	0	5	3	12	8	5	7	0	0	0
Jago Bersatu	-	25	0	2	0	0	1	0	4	0	0	3	11	2	1	1	0	0	0
Penjawaan	-	30	1	3	1	1	8	0	4	0	1	0	3	0	0	8	0	0	0
Pangkalan Telok	-	90	1	3	0	3	8	0	8	2	4	1	5	2	3	7	0	0	0
Laman Satong	-	90	1	6	1	3	19	1	9	1	9	4	2	11	4	6	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	No.3 Commercial cropping	Wetland paddy rice	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Riam Berasap	Pangkalan Tapang	30	1	3	0	1	2	0	2	1	2	1	0	4	0	2	0	0	0
	Pematang Baros	30	0	3	0	0	1	0	5	0	1	0	0	6	2	8	0	0	0
Simpang Tiga	Semanai	10	0	1	0	0	0	0	0	0	2	1	2	3	0	1	0	0	0
	Parit Bugis	20	0	1	0	1	4	0	4	0	1	0	2	0	1	2	0	0	0
Sejahtera	Sungai Belit	30	0	5	3	1	5	0	2	0	4	2	1	2	1	1	0	1	0
	Melinsum	20	0	3	0	0	2	0	1	1	3	0	0	3	1	1	0	0	0
	Tanjung Gunung	20	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0
Pampang Harapan	Pasir Mayang	20	0	1	0	1	5	0	3	0	2	1	0	2	1	1	0	0	0
	Segua	30	0	1	0	0	6	0	3	0	0	0	0	3	0	1	0	0	4
	Pampang	30	0	1	1	0	3	0	3	0	7	1	0	2	4	4	0	0	1
Pangkalan Buton	Simpang Empat	30	0	1	0	1	3	1	1	0	4	3	7	5	0	3	0	0	1
	Tanjung Belimbing	30	0	2	0	2	6	0	3	1	2	3	3	4	3	0	0	0	1
	Sungai Galik	30	0	0	1	1	5	0	2	2	1	1	5	5	2	4	0	1	0
	Air Pauh	30	0	0	0	1	6	0	3	2	3	2	4	4	4	0	0	0	0
Sutera	Sukadana	20	0	0	0	0	2	0	0	0	5	1	2	1	5	3	0	0	1
	Payak Itam	20	0	0	0	0	0	0	2	0	2	2	3	3	2	5	0	1	0
Gunung Sembilan	Nirmala	20	0	3	0	0	3	0	1	4	5	2	0	0	0	0	0	0	0
	Tambak Lawang	20	0	0	0	0	6	0	5	3	3	0	0	0	0	0	0	1	1
	Sebadal	20	0	0	0	3	7	0	3	1	1	2	0	0	0	1	0	0	0
Benawai Agung	Munting	30	0	2	1	1	9	0	3	3	4	2	0	0	2	0	0	0	0
	Semanjak	30	0	1	0	2	2	0	4	0	4	1	0	3	2	2	0	1	0
	Pelerang	10	0	0	0	0	3	0	0	3	1	1	0	1	0	0	0	0	0
Sedahan Jaya	Sawah	30	0	4	0	0	2	0	3	0	2	1	0	3	5	4	1	0	1
	Sidorejo	30	1	1	0	0	2	0	6	0	1	0	1	4	2	5	0	0	0
	Tanjung Banjar	30	0	13	0	0	0	0	6	0	0	1	0	0	3	1	0	0	1
	Begasing	30	0	4	0	1	5	0	1	0	1	1	0	2	2	3	0	0	0
Rantau Panjang	Makmur	20	0	2	0	1	3	0	2	0	2	0	2	2	0	0	0	0	0
	Sinar Palung	10	0	2	0	0	1	0	2	0	1	1	1	2	0	0	0	0	0
	Kebal Manuk	10	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
	Sinar Selatan	20	0	1	0	2	3	0	1	1	2	0	2	2	0	1	0	0	0
Batu Barat	Matan Raya	30	0	1	1	1	5	0	0	0	7	0	3	2	4	4	0	0	1
	Sepakat	30	0	1	1	1	4	0	2	0	4	1	3	6	2	3	0	0	0
	Telok Aur	30	0	2	0	0	4	0	4	0	4	1	6	2	3	1	0	0	0
	Rembayan	30	0	1	1	0	2	0	3	0	3	2	4	6	4	0	0	0	0
Matan Jaya	Matan	30	0	1	0	1	7	0	3	2	6	2	0	5	0	1	0	0	0
	Jelutung	30	0	1	0	2	5	0	2	0	7	5	0	5	1	0	0	0	0
	Air Manis	30	0	1	0	3	3	0	3	0	4	5	3	2	2	3	0	0	0
Teluk Bayur	Tanjung Harapan Baru	20	0	0	0	0	5	0	2	0	0	2	5	1	1	3	0	0	0
	Bayur Indah	20	0	0	0	0	2	0	1	0	0	10	4	1	1	1	0	0	0
Sempurna	Sawah Sebokor	40	0	6	0	1	6	1	2	0	4	3	8	5	0	1	0	0	0
	Sempurna	40	0	5	1	0	12	2	1	0	1	0	4	3	5	6	0	0	0
Jago Bersatu	Sepakat	15	0	0	0	0	1	0	2	0	0	3	8	1	0	0	0	0	0
	Bersatu	10	0	2	0	0	0	0	2	0	0	0	3	1	1	1	0	0	0
Penjawaan	Kinun	20	1	2	1	1	3	0	4	0	0	0	2	0	0	6	0	0	0
	Harapan Baru	10	0	1	0	0	5	0	0	0	1	0	1	0	0	2	0	0	0
Pangkalan Telok	Teluk Parak	30	1	2	0	1	1	0	2	0	1	0	3	1	2	3	0	0	0
	Cali	30	0	0	0	2	1	0	6	2	3	1	1	1	1	3	0	0	0
	Pangkalan Jihing	30	0	1	0	0	6	0	0	0	0	0	1	0	0	1	0	0	0
Laman Satong	Manjau	30	1	1	1	2	6	1	5	1	8	1	1	1	1	0	0	0	0
	Kepayang	30	0	3	0	0	6	0	0	0	0	2	0	5	0	3	0	0	0
	Nek Doyan	30	0	2	0	1	7	0	4	0	1	1	1	5	3	3	0	0	0

12 Support Gv NGO

【 Village 】 ひとりあたりの最大回答数は3つです。

Village	Sub-Village	Number of Sample	Supported organizations					Contents												
			Central Gv	District Gv.	NGO	Prv company	Others	Helth care	Natural resource managemen	Agriculture technical,tool,material	Forest management	Plantation	Capacity Building	Business training.	Mosquito Net	Livestock	Gas	Raskin	Money support from	Others
	-	1,275	1,830	438	22	79	8	332	27	86	3	45	5	3	462	7	708	41	367	276

【 Village 】 ひとりあたりの最大回答数は3つです。

Village	Sub-Village	Number of Sample	Supported organizations					Contents												
			Central Gv	District Gv.	NGO	Prv company	Others	Helth care	Natural resource managemen	Agriculture technical,tool,material	Forest management	Plantation	Capacity Building	Business training.	Mosquito Net	Livestock	Gas	Raskin	Money support from	Others
Riam Berasap	-	60	62	63	1	0	1	0	0	29	0	0	1	0	0	0	52	29	22	13
Simpang Tiga	-	30	83	0	0	0	0	0	0	0	0	0	0	0	27	0	29	0	26	0
Sejahtera	-	70	92	1	0	0	0	11	2	1	0	0	0	0	22	0	35	1	7	16
Pampang Harapan	-	80	55	33	0	0	0	6	1	1	1	1	0	0	2	0	12	0	48	34
Pangkalan Buton	-	120	227	5	3	0	0	7	0	1	1	0	0	0	99	0	99	0	3	1
Sutera	-	40	32	14	3	0	0	5	0	2	0	0	0	0	0	0	10	1	0	3
Gunung Sembilan	-	60	60	43	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
Benawai Agung	-	70	140	10	0	0	0	53	12	3	0	0	1	0	9	0	44	0	7	3
Sedahan Jaya	-	120	124	117	11	1	5	32	10	34	0	5	1	3	1	7	45	3	54	73
Rantau Panjang	-	60	129	16	0	0	0	4	1	11	0	16	2	0	0	0	52	5	41	17
Batu Barat	-	120	234	52	0	12	0	65	0	1	0	11	0	0	65	0	110	1	51	9
Matan Jaya	-	90	115	45	0	56	0	14	0	0	0	0	0	0	25	0	53	0	41	89
Teluk Bayur	-	40	83	0	1	0	1	37	0	1	0	0	0	0	37	0	22	0	25	0
Sempurna	-	80	117	1	0	0	0	7	0	0	0	0	0	0	59	0	44	0	5	0
Jago Bersatu	-	25	29	1	2	4	0	8	0	1	0	6	0	0	7	0	14	0	9	0
Penjawaan	-	30	55	1	0	0	0	33	1	0	0	1	0	0	20	0	18	0	4	0
Pangkalan Telok	-	90	122	6	0	0	0	45	0	0	1	0	0	0	42	0	28	0	15	14
Laman Satong	-	90	71	30	1	6	1	5	0	1	0	5	0	0	47	0	38	1	6	1

【 Sub-Village 】 ひとりあたりの最大回答数は3つです。

Village	Sub-Village	Number of Sample	Supported organizations					Contents												
			Central Gv	District Gv.	NGO	Prv company	Others	Helth care	Natural resource managemen	Agriculture technical,tool,material	Forest management	Plantation	Capacity Building	Business training.	Mosquito Net	Livestock	Gas	Raskin	Money support from	Others
Riam Berasap	Pangkalan Tapang	30	3	63	1	0	0	0	0	0	0	0	1	0	0	0	22	0	22	12
	Pematang Baros	30	59	0	0	0	1	0	0	29	0	0	0	0	0	0	30	29	0	1
Simpang Tiga	Semanai	10	28	0	0	0	0	0	0	0	0	0	0	0	9	0	10	0	8	0
	Parit Bugis	20	55	0	0	0	0	0	0	0	0	0	0	0	18	0	19	0	18	0
Sejahtera	Sungai Belit	30	33	1	0	0	0	7	0	0	0	0	0	0	0	0	12	0	1	14
	Melinsum	20	27	0	0	0	0	3	2	1	0	0	0	0	8	0	7	1	6	1
	Tanjung Gunung	20	32	0	0	0	0	1	0	0	0	0	0	0	14	0	16	0	0	1
Pampang Harapan	Pasir Mayang	20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16
	Segua	30	37	4	0	0	0	0	1	0	0	0	0	0	0	0	0	0	27	15
	Pampang	30	16	29	0	0	0	6	0	1	1	1	0	0	2	0	12	0	20	3
Pangkalan Buton	Simpang Empat	30	42	0	0	0	0	0	0	0	1	0	0	0	20	0	18	0	0	0
	Tanjung Belimbing	30	57	3	0	0	0	3	0	0	0	0	0	0	25	0	26	0	2	0
	Sungai Galik	30	58	0	1	0	0	3	0	0	0	0	0	0	28	0	27	0	0	0
	Air Pauh	30	70	2	2	0	0	1	0	1	0	0	0	0	26	0	28	0	1	1
Sutera	Sukadana	20	18	5	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
	Payak Itam	20	14	9	3	0	0	5	0	2	0	0	0	0	0	0	6	1	0	3
Gunung Sembilan	Nirmala	20	21	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Tambak Lawang	20	17	11	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
	Sebadal	20	22	17	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	2
Benawai Agung	Munting	30	64	1	0	0	0	26	9	1	0	0	0	0	4	0	18	0	1	0
	Semanjak	30	52	8	0	0	0	17	3	0	0	0	0	0	5	0	16	0	6	2
	Pelerang	10	24	1	0	0	0	10	0	2	0	0	1	0	0	0	10	0	0	1
Sedahan Jaya	Sawah	30	42	24	2	0	1	7	0	3	0	0	0	0	1	0	10	1	19	29
	Sidorejo	30	52	33	1	0	1	4	4	11	0	2	1	3	0	0	10	1	20	38
	Tanjung Banjar	30	5	33	1	0	0	14	0	3	0	0	0	0	0	0	17	0	6	0
	Begasing	30	25	27	7	1	3	7	6	17	0	3	0	0	0	7	8	1	9	6
Rantau Panjang	Makmur	20	38	2	0	0	0	0	0	1	0	0	0	0	0	0	18	1	19	1
	Sinar Palung	10	21	5	0	0	0	0	0	7	0	6	0	0	0	0	10	2	1	8
	Kebal Manuk	10	18	7	0	0	0	0	0	2	0	6	1	0	0	0	6	2	7	0
	Sinar Selatan	20	52	2	0	0	0	4	1	1	0	4	1	0	0	0	18	0	14	8
Batu Barat	Matan Raya	30	53	22	0	1	0	17	0	1	0	2	0	0	19	0	24	1	14	1
	Sepakat	30	73	3	0	6	0	10	0	0	0	1	0	0	17	0	30	0	19	7
	Telok Aur	30	56	13	0	5	0	20	0	0	0	8	0	0	8	0	28	0	8	1
	Rembayan	30	52	14	0	0	0	18	0	0	0	0	0	0	21	0	28	0	10	0
Matan Jaya	Matan	30	42	7	0	10	0	7	0	0	0	0	0	0	14	0	17	0	11	13
	Jelutung	30	35	19	0	25	0	6	0	0	0	0	0	0	8	0	19	0	14	35
	Air Manis	30	38	19	0	21	0	1	0	0	0	0	0	0	3	0	17	0	16	41
Teluk Bayur	Tanjung Harapan Baru	20	40	0	0	0	0	20	0	0	0	0	0	0	20	0	8	0	12	0
	Bayur Indah	20	43	0	1	0	1	17	0	1	0	0	0	0	17	0	14	0	13	0
Sempurna	Sawah Sebokor	40	37	1	0	0	0	7	0	0	0	0	0	0	23	0	7	0	0	0
	Sempurna	40	80	0	0	0	0	0	0	0	0	0	0	0	36	0	37	0	5	0
Jago Bersatu	Sepakat	15	19	0	2	0	0	0	0	1	0	2	0	0	0	0	11	0	9	0
	Bersatu	10	10	1	0	4	0	8	0	0	0	4	0	0	7	0	3	0	0	0
Penjawaan	Kinun	20	38	1	0	0	0	25	1	0	0	1	0	0	15	0	13	0	1	0
	Harapan Baru	10	17	0	0	0	0	8	0	0	0	0	0	0	5	0	5	0	3	0
Pangkalan Telok	Teluk Parak	30	46	6	0	0	0	24	0	0	1	0	0	0	9	0	8	0	9	4
	Cali	30	37	0	0	0	0	20	0	0	0	0	0	0	13	0	3	0	5	9
	Pangkalan Jihing	30	39	0	0	0	0	1	0	0	0	0	0	0	20	0	17	0	1	1
Laman Satong	Manjau	30	17	22	0	1	1	1	0	1	0	0	0	0	15	0	17	1	6	1
	Kepayang	30	22	0	1	0	0	0	0	0	0	0	0	0	12	0	7	0	0	0
	Nek Doyan	30	32	8	0	5	0	4	0	0	0	5	0	0	20	0	14	0	0	0

01Basic

【 All 】

Village	Sub-Village	Number of Sample	Age	Sex		Number of Family	Migrant	Ethnic Group							
				Male	Female			Dayak	Javanese	Melayu	Balinese	Chinise	Bugis	Madura	Others
-	-	80	48.7	78	2	4.5	43	0	6	70	0	0	1	1	2

【 Village 】

Village	Sub-Village	Number of Sample	Age	Sex		Number of Family	Migrant	Ethnic Group							
				Male	Female			Dayak	Javanese	Melayu	Balinese	Chinise	Bugis	Madura	Others
Padu Banjar	-	20	44.1	19	1	4.4	7	0	2	17	0	0	0	0	1
Pemangkat	-	20	51.2	19	1	4.3	14	0	4	14	0	0	1	0	1
Pulau Kumbang	-	20	52.6	20	0	4.8	12	0	0	20	0	0	0	0	0
Nipah Kuning	-	20	47.1	20	0	4.7	10	0	0	19	0	0	0	1	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Age	Sex		Number of Family	Migrant	Ethnic Group							
				Male	Female			Dayak	Javanese	Melayu	Balinese	Chinise	Bugis	Madura	Others
Padu Banjar	Sutra B 1	10	44.0	10	0	4.2	4	0	1	8	0	0	0	0	1
	Sutra A 4	10	44.1	9	1	4.6	3	0	1	9	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	56.6	10	0	4.1	8	0	4	5	0	0	0	0	1
	Penyekam Raya	10	45.7	9	1	4.4	6	0	0	9	0	0	1	0	0
Pulau Kumbang	Pebahan Raya	10	53.2	10	0	4.2	6	0	0	10	0	0	0	0	0
	Karya Bumi	10	52.0	10	0	5.4	6	0	0	10	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	50.7	10	0	4.0	4	0	0	9	0	0	0	1	0
	Sinar Karya	10	43.4	10	0	5.4	6	0	0	10	0	0	0	0	0

01Basic

【 All 】

Village	Sub-Village	Number of Sample	Religion					
			Islam	Christian	Catholic	Hindu	Bhuddhist	Others
-	-	80	80	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Religion					
			Islam	Christian	Catholic	Hindu	Bhuddhist	Others
Padu Banjar	-	20	20	0	0	0	0	0
Pemangkat	-	20	20	0	0	0	0	0
Pulau Kumbang	-	20	20	0	0	0	0	0
Nipah Kuning	-	20	20	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Religion					
			Islam	Christian	Catholic	Hindu	Bhuddhist	Others
Padu Banjar	Sutra B 1	10	10	0	0	0	0	0
	Sutra A 4	10	10	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	10	0	0	0	0	0
	Penyekam Raya	10	10	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	10	0	0	0	0	0
	Karya Bumi	10	10	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	10	0	0	0	0	0
	Sinar Karya	10	10	0	0	0	0	0

02Assets

【 All 】

Village	Sub-Village	Number of Sample	Water source of drinking water							Water source of general use						
			Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain
-	-	80	26	17	0	6	5	138	0	41	44	1	14	0	20	0

【 Village 】

Village	Sub-Village	Number of Sample	Water source of drinking water							Water source of general use						
			Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain
Padu Banjar	-	20	6	10	0	0	1	35	0	5	15	0	1	0	0	0
Pemangkat	-	20	0	2	0	4	4	31	0	0	6	1	13	0	5	0
Pulau Kumbang	-	20	11	0	0	1	0	37	0	16	13	0	0	0	5	0
Nipah Kuning	-	20	9	5	0	1	0	35	0	20	10	0	0	0	10	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Water source of drinking water							Water source of general use						
			Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain	Water Supply	Well	River water	Water from forest area	Botteled water	Others	Uncertain
Padu Banjar	Sutra B 1	10	6	2	0	0	0	19	0	4	7	0	1	0	0	0
	Sutra A 4	10	0	8	0	0	1	16	0	1	8	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	2	0	1	3	15	0	0	6	0	4	0	3	0
	Penyekam Raya	10	0	0	0	3	1	16	0	0	0	1	9	0	2	0
Pulau Kumbang	Pebahan Raya	10	5	0	0	0	0	19	0	8	4	0	0	0	4	0
	Karya Bumi	10	6	0	0	1	0	18	0	8	9	0	0	0	1	0
Nipah Kuning	Sinar Utara	10	9	0	0	0	0	17	0	10	3	0	0	0	4	0
	Sinar Karya	10	0	5	0	1	0	18	0	10	7	0	0	0	6	0

02Assets

【 All 】

Village	Sub-Village	Number of Sample	Energy supply sources / Lighting						Energy supply sources / Cooking						
			Generator set	Solar energy	Kerocene	Electricity from grid	Others	Uncertain	Fuel wood	Charcoal	Electricity	Propane gas	Kerocene	Others	Uncertain
-	-	80	1	0	0	78	0	0	73	0	0	70	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Energy supply sources / Lighting						Energy supply sources / Cooking						
			Generator set	Solar energy	Kerocene	Electricity from grid	Others	Uncertain	Fuel wood	Charcoal	Electricity	Propane gas	Kerocene	Others	Uncertain
Padu Banjar	-	20	0	0	0	18	0	0	17	0	0	18	0	0	0
Pemangkat	-	20	1	0	0	20	0	0	18	0	0	17	0	0	0
Pulau Kumbang	-	20	0	0	0	20	0	0	19	0	0	18	0	0	0
Nipah Kuning	-	20	0	0	0	20	0	0	19	0	0	17	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Energy supply sources / Lighting						Energy supply sources / Cooking						
			Generator set	Solar energy	Kerocene	Electricity from grid	Others	Uncertain	Fuel wood	Charcoal	Electricity	Propane gas	Kerocene	Others	Uncertain
Padu Banjar	Sutra B 1	10	0	0	0	9	0	0	9	0	0	9	0	0	0
	Sutra A 4	10	0	0	0	9	0	0	8	0	0	9	0	0	0
Pemangkat	Pangeran Jaya	10	1	0	0	10	0	0	10	0	0	9	0	0	0
	Penyekam Raya	10	0	0	0	10	0	0	8	0	0	8	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	10	0	0	9	0	0	10	0	0	0
	Karya Bumi	10	0	0	0	10	0	0	10	0	0	8	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	10	0	0	10	0	0	7	0	0	0
	Sinar Karya	10	0	0	0	10	0	0	9	0	0	10	0	0	0

02Assets

【 All 】

Village	Sub-Village	Number of Sample	Animal Grazing							Livestock / Total Value(sum)	Settlements			
			Buffalo	Cow	Pig	Chicken	Duck	Fish	Others		Inside HL	Outside HL	Unknown	Others
-	-	80	0	5	0	59	8	0	8	147,455,000	0	77	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Animal Grazing							Livestock / Total Value(sum)	Settlements			
			Buffalo	Cow	Pig	Chicken	Duck	Fish	Others		Inside HL	Outside HL	Unknown	Others
Padu Banjar	-	20	0	0	0	15	2	0	0	13,705,000	0	18	0	0
Pemangkat	-	20	0	2	0	16	3	0	2	19,780,000	0	20	0	0
Pulau Kumbang	-	20	0	2	0	14	1	0	4	79,795,000	0	19	0	0
Nipah Kuning	-	20	0	1	0	14	2	0	2	34,175,000	0	20	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Animal Grazing							Livestock / Total Value(sum)	Settlements			
			Buffalo	Cow	Pig	Chicken	Duck	Fish	Others		Inside HL	Outside HL	Unknown	Others
Padu Banjar	Sutra B 1	10	0	0	0	9	0	0	0	12,170,000	0	9	0	0
	Sutra A 4	10	0	0	0	6	2	0	0	1,535,000	0	9	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	9	1	0	2	2,710,000	0	10	0	0
	Penyekam Raya	10	0	2	0	7	2	0	0	17,070,000	0	10	0	0
Pulau Kumbang	Pebahan Raya	10	0	2	0	7	0	0	2	56,525,000	0	10	0	0
	Karya Bumi	10	0	0	0	7	1	0	2	23,270,000	0	9	0	0
Nipah Kuning	Sinar Utara	10	0	1	0	6	0	0	1	30,460,000	0	10	0	0
	Sinar Karya	10	0	0	0	8	2	0	1	3,715,000	0	10	0	0

02Assets

【 All 】

Village	Sub-Village	Number of Sample	Farming Area				Plantation				Agroforestry			
			Inside HL	Outside HL	Unknown	Others	Inside HL	Outside HL	Unknown	Others	Inside HL	Outside HL	Unknown	Others
-	-	80	0	41	0	0	0	30	0	0	0	4	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Farming Area				Plantation				Agroforestry			
			Inside HL	Outside HL	Unknown	Others	Inside HL	Outside HL	Unknown	Others	Inside HL	Outside HL	Unknown	Others
Padu Banjar	-	20	0	10	0	0	0	7	0	0	0	0	0	0
Pemangkat	-	20	0	9	0	0	0	3	0	0	0	1	0	0
Pulau Kumbang	-	20	0	12	0	0	0	10	0	0	0	2	0	0
Nipah Kuning	-	20	0	10	0	0	0	10	0	0	0	1	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Farming Area				Plantation				Agroforestry			
			Inside HL	Outside HL	Unknown	Others	Inside HL	Outside HL	Unknown	Others	Inside HL	Outside HL	Unknown	Others
Padu Banjar	Sutra B 1	10	0	5	0	0	0	5	0	0	0	0	0	0
	Sutra A 4	10	0	5	0	0	0	2	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	1	0	0	0	1	0	0	0	0	0	0
	Penyekam Raya	10	0	8	0	0	0	2	0	0	0	1	0	0
Pulau Kumbang	Pebahan Raya	10	0	2	0	0	0	7	0	0	0	1	0	0
	Karya Bumi	10	0	10	0	0	0	3	0	0	0	1	0	0
Nipah Kuning	Sinar Utara	10	0	8	0	0	0	3	0	0	0	0	0	0
	Sinar Karya	10	0	2	0	0	0	7	0	0	0	1	0	0

02Assets

【 All 】

Village	Sub-Village	Number of Sample	Others			
			Inside HL	Outside HL	Unknown	Others
-	-	80	0	8	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Others			
			Inside HL	Outside HL	Unknown	Others
Padu Banjar	-	20	0	2	0	0
Pemangkat	-	20	0	1	0	0
Pulau Kumbang	-	20	0	2	0	0
Nipah Kuning	-	20	0	3	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Others			
			Inside HL	Outside HL	Unknown	Others
Padu Banjar	Sutra B 1	10	0	0	0	0
	Sutra A 4	10	0	2	0	0
Pemangkat	Pangeran Jaya	10	0	1	0	0
	Penyekam Raya	10	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	2	0	0
	Karya Bumi	10	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	1	0	0
	Sinar Karya	10	0	2	0	0

03Living Condition

【 All 】

Village	Sub-Village	Number of Sample	Sum										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
-	-	80	125.000	110.000	131.000	177.000	180.000	139.000	132.000	192.000	142.000	200.000	211.000

【 Village 】

Village	Sub-Village	Number of Sample	Sum										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
Padu Banjar	-	20	26.000	23.000	26.000	33.000	40.000	42.000	34.000	41.000	33.000	43.000	49.000
Pemangkat	-	20	55.000	45.000	56.000	67.000	60.000	29.000	52.000	61.000	39.000	56.000	61.000
Pulau Kumbang	-	20	22.000	21.000	27.000	50.000	42.000	33.000	24.000	46.000	42.000	52.000	52.000
Nipah Kuning	-	20	22.000	21.000	22.000	27.000	38.000	35.000	22.000	44.000	28.000	49.000	49.000

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Sum										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
Padu Banjar	Sutra B 1	10	13.000	12.000	13.000	14.000	15.000	18.000	12.000	20.000	16.000	20.000	21.000
	Sutra A 4	10	13.000	11.000	13.000	19.000	25.000	24.000	22.000	21.000	17.000	23.000	28.000
Pemangkat	Pangeran Jaya	10	28.000	25.000	28.000	37.000	30.000	11.000	28.000	30.000	24.000	27.000	29.000
	Penyekam Raya	10	27.000	20.000	28.000	30.000	30.000	18.000	24.000	31.000	15.000	29.000	32.000
Pulau Kumbang	Pebahan Raya	10	10.000	10.000	12.000	26.000	22.000	16.000	10.000	22.000	22.000	24.000	24.000
	Karya Bumi	10	12.000	11.000	15.000	24.000	20.000	17.000	14.000	24.000	20.000	28.000	28.000
Nipah Kuning	Sinar Utara	10	10.000	10.000	10.000	9.000	20.000	16.000	10.000	22.000	12.000	21.000	26.000
	Sinar Karya	10	12.000	11.000	12.000	18.000	18.000	19.000	12.000	22.000	16.000	28.000	23.000

03Living Condition

【 All 】

Village	Sub-Village	Number of Sample	Standard deviation										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
-	-	80	1.493	1.330	1.478	1.949	1.243	1.696	1.458	1.114	1.098	0.880	0.941

【 Village 】

Village	Sub-Village	Number of Sample	Standard deviation										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
Padu Banjar	-	20	1.642	1.469	1.673	2.501	1.522	1.262	1.494	1.433	1.210	1.138	1.051
Pemangkat	-	20	0.447	0.607	0.523	0.688	0.000	2.920	0.543	0.229	0.827	0.624	0.900
Pulau Kumbang	-	20	1.771	1.504	1.664	1.553	1.338	1.428	1.753	1.170	1.066	0.827	0.877
Nipah Kuning	-	20	1.801	1.616	1.801	2.635	1.522	1.662	1.801	1.298	1.314	0.923	1.000

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Standard deviation										
			Amount of water volume for daily life use	Quality of water volume for daily life use	Amount of water volume for drinking	Quality of water volume for drinking	Sufficiency of amount of food for daily life	Sufficiency of amount of crop productivities	Situation of entertainment	Situation of health service	Situation of education for your family	Situation of transportation	Accessibility to road for vehicles
Padu Banjar	Sutra B 1	10	1.719	1.509	1.719	2.857	1.795	1.439	1.801	1.491	1.193	1.197	1.304
	Sutra A 4	10	1.653	1.509	1.719	2.292	1.291	1.137	1.211	1.453	1.291	1.140	0.796
Pemangkat	Pangeran Jaya	10	0.422	0.527	0.632	0.483	0.000	3.921	0.422	0.000	0.516	0.823	1.197
	Penyekam Raya	10	0.494	0.707	0.422	0.876	0.000	2.475	0.667	0.333	1.085	0.380	0.527
Pulau Kumbang	Pebahan Raya	10	1.897	1.581	1.801	1.434	1.333	1.477	1.897	1.333	1.054	1.017	1.101
	Karya Bumi	10	1.738	1.509	1.612	1.742	1.414	1.458	1.700	1.054	1.135	0.641	0.641
Nipah Kuning	Sinar Utara	10	1.897	1.581	1.897	3.148	1.491	1.550	1.897	1.333	1.414	1.179	0.901
	Sinar Karya	10	1.801	1.750	1.801	2.253	1.633	1.875	1.801	1.333	1.282	0.641	1.140

04NR_Usage

【 All 】

Village	Sub-Village	Number of Sample	Natural Resource Usage(Fuel wood,Timber wood,NTFP)						NTFP species								
			Fuel wood 2010-2013 inside HL	Fuel wood 2010-2013 outside HL	Timber wood 2010-2013 inside HL	Timber wood 2010-2013 outside HL	NTFP 2010-2013 inside HL	NTFP 2010-2013 outside HL	Fuel woods Collecting	Durian	Mushroom	Banana	Honey	Rattan	Bamboo shoot	Medecine	Others
-	-	80	0	76	0	0	1	23	75	0	0	0	0	0	15	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Natural Resource Usage(Fuel wood,Timber wood,NTFP)						NTFP species								
			Fuel wood 2010-2013 inside HL	Fuel wood 2010-2013 outside HL	Timber wood 2010-2013 inside HL	Timber wood 2010-2013 outside HL	NTFP 2010-2013 inside HL	NTFP 2010-2013 outside HL	Fuel woods Collecting	Durian	Mushroom	Banana	Honey	Rattan	Bamboo shoot	Medecine	Others
Padu Banjar	-	20	0	19	0	0	0	1	19	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	20	0	0	0	0	20	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	0	18	0	0	1	6	17	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	19	0	0	0	16	19	0	0	0	0	0	15	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Natural Resource Usage(Fuel wood,Timber wood,NTFP)						NTFP species								
			Fuel wood 2010-2013 inside HL	Fuel wood 2010-2013 outside HL	Timber wood 2010-2013 inside HL	Timber wood 2010-2013 outside HL	NTFP 2010-2013 inside HL	NTFP 2010-2013 outside HL	Fuel woods Collecting	Durian	Mushroom	Banana	Honey	Rattan	Bamboo shoot	Medecine	Others
Padu Banjar	Sutra B 1	10	0	10	0	0	0	1	10	0	0	0	0	0	0	0	0
	Sutra A 4	10	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0
	Penyekam Raya	10	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	8	0	0	0	6	7	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	10	0	0	1	0	10	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	10	0	0	0	7	10	0	0	0	0	0	7	0	0
	Sinar Karya	10	0	9	0	0	0	9	9	0	0	0	0	0	8	0	0

04NR_Usage

【 All 】 Harvesting amount

Village	Sub-Village	Number of Sample	Location of fuelwood collection			Location of Timber collection			Location of Durian collection			Location of Mushroom collection			Location of Banana collection			Location of Honey collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
-	-	80	0	11,868	240	4,900	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

【 Village 】 Harvesting amount

Village	Sub-Village	Number of Sample	Location of fuelwood collection			Location of Timber collection			Location of Durian collection			Location of Mushroom collection			Location of Banana collection			Location of Honey collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
Padu Banjar	-	20	0	2,580	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pemangkat	-	20	0	3,372	240	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pulau Kumbang	-	20	0	3,204	0	100	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Nipah Kuning	-	20	0	2,712	0	4,800	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

【 Sub-Village 】 Harvesting amount

Village	Sub-Village	Number of Sample	Location of fuelwood collection			Location of Timber collection			Location of Durian collection			Location of Mushroom collection			Location of Banana collection			Location of Honey collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
Padu Banjar	Sutra B 1	10	0	1,560	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Sutra A 4	10	0	1,020	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pemangkat	Pangeran Jaya	10	0	2,256	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Penyekam Raya	10	0	1,116	240	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pulau Kumbang	Pebahan Raya	10	0	1,188	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Karya Bumi	10	0	2,016	0	100	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Nipah Kuning	Sinar Utara	10	0	1,608	0	4,800	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Sinar Karya	10	0	1,104	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

04NR_Usage

【 All 】

Village	Sub-Village	Number of Sample	Location of Rattan collection			Location of Bamboo Shoot collection			Location of Medice collection			Location of Animal Hunting collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
-	-	80	#N/A	#N/A	#N/A	0	36	0	#N/A	#N/A	#N/A	2	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Location of Rattan collection			Location of Bamboo Shoot collection			Location of Medice collection			Location of Animal Hunting collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
Padu Banjar	-	20	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
Pemangkat	-	20	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	2	0	0
Pulau Kumbang	-	20	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
Nipah Kuning	-	20	#N/A	#N/A	#N/A	0	36	0	#N/A	#N/A	#N/A	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Location of Rattan collection			Location of Bamboo Shoot collection			Location of Medice collection			Location of Animal Hunting collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
Padu Banjar	Sutra B 1	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
	Sutra A 4	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
Pemangkat	Pangeran Jaya	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
	Penyekam Raya	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	2	0	0
Pulau Kumbang	Pebahan Raya	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
	Karya Bumi	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
Nipah Kuning	Sinar Utara	10	#N/A	#N/A	#N/A	0	36	0	#N/A	#N/A	#N/A	0	0	0
	Sinar Karya	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0

04NR_Usage

【 All 】 Number of Harvester

Village	Sub-Village	Number of Sample	Location of fuelwood collection			Location of Timber collection			Location of Durian collection			Location of Mushroom collection			Location of Banana collection			Location of Honey collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
-	-	80	0	74	1	2	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

【 Village 】 Number of Harvester

Village	Sub-Village	Number of Sample	Location of fuelwood collection			Location of Timber collection			Location of Durian collection			Location of Mushroom collection			Location of Banana collection			Location of Honey collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
Padu Banjar	-	20	0	19	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pemangkat	-	20	0	19	1	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pulau Kumbang	-	20	0	17	0	1	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Nipah Kuning	-	20	0	19	0	1	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

【 Sub-Village 】 Number of Harvester

Village	Sub-Village	Number of Sample	Location of fuelwood collection			Location of Timber collection			Location of Durian collection			Location of Mushroom collection			Location of Banana collection			Location of Honey collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
Padu Banjar	Sutra B 1	10	0	10	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Sutra A 4	10	0	9	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pemangkat	Pangeran Jaya	10	0	10	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Penyekam Raya	10	0	9	1	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pulau Kumbang	Pebahan Raya	10	0	7	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Karya Bumi	10	0	10	0	1	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Nipah Kuning	Sinar Utara	10	0	10	0	1	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	Sinar Karya	10	0	9	0	0	0	0	0	0	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

04NR_Usage

【 All 】

Village	Sub-Village	Number of Sample	Location of Rattan collection			Location of Bamboo Shoot collection			Location of Medice collection			Location of Animal Hunting collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
-	-	80	#N/A	#N/A	#N/A	0	1	0	#N/A	#N/A	#N/A	1	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Location of Rattan collection			Location of Bamboo Shoot collection			Location of Medice collection			Location of Animal Hunting collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
Padu Banjar	-	20	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
Pemangkat	-	20	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	1	0	0
Pulau Kumbang	-	20	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
Nipah Kuning	-	20	#N/A	#N/A	#N/A	0	1	0	#N/A	#N/A	#N/A	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Location of Rattan collection			Location of Bamboo Shoot collection			Location of Medice collection			Location of Animal Hunting collection		
			Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain	Inside HL	Outside HL	Uncertain
Padu Banjar	Sutra B 1	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
	Sutra A 4	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
Pemangkat	Pangeran Jaya	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
	Penyekam Raya	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	1	0	0
Pulau Kumbang	Pebahan Raya	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
	Karya Bumi	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0
Nipah Kuning	Sinar Utara	10	#N/A	#N/A	#N/A	0	1	0	#N/A	#N/A	#N/A	0	0	0
	Sinar Karya	10	#N/A	#N/A	#N/A	0	0	0	#N/A	#N/A	#N/A	0	0	0

05Expenditure&06Income

【 All 】

Village	Sub-Village	Number of Sample	Expenditure Sum(per one year)												
			Total	Household_FoodAnnual	Household_Energy Annual	Household_Drinking WaterAnnual	Household_WaterdailyAnnual	Household_TelephoneAnnual	Household_Clothes Annual	Household_HealthAnnual	Household_EducationAnnual	Household_TransportationAnnual	Household_Wage for laborAnnual	On-farm activities_Buying seeds/ seedlingsAnnual	On-farm activities_Buying agricultural toolsAnnual
-	-	80	1,911,677,000	1,098,500,000	78,799,000	18,198,000	3,000,000	26,980,000	83,130,000	103,895,000	55,720,000	168,934,000	29,345,000	42,168,000	5,970,000

【 Village 】

Village	Sub-Village	Number of Sample	Expenditure Sum(per one year)												
			Total	Household_FoodAnnual	Household_Energy Annual	Household_Drinking WaterAnnual	Household_WaterdailyAnnual	Household_TelephoneAnnual	Household_Clothes Annual	Household_HealthAnnual	Household_EducationAnnual	Household_TransportationAnnual	Household_Wage for laborAnnual	On-farm activities_Buying seeds/ seedlingsAnnual	On-farm activities_Buying agricultural toolsAnnual
Padu Banjar	-	20	437,220,000	274,400,000	20,214,000	3,305,000	0	2,740,000	14,080,000	9,760,000	4,080,000	43,682,000	5,500,000	16,048,000	3,105,000
Pemangkat	-	20	379,698,000	192,300,000	14,105,000	8,538,000	3,000,000	9,660,000	43,550,000	7,980,000	29,940,000	56,910,000	2,000,000	8,025,000	90,000
Pulau Kumbang	-	20	584,612,000	318,600,000	23,702,000	3,830,000	0	5,940,000	12,800,000	66,520,000	9,510,000	36,020,000	17,070,000	12,695,000	1,970,000
Nipah Kuning	-	20	510,147,000	313,200,000	20,778,000	2,525,000	0	8,640,000	12,700,000	19,635,000	12,190,000	32,322,000	4,775,000	5,400,000	805,000

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Expenditure Sum(per one year)												
			Total	Household_FoodAnnual	Household_Energy Annual	Household_Drinking WaterAnnual	Household_WaterdailyAnnual	Household_TelephoneAnnual	Household_Clothes Annual	Household_HealthAnnual	Household_EducationAnnual	Household_TransportationAnnual	Household_Wage for laborAnnual	On-farm activities_Buying seeds/ seedlingsAnnual	On-farm activities_Buying agricultural toolsAnnual
Padu Banjar	Sutra B 1	10	233,306,000	138,550,000	10,176,000	1,700,000	0	1,620,000	5,200,000	6,480,000	1,100,000	22,702,000	4,300,000	15,048,000	1,840,000
	Sutra A 4	10	203,914,000	135,850,000	10,038,000	1,605,000	0	1,120,000	8,880,000	3,280,000	2,980,000	20,980,000	1,200,000	1,000,000	1,265,000
Pemangkat	Pangeran Jaya	10	180,705,000	99,900,000	6,357,000	4,109,000	0	3,660,000	9,200,000	2,380,000	24,600,000	13,260,000	0	7,575,000	90,000
	Penyekam Raya	10	198,993,000	92,400,000	7,748,000	4,429,000	3,000,000	6,000,000	34,350,000	5,600,000	5,340,000	43,650,000	2,000,000	450,000	0
Pulau Kumbang	Pebahan Raya	10	368,862,000	160,200,000	13,692,000	3,130,000	0	4,140,000	6,700,000	64,250,000	4,170,000	18,960,000	15,870,000	12,500,000	1,120,000
	Karya Bumi	10	215,750,000	158,400,000	10,010,000	700,000	0	1,800,000	6,100,000	2,270,000	5,340,000	17,060,000	1,200,000	195,000	850,000
Nipah Kuning	Sinar Utara	10	194,075,000	147,600,000	8,418,000	615,000	0	2,400,000	5,500,000	6,365,000	1,130,000	15,660,000	675,000	0	515,000
	Sinar Karya	10	316,072,000	165,600,000	12,360,000	1,910,000	0	6,240,000	7,200,000	13,270,000	11,060,000	16,662,000	4,100,000	5,400,000	290,000

05Expenditure&06Income

【 All 】

Village	Sub-Village	Number of Sample	On-farm activities_Buying agricultural materialsAnnual	On-farm activities_Planting treesAnnual	On-farm activities_Grazing livestocksAnnual	On-farm activities_OthersAnnual	On-farm activities_Loan repaymentAnnual	On-farm activities_Tax paymentAnnual	On-farm activities_Remittance to familyAnnual	On-farm activities_SavingAnnual	On-farm activities_OthersAnnual	Social life_Donation for social eventsAnnual
-	-	80	7,513,000	640,000	0	25,300,000	12,000,000	3,224,300	0	113,000,000	6,120,000	22,610,000

【 Village 】

Village	Sub-Village	Number of Sample	On-farm activities_Buying agricultural materialsAnnual	On-farm activities_Planting treesAnnual	On-farm activities_Grazing livestocksAnnual	On-farm activities_OthersAnnual	On-farm activities_Loan repaymentAnnual	On-farm activities_Tax paymentAnnual	On-farm activities_Remittance to familyAnnual	On-farm activities_SavingAnnual	On-farm activities_OthersAnnual	Social life_Donation for social eventsAnnual
Padu Banjar	-	20	4,988,000	0	0	23,300,000	0	715,000	0	0	0	5,170,000
Pemangkat	-	20	2,525,000	640,000	0	2,000,000	0	1,809,000	0	0	0	5,000,000
Pulau Kumbang	-	20	0	0	0	0	0	566,300	0	60,000,000	6,120,000	6,940,000
Nipah Kuning	-	20	0	0	0	0	12,000,000	134,000	0	53,000,000	0	5,500,000

【 Sub-Village 】

Village	Sub-Village	Number of Sample	On-farm activities_Buying agricultural materialsAnnual	On-farm activities_Planting treesAnnual	On-farm activities_Grazing livestocksAnnual	On-farm activities_OthersAnnual	On-farm activities_Loan repaymentAnnual	On-farm activities_Tax paymentAnnual	On-farm activities_Remittance to familyAnnual	On-farm activities_SavingAnnual	On-farm activities_OthersAnnual	Social life_Donation for social eventsAnnual
Padu Banjar	Sutra B 1	10	2,123,000	0	0	16,800,000	0	165,000	0	0	0	2,500,000
	Sutra A 4	10	2,865,000	0	0	6,500,000	0	550,000	0	0	0	2,670,000
Pemangkat	Pangeran Jaya	10	2,525,000	640,000	0	500,000	0	1,009,000	0	0	0	3,100,000
	Penyekam Raya	10	0	0	0	1,500,000	0	800,000	0	0	0	1,900,000
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	538,300	0	60,000,000	0	2,840,000
	Karya Bumi	10	0	0	0	0	0	28,000	0	0	6,120,000	4,100,000
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	35,000	0	0	0	2,500,000
	Sinar Karya	10	0	0	0	0	12,000,000	99,000	0	53,000,000	0	3,000,000

05Expenditure&06Income

【 All 】

Village	Sub-Village	Number of Sample	Income Sum(per one year) Total	On-farm income_Wetland paddy	On-farm income_Dryland paddy	On-farm income_Other vegetables	On-farm income_LIvestock	On-farm income_Selling Hunting	On-farm income_Selling NTFP	On-farm income_Selling Fuel woods	On-farm income_Selling timber	On-farm income_Selling Rubber	Off-farm income_Permanent Oil palm	Off-farm income_Permanent farming	Off-farm income_Permanent mining
-	-	80	2,018,233,500	4,200,000	47,837,500	111,877,000	27,080,000	0	8,400,000	20,360,000	96,000,000	404,526,000	74,544,000	82,240,000	0

【 Village 】

Village	Sub-Village	Number of Sample	Income Sum(per one year) Total	On-farm income_Wetland paddy	On-farm income_Dryland paddy	On-farm income_Other vegetables	On-farm income_LIvestock	On-farm income_Selling Hunting	On-farm income_Selling NTFP	On-farm income_Selling Fuel woods	On-farm income_Selling timber	On-farm income_Selling Rubber	Off-farm income_Permanent Oil palm	Off-farm income_Permanent farming	Off-farm income_Permanent mining
Padu Banjar	-	20	449,200,000	4,200,000	15,000,000	18,000,000	0	0	8,400,000	0	0	91,440,000	0	2,500,000	0
Pemangkat	-	20	410,565,000	0	22,375,000	61,877,000	0	0	0	0	0	69,562,000	32,400,000	5,040,000	0
Pulau Kumbang	-	20	471,822,000	0	4,500,000	0	27,080,000	0	0	20,000,000	0	130,964,000	0	10,000,000	0
Nipah Kuning	-	20	686,646,500	0	5,962,500	32,000,000	0	0	0	360,000	96,000,000	112,560,000	42,144,000	64,700,000	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Income Sum(per one year) Total	On-farm income_Wetland paddy	On-farm income_Dryland paddy	On-farm income_Other vegetables	On-farm income_LIvestock	On-farm income_Selling Hunting	On-farm income_Selling NTFP	On-farm income_Selling Fuel woods	On-farm income_Selling timber	On-farm income_Selling Rubber	Off-farm income_Permanent Oil palm	Off-farm income_Permanent farming	Off-farm income_Permanent mining
Padu Banjar	Sutra B 1	10	207,390,000	0	11,800,000	0	0	0	8,400,000	0	0	46,080,000	0	2,500,000	0
	Sutra A 4	10	241,810,000	4,200,000	3,200,000	18,000,000	0	0	0	0	0	45,360,000	0	0	0
Pemangkat	Pangeran Jaya	10	196,397,000	0	0	29,137,000	0	0	0	0	0	51,300,000	30,000,000	0	0
	Penyekam Raya	10	214,168,000	0	22,375,000	32,740,000	0	0	0	0	0	18,262,000	2,400,000	5,040,000	0
Pulau Kumbang	Pebahan Raya	10	287,382,000	0	0	0	27,080,000	0	0	0	0	75,744,000	0	2,000,000	0
	Karya Bumi	10	184,440,000	0	4,500,000	0	0	0	0	20,000,000	0	55,220,000	0	8,000,000	0
Nipah Kuning	Sinar Utara	10	258,844,000	0	2,600,000	12,000,000	0	0	0	0	96,000,000	17,280,000	14,544,000	41,600,000	0
	Sinar Karya	10	427,802,500	0	3,362,500	20,000,000	0	0	0	360,000	0	95,280,000	27,600,000	23,100,000	0

05Expenditure&06Income

【 All 】

Village	Sub-Village	Number of Sample	Off-farm income_Permanent Others	Off-farm income_Temporary Oil palm	Off-farm income_Temporary farming	Off-farm income_Temporary mining	Off-farm income_Going outside to work	Off-farm income_Temporary Others	Off-farm income_Private business	Off-farm income_Loan	Off-farm income_Remittance	Off-farm income_Others	On-farm Income Total	Off-farm Income Total
-	-	80	639,252,000	22,700,000	26,310,000	0	0	181,400,000	26,160,000	11,000,000	14,500,000	174,720,000	720,280,500	1,252,826,000

【 Village 】

Village	Sub-Village	Number of Sample	Off-farm income_Permanent Others	Off-farm income_Temporary Oil palm	Off-farm income_Temporary farming	Off-farm income_Temporary mining	Off-farm income_Going outside to work	Off-farm income_Temporary Others	Off-farm income_Private business	Off-farm income_Loan	Off-farm income_Remittance	Off-farm income_Others	On-farm Income Total	Off-farm Income Total
Padu Banjar	-	20	190,450,000	18,300,000	21,410,000	0	0	18,300,000	0	11,000,000	7,700,000	2,500,000	137,040,000	272,160,000
Pemangkat	-	20	184,800,000	0	0	0	0	13,200,000	6,160,000	0	0	12,000,000	153,814,000	253,600,000
Pulau Kumbang	-	20	116,882,000	4,400,000	4,600,000	0	0	86,600,000	20,000,000	0	4,400,000	30,820,000	182,544,000	277,702,000
Nipah Kuning	-	20	147,120,000	0	300,000	0	0	63,300,000	0	0	2,400,000	129,400,000	246,882,500	449,364,000

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Off-farm income_Permanent Others	Off-farm income_Temporary Oil palm	Off-farm income_Temporary farming	Off-farm income_Temporary mining	Off-farm income_Going outside to work	Off-farm income_Temporary Others	Off-farm income_Private business	Off-farm income_Loan	Off-farm income_Remittance	Off-farm income_Others	On-farm Income Total	Off-farm Income Total
Padu Banjar	Sutra B 1	10	44,750,000	17,000,000	8,360,000	0	0	18,300,000	0	0	7,700,000	2,500,000	66,280,000	101,110,000
	Sutra A 4	10	145,700,000	1,300,000	13,050,000	0	0	0	0	11,000,000	0	0	70,760,000	171,050,000
Pemangkat	Pangeran Jaya	10	73,800,000	0	0	0	0	6,000,000	6,160,000	0	0	0	80,437,000	115,960,000
	Penyekam Raya	10	111,000,000	0	0	0	0	7,200,000	0	0	0	12,000,000	73,377,000	137,640,000
Pulau Kumbang	Pebahan Raya	10	74,682,000	0	4,600,000	0	0	58,000,000	20,000,000	0	200,000	18,300,000	102,824,000	177,782,000
	Karya Bumi	10	42,200,000	4,400,000	0	0	0	28,600,000	0	0	4,200,000	12,520,000	79,720,000	99,920,000
Nipah Kuning	Sinar Utara	10	31,120,000	0	0	0	0	23,100,000	0	0	2,400,000	18,200,000	127,880,000	130,964,000
	Sinar Karya	10	116,000,000	0	300,000	0	0	40,200,000	0	0	0	111,200,000	119,002,500	318,400,000

07Crops

【 All 】

Village	Sub-Village	Number of Sample	Corn			Cassava			Wet land paddy			Dry land paddy			Soybean		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
-	-	80	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	22.84	8,639.00	378.29	0.00	0.00	#DIV/0!

【 Village 】

Village	Sub-Village	Number of Sample	Corn			Cassava			Wet land paddy			Dry land paddy			Soybean		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Padu Banjar	-	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	8.65	2,737.00	316.49	0.00	0.00	#DIV/0!
Pemangkat	-	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	3.01	5,902.00	1,960.08	0.00	0.00	#DIV/0!
Pulau Kumbang	-	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	11.18	0.00	0.00	0.00	0.00	#DIV/0!
Nipah Kuning	-	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Corn			Cassava			Wet land paddy			Dry land paddy			Soybean		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Padu Banjar	Sutra B 1	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	4.84	812.00	167.80	0.00	0.00	#DIV/0!
	Sutra A 4	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	3.81	1,925.00	505.38	0.00	0.00	#DIV/0!
Pemangkat	Pangeran Jaya	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Penyekam Raya	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	3.01	5,902.00	1,960.08	0.00	0.00	#DIV/0!
Pulau Kumbang	Pebahan Raya	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.87	0.00	0.00	0.00	0.00	#DIV/0!
	Karya Bumi	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	10.31	0.00	0.00	0.00	0.00	#DIV/0!
Nipah Kuning	Sinar Utara	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Sinar Karya	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!

07Crops

【 All 】

Village	Sub-Village	Number of Sample	Coconut palm			Durian			Banana			Leaf vegetables			Rubber		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
-	-	80	4.53	1,600.00	353.20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.63	4,000.00	1,523.81	23.50	3,380.00	143.85

【 Village 】

Village	Sub-Village	Number of Sample	Coconut palm			Durian			Banana			Leaf vegetables			Rubber		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Padu Banjar	-	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.13	2,500.00	1,176.47	0.87	3,200.00	3,699.42
Pemangkat	-	20	2.53	1,600.00	632.41	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	6.16	180.00	29.23
Pulau Kumbang	-	20	2.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	15.96	0.00	0.00
Nipah Kuning	-	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	1,500.00	3,000.00	0.52	0.00	0.00

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Coconut palm			Durian			Banana			Leaf vegetables			Rubber		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Padu Banjar	Sutra B 1	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.87	3,200.00	3,699.42
	Sutra A 4	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	2.13	2,500.00	1,176.47	0.00	0.00	#DIV/0!
Pemangkat	Pangeran Jaya	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Penyekam Raya	10	2.53	1,600.00	632.41	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	6.16	180.00	29.23
Pulau Kumbang	Pebahan Raya	10	2.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	14.05	0.00	0.00
	Karya Bumi	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	1.91	0.00	0.00
Nipah Kuning	Sinar Utara	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.50	1,500.00	3,000.00	0.00	0.00	#DIV/0!
	Sinar Karya	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.52	0.00	0.00

07Crops

【 All 】

Village	Sub-Village	Number of Sample	Oil palm			Coffee			Others (Specify)		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
-	-	80	0.00	0.00	#DIV/0!	1.65	108.00	65.65	0.00	0.00	#DIV/0!

【 Village 】

Village	Sub-Village	Number of Sample	Oil palm			Coffee			Others (Specify)		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Padu Banjar	-	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Pemangkat	-	20	0.00	0.00	#DIV/0!	0.20	60.00	300.00	0.00	0.00	#DIV/0!
Pulau Kumbang	-	20	0.00	0.00	#DIV/0!	1.45	48.00	33.22	0.00	0.00	#DIV/0!
Nipah Kuning	-	20	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Oil palm			Coffee			Others (Specify)		
			Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)	Area(ha)	Production(kg)	Production Average(per 1 ha)
Padu Banjar	Sutra B 1	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Sutra A 4	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Pemangkat	Pangeran Jaya	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Penyekam Raya	10	0.00	0.00	#DIV/0!	0.20	60.00	300.00	0.00	0.00	#DIV/0!
Pulau Kumbang	Pebahan Raya	10	0.00	0.00	#DIV/0!	1.45	48.00	33.22	0.00	0.00	#DIV/0!
	Karya Bumi	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
Nipah Kuning	Sinar Utara	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!
	Sinar Karya	10	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Logging individual									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	8	8	8	9	7	6	5	4	4	3

【 Village 】

Village	Sub-Village	Number of Sample	Logging individual									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	1	1	1	1	1	1	1	0	0	0
Pemangkat	-	20	3	3	3	3	2	2	1	1	1	1
Pulau Kumbang	-	20	1	1	1	1	1	1	1	1	1	1
Nipah Kuning	-	20	3	3	3	4	3	2	2	2	2	1

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Logging individual									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	1	1	1	1	1	1	1	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	10	3	3	3	3	2	2	1	1	1	1
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	1	1	1	1	1	1	1	1	1	1
Nipah Kuning	Sinar Utara	10	1	1	1	1	1	1	1	1	1	1
	Sinar Karya	10	2	2	2	3	2	1	1	1	1	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Logging company									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	0	0	0	0	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Logging company									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Logging company									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Shifting cultivation(upland rice)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	0	0	0	0	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Shifting cultivation(upland rice)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Shifting cultivation(upland rice)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Fix farm (Dry Paddy land)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	0	0	0	0	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Fix farm (Dry Paddy land)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Fix farm (Dry Paddy land)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Wetland Paddy rice											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	80	1	1	1	1	1	1	1	1	1	1	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Wetland Paddy rice											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	1	1	1	1	1	1	1	1	1	1	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Wetland Paddy rice											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	1	1	1	1	1	1	1	1	1	1	0	0
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Installing irrigation system											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
-	-	80	0	0	0	0	0	0	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Installing irrigation system											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Installing irrigation system											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	NTFP collection									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	17	17	17	17	17	17	17	16	16	16

【 Village 】

Village	Sub-Village	Number of Sample	NTFP collection									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	1	1	1	1	1	1	1	1	1	1
Pemangkat	-	20	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	2	2	2	2	2	2	2	2	2	2
Nipah Kuning	-	20	14	14	14	14	14	14	14	13	13	13

【 Sub-Village 】

Village	Sub-Village	Number of Sample	NTFP collection									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	1	1	1	1	1	1	1	1	1	1
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	2	2	2	2	2	2	2	2	2	2
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	8	8	8	8	8	8	8	7	7	7
	Sinar Karya	10	6	6	6	6	6	6	6	6	6	6

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Hunting									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	0	0	0	0	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Hunting									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Hunting									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Wage labor (Farming)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	25	25	26	26	25	27	27	27	26	26

【 Village 】

Village	Sub-Village	Number of Sample	Wage labor (Farming)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	10	10	10	10	10	10	10	10	10	10
Pemangkat	-	20	3	3	4	4	3	3	3	3	3	3
Pulau Kumbang	-	20	4	4	4	4	4	5	5	5	5	5
Nipah Kuning	-	20	8	8	8	8	8	9	9	9	8	8

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Wage labor (Farming)									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	7	7	7	7	7	7	7	7	7	7
	Sutra A 4	10	3	3	3	3	3	3	3	3	3	3
Pemangkat	Pangeran Jaya	10	0	0	1	1	0	0	0	0	0	0
	Penyekam Raya	10	3	3	3	3	3	3	3	3	3	3
Pulau Kumbang	Pebahan Raya	10	1	1	1	1	1	1	1	1	1	1
	Karya Bumi	10	3	3	3	3	3	4	4	4	4	4
Nipah Kuning	Sinar Utara	10	3	3	3	3	3	3	3	3	3	3
	Sinar Karya	10	5	5	5	5	5	6	6	6	5	5

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Labor of oil palm plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	1	3	2	3	2	1	1	1	2	3

【 Village 】

Village	Sub-Village	Number of Sample	Labor of oil palm plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	0	0	0	1	1	0	0	0	1	1
Pemangkat	-	20	0	2	1	1	0	0	0	0	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	1
Nipah Kuning	-	20	1	1	1	1	1	1	1	1	1	1

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Labor of oil palm plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	1	1
	Sutra A 4	10	0	0	0	1	1	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	1	0	0	0	0	0	0	0	0
	Penyekam Raya	10	0	1	1	1	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	1
Nipah Kuning	Sinar Utara	10	1	1	1	1	1	1	1	1	1	1
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Labor of Mining company									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	1	1	2	2	1	1	1	1	1	1

【 Village 】

Village	Sub-Village	Number of Sample	Labor of Mining company									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	1	1	2	2	1	1	1	1	1	1
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Labor of Mining company									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	1	1	2	2	1	1	1	1	1	1
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Oil palm plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	0	0	0	1	1	1	1	2	2	4

【 Village 】

Village	Sub-Village	Number of Sample	Oil palm plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	0	0	0	0	0	0	0	1	1	1
Pemangkat	-	20	0	0	0	1	1	1	1	1	1	1
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	1
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	1

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Oil palm plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	1	1	1
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	0	0	0	1	1	1	1	1	1	1
	Penyekam Raya	10	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	1
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	1
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Rubber plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	40	42	42	45	45	46	47	47	49	51

【 Village 】

Village	Sub-Village	Number of Sample	Rubber plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	13	13	13	13	13	13	13	13	14	15
Pemangkat	-	20	8	10	10	12	12	13	14	14	14	14
Pulau Kumbang	-	20	12	12	12	13	13	13	13	13	13	13
Nipah Kuning	-	20	7	7	7	7	7	7	7	7	8	9

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Rubber plantation									
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	7	7	7	7	7	7	7	7	8	8
	Sutra A 4	10	6	6	6	6	6	6	6	6	6	7
Pemangkat	Pangeran Jaya	10	2	4	4	5	5	6	7	7	7	7
	Penyekam Raya	10	6	6	6	7	7	7	7	7	7	7
Pulau Kumbang	Pebahan Raya	10	6	6	6	7	7	7	7	7	7	7
	Karya Bumi	10	6	6	6	6	6	6	6	6	6	6
Nipah Kuning	Sinar Utara	10	4	4	4	4	4	4	4	4	4	5
	Sinar Karya	10	3	3	3	3	3	3	3	3	4	4

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Forest fire														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	53	51	52	58	52	57	58	73	61	58	65	69	70	64	73

【 Village 】

Village	Sub-Village	Number of Sample	Forest fire														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Pemangkat	-	20	14	14	15	15	15	17	20	20	20	20	20	20	20	20	20
Pulau Kumbang	-	20	11	11	11	11	11	12	12	19	14	12	15	14	20	14	18
Nipah Kuning	-	20	8	6	6	12	6	8	6	14	7	6	10	15	10	10	15

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Forest fire														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Sutra A 4	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Pemangkat	Pangeran Jaya	10	5	5	5	5	5	7	10	10	10	10	10	10	10	10	10
	Penyekam Raya	10	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10
Pulau Kumbang	Pebahan Raya	10	8	8	8	8	8	8	8	10	6	6	8	8	10	9	9
	Karya Bumi	10	3	3	3	3	3	4	4	9	8	6	7	6	10	5	9
Nipah Kuning	Sinar Utara	10	4	3	3	8	3	3	3	10	3	3	5	8	3	3	9
	Sinar Karya	10	4	3	3	4	3	5	3	4	4	3	5	7	7	7	6

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Introduction oil palm plantation														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	0	0	0	0	0	0	0	2	4	6	7	12	16	20	46

【 Village 】

Village	Sub-Village	Number of Sample	Introduction oil palm plantation														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0	0	0	1	1	13
Pemangkat	-	20	0	0	0	0	0	0	0	2	4	6	7	12	14	15	15
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0	0	0	1	4	18

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Introduction oil palm plantation														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4
	Sutra A 4	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Pemangkat	Pangeran Jaya	10	0	0	0	0	0	0	0	1	3	5	6	6	6	7	7
	Penyekam Raya	10	0	0	0	0	0	0	0	1	1	1	1	6	8	8	8
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	0	0	0	0	0	1	3	8
	Sinar Karya	10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10

08Historical

【 All 】

Village	Sub-Village	Number of Sample	Migration from out side														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
-	-	80	74	74	74	74	74	80	80	80	80	80	80	80	80	80	80

【 Village 】

Village	Sub-Village	Number of Sample	Migration from out side														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	-	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Pemangkat	-	20	14	14	14	14	14	20	20	20	20	20	20	20	20	20	20
Pulau Kumbang	-	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Nipah Kuning	-	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Migration from out side														
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Padu Banjar	Sutra B 1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Sutra A 4	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Pemangkat	Pangeran Jaya	10	4	4	4	4	4	10	10	10	10	10	10	10	10	10	10
	Penyekam Raya	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Pulau Kumbang	Pebahan Raya	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Karya Bumi	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Nipah Kuning	Sinar Utara	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Sinar Karya	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

09Current Land Use

【 All 】

Village	Sub-Village	Number of Sample	Home Garden_Own land								Home Garden_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
-	-	80	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Home Garden_Own land								Home Garden_Rented land							
			Inside HL	Outside HL	HL	APL	Village	Communual land	Others	Uncertain	Inside HL	Outside HL	HL	APL	Village	Communual land	Others	Uncertain
Padu Banjar	-	20	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Home Garden_Own land								Home Garden_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Padu Banjar	Sutra B 1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0

09Current Land Use

【 All 】

Village	Sub-Village	Number of Sample	Wetland Paddy_Own land								Wetland Paddy_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
-	-	80	0	2	0	0	0	0	0	0	0	6	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Wetland Paddy_Own land								Wetland Paddy_Rented land							
			Inside HL	Outside HL	HL	APL	Village	Communual land	Others	Uncertain	Inside HL	Outside HL	HL	APL	Village	Communual land	Others	Uncertain
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Pemangkat	-	20	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Wetland Paddy_Own land								Wetland Paddy_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Padu Banjar	Sutra B 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	0	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

09Current Land Use

【 All 】

Village	Sub-Village	Number of Sample	Upland Dry Paddy_Own land								Upland Dry Paddy_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communua l land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communua l land	Others	Uncertain
-	-	80	0	26	0	0	0	0	0	0	0	12	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Upland Dry Paddy_Own land								Upland Dry Paddy_Rented land							
			Inside HL	Outside HL	HL	APL	Village	Communua l land	Others	Uncertain	Inside HL	Outside HL	HL	APL	Village	Communua l land	Others	Uncertain
Padu Banjar	-	20	0	9	0	0	0	0	0	0	0	7	0	0	0	0	0	0
Pemangkat	-	20	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Pulau Kumbang	-	20	0	8	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Nipah Kuning	-	20	0	8	0	0	0	0	0	0	0	1	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Upland Dry Paddy_Own land								Upland Dry Paddy_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communua l land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communua l land	Others	Uncertain
Padu Banjar	Sutra B 1	0	0	5	0	0	0	0	0	0	0	4	0	0	0	0	0	0
	Sutra A 4	0	0	4	0	0	0	0	0	0	0	3	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
	Penyekam Raya	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	0	0	7	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0

09Current Land Use

【 All 】

Village	Sub-Village	Number of Sample	Shifting Cultivation for Vegetables_Own land								Shifting Cultivation for Vegetables_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
-	-	80	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Shifting Cultivation for Vegetables_Own land								Shifting Cultivation for Vegetables_Rented land							
			Inside HL	Outside HL	HL	APL	Village	Communual land	Others	Uncertain	Inside HL	Outside HL	HL	APL	Village	Communual land	Others	Uncertain
Padu Banjar	-	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Shifting Cultivation for Vegetables_Own land								Shifting Cultivation for Vegetables_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Padu Banjar	Sutra B 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
	Sinar Karya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

09Current Land Use

【 All 】

Village	Sub-Village	Number of Sample	Rubber Plantation_Own land								Rubber Plantation_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
-	-	80	1	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0

【 Village 】

Village	Sub-Village	Number of Sample	Rubber Plantation_Own land								Rubber Plantation_Rented land							
			Inside HL	Outside HL	HL	APL	Village	Communual land	Others	Uncertain	Inside HL	Outside HL	HL	APL	Village	Communual land	Others	Uncertain
Padu Banjar	-	20	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	-	20	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	-	20	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	-	20	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Rubber Plantation_Own land								Rubber Plantation_Rented land							
			Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain	Inside NP	Outside NP	HL/HP	APL	Village	Communual land	Others	Uncertain
Padu Banjar	Sutra B 1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sutra A 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Penyekam Raya	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Karya Bumi	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nipah Kuning	Sinar Utara	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sinar Karya	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0

10Decision Making

【 All 】

Village	Sub-Village	Number of Sample	Customary Rules									Group activities_Practicing group activities						
			■I know the Village of rules	Natural resource management	Forest management	Landuse/ tenure	Conflict management	Financial management	Water resource use	Farming practice	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others
-	-	80	70	1	1	1	0	0	0	70	68	0	79	16	27	78	14	8

【 Village 】

Village	Sub-Village	Number of Sample	Customary Rules									Group activities_Practicing group activities						
			■I know the Village of rules	Natural resource management	Forest management	Landuse/ tenure	Conflict management	Financial management	Water resource use	Farming practice	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others
Padu Banjar	-	20	19	1	0	0	0	0	0	19	17	0	20	0	12	19	8	0
Pemangkat	-	20	12	0	0	0	0	0	0	12	12	0	20	16	6	20	1	0
Pulau Kumbang	-	20	19	0	0	1	0	0	0	20	20	0	20	0	2	20	1	0
Nipah Kuning	-	20	20	0	1	0	0	0	0	19	19	0	19	0	7	19	4	8

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Customary Rules									Group activities_Practicing group activities						
			■I know the Village of rules	Natural resource management	Forest management	Landuse/ tenure	Conflict management	Financial management	Water resource use	Farming practice	Others	Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others
Padu Banjar	Sutra B 1	10	10	0	0	0	0	0	0	9	9	0	10	0	6	9	5	0
	Sutra A 4	10	9	1	0	0	0	0	0	10	8	0	10	0	6	10	3	0
Pemangkat	Pangeran Jaya	10	8	0	0	0	0	0	0	8	8	0	10	9	5	10	1	0
	Penyekam Raya	10	4	0	0	0	0	0	0	4	4	0	10	7	1	10	0	0
Pulau Kumbang	Pebahan Raya	10	10	0	0	1	0	0	0	10	10	0	10	0	2	10	1	0
	Karya Bumi	10	9	0	0	0	0	0	0	10	10	0	10	0	0	10	0	0
Nipah Kuning	Sinar Utara	10	10	0	1	0	0	0	0	9	9	0	9	0	4	10	1	6
	Sinar Karya	10	10	0	0	0	0	0	0	10	10	0	10	0	3	9	3	2

10Decision Making

【 All 】

Village	Sub-Village	Number of Sample	Group activities_Participation in the activities							Group activities_Purpose of the participation				
			Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others	To access income resources	To ensure labor resources	To collect / share information	To communicate with the others	Others
-	-	80	0	77	16	8	62	2	4	0	1	1	28	59

【 Village 】

Village	Sub-Village	Number of Sample	Group activities_Participation in the activities							Group activities_Purpose of the participation				
			Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others	To access income resources	To ensure labor resources	To collect / share information	To communicate with the others	Others
Padu Banjar	-	20	0	19	0	4	17	0	0	0	0	0	5	20
Pemangkat	-	20	0	20	16	2	20	0	0	0	0	1	20	0
Pulau Kumbang	-	20	0	19	0	1	16	2	0	0	0	0	0	20
Nipah Kuning	-	20	0	19	0	1	9	0	4	0	1	0	3	19

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Group activities_Participation in the activities							Group activities_Purpose of the participation				
			Natural resource management	Social events (wedding. Funeral	House construction	Group farming	Religious	Coopa/ Credit Union	Others	To access income resources	To ensure labor resources	To collect / share information	To communicate with the others	Others
Padu Banjar	Sutra B 1	10	0	10	0	3	8	0	0	0	0	0	0	10
	Sutra A 4	10	0	9	0	1	9	0	0	0	0	0	5	10
Pemangkat	Pangeran Jaya	10	0	10	9	1	10	0	0	0	0	1	10	0
	Penyekam Raya	10	0	10	7	1	10	0	0	0	0	0	10	0
Pulau Kumbang	Pebahan Raya	10	0	10	0	1	8	2	0	0	0	0	0	10
	Karya Bumi	10	0	9	0	0	8	0	0	0	0	0	0	10
Nipah Kuning	Sinar Utara	10	0	9	0	0	4	0	3	0	1	0	2	10
	Sinar Karya	10	0	10	0	1	5	0	1	0	0	0	1	9

11Altntv Livelihood Rank

【 All 】

Village	Sub-Village	Number of Sample	No.1 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
-	-	80	6	18	4	5	6	0	4	1	1	0	1	22	4	1	1	0	6

【 Village 】

Village	Sub-Village	Number of Sample	No.1 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Padu Banjar	-	20	2	8	2	0	3	0	2	0	0	0	1	2	0	0	0	0	0
Pemangkat	-	20	2	5	2	2	1	0	1	1	1	0	0	2	3	0	0	0	0
Pulau Kumbang	-	20	2	3	0	0	0	0	1	0	0	0	0	9	1	1	0	0	3
Nipah Kuning	-	20	0	2	0	3	2	0	0	0	0	0	0	9	0	0	1	0	3

【 Sub-Village 】

Village	Sub-Village	Number of Sample	No.1 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Padu Banjar	Sutra B 1	10	1	3	2	0	2	0	0	0	0	0	0	2	0	0	0	0	0
	Sutra A 4	10	1	5	0	0	1	0	2	0	0	0	1	0	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	1	1	0	2	0	0	1	0	1	0	0	2	2	0	0	0	0
	Penyekam Raya	10	1	4	2	0	1	0	0	1	0	0	0	0	1	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	1	0	0	0	0	0	1	0	0	0	0	5	1	1	0	0	1
	Karya Bumi	10	1	3	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2
Nipah Kuning	Sinar Utara	10	0	2	0	2	2	0	0	0	0	0	0	2	0	0	1	0	1
	Sinar Karya	10	0	0	0	1	0	0	0	0	0	0	0	7	0	0	0	0	2

11Altntv Livelihood Rank

【 All 】

Village	Sub-Village	Number of Sample	No.2 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
-	-	80	5	8	0	2	9	0	8	0	4	3	3	17	5	0	1	0	10

【 Village 】

Village	Sub-Village	Number of Sample	No.2 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Padu Banjar	-	20	0	1	0	0	4	0	7	0	0	1	0	3	2	0	0	0	0
Pemangkat	-	20	4	2	0	2	1	0	0	0	1	2	0	7	0	0	0	0	0
Pulau Kumbang	-	20	1	3	0	0	1	0	0	0	0	0	1	2	3	0	1	0	6
Nipah Kuning	-	20	0	2	0	0	3	0	1	0	3	0	2	5	0	0	0	0	4

【 Sub-Village 】

Village	Sub-Village	Number of Sample	No.2 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Padu Banjar	Sutra B 1	10	0	0	0	0	2	0	4	0	0	0	0	2	1	0	0	0	0
	Sutra A 4	10	0	1	0	0	2	0	3	0	0	1	0	1	1	0	0	0	0
Pemangkat	Pangeran Jaya	10	2	0	0	2	1	0	0	0	1	1	0	2	0	0	0	0	0
	Penyekam Raya	10	2	2	0	0	0	0	0	0	0	1	0	5	0	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	1	1	0	0	1	0	0	0	0	0	1	1	2	0	0	0	3
	Karya Bumi	10	0	2	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3
Nipah Kuning	Sinar Utara	10	0	1	0	0	1	0	1	0	2	0	1	3	0	0	0	0	1
	Sinar Karya	10	0	1	0	0	2	0	0	0	1	0	1	2	0	0	0	0	3

11Altntv Livelihood Rank

【 All 】

Village	Sub-Village	Number of Sample	No.3 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
-	-	80	1	10	1	0	14	0	5	0	4	2	5	6	2	0	0	0	4

【 Village 】

Village	Sub-Village	Number of Sample	No.3 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Padu Banjar	-	20	0	3	1	0	2	0	4	0	1	2	1	2	0	0	0	0	0
Pemangkat	-	20	1	3	0	0	1	0	0	0	3	0	2	2	1	0	0	0	0
Pulau Kumbang	-	20	0	1	0	0	4	0	1	0	0	0	1	2	0	0	0	0	2
Nipah Kuning	-	20	0	3	0	0	7	0	0	0	0	0	1	0	1	0	0	0	2

【 Sub-Village 】

Village	Sub-Village	Number of Sample	No.3 Commercial cropping	Wetland paddy rice farming	Dry upland rice farming	Shifting cultivation	Raising livestock	Hunting animals	Trading	Labouring	Planting fruit trees	Handy crafts	Planting industrial trees: Oil palm:	Planting industrial trees: Rubber trees:	Fishery	Fish culture	Logging	Tour guide	Others
Padu Banjar	Sutra B 1	10	0	0	1	0	0	0	3	0	1	0	1	1	0	0	0	0	0
	Sutra A 4	10	0	3	0	0	2	0	1	0	0	2	0	1	0	0	0	0	0
Pemangkat	Pangeran Jaya	10	1	1	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0
	Penyekam Raya	10	0	2	0	0	1	0	0	0	2	0	0	2	1	0	0	0	0
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	4	0	1	0	0	0	1	0	0	0	0	0	0
	Karya Bumi	10	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Nipah Kuning	Sinar Utara	10	0	1	0	0	4	0	0	0	0	0	1	0	0	0	0	0	1
	Sinar Karya	10	0	2	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1

12Support GV_NGO

【 All 】 Maximam Number of response is three

Village	Sub-Village	Number of Sample	Supported organizations				
			Central Gv	District Gv.	NGO	Prv company	Others
-	-	80	42	29	1	0	0

【 Village 】 Maximam Number of response is three

Village	Sub-Village	Number of Sample	Supported organizations				
			Central Gv	District Gv.	NGO	Prv company	Others
Padu Banjar	-	20	21	2	1	0	0
Pemangkat	-	20	3	20	0	0	0
Pulau Kumbang	-	20	15	4	0	0	0
Nipah Kuning	-	20	3	3	0	0	0

【 Sub-Village 】 Maximam Number of response is three

Village	Sub-Village	Number of Sample	Supported organizations				
			Central Gv	District Gv.	NGO	Prv company	Others
Padu Banjar	Sutra B 1	10	10	1	1	0	0
	Sutra A 4	10	11	1	0	0	0
Pemangkat	Pangeran Jaya	10	0	11	0	0	0
	Penyekam Raya	10	3	9	0	0	0
Pulau Kumbang	Pebahan Raya	10	5	0	0	0	0
	Karya Bumi	10	10	4	0	0	0
Nipah Kuning	Sinar Utara	10	3	1	0	0	0
	Sinar Karya	10	0	2	0	0	0

12Support GV_NGO

【 All 】

Village	Sub-Village	Number of Sample	Contents												
			Helth care	Natural resource managemen	Agriculture technical,tool,material	Forest management	Plantation	Capacity Building	Business training.	cheap rice	BLT	seeds, fertilizer and herbicide	electricity instalation	tools and equipment	Others
-	-	80	0	0	1	0	4	0	0	65	21	15	1	1	5

【 Village 】

Village	Sub-Village	Number of Sample	Contents												
			Helth care	Natural resource managemen	Agriculture technical,tool,material	Forest management	Plantation	Capacity Building	Business training.	cheap rice	BLT	seeds, fertilizer and herbicide	electricity instalation	tools and equipment	Others
Padu Banjar	-	20	0	0	0	0	2	0	0	16	4	3	0	1	0
Pemangkat	-	20	0	0	1	0	0	0	0	17	0	6	1	0	1
Pulau Kumbang	-	20	0	0	0	0	1	0	0	17	13	4	0	0	3
Nipah Kuning	-	20	0	0	0	0	1	0	0	15	4	2	0	0	1

【 Sub-Village 】

Village	Sub-Village	Number of Sample	Contents												
			Helth care	Natural resource managemen	Agriculture technical,tool,material	Forest management	Plantation	Capacity Building	Business training.	cheap rice	BLT	seeds, fertilizer and herbicide	electricity instalation	tools and equipment	Others
Padu Banjar	Sutra B 1	10	0	0	0	0	2	0	0	8	3	1	0	0	0
	Sutra A 4	10	0	0	0	0	0	0	0	8	1	2	0	1	0
Pemangkat	Pangeran Jaya	10	0	0	1	0	0	0	0	7	0	4	1	0	0
	Penyekam Raya	10	0	0	0	0	0	0	0	10	0	2	0	0	1
Pulau Kumbang	Pebahan Raya	10	0	0	0	0	1	0	0	7	4	0	0	0	1
	Karya Bumi	10	0	0	0	0	0	0	0	10	9	4	0	0	2
Nipah Kuning	Sinar Utara	10	0	0	0	0	0	0	0	9	3	1	0	0	1
	Sinar Karya	10	0	0	0	0	1	0	0	6	1	1	0	0	0

Supplemental Document 2

Indonesia-Japan Project for Development of REDD+ Implementation Mechanism (REDD+ Planning Study)

Report of Developing REDD+ Base Maps for Targeted 4 Districts and Gunung Palung National Park Landscape

Japan International Cooperation Agency (JICA)

Mitsubishi UFJ Research and Consulting

Japan Forest Technology Association

March. 2016 (Version: 6 March. 2016)

Indonesia-Japan Project for Development of REDD+ Implementation Mechanism (REDD+ Planning Study)

Report of Developing REDD+ Base Maps for 4 Targeted Districts and Gunung Palung National Park Landscape

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Scale-downed Example of REDD+ Base Map

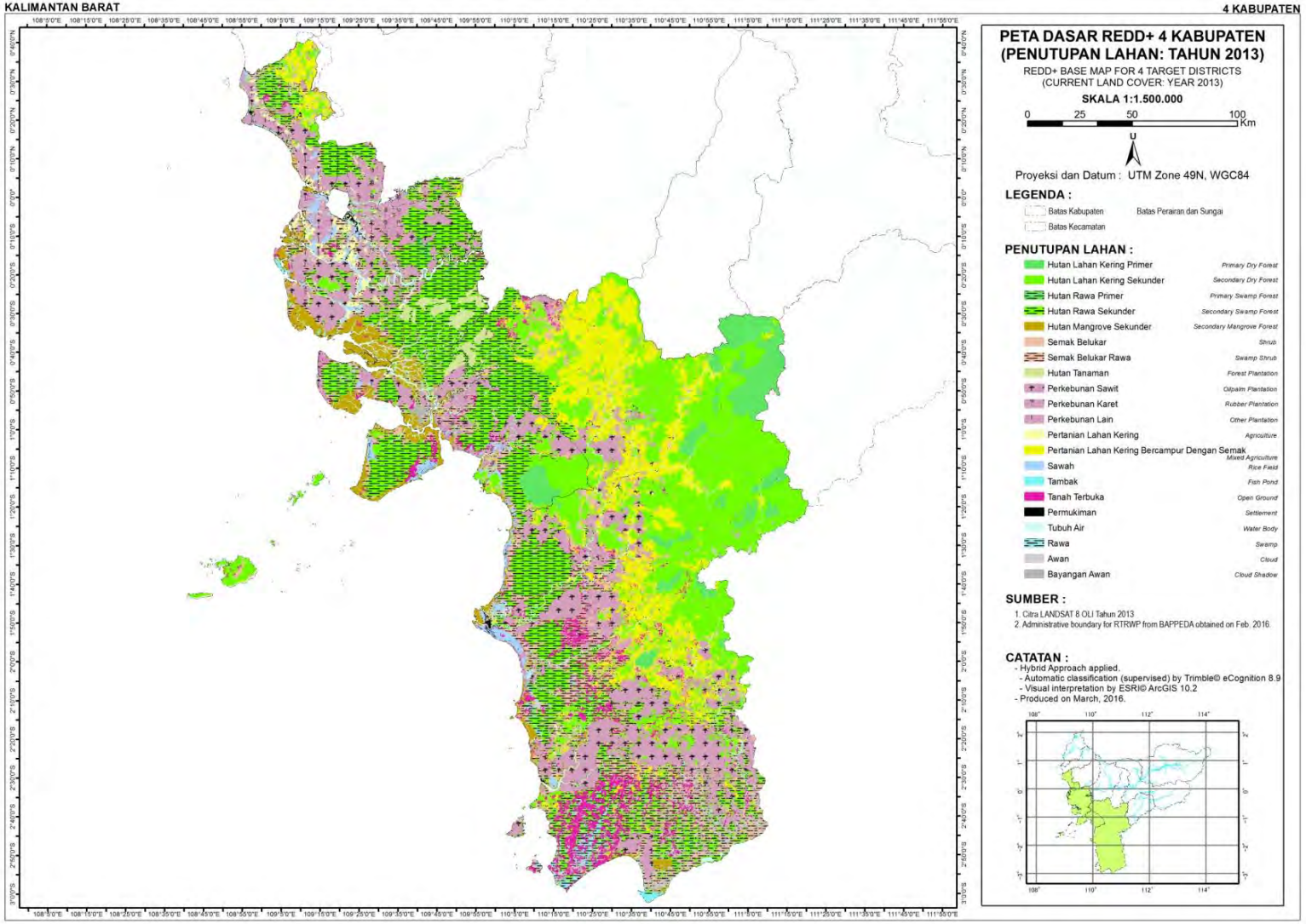


Figure 1 REDD+ Base Map for 4 Target Districts for 2013

Chapter 1 Summary and Introduction

Background and Objectives

Developing REDD+ base maps (REDD+ base map) aims at preparing basic geospatial information in maps. It will contribute to emerging issues in planning for REDD+ implementation including trial Forest Reference Emission Level (FREL) as a base line scenario, for analysis of land cover change and drivers of deforestation or forest degradation.

The minimum requirement of REDD+ base maps is still be controversial how different with usual land use/land cover (LU/LC) legalized by the relevant authorities. According to such controversial situation, this REDD+ base mapping have required several trial and error experiences. So technical cooperation acquires some kind of action researches for how to harmonize the internationally discussed methodologies to prepare LU/LC maps for REDD+ into the Indonesian context.

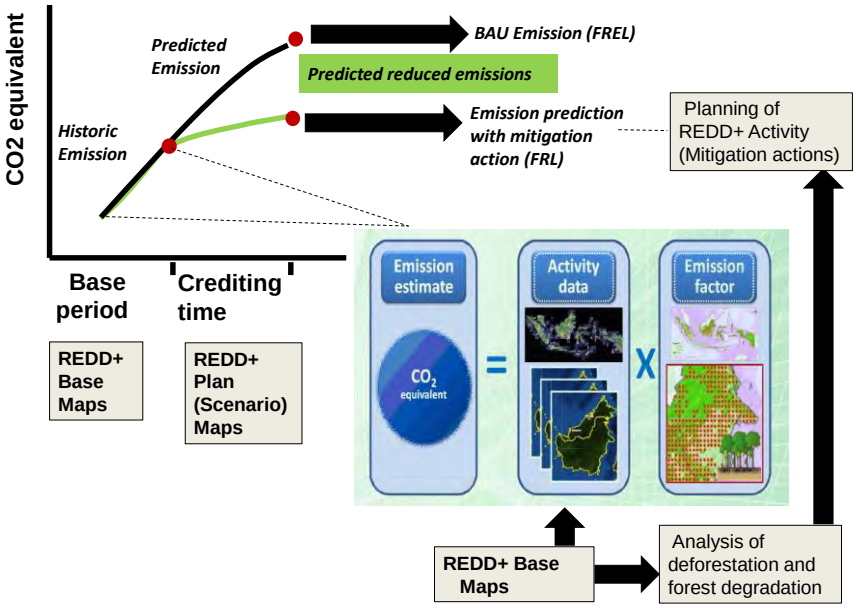


Figure 2 Targeted Role of REDD+ Base Maps

These experiences can provide lessons learned useful for more appropriate and effective governmental policy and system concerned with one of REDD+ readiness issues, the development of robust and transparent national and sub-national forest monitoring system (Measurement, Reporting and Verification , MRV system) to support exploring financial options for full-implementation of result-based actions recommended by the Decision 1 of COP 16 UNFCCC.

This Report on Developing REDD+ Base Maps for Targeted 4 Districts and Gunung Palung National Park Landscape (REDD+ base mapping report) describe the methods and process of preparing maps developed in the course of Japanese Consultancy Services for REDD+ Planning Study as Short-term Experts Services for the above mentioned researches, based on the project basic

documents.

Overview of Methodology and Outline of Results

The scope, methodology and results of this REDD+ base mapping is as fallows.

a) Targets of base mapping:
   i. Maps for Targeted 4 Districts (Mempawah, Kubu Raya, Kayong Utara, Ketapang): Trial FREL/ Monitoring development and REDD+ potential site scoping
   ii. Maps for Gunung Palung National Park and its Landscape (GPNP Landscape: Sukadana and Simpang Hilir Sub-districts of Kayong Utara District): Trial development of Project Design for REDD+ project

b) Description of maps: Digital GIS maps showing the location of land covers at temporal series (4 past time and Current time: 2013) harmonizing Indonesian Standard's Land cover classification (SNI 7645) and MoF's Forest Mapping Standard [1]

c) Source of data: Whole area using middle resolution satellite imagery (Landsat [2000-2013]); GPNP Landscape using also high resolution satellite imagery (SPOT [2013])

d) Interpretation: Hybrid approach combining automated classification techniques with visual correction using the ground surveys in Feb., Apr. and Oct. 2014, and confirming the ground reference data from the technical stakeholders of provincial level (e.g. Mr. Heri, Dishut Prov., Mr. Hendarto, Disbun Prov.) and from the representative of each district in May and Oct. 2015, especially on the land covers in the State Forests.

e) Targeted enlargeable scale of digital maps: Around 1:150,000 equivalent to inventory result maps of provincial to district level according to MoF's Regulation[2]

[1] Peraturan Direktur Jenderal Planologi Kehutanan Nomor: P.3/VII-IPSDH/2014 tentang Petunjuk Teknis Penggambaran dan Penyajian Peta Kehutanan (25 Maret 2014)

[2] Peraturan Menteri Kuhutanan Nomor: P.67/Menhut-II/2006 tentang Kriteria dan Standar Inventarisasi Hutan

Chapter 2 Methodologies

2.1. Basic Design of Method and Process

2.1.1. Basic Concept, Logics and Theory, and Rational

The REDD+ base mapping aims at contributing to emerging issues for REDD+ implementation. These issues includes identification and estimation of LU/LC and forestry activities that have links to the drivers of deforestation and forest degradation.

REDD+ base mapping in this REDD+ Planning Study basically applied remote sensing technology, but with a **Hybrid Approach.** This hybrid approach combined automated digital segmentation and classification with visual interpretation. Visual interpretation and validation of the resulting classes/polygons guarantees certain quality of provided maps. The hybrid approach is a candidate of robust and cost effective method mentioned in GOFC-GOLD Sourcebook[3] (2013, 2.1.2).

The minimum requirement of REDD+ base maps is still be controversial how different with usual land use/land cover (LU/LC) legalized by the relevant authorities. Because the Indonesian National Standard on Land Cover Classification introduces the international land cover classification system by UN-FAO and ISO19144 ISO19144-1(Geographical Information-Classification System based on UN-FAO classification system), while the past LU/LC maps prepared by the Indonesian authorities applies own land classification system. The appropriate method should be developed by harmonizing internationally discussed methodologies into the orthodox Indonesian methodology.

The selection of method depends on available resources and whether image processing software is available. Visual scene to scene interpretation of forest area change can be simple and robust, although it is a quite time-consuming approach. A combination of automated methods (segmentation or classification) and visual interpretation can reduce the work load.

Automated methods are generally preferable where possible because the automated interpretation is repeatable and is sufficiently replicable. Even in a fully automated process, visual inspection of the results is very effective. This kind of inspection by whom familiar with the region should be carried out to ensure appropriate quality of provided map.

The remote sensing data used are mainly imageries obtained by optical medium resolution sensor. Because one use of REDD+ base maps is historical reference scenario analysis which requires consistency with historical data archives. And basic mapping design for inventory in provincial and district level of Ministry of Forestry (MoF) was applied as shown in Table 1 and

Table 2.

[3] GOFC-GOLD, 2013, A sourcebook of methods and procedures for monitoring and reporting anthropogenic greenhouse gas emissions and removals associated with deforestation, gains and losses of carbon stocks in forests remaining forests, and forestation. GOFC-GOLD Report version COP19-2, (GOFC-GOLD Land Cover Project Office, Wageningen University, The Netherlands)

Table 1 Targeted Basic Design for Base Mapping

No.	Perspective	Targeted Area	Basic design	Rational/ Remarks
1	Targeted minimum mapping unit (MMU)	4 District	1 ha	Appropriate to historic analysis (GOFC-GOLD Sourcebook)
		GPNP & its landscape	1 ha	Ditto
2	Targeted enlargeable scale	4 District	1:250,000-1:150,000	(Part of) provincial level; MoF (2006)[4]
		GPNP & its landscape	1: 100,000	(Part of) district level; MoF (2006)[5]
3	Targeted mapping scope	4 District	45,165 km2	Actual: 45,148.11 km2
		GPNP & its landscape	5,990 km2	Actual: 2,222.68 km2
4	Shore line/ water body boundary	Both	According to satellite imagery	
5	Road boundary	Both	Not drawn	
6	Geodetic system	Both	UTM	MoF (2014)[6]
7	Administrative boundary source	District	Bappeda	Administrative boundary for RTRWP. Acquired in March 2016. from BAPPEDA
		Sub-district	Bappeda	Administrative boundary for RTRWP. Acquired in March 2016. from BAPPEDA
8	Marginal date specification	Both	MoF (2014)[7]	45,148.11 km^2
9	Classification	Land cover	SNI: 7645:2010[8]	2,222.68 km^2

Table 2 Targeted Basic Design for Land Cover/ Land Use Classification

No	Forest classification of the MoF		Four districts under IJ-REDD+	GPNP & its landscape
	Bahasa	English		
1	Hutan Lahan Kering Primer	*Primary Dry Land Forest*	Primary Dry Land Forest	Primary_Dry Land_Forest_high[9]
				PrimaryDryForest_low[10]
2	Hutan Lahan Kering Sekunder	*Secondary Dry Land Forest*	Secondary Dry Land Forest	SecondaryDryForest_G[11]
				SecondarySwampForest_MN[12]
				SecondaryDryForest_ML[13]
3	Hutan Mangrove Primer	*Primary Mangrove Forest*	Primary Mangrove Forest	Primary Mangrove Forest
4	Hutan Rawa Primer	*Primary Swamp Forest*	Primary Swamp Forest	Primary Swamp Forest
5	Hutan Tamanan	*Planting Forest*	Forest plantation	
6	Semak Belukar	*Bushes*	Bushes	
7	Perkebunan	*Plantation Area*	Plantation oilpalm	Plantation oilpalm
			Plantation rubber	Plantation rubber

4 Peraturan Menteri Kuhutanan Nomor: P.67/Menhut-II/2006 tentang Kriteria dan Standar Inventarisasi Hutan

5 Peraturan Menteri Kuhutanan Nomor: P.67/Menhut-II/2006 tentang Kriteria dan Standar Inventarisasi Hutan

6 Peraturan Direktur Jenderal Planologi Kehutanan Nomor: P.3/VII-IPSDH/2014 tentang Petunjuk Teknis Penggambaran dan Penyajian Peta Kehutanan (25 Maret 2014)

7 Peraturan Direktur Jenderal Planologi Kehutanan Nomor: P.3/VII-IPSDH/2014 tentang Petunjuk Teknis Penggambaran dan Penyajian Peta Kehutanan (25 Maret 2014)

8 Standar Nasional Indonesia/SNI 7645:2010. Klasifikasi penutup lahan

9 "Primary_Dry Land_Forest_high" is equivalent of " Primary Dry Forest <<LARGE BIOMASS>>" in the main report.

10 "PrimaryDryForest_low" is equivalent of Primary Dry Forest <<SMALL BIOMASS>> in the main report.

11 "Secondary Dry Land Forest_Grande (G)" is equivalent of "Secondary Dry Forest <<LARGE BIOMASS>>" in the main report.

12 "SecondarySwampForest_MN" is equivalent of "Secondary Swamp Forest <<MEDIUM BIOMASS>>" in the main report.

13 "SecondarySwampForest_ML" is equivalent of "Secondary Swamp Forest <<SMALL BIOMASS>>" in the main report.

No	Forest classification of the MoF		Four districts under IJ-REDD+	GPNP & its landscape
	Bahasa	English		
			Plantation_others	Plantation_others
8	Permukiman	*Residential Area*	Settlement	Settlement
9	Tanah Terbuka	*Open Land*	Open Ground	Open Ground
10	Rumput	*Grass*	Grassland	Grassland
11	Air	*Water*	Water Body	Water Body
12	Hutan Mangrove Sekunder	*Secondary Mangrove Forest*	Secondary Mangrove Forest	Secondary Mangrove Forest
13	Hutan Rawa Sekunder	*Secondary Swamp Forest*	Secondary Swamp Forest	SecondarySwampForest_MN[14]
				SecondarySwampForest_ML[15]
14	Belukar Rawa	*Swamp Bush*	Swamp shrub	Swamp shrub
15	Pertanian Lahan Kering	*Dry Agricultural Field*	Agriculture	Agriculture
16	Pertanian Lahan Kering Campur (agroforest)	*Dry Agricultural Field (agroforest)*	Mixed Agriculture	Mixed Agriculture
17	Sawah	*Rice Field*	Rice Field	Rice Field
18	Tambak	*Dikes*	Water Body	Water Body
19	Bandara/Pelabuhan	*Airport/Port*	Settlement	Settlement
20	Transmigrasi	*Transmigration Area*	Settlement	Settlement
21	Pertambangan	*Mining Area*	Open Ground	Mining
22	Rawa	*Swamp*	Swamp	Swamp

2.1.2. Basic Methods of Remote Sensing Analysis

The basic design of change assessment is shown in Table 3. From the perspective of development of sustainable and robust monitoring system, Major consideration is availability of medium resolution satellite imagery[16] and potential availability of high resolution satellite imagery[17].

Table 3 Targeted Basic Design for Remote Sensing

No.	Perspective	Targeted Area/ Satellite/ Method	Basic design	Rational/ Remarks
1	Satellite imagery	4 District	Landsat- 7 & 8	
		GPNP & its landscape	Same but with SPOT-6	
2	Imagery scope	Landsat	220,150 km^2 (7 scenes)	Per one time
		SPOT	5, 639 km^2 (5 scenes)	
3	Imagery scene selection	Landsat	Cloud coverage: approximately less than 10%	
		SPOT	Cloud coverage: approximately less than 10%	
4	Geometric correction	Landsat	No additional correction from USGS	USGS: corrected
		SPOT	Additional correction by SPOT	SPOT: corrected
5	Color/Band combination	Landsat	Landsat (R: SWIR, G: NIR, B:RED)	
		SPOT	SPOT (R: GREEN, G:NIR, B:RED)	
6	Delineation	Semi-automated interpretation	1) Object-based segmentation 2) Visual delineation (some delineation) in correction phase	Appropriate to MMU 1-5ha (GOFC-GOLD Sourcebook)
7	Class labeling	Semi-digital classification	1) Supervised labeling with training 2) Visual interpretation (full image) in correction phase	Ditto

14 "SecondarySwampForest_MN" is equivalent of "Secondary Swamp Forest <<MEDIUM BIOMASS>>".

15 "SecondarySwampForest_ML" is equivalent of "Secondary Swamp Forest <<SMALL BIOMASS>>".

16 The USGS has established a no charge Web access to the full Landsat USGS archive. The full Landsat 8 OLI (since June 2013) and Landsat 7 ETM+ (since 1999) USGS archives. Until now, Landsat, given its low cost and unrestricted license use, has been the workhorse source for mid-resolution (10-50 m) data analysis.

17 Instruksi Presiden Republik Indonesia Nomor 6 Tahun 2012 tentang Penyediaan, Penggunaan, Pengendalian Kualitas, Pengolahan dan Distribusi Data Satelit Penginderaan Jauh Resolusi Tinggi

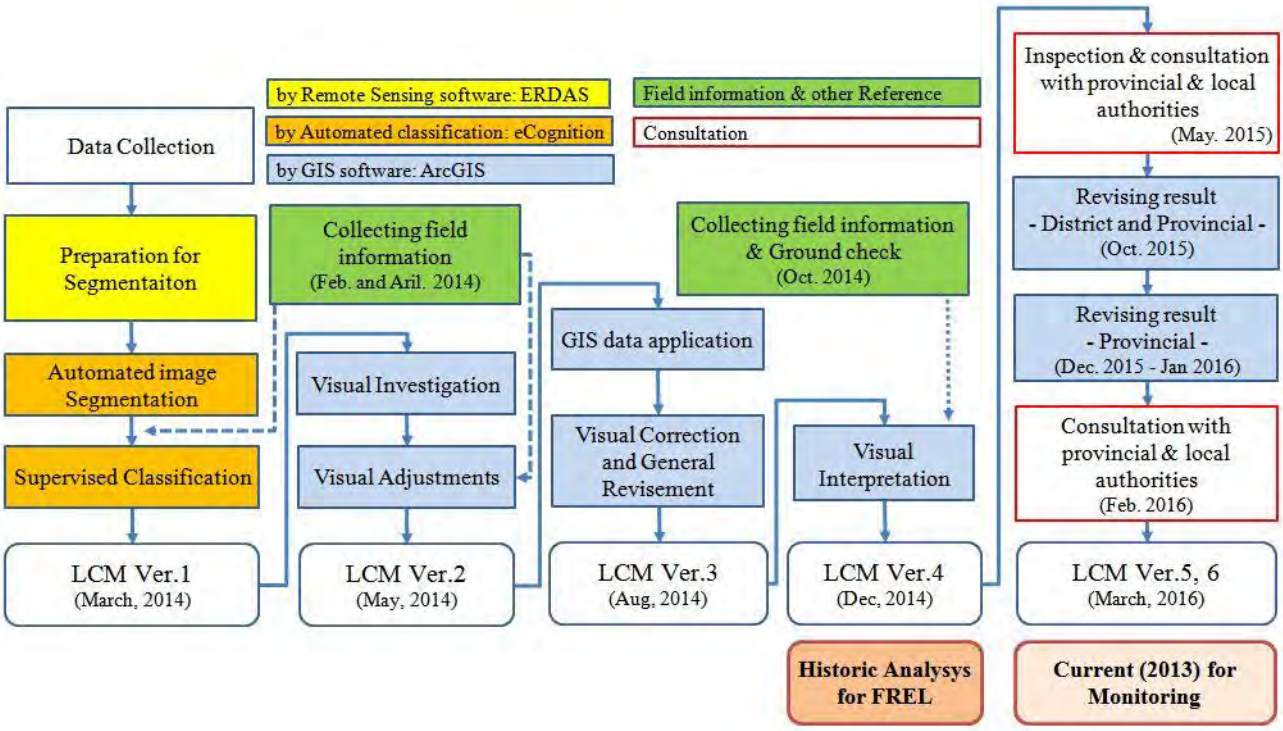


Figure 3 Flowchart of Mapping process

2.1.3. Internal QA/QC

The REDD+ Base Mapping also adopted an internal quality assurance system of Japan Forest Technology Association (JAFTA) verified by ISO 9001.

2.2. Satellite Imagery

In this REDD+ base mapping, the base period during 2000 until 2013 was tried to set for trial FREL prediction with approximate 5 years interval of multi-temporal imageries, while 2011 was added to try to assess the change of illegal logging issues in Gunung Palung landscape.

In general, Landsat-type data around years 1990, 2000, 2005 and 2010 will be most suitable to assess historical rates and patterns of deforestation. The availability of free Landsat data has increased in recent years and more detailed assessments of less than five years time-span could be possible globally. Because of sensor error of Landsat-7, we used the mosaic data processed by INCAS-LAPAN for 2009 and 2011.

Figure 4 Scope of Mapping/Analysis and Satellite Imagery Covering (Landsat)

Table 4 Satellite Imagery Data Used (Landsat)

2000 (Sources: USGS)		2006 (Sources: USGS)		2009 (Sources: INCAS)	2011 (Sources: INCAS)	2013 (Sources: USGS)	
File name	Acquired date	File name	Acquired date	File name	File name	File name	Acquired date
LE71200602001134SGS00	14-May-2001	LT51200602006268BKT00	25-Sep-2006	MOSAIK_2009_NUTM49_N01	MOSAIK_2011_NUTM49_N01	LC81200602013175LGN00	24-Jun-2013
LE71200612001134SGS00	14-May-2001	LT51200612006268BKT00	25-Sep-2006	MOSAIK_2009_NUTM49_S01	MOSAIK_2011_NUTM49_S01	LC81200612013175LGN00	24-Jun-2013
LE71200622001134SGS00	14-May-2001	LT51200622006268BKT00	25-Sep-2006	MOSAIK_2009_NUTM49_S02	MOSAIK_2011_NUTM49_S02	LC81200622013175LGN00	24-Jun-2013
LE71210602001173SGS00	22-Jun-2001	LT51210602005224BKT00	12-Aug-2005	MOSAIK_2009_NUTM49_S05	MOSAIK_2011_NUTM49_S05	LC81210602013166LGN00	15-Jun-2013
LE71210612001173SGS00	22-Jun-2001	LT51210612005224BKT00	12-Aug-2005			LC81210612013166LGN00	15-Jun-2013
LE71210622001173SGS00	22-Jun-2001	LT51210622005224BKT00	12-Aug-2005			LC81210622013150LGN00	30-May-2013
LE71220602001180DKI01	29-Jun-2001	LT51220602005199BKT00	18-Jul-2005			LC81220602013157LGN00	6-Jun-2013

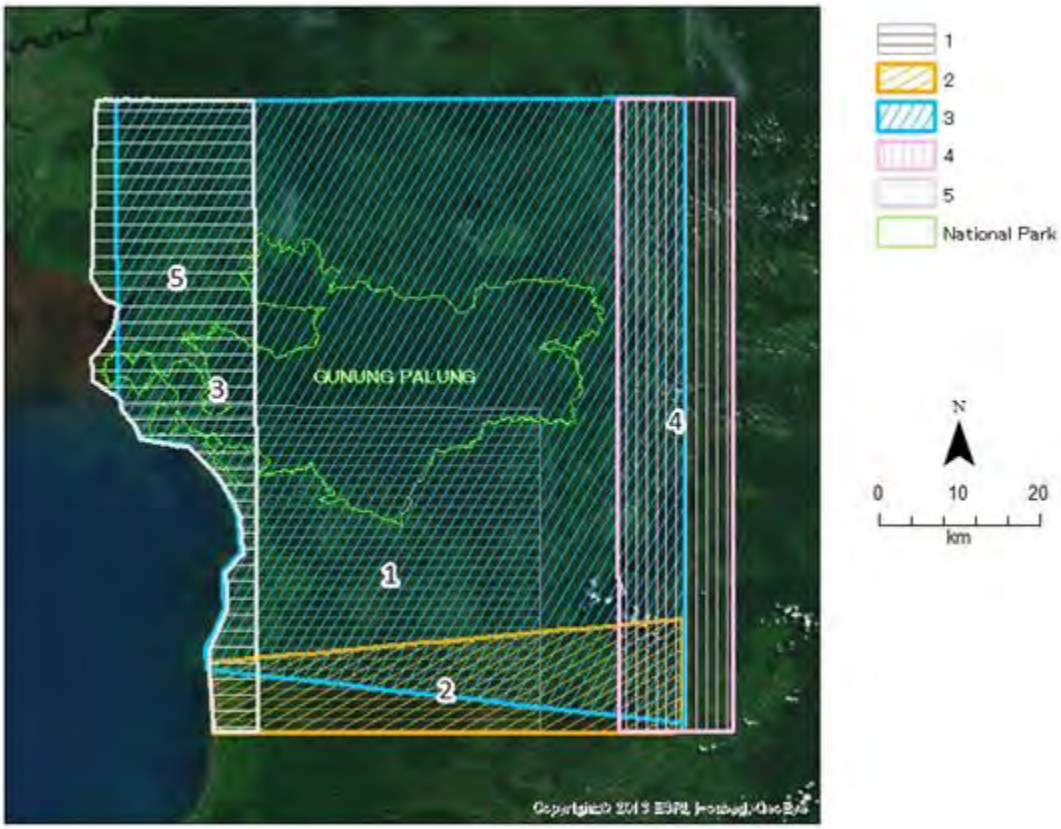


Figure 5 Scope of Mapping/Analysis and Satellite Imagery Covering (SPOT6)

Table 5 Satellite Imagery Data Used (SPOT6)

No	Scene ID	Acquired date
	DS_SPOT6_201306220251152_FR1_FR1_SE1_SE1_E110S01_03738	2013/6/22
2	DS_SPOT6_201307080228325_FR1_FR1_SE1_SE1_E110S01_04307	2013/7/8
3	DS_SPOT6_201306240235567_FR1_FR1_SE1_SE1_E111S02_07635	2013/6/24
4	DS_SPOT6_201310060235006_FR1_FR1_SE1_SE1_E110S02_04956	2013/10/6
5	DS_SPOT6_201308010243382_FR1_FR1_SE1_SE1_E110S02_01709	2013/8/1

2.3. Pre-processing of Satellite Imagery

Satellite imagery usually goes through three main pre-processing steps: 1) geometric corrections are needed to ensure that images in a time series overlay properly, and 2) cloud removal is usually the second step in image pre-processing and then 3) radiometric corrections are recommended to make change interpretation easier (by ensuring that images have the same spectral values for the same objects).

The geometric corrections of satellite imagery used was not processed taking into consideration the pre-processing by USGS (see Table 6 below).

Table 6 Specification of Satellite Imagery Product (Landsat)

Perspective	LANDSAT ETM+ (LANDSAT7)	LANDSAT OLI &TRS (LANDSAT 8)
Product Type	L1T Terrain Corrected	L1T Terrain Corrected
Pixel Size	ETM+ Multispectral bands: 30 meters	OLI Multispectral bands: 30 meters
Data characteristics	1) GeoTIFF data format 2) Cubic Convolution (CC) resampling 3) North Up (MAP) orientation 4) Universal Transverse Mercator (UTM) map projection (Polar Stereographic for Antarctica) 5) World Geodetic System (WGS) 84 datum 6) Standard Terrain Correction (Level 1T) provides systematic radiometric and geometric accuracy by incorporating ground control points while employing a Digital Elevation Model (DEM) for topographic accuracy. Geodetic accuracy of the product depends on the accuracy of the ground control points and the resolution of the DEM used: 7) Ground control points used for Level 1T correction come from the GLS2000 data set. DEM sources include SRTM, NED, CDED, DTED, and GTOPO 30	1) GeoTIFF data format 2) Cubic Convolution (CC) resampling 3) North Up (MAP) orientation 4) Universal Transverse Mercator (UTM) map projection (Polar Stereographic for Antarctica) 5) World Geodetic System (WGS) 84 datum 6) 12 meter circular error, 90% confidence global accuracy for OLI 7) 16-bit pixel values

Table 7 Specification of Satellite Imagery Product (SPOT6)

Perspective	SPOT6
Product Type	Primary product
Pixel Size	Panchromatic: 1.5m Multispectral: 6m
Data characteristics	1) GeoTIFF data format 2) Processing level closest to the image acquired by the sensor 3) Rational polynomial coefficients (RPCs) and the sensor model are provided 4) Projection Geographic: WGS 84 Cartographic: UTM WGS 84 5) Product encoding : 8bits 6) Spectral bands • Panchromatic: 450 - 745 nm • Multispectral Blue: 450 - 520 nm Green: 530 - 590 nm Red: 625 - 695 nm Near-infrared: 760 - 890 nm

2.4. Preparation of Interpretation

The following data preparation was conducted for imagery interpretation.

2.4.1. Mosaic processing

The selected scenes which were taken on the same date and same year were processed into one mosaic composite image by using ERDAS Imagine (parameters were "default" values). On the other hand, the scenes taken on the different date were combined after delineation and class labeling.

2.4.2. Calculation of Normalized Difference Vegetation Index (NDVI)

NDVI is calculated from the visible and near-infrared light reflected by vegetation. This index shows difference between healthy vegetation and unhealthy or sparse vegetations. Healthy vegetation absorbs most of visible light but reflects large portion of near-infrared light. On the other hand,

unhealthy or sparse vegetation reflects more visible light and less near-infrared light than healthy vegetation.

Formula 1. NDVI = (NIR -VIS)/ (NIR + VIS)

VIS: Red light band

Calculated value of NDVI for a given pixel always falls a range from minus one (-1) to plus one (+1); A zero value of NDVI means no vegetation and the indicates close to +1 (0.8 - 0.9) is the highest possible density of green leaves. Calculation of NDVI was conducted using ERDAS Imagine in order to increase quantitative training parameters for automated class labeling.

2.4.3. Principal Components Analysis (PCA)

The bands of PCA data are non-correlated and independent, and are often more interpretable than the source data.[18] PCA was conducted on 6 bands data for Landsat and 4 band data for SPOT6 by using ERDAS Imagine. The primary factor implicates brightness of imagery while the secondary factor implicates vegetation.

2.5. Semi-Automated Delineation and Class Labeling

2.5.1. Object based segmentation and digital classification

(1) Object based segmentation

Image segmentation is the process of partitioning an image into groups of pixels that are spectrally similar and spatially adjacent. Boundaries of grouped pixels delineate ground objects same as human analysts would do based on its shape, tone and texture.

Segmentation for delineating image objects reduces the processing time of image analysis. The delineation result provided by this approach is not only more rapid and automatic but also finer than what could be achieved by manual approach. It is repeatable and therefore more objective than a visual delineation by analyst.

The composite image of 6 bands layers of imagery, PCA layer and NDVI layer were processed by using e-Cognition for object based segmentation. (scale parameter=250 which a polygon unit less than 1ha can be generated; other parameters were "default" values).

(2) Digital classification

Digital classification is applied in case of automatic delineation of segments. The supervised object classification should ideally use a common predefined standard training data set of spectral signatures

18
a) Jensen, John R. 1986. Introductory Digital Image Processing. Englewood Cliffs, New Jersey: Prentice-Hall.
b) Faust, Nickolas L. 1989. "Image Enhancement." Volume 20, Supplement 5 of Encyclopedia of Computer Science and Technology, edited by Allen Kent and James G. Williams. New York: Marcel Dekker, Inc.

for each class to create initial forest maps. And after segmentation, it is recommended to conduct two supervised classifications separately on two multi-date images. instead of applying a single supervised object classification on the image pair.

The multi-date segmentation followed by supervised classification of individual dates is considered more efficient to classify large number of images. If a segmentation approach is used, the image processing can be ideally decomposed as follows.

a) Multi-date image segmentation is applied on image pairs: groups of adjacent pixels that show similar area change trajectories between the 2 dates are delineated into objects
b) Training areas are selected for all land classes
c) Objects from every extract (every date) are classified separately by supervised clustering procedures

Class labeling of land cover map version 1 of IJ-REDD+ was conducted using eCognition with applying Maximum Likelihood Estimation (MLE) as follows.

Table 8 Basic Design of Supervised Class Labeling with Training (Landsat)

Path and Row	Class code	Class name	Mean														Num. of samples
			BLUE	GREEN	RED	NIR	IR1	IR2	NDVI	PCA 1	PCA 2	PCA 3	PCA 4	PCA 5	PCA 6	PCA 7	PCA 8	
120-60~62	98	Cloud Shade	760	856	736	5227	2392	1091	0.75	7917	703	2508	1462	130	-13	27	-23	12
	99	Cloud	8602	9151	9553	17490	12281	8900	0.33	24415	-12952	-5342	2670	183	-155	-65	-74	12
	2002	Secondary Dry Forest	743	1151	745	12498	4891	1761	0.89	15135	1954	116	412	73	45	-57	-20	11
	2007	Shrub	870	1588	952	17692	7316	2763	0.90	20455	1997	-1945	-847	79	70	-13	25	11
	2010	Plantation	1024	1612	1173	15055	6788	2623	0.86	18450	1350	-259	-187	-5	-8	-25	-26	12
	2012	Settlement	1972	2839	3171	11716	8824	4929	0.57	17742	-3204	2215	-250	-11	326	-30	64	7
	2014	Open Ground	1930	2795	3575	10006	10801	6073	0.49	17781	-5075	4307	-1347	-140	261	-46	-58	15
	5001	Water Body	1104	1397	1610	2678	1564	775	0.02	6320	-80	4615	3151	-271	114	-23	17	10
	20051	Secondary Swamp Forest	922	1373	931	12287	4563	1630	0.86	14927	1872	175	904	20	38	43	-6	21
	20071	Swamp Shrub	1236	2114	1645	14421	7486	3018	0.79	18204	78	-309	-475	-253	-98	142	60	11
	20091	Agriculture	1217	1952	1845	10068	7611	3708	0.68	15537	-1484	3135	-320	-60	-65	-34	123	1
	20092	Mixed Agriculture	859	1492	955	14413	6399	2401	0.88	17510	1488	-369	-277	-14	-38	-10	37	11
	20093	Rice Field	1487	2276	2302	10723	7688	3810	0.64	16138	-1796	2591	-36	-148	49	-44	86	3
	20094	Fish Pond	1349	1775	1748	2227	890	504	0.09	5622	-183	4370	3808	-319	38	239	114	13
	20141	Mining	4522	5750	6944	13152	13092	9082	0.33	22456	-9874	2302	-71	242	861	-83	150	14
	50011	Swamp	1071	1336	1356	5199	2218	1030	0.58	8541	534	3481	2615	-80	109	107	-17	10
121-60	98	Cloud Shade	780	954	859	5970	3207	1453	0.74	11917	-119	4854	335	206	-39	-195	-41	10
	99	Cloud	5554	6248	6512	16330	11672	7541	0.45	23521	-8909	-3924	3711	344	-149	-68	69	10
	2002	Secondary Dry Forest	451	858	529	11398	4249	1489	0.91	15744	1427	1105	-102	43	-75	60	33	14
	2006	Plants Forest	780	1079	862	10506	3811	1467	0.85	14766	1071	1285	458	90	3	14	69	10
	2007	Shrub	667	1425	952	15065	6502	2438	0.88	19828	704	-692	-451	-103	68	-8	-26	11
	2010	Plantation	969	1569	1200	14631	6684	2721	0.84	19723	109	-418	-277	4	-6	-4	45	11
	2012	Settlement	3092	3519	4147	8286	8301	6180	0.33	17352	-6871	3564	1353	757	334	375	-182	11
	2014	Open Ground	1551	1827	2501	7722	10189	6002	0.51	17203	-6752	3832	-2031	398	90	156	68	14

Path and Row	Class code	Class name	Mean															Num. of samples
			BLUE	GREEN	RED	NIR	IR1	IR2	NDVI	PCA 1	PCA 2	PCA 3	PCA 4	PCA 5	PCA 6	PCA 7	PCA 8	
	5001	Water Body	985	1381	1924	2838	1025	474	-0.15	8573	-90	6431	2126	-375	-49	-25	-35	10
	20041	Secondary Mangrove Forest	589	867	549	12847	2827	869	0.92	16524	3133	902	951	188	100	230	94	15
	20051	Secondary Swamp Forest	502	838	561	10667	3460	1144	0.90	15150	1815	1983	328	79	48	13	34	11
	20071	Swamp Shrub	781	1715	980	16521	6145	2219	0.89	20623	1440	-1686	93	-98	39	14	-135	11
	20091	Agriculture	1336	1897	1572	13387	7561	3424	0.78	18691	-1634	-762	-460	68	4	-139	30	14
	20092	Mixed Agriculture	585	1205	731	14096	5809	2109	0.90	18563	1036	-378	-404	-42	-72	28	9	10
	20093	Rice Field	1165	1791	1746	10292	5905	2717	0.68	16506	-1324	2266	212	-92	-52	-60	-55	12
	20094	Fish Pond	1102	1375	1546	4451	2582	1365	0.43	10982	-646	6158	1253	43	-133	-121	-79	7
	20141	Mining	2261	4973	8195	11395	10653	4652	0.15	20138	-8074	964	2885	-3568	554	588	277	11
121-61	98	Cloud Shade	607	707	587	5062	1963	961	0.79	10609	3387	4004	565	213	-137	-20	53	22
	99	Cloud	5695	6366	6422	16614	10006	6952	0.49	22389	-9746	-662	1159	210	135	154	39	40
	2002	Secondary Dry Forest	493	924	603	11808	4402	1675	0.90	16303	2143	-206	26	43	-52	-102	-30	32
	2007	Shrub	713	1566	877	18680	7413	2845	0.91	22788	414	-3807	-639	-78	20	-12	21	22
	2010	Plantation	816	1490	1139	14637	6716	2758	0.85	19902	752	-877	-819	-104	-31	-5	-27	30
	2012	Settlement	2207	2927	3363	10708	8716	5657	0.52	19169	-2720	3921	-2049	424	349	-145	9	20
	2014	Open Ground	1840	2307	2858	7799	7971	4526	0.47	16299	-1640	5069	-2338	-62	28	106	-143	42
	3000	Grass Land	1268	2252	1715	16758	7777	3314	0.81	21756	-778	-2074	-703	-257	17	26	91	16
	5001	Water Body	840	1075	1290	2784	1028	589	0.21	8952	3527	5885	1329	-81	37	-51	11	22
	20041	Secondary Mangrove Forest	706	991	637	13236	2977	1054	0.91	17255	3220	-791	1656	240	118	-70	-101	30
	20051	Secondary Swamp Forest	613	1064	674	12364	3977	1459	0.90	16996	2642	-96	650	64	41	19	-12	24
	20071	Swamp Shrub	826	1614	1007	16233	6466	2511	0.88	20856	902	-2085	-252	-103	-7	14	59	28
	20091	Agriculture	669	1245	804	13848	5778	2239	0.89	18647	1389	-919	-431	-50	-111	-59	4	22
	20092	Mixed Agriculture	815	1503	1009	14984	6462	2591	0.88	19779	749	-1466	-577	-85	-93	-56	30	24
	20093	Rice Field	951	1526	1485	8927	4934	2401	0.69	15507	1554	3138	-411	-41	92	75	40	44
	20094	Fish Pond	1265	1756	1935	5136	2730	1524	0.40	11987	2271	5486	983	-170	76	-66	60	18

Path and Row	Class code	Class name	Mean															Num. of samples
			BLUE	GREEN	RED	NIR	IR1	IR2	NDVI	PCA 1	PCA 2	PCA 3	PCA 4	PCA 5	PCA 6	PCA 7	PCA 8	
	20141	Mining	3650	4523	5479	11615	10236	7018	0.38	20667	-6142	4289	-1566	185	504	-298	-140	26
	50011	Swamp	674	991	965	6703	2803	1380	0.74	12664	3033	3723	460	122	88	42	18	20
121-62	98	Cloud Shade	475	860	661	6132	2693	1009	0.80	16439	-4537	-1077	-659	16	-53	-9	17	9
	99	Cloud	3776	4627	4703	14711	8968	5379	0.55	23671	3607	4655	3898	1195	-391	-156	16	10
	2002	Secondary Dry Forest	680	1279	963	11828	4725	1807	0.86	20117	304	-1225	106	37	-90	-15	41	11
	2007	Shrub	1074	1820	1445	13446	5806	2456	0.82	21464	1773	-469	667	205	-80	-1	39	10
	2010	Plantation	702	1481	1101	15275	6922	2628	0.86	23295	3036	-630	-32	8	25	-49	-20	10
	2014	Open Ground	1019	1613	2030	7541	6586	3292	0.58	19310	-2779	2708	-788	29	-140	-8	-9	15
	3000	Grass Land	926	2313	1792	15664	8297	3231	0.79	24059	3697	873	387	-2	406	111	-22	5
	5001	Water Body	1140	1778	1880	1381	561	289	-0.14	13378	-8838	-369	764	-53	91	39	12	12
	20041	Secondary Mangrove Forest	571	1271	816	13937	4331	1444	0.87	21572	1305	-2571	514	-53	-136	39	-36	6
	20051	Secondary Swamp Forest	545	1208	773	12589	4264	1441	0.88	20514	561	-2110	246	-32	-71	20	9	9
	20071	Swamp Shrub	614	1549	925	15237	5952	2113	0.88	22621	2937	-1529	332	22	87	63	5	7
	20092	Mixed Agriculture	751	1527	1208	11479	5780	2351	0.81	20608	154	-25	-168	74	57	27	15	9
	20093	Rice Field	976	1896	1908	10683	6255	2921	0.69	20792	-569	1164	81	31	-72	137	0	9
	20141	Mining	1679	2806	4105	10010	8921	4301	0.46	21988	-699	4859	776	-518	-31	-72	-28	9
122-60	98	Cloud Shade	724	850	621	4162	2208	1019	0.74	11401	4546	5085	13	559	-66	32	17	10
	99	Cloud	8804	9788	10223	19103	14654	10087	0.35	29634	-14262	1836	-1382	201	32	-8	5	14
	2002	Secondary Dry Forest	612	1117	648	12042	4966	1795	0.90	17591	2939	-334	-244	130	34	44	37	11
	2007	Shrub	820	1808	1013	19022	8500	3168	0.90	24023	732	-4486	164	-230	-14	-46	18	10
	2010	Plantation	935	1728	1185	14803	6932	2742	0.85	20901	1678	-1313	141	-43	5	-24	-27	10
	2012	Settlement	2378	3087	3426	10080	8973	5530	0.49	20064	-1516	4002	2308	297	426	-115	-103	7
	2014	Open Ground	1411	2132	2590	8787	9777	5131	0.56	18903	-787	3944	4016	-144	83	64	10	11
	5001	Water Body	1902	3002	3188	2919	1393	679	-0.22	10892	2683	7410	-2187	-394	-137	-169	-35	12

Path and Row	Class code	Class name	Mean														Num. of samples
			BLUE	GREEN	RED	NIR	IR1	IR2	NDVI	PCA 1	PCA 2	PCA 3	PCA 4	PCA 5	PCA 6	PCA 7	PCA 8	
	20041	Secondary Mangrove Forest	861	1437	908	13502	4369	1473	0.87	18646	3173	-895	-1472	122	120	30	-21	12
	20051	Secondary Swamp Forest	711	1230	772	11908	4551	1655	0.88	17523	3152	-18	-646	159	76	26	2	10
	20071	Swamp Shrub	1153	2031	1332	16870	7106	2692	0.85	22223	1199	-2741	-597	-110	-24	-32	-6	10
	20091	Agriculture	1186	1993	1675	12529	8420	3830	0.76	20347	485	723	1908	-47	-101	-40	-24	11
	20092	Mixed Agriculture	755	1490	924	14182	6791	2580	0.88	20066	1818	-1343	391	-48	-64	-1	29	10
	20093	Rice Field	1472	2115	2506	8651	5407	2668	0.54	16825	1718	3784	203	-141	231	125	-74	6
	20094	Fish Pond	1102	1388	1383	3949	2929	1501	0.42	11973	3621	5891	206	360	-67	40	5	12
	20141	Mining	2089	3262	3747	9622	6863	3577	0.47	18111	-651	3613	254	-559	212	-43	-34	15

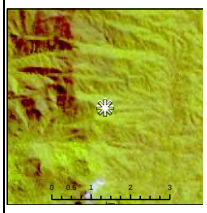
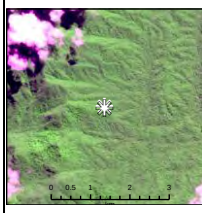
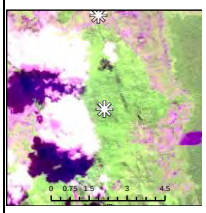
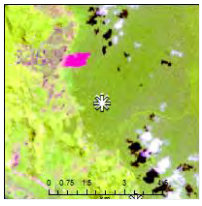
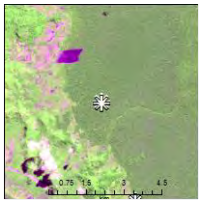
2.5.2. Visual class label correction

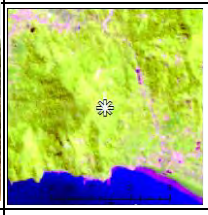
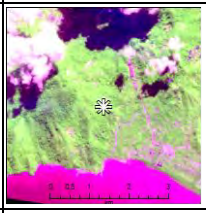
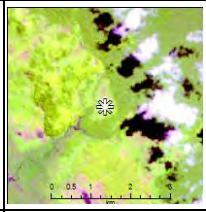
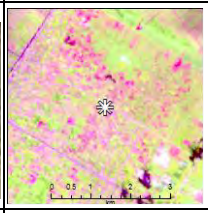
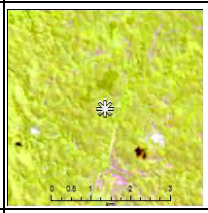
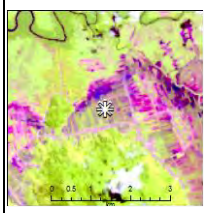
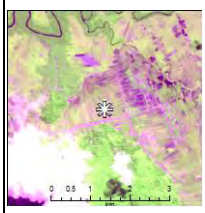
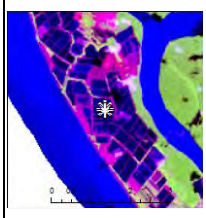
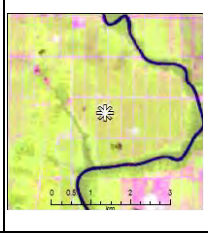
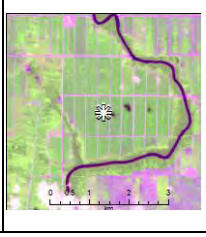
Visual interpretation is conducted interdependently to verify/adjust the label of the classes and edit possible automatic classification errors. Given the heterogeneity of the forest spectral signatures and the occasionally poor radiometric conditions, the image analysis by a skilled interpreter is indispensable to map land cover and its change with high accuracy.

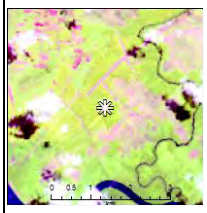
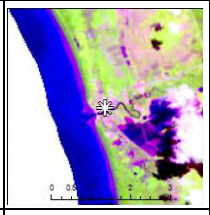
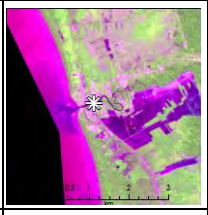
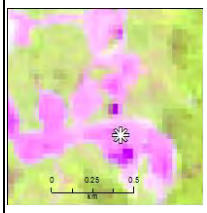
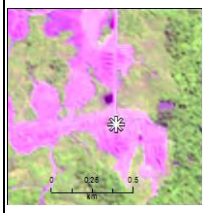
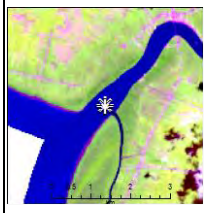
a) Interpretation should focus on change in land cover with interdependent visual assessment of 2 multi-temporal images together. Contrarily to automatic classification, visual interpretation is easier with multi-temporal imagery.
b) Existing maps may be useful for stratification or helping in the interpretation as reference.
c) Scene by scene (i.e. site by site) interpretation is more accurate than interpretation of scene or image mosaics

Visual class label correction was conducted using Arc GIS according to the ground reference data collected from ground truth surveys mentioned below or higher resolution imagery data as Google Earth etc.

Table 9 Proposed Standard for Visual Class Label Correction (Landsat & SPOT)

Class	Ground Photo	Landsat	SPOT6	Remarks
Primary Dry Forest				a) It is difficult to delineate with Secondary Dry Forest by even visual interpretation. b) Dry forest distributing in Conservation Forest is classified into Primary forest.
Secondary Dry Forest				a) It looks similar to Rubber plantation and Swamp Forest. b) Texture was used to distinguish Rubber Plantation rubber by visual. c) Swamp forest was delineated by referring Peat Distribution Maps.
Secondary Mangrove Forest			No Image	It is easy to distinguish to other land cover because of different color feature.
Secondary Swamp Forest				a) It looks similar to Dry forest. b) Delineation was corrected by referring Peat Distribution Maps.

Class	Ground Photo	Landsat	SPOT6	Remarks
Plantation Forest	Data broken		No Image	It looks similar to Oil Palm Plantation.
Shrub				It looks similar to Swamp shrub and Grassland. Geographical position (near swamp or dry land) is used for visual correction of Swamp shrub or Shrub.
Swamp Shrub				It looks similar to Shrub. Same interpretation as shrub was used for visual correction.
Agriculture			No Image	It looks similar to Rice Field, or Open ground.
Mixed Agriculture	No Image		No Image	It was delineated by referring LC maps of MoF.
Rice Field				It looks similar to Open ground, Agriculture, or Swamp.
Fish Pond			No Image	a) It looks like Water body. b) Shape was used to distinguish to Water body by visual.
Oil Palm Plantation				a) Plantation where immediately after planning tends to be sometime classified into Open Ground. b) Small-scale Plantation was sometime classified into Mix Agriculture and Swamp shrub.

Class	Ground Photo	Landsat	SPOT6	Remarks
Rubber Plantation				It looks like Secondary Dry Forest.
Other Plantation	Data broken		No Image	Mainly coconut palm plantation
Settlement				It looks like Open Ground. Settlement tends to be classified into Agriculture, Rice Field, Oil Palm where immediately after planning
Open Ground				It looks like Settlement and Agriculture.
Grass Land				It is similar with Shrub.
Water Body				a) It is similar with Fish pond. b) Shape was used to distinguish to Fish pond.
Swamp				a) It is similar with Rice Field. b) Shape was used to distinguish to Rice Field.

2.6. Ground Truth Surveys

In order to complement the remotely sensed data, ground reference data (often called ground truth

data) was collected independently from actual ground surveys only on the interpretation of satellite imagery where was difficult to label the different classification of land uses as GOFC-GOLD Sourcebook. (see Figure 6)

2.6.1. First Ground Truth Survey (Feb. and April 2014)

In order to collect information for training data for supervised labeling, the first survey needed for automatic analysis was conducted on February and April 2014 as follows (see list of survey sites in Appendix 2).

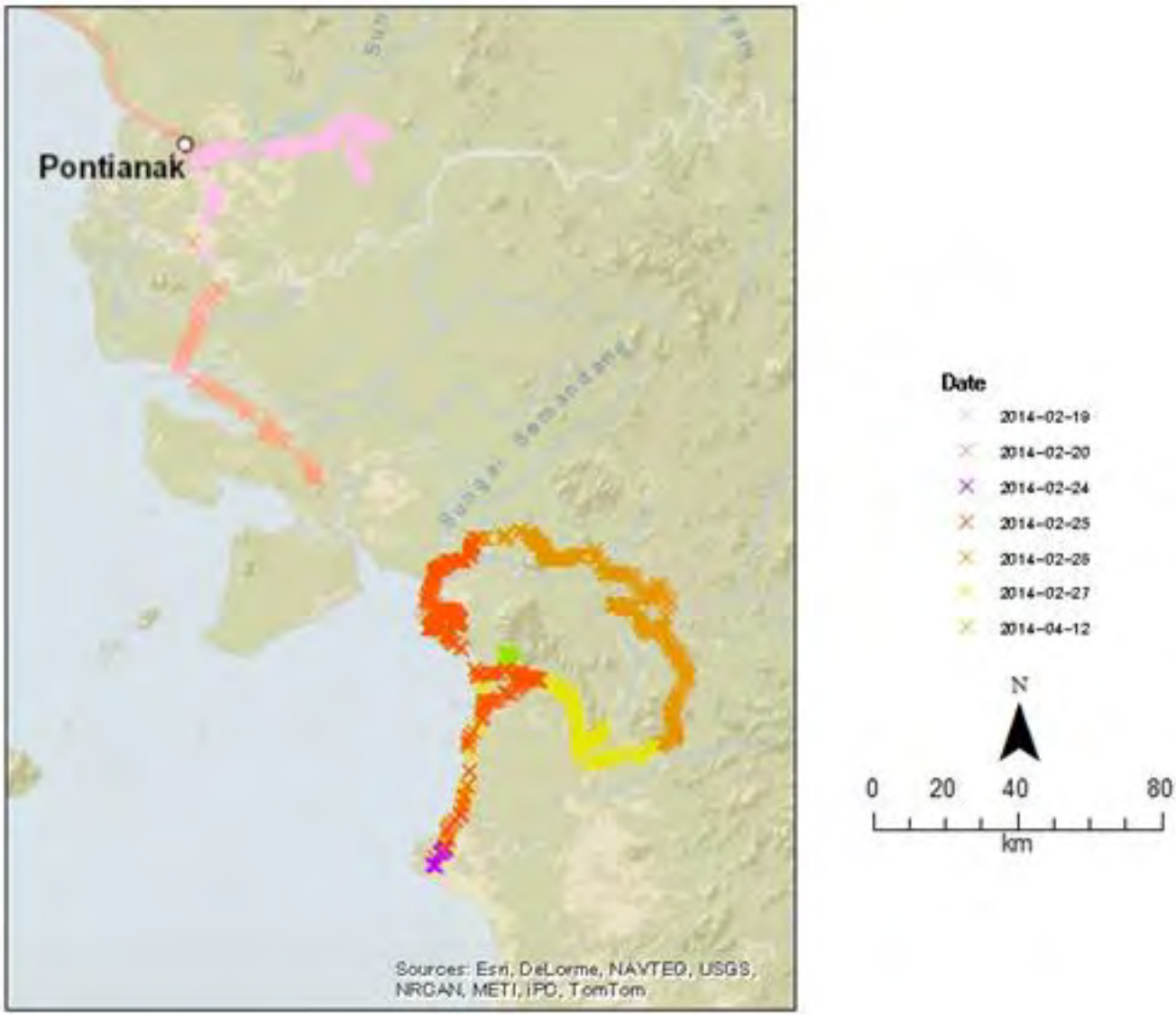


Figure 6 Location Map of 1st Ground Truth Survey (Feb. and Apr. 2014)

2.6.2. Second Ground Truth Survey (Oct. 2014)

In order to add information for accuracy assessment and visual correction, the second field survey

needed for automatic analysis was conducted on 8-17 October 2014 as follows.

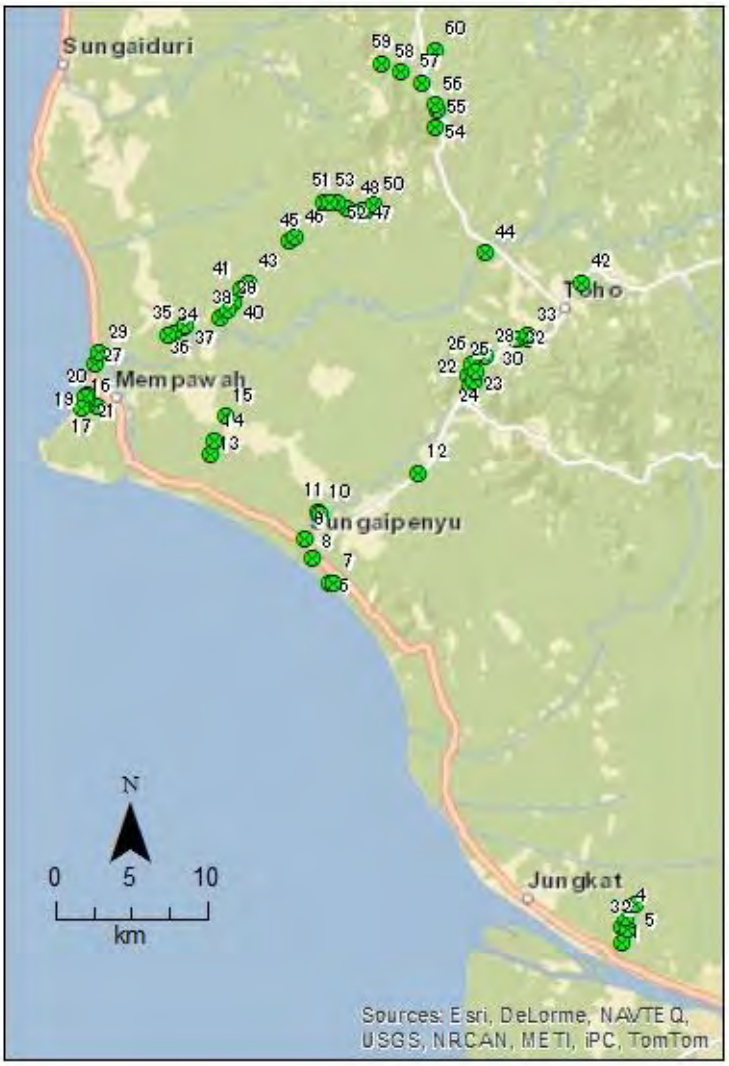


Figure 7 Location Map of Second Ground Truth Survey (8-17 Oct. 2014)

Table 10 Summary of the 2nd Ground Truth Survey Points (8-17 Oct. 2014)

No	Ground check	Location X (m)	Location X (m)
1	20091_Agriculture	306457	4160
2	2010_Plantation_rubber	306838	5112
3	20091_Agriculture	306408	5161
4	2010_Plantation_rubber	306774	5859
5	20091_Agriculture	307409	6779
6	2004_PrimaryMangroveForest	287128	27962
7	20041_SecondaryMangroveForest	287346	27971
8	20071_SwanpShrub	285988	29651
9	2012_Settlement	285536	30860

No	Ground check	Location X (m)	Location X (m)
10	2007_2007_Shrub	286524	32567
11	2010_Plantation_others	286353	32683
12	20071_SwanpShrub	292999	35194
13	2010_Plantation_others	279318	36507
14	2010_Plantation_others	279524	37340
15	20091_Agriculture	280235	38993
16	20071_SwanpShrub	270791	39541
17	20093_RiceField	271789	39586
18	20093_RiceField	271094	40013
19	20071_SwanpShrub	271085	40117
20	20071_SwanpShrub	270987	40250
21	20093_RiceField	271173	40431
22	20092_MixedAgriculture	296434	40916
23	2002_SecondaryDryForest	296686	41231
24	20093_RiceField	296341	41609
25	2002_SecondaryDryForest	296781	41953
26	2010_Plantation_rubber	296514	42427
27	20093_RiceField	271617	42489
28	2002_SecondaryDryForest	297424	42930
29	2007_2007_Shrub	271877	43157
30	20093_RiceField	300175	44030
31	20091_Agriculture	299588	44077
32	20093_RiceField	299516	44094
33	2010_Plantation_rubber	300292	44332
34	20093_RiceField	276462	44337
35	2010_Plantation_rubber	276830	44445
36	2007_2007_Shrub	277446	44896
37	20092_MixedAgriculture	277594	44945
38	20091_Agriculture	279946	45454
39	20071_SwanpShrub	280390	46045
40	20071_SwanpShrub	280814	46475
41	20071_SwanpShrub	281277	47368
42	20092_MixedAgriculture	303808	47773
43	20071_SwanpShrub	281839	47812
44	2002_SecondaryDryForest	297423	49771
45	2010_Plantation_oilpalm	284515	50516
46	2010_Plantation_oilpalm	284871	50802
47	20092_MixedAgriculture	289399	52501
48	20092_MixedAgriculture	289346	52600
49	2007_2007_Shrub	288341	52726
50	2007_2007_Shrub	290134	52951
51	2010_Plantation_oilpalm	286706	53107

No	Ground check	Location X (m)	Location X (m)
52	2007_2007_Shrub	287719	53123
53	2007_2007_Shrub	287131	53149
54	20092_MixedAgriculture	294144	58010
55	20092_MixedAgriculture	294254	59223
56	2007_2007_Shrub	294086	59541
57	20093_RiceField	293211	61011
58	20092_MixedAgriculture	291864	61705
59	2002_SecondaryDryForest	290635	62294
60	2002_SecondaryDryForest	294124	63173

2.7. Trial Supplemental Visual Interpretation on Forest Degradation in Secondary Forest Classes for Gunung Palung National Park Landscape

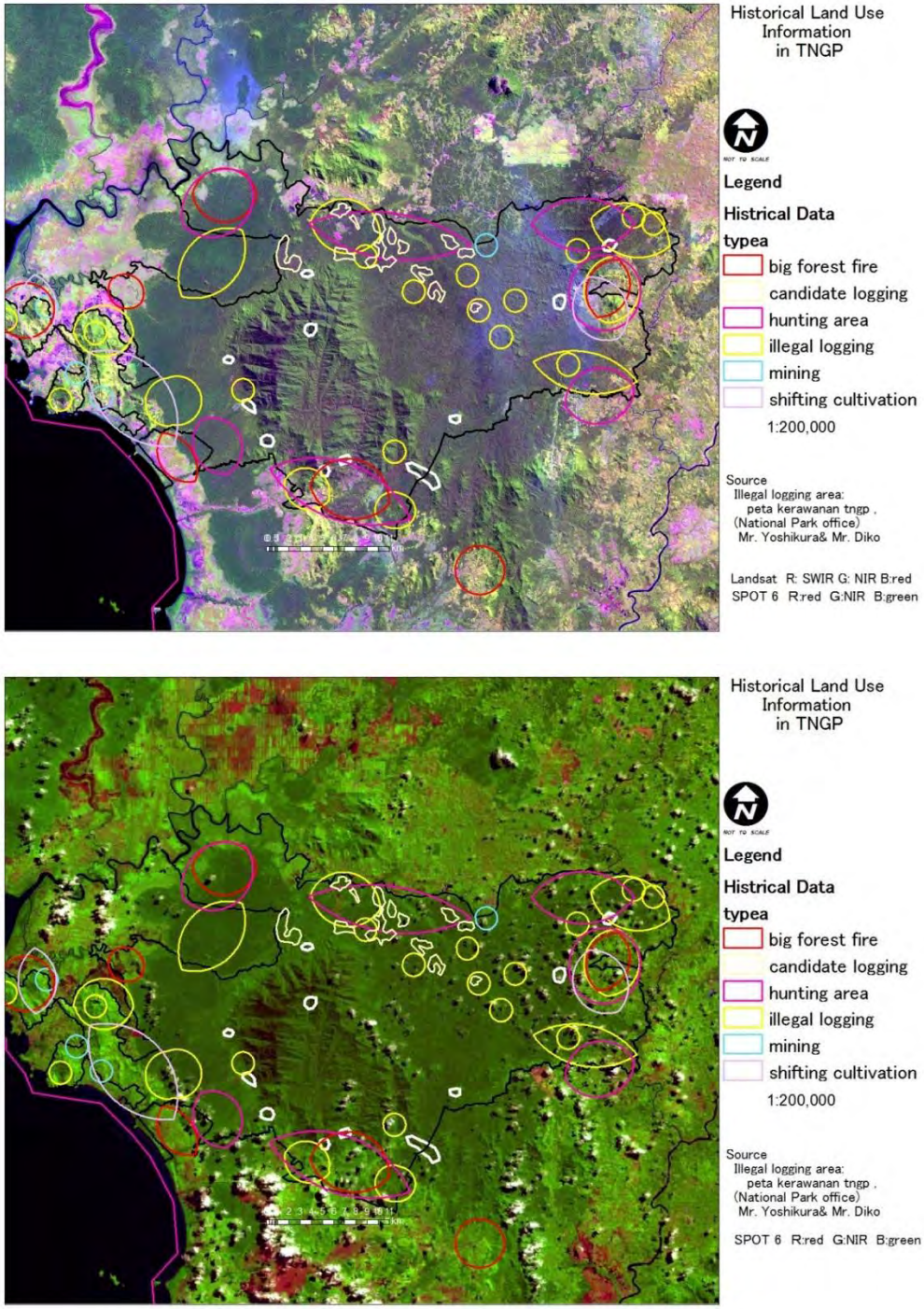
Around Gunung Palung national park area has been facing forest degradation caused by illegal logging, burn for shifting cultivation and hunting. But vegetation is recovering and less deforestation and forest degradation by human activity can be observed.

Figure 8 to Figure 10 show degradation contributory factor to consider. Each figure have two time points satellite imagery; (a) year of 2001 (LANDSAT imagery) when severe illegal logging was occurred and (b) the latest year of 2013 (SPOT-6 imagery).

In these figures, the elliptical shapes show area of degradation factor obtained from interview survey by long-term experts of IJ-REDD+ project. Each color shows different factors: red shows large or severe forest fire, yellow shows illegal logging, pale blue shows mining and light purple shows shifting cultivation.

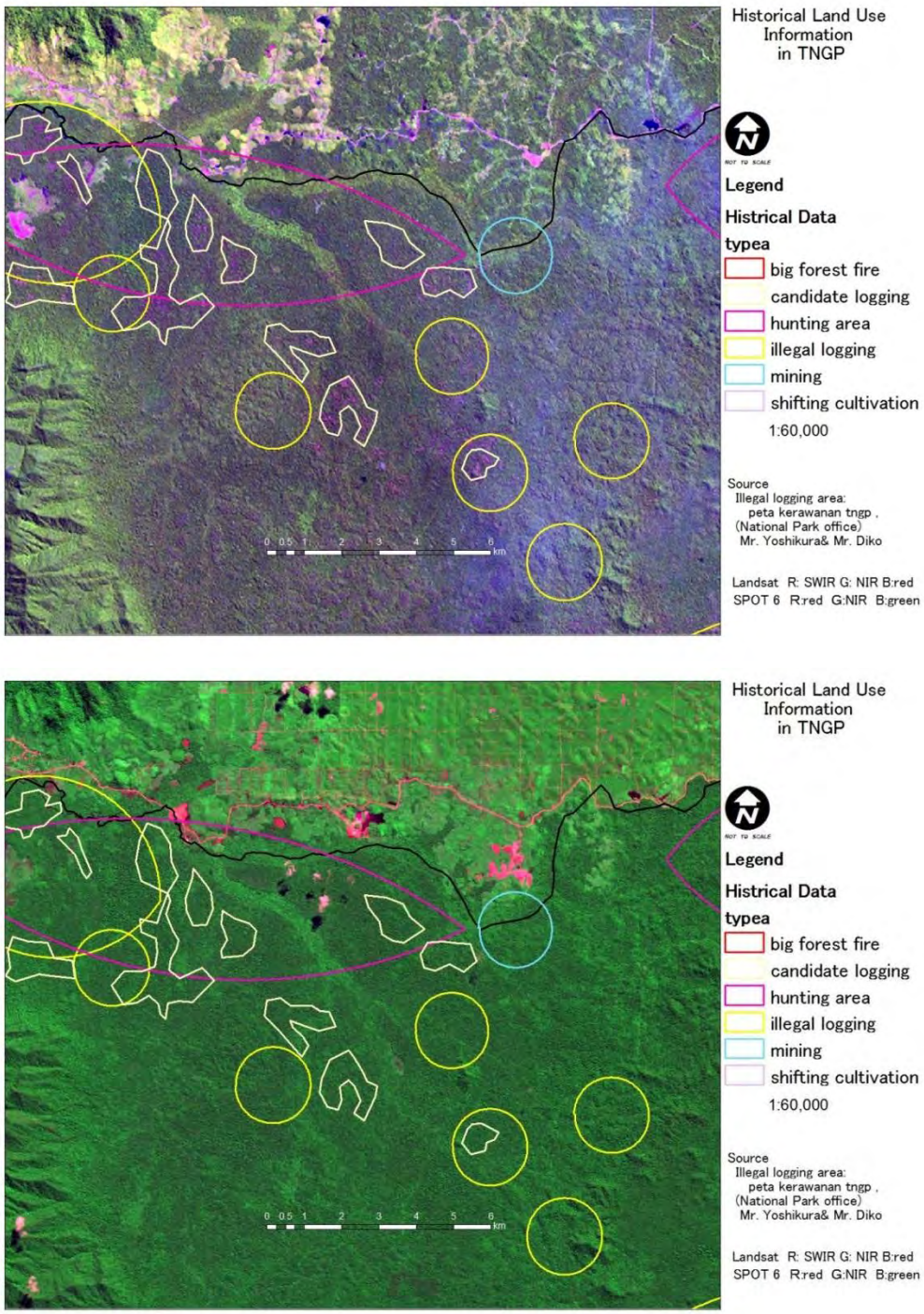
The entire area is shown in Figure 6. Forest degradation was frequently found near the boundary of GPNP while less human impact was seen in the center of GPNP, mountainous area far from the boundary. Figure 7 shows the northern area of GPNP where severe illegal logging occurred, and Figure 8 shows shifting cultivation area located in the western GPNP.

In the satellite imagery, a pink colored patches show less vegetation such as bare land, settlements and so on, and green shows vegetation as forest, yellow-greenish color is bush (this includes degraded area), low vegetation area. In northern part, a lot of pink patches are found in 2001 compared to 2013. It is estimated these pinkish areas are illegal logging area by collating information from degradation factor polygon. In 2013, it changed to yellow-greenish color. This indicates that vegetation is recovering now. They might be shifting cultivation from shape and strong pink color. 2013 imagery shows less pink patch but it could detect light green color patch. This means these area show bushes or recovering forest area.



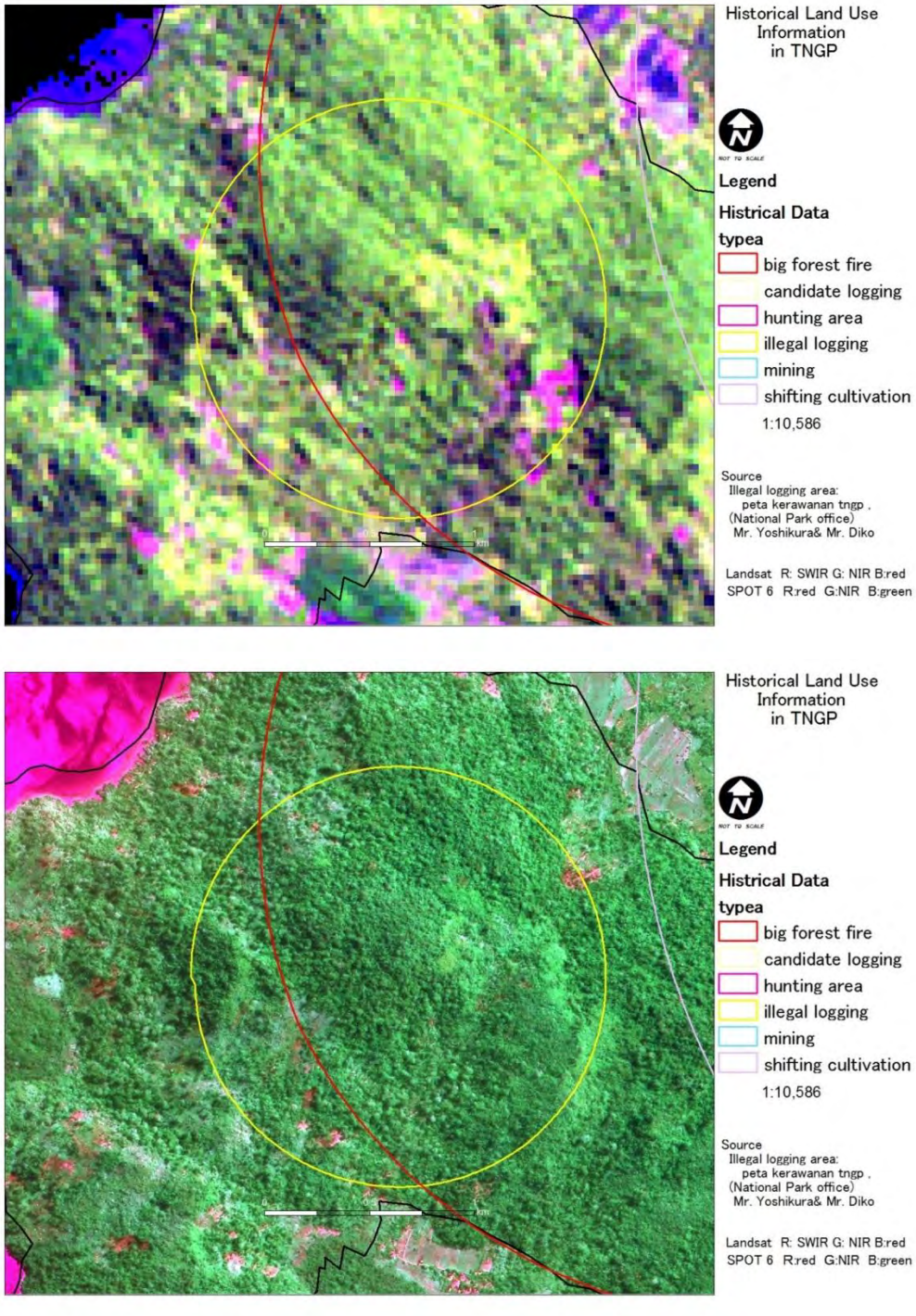
Above: 2001, Below: 2013

Figure 8 Forest degradation area and satellite imagery covered by whole pilot area



Above: 2001, Below: 2013

Figure 9 Forest degradation area and satellite imagery covered by the northern part of GPNP



Above: 2001, Below: 2013

Figure 10 Forest degradation area and satellite imagery covered by the western part of GPNP

2.8. Accuracy Assessment

The target accuracy of base maps was 80% which can be achievable for monitoring with mid-resolution imagery to discriminate between forest and non-forest according to the good practice

recommended in GOFC-GOLD. Accuracies were assessed through analysis of higher resolution satellite data, not field observation on the selected sampling points due to time constraints. Only selected sampling points show easy label to classification were used for accuracy assessment. The interpretation of satellite imagery is difficult to label the different classification of land uses as "open_ground" and "mining", "agriculture" and "rice field". The number of sampling points for accuracy assessment was determined based on following formula[19].

Formula 2. n=B/4b^2

n: Total sampling points
b: Percentile of accuracy expected: 5% in this study
B: Degree of freedom
Formula 3. B=1-α/k (Chi-square distribution)
α: Level of significance: 0.05 in this study
k: Numbers of class

As the result, 915 points in total should be selected as sampling points for accuracy assessment. The average number of points is 45 points for each land cover class.

2.9. Cartography

2.9.1. Base Maps for Development of FREL of 4 Targeted Districts

Cartography was conducted by using ArcGIS and its layout is based on the recent technical standard of Directorate General of Forestry Planning[20]. Legends and its RGB colors were also taken into account of the technical standard. But some legends have little difference with the one defined in the standard. Because of lacking in its detail. These situation was explained and consulted with BPKH in Pontianak. Produced legends are included in the hard discs which will be handed over as ESRI layer format as ".lyr" files.

Example of map layout in the standard is like Figure 11.

19 Russell G. Congalton and Kass Green. 1999. Assessing the Accuracy of Remotely Sensed Data

20 Peraturan Direktur Jenderal Planologi Kehutanan Nomor: P.3/VII-IPSDH/2014 tentang Petunjuk Teknis Penggambaran dan Penyajian Peta Kehutanan (25 Maret 2014)

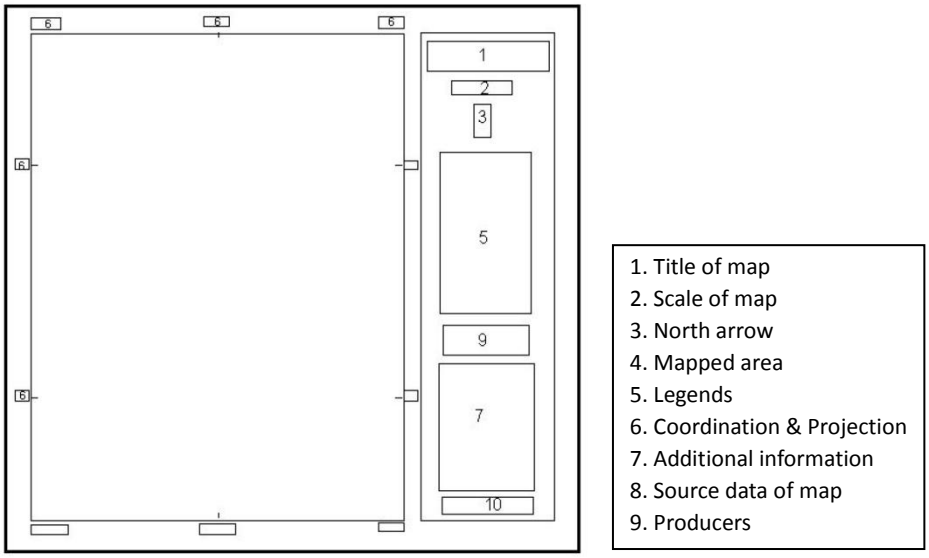


Figure 11 Sample layout in standard of Directorate General of Forestry Planning, 2014. (page 16)

2.9.2. Base Maps for REDD+ Planning of Gunung Palung National Park Landscape

It will be conducted according to development of draft Project Design to apply REDD+ project scheme.

2.10. Area Calculation

Area calculation itself was conducted by GIS. Area calculation results of version 6 map is showed at 3.4. Area Calculation of REDD+ Planning Maps. Those tables are processed from dbf files which is a part of shape file set. The Dbf files are readable by using MS Excel. These row data was arranged by "pivot table" function in MS Excel. The result is following tables.

Those calculated numbers were rounded off to integer. And adjustment of official value of total land area and administrative area of district and sub-district was not conducted.

Chapter 3 Process and Results

3.1. Enhancement and Revision Process

3.1.1. Version 1 until Version 4

Draft Version1 until Version 6 of REDD+ base map were enhanced and revised as shown in table below. (Table 11) These enhancement process was based on internal technical try and errors. The classes were varied according to draft version as shown in tables below.

Table 11 Summary of Enhancement/Revision of REDD+ base map

Enhancement/Revision	V1 → V2	V2 → V3	V3 → V4	V4 → V5	V5 → V6
Difference of primary and secondary forest	a) Interpretation of primary forest (Dry, Swamp, Mangrove) in automated classification is difficult. b) From draft version 2, primary and secondary forest are combined.	a) Primary Dry Forest, Primary Swamp Forest were delineated according to MoF's LC/LU maps (2012). b) Primary Mangrove Forest was delineated in SK733.		a) Detailed visual correction and interpretation around the border area of primary forests for 2013.	
Temporal contradiction			Correction to maintain logical consistency among 5 temporal classification	Arrangements to maintain logical/historical consistency for newly interpreted area.	Classification of additional region.
Geographical contradiction			Correction to maintain logical consistency of geographical contradiction using MoF's LC/LU maps (2012) and Peat Distribution Maps	Correction to maintain logical consistency of geographical contradiction.	Correction of coast line by using RTRWP boundary data.
Utilization of field surveys	Correction of V1 using the field observation results in Apr. 2014		Utilization of forest survey results around GPNP.	Introducing ground check records by Pak Kelik, BPKH around Pulau Maya island.	
Detailed classification of secondary forests		Secondary Dry forest was classified into large and small by automated classification.	Classification of large and small was combined again due to little accuracy based on the forest survey.		
Adding coverage of islands			Correction request to cover islands which more than 100ha in area from Mr. Tanimoto, JICA Long-term Expert. (33,718 ha in total covering 95% of 35,238ha of 120 islands in total 4 districts [0.78% of total area of 4 districts]).		
Comments from the Indonesian side (Summery)			a) Correction request on the some spots designated with coordinates from Mr. Tanimoto, JICA Long-term Expert. b) Maintain consistency in the area of Oilpalm agency with Provincial estate crop agency.	a) Search & change cloud free satellite image for Pulau Maya island. b) Reclassification around Pulau Maya island. c) Prepare & provide detail data about "Accuracy assessment".	

Enhancement/Revision	V1 → V2	V2 → V3	V3 → V4	V4 → V5	V5 → V6
Visual correction		Visual correction on the definite wrong class labeling	Visual correction wall-to-wall and overall temporal sense by scaling up to approximately 1/150,000 visual.	a) Wall-to-wall & highly detailed correction by introducing DEM, Hansen map and Google Earth & Bing map. b) Especially around the boundary of oilpalm plantation. c) Introducing mapping results by Margono to differentiate Secondary Dry forest and Secondary Swamp forest class.[21] d) Calculate & Introducing mNDVI index to interpret Mangrove forests. e) Introducing SASPlanet software for high resolution image and historical comparison to improve efficiency of manual operation.	a) Exchange administration boundary to the one used in the RTRWP. b) Manual delineation/Digitizing of additional region for 4 districts. c) Visual interpretation of the region mentioned above.

Note 1) Draft version 1 was produced from automated classification, without visual correction of wrong class labeling and temporal inconsistency (e.g. Paddy Field in 2011 and then Primary Forest in 2013) and geographical contradiction (e.g. mangrove distribution far from coastal area)

Table 12 Summary of Improvement of Classification in Enhancement / Revision of Draft Version1 until Version 6 of REDD+ Base Maps

Version1	Version2	Version3	Version4	Version5,6	Inclusions
Primary Dry Forest	Dry Forest	Primary Dry Forest	Primary Dry Forest	Primary Dry Forest	
Secondary Dry Forest		Secondary Dry Forest High	Secondary Dry Forest	Secondary Dry Forest	Small scale Rubber forest (sometimes mixed with other tress)
		Secondary Dry Forest Low			
Primary Mangrove Forest	Mangrove Forest	Primary Mangrove Forest	Primary Mangrove Forest	Primary Mangrove Forest	
Secondary Mangrove Forest		Secondary Mangrove Forest	Secondary Mangrove Forest	Secondary Mangrove Forest	
Primary Swamp Forest	Swamp Forest	Primary Swamp Forest	Primary Swamp Forest	Primary Swamp Forest	

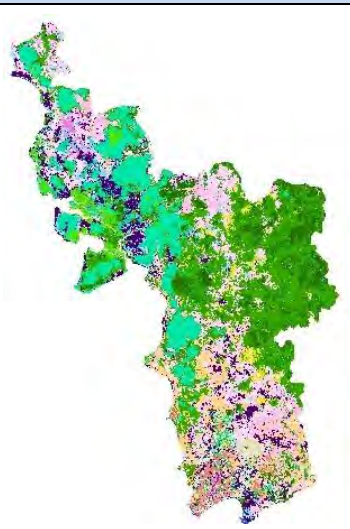
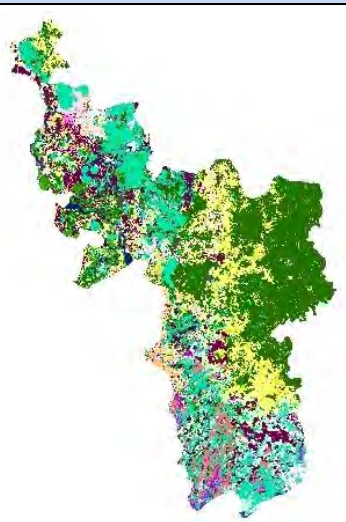
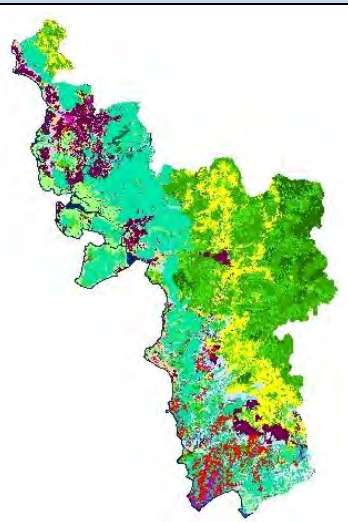
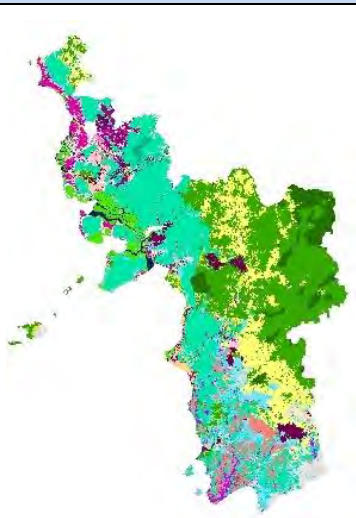
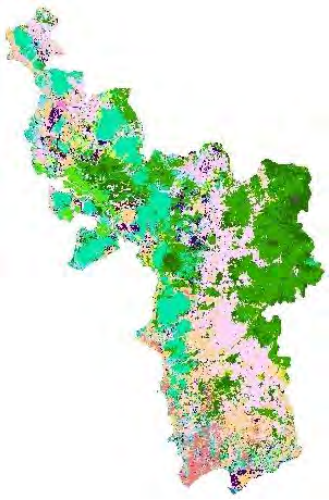
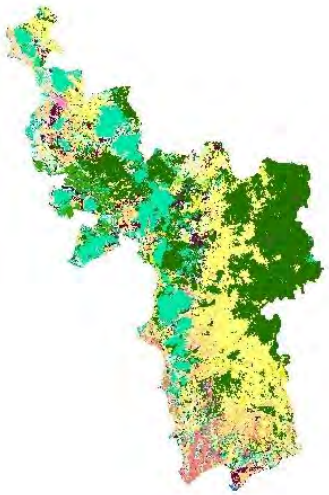
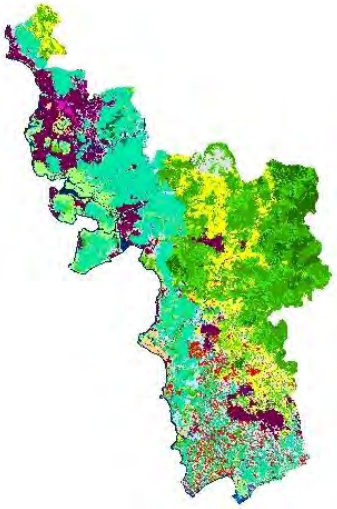
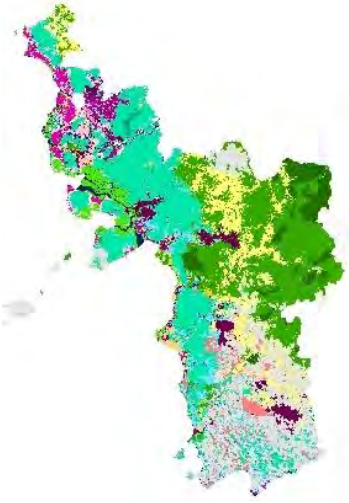
21 Margono.et.al Primary forest cover loss in Indonesia over 2000–2012 Nature Clim. Change 2014/08 http://www.nature.com/nclimate/journal/v4/n8/full/nclimate2277.html

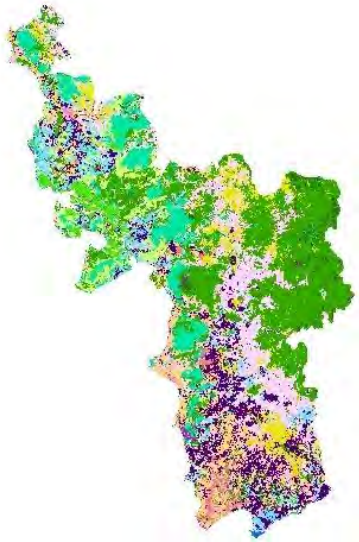
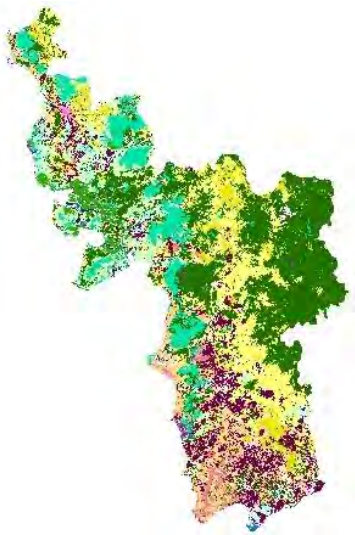
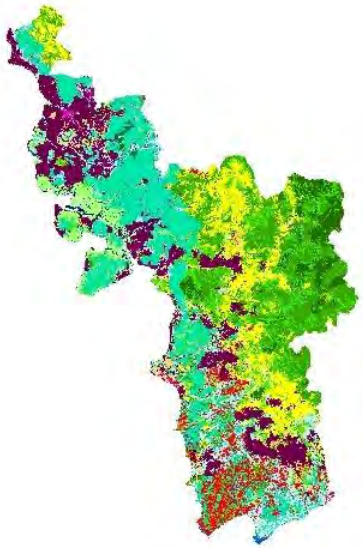
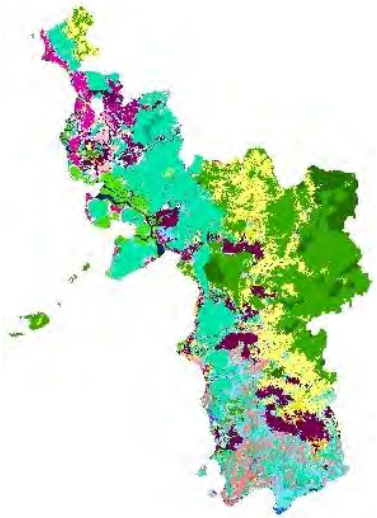
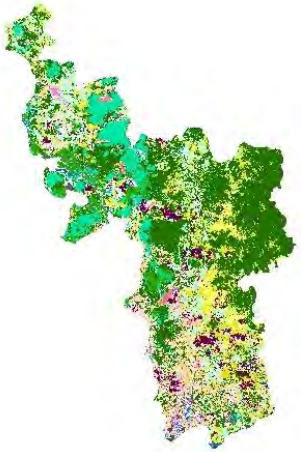
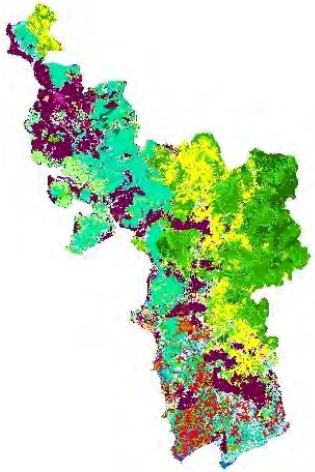
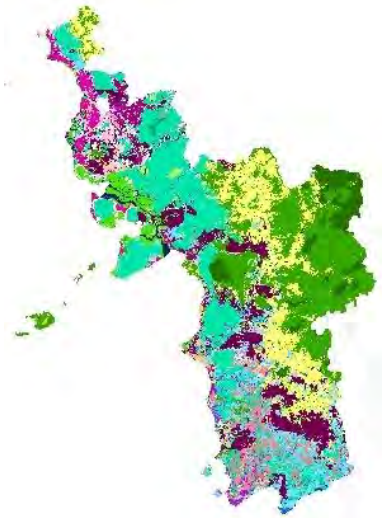
Version1	Version2	Version3	Version4	Version5,6	Inclusions
Secondary Swamp Forest		Secondary Swamp Forest	Secondary Swamp Forest	Secondary Swamp Forest	
Plantation Forest	Plantation Forest	Plantation Forest	Plantation Forest	Plantation Forest	
Shrub	Shrub	Shrub	Shrub	Shrub	
Swamp Shrub	Swamp Shrub	Swamp Shrub	Swamp Shrub	Swamp Shrub	
Agriculture	Agriculture	Agriculture	Agriculture	Agriculture	Small scale Oil Palm Plantation
Mixed Agriculture	Mixed Agriculture	Mixed Agriculture	Mixed Agriculture	Mixed Agriculture	a) Small scale Rubber plantation (sometimes mixed with other crop/trees) b) Small scale Oil Palm Plantations
Rice Field	Rice Field	Rice Field	Rice Field	Rice Field	
Fish Pond	Fish Pond	Fish Pond	Fish Pond	Fish Pond	
Plantation	Plantation	Plantation_oilpalm	Plantation_oilpalm	Plantation_oilpalm	
		Plantation_rubber	Plantation_rubber	Plantation_rubber	
			Plantation_others	Plantation_others	(Mainly coco palm plantation)
Settlement	Settlement	Settlement	Settlement	Settlement	
Transmigration					
Open Ground	Open Ground	Open Ground	Open Ground	Open Ground	Immediately after planting (Plantation Forest and Plantation)
Airport					
Mining	Mining	Mining	Mining	Mining	Open Ground
Grass Land	Grass Land	Grass Land	Grass Land	Grass Land	
Water Body	Water Body	Water Body	Water Body	Water Body	
Swamp	Swamp	Swamp	Swamp	Swamp	
Cloud	Cloud	Cloud	Cloud	Cloud	
Cloud Shade	Cloud Shade	Cloud Shade	Cloud Shade	Cloud Shade	
unclassified	unclassified	unclassified	unclassified	unclassified	

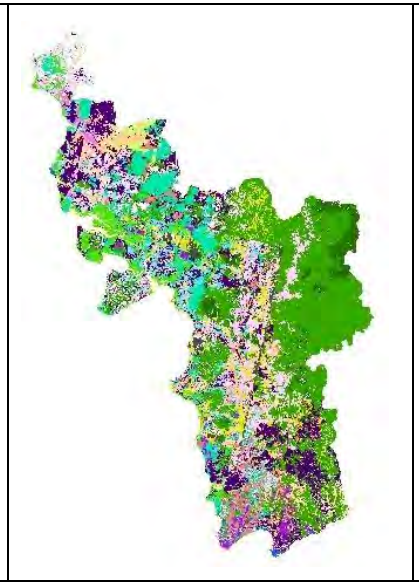
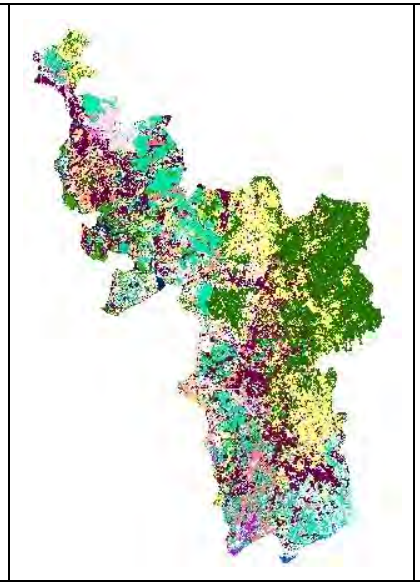
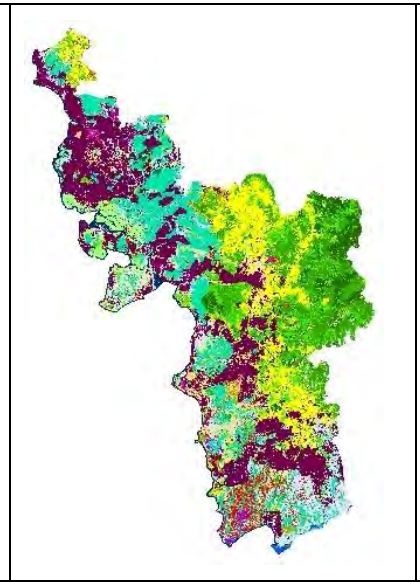
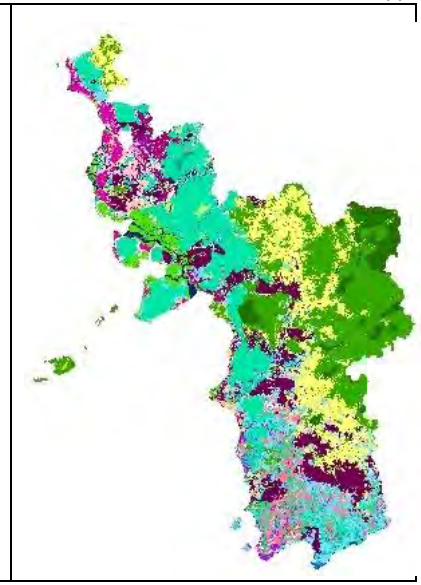
Table 13 Summary of Improvement of Temporal and Geographical Contradiction and Other Visual Correction in Enhancement/ Revision of Draft Version1 until Version 6 of REDD+ Base Maps

Area of Improvement	Pattern of Improvement
Geographical contradiction	Mangrove Forest classified in inland area → Swamp Forest, Dry Forest, Shrub etc.
	Dry Forest distributing in flat land and peat land → Swamp Forest
	Shrub distributing in flat land and peat land → Swamp Shrub
	Secondary Swamp Forest distributing hilly land → Secondary Dry Forest
	Swamp Shrub distributing in hilly land → Shrub
Temporal contraction	a) Open Ground-Forest-Open Ground: Forest → Open Ground b) Forest-Open Ground-Forest: Open Ground → Forest *Because Open Ground has little possibility to become Forest less than 5 years.
	c) Shrub-Forest-Shrub: No improvement **Shrub, Swamp Shrub, Mix Agriculture has a little possibility to become Forest less than 5 years.
	d) Secondary Forest-Primary Forest: Secondary → Primary Forest *** Mainly referred to the land cover map of MoF.

Figure 12 Overview of Draft Version1 until Version 4 of REDD+ Base Maps (and Legend)

Year	Version 1	Version 2	Version 3	Version 4
2000				
2006				

2009				
2011				

2013				

Legend				
Version 1	2001_PrimaryDryForest	20071_SwanpShrub	20094_FishPond	50011_Swamp
	2002_SecondaryDryForest	2007_Shrub	2010_Plantation	5001_WaterBody
	20041_SecondaryMangroveForest	20091_Agriculture	2012_Settlement	Cloud
	20051_SecondarySwampForest	20092_MixedAgriculture	20141_Mining	CloudShade
	2006_PlantsForest	20093_RiceField	2014_OpenGround	unclassified
Version 2	2001+2002_Forest	2007_Shrub	2010_Plantation	50011_Swamp
	2004+20041_MangroveForest	20091_Agriculture	2012_Settlement	5001_WaterBody
	2005+20051_SwampForest	20092_MixedAgriculture	20141_Mining	Cloud
	2006_PlantsForest	20093_RiceField	2014_OpenGround	CloudShadow
	20071_SwanpShrub	20094_FishPond	3000_GrassLand	unclassified

Version3	2001_PrimaryDryForest	2005_PrimarySwampForest	20094_FishPond	3000_GrassLand
	2002_SecondaryDryForestHigh	2006_PlantsForest	2010_Plantation	50011_Swamp
	2002_SecondaryDryForestLow	20071_SwanpShrub	2010_Plantation_oilpalm	5001_WaterBody
	20041_SecondaryMangroveForest	2007_Shrub	2010_Plantation_rubber	Cloud
	2004_PrimaryMangroveForest	20091_Agriculture	2012_Settlement	CloudShade
	20051_Secondary Swamp Forest	20092_MixedAgriculture	20141_Mining	unclassified
	20051_SecondarySwampForest	20093_RiceField	2014_OpenGround	
Version 4	2001_PrimaryDryForest	20071_SwampShrub	2010_Plantation_oilpalm	3000_GrassLand
	2002_SecondaryDryForest	2007_Shrub	2010_Plantation_rubber	50011_Swamp
	20041_SecondaryMangroveForest	20091_Agriculture	2010_Plantation_others	5001_WaterBody
	20051_SecondarySwampForest	20092_MixedAgriculture	2012_Settlement	Cloud
	2005_PrimarySwampForest	20093_RiceField	20141_Mining	CloudShadow
	2006_PlantsForest	20094_FishPond	2014_OpenGround	unclassified

3.1.2. Version 4-Version 5

(1) 2nd meeting of TC held on 29 Jan. 2015

The followings are the summary of comments on the presentation on version 4 map.
And list of the attendants is Figure 13.

a) Land cover map is very useful, especially for a West Kalimantan RAD GRK team, and note that among four districts, Ketapang has the most significant changes in land cover.
b) Correction or information is needed to ensure the accuracy of the map is quite feasible and acceptable by stakeholders. Again, accuracy of land cover for each category of coverage has reached 80%. New information from each relevant agency is very useful to improve the accuracy of the interpretation in each land cover category.
c) Provincial Estates Department / Dinas Perkebunan Provinsi (Pak Hendarto) provided examples of improvement proposals related to two things:
   i. In general, the palm classification is almost the same, but there are some differences in which there is data for palm oil plantations that do not have permissions.
   ii. From the version 4 map, some of identified palm oil plantations are located in the area of production forest and the former production forest area.
   iii. Some areas interpreted as the palm plantation turned to be ready-for-harvest acacia stands with an area of about 800 thousand ha.
   iv. There are also existing area of palm oil plantations, but in the version 4 map are not detected as these plantations.
d) Therefore, it is recommended that the IJ-REDD + Project:
   i. Technically reconfirms the data, both to BPKH and West Kalimantan RAD Workgroup (Pokja RAD Kalbar). And do data repair.
   ii. Conducts meeting involving technicians from each district with a team of consultants from JICA, to improve tha quality and accuracy of the version 4 map

JICA

Attendance List

Technical Committee Meeting
IJ-REDD+ PROJECT
Pontianak, 29 Januari 2014

No	Name	Institution	Sign
1	Kei Suzuki	IJ-REDD	1
2	Fadlellah	Dinas kehutanan	2
3	[illegible]	IJ-REDD+	3
4	Sofian Sirait	BPKH [illegible]	4
5	Kouhei Niitsuma	IJ-REDD+	5
6	Karsono R.	Kehutanan Prov.	6
7	HENRY Ok	DISHUT PROV	7
8	YOSHIKURA		8
9	Gu Gu H	[illegible]	9
10	Tanimoto Tetsuo	IJ-REDD	10
11	SUWANDI	Disbunhuttan-KKR	11
12	Yenny	BLHD Kalbar	12
13	Gusti Z. ANSHARI	UNTAN	13
14	Dwi Astiani	-"-	14
15	Edward	DP3K kab mpw	15
16	Sachiko Suzuki	JICA Indonesia	16
17	Fahri [illegible]	FAHUTAN	17
18	Shigeru Takahara	IJ-REDD+	18
19	KOBAYASHI HIROSHI	"	19
20	NOOR HIDAYAT	IJ-REDD+	20

JICA

Attendance List

Technical Committee Meeting
IJ-REDD+ PROJECT
Pontianak, 29 Januari 2014

No	Name	Institution	Sign
21	Kresensia Tusa	IJ-REDD+	21
22	Cherryta Y.S	PJLKKHL	22
23	Hendarto	Disbun Prov	23
24	Ita Novitawati	BKSDA Kalbar	24
25	A. Idha L	Bpdas kapuas	25
26	Wahyu Mustika Jati	BPDAS kapuas	26
27	Wahono	Dishutbun - KKU	27
28	EDY	IJ-REDD	28
29	Lana Sari	PJLKKHL	29
30	Jajan	IJ-REDD	30
31	YUSLINA	BAPPEDA	31
32			32
33			33
34			34
35			35
36			36
37			37
38			38
39			39
40			40

Figure 13 List of the attendants 2nd meeting of TC held on 29 Jan. 2015

(2) Technical meeting 2nd Meeting of TC held on 21 May 2015

The following is the summary of the concluding session. Its list of attendants are

a) Mr. Ronny brief the forum by explain the conclusion of each group. But there are some interruption from Kab. Kayong Utara. The other districts are already accepted as stated below :

i. Mempawah district:

The land cover map is good. On behaved Mempawah he say thank you for IJ-REDD+ Project JICA that support the Kabupaten with the map. Since they receive this map, they directly go to the field to check, and the result is satisfy. They impatient to receive the final map to distribute to all stakeholders.

ii. Kubu Raya district:

Kubu Raya district is accepted the revision of version 4 map. Even though as a person is not satisfy because he can contribute more with the map but the information that not clearly distributed between them make him lack of this information.

iii. Ketapang district:

Ketapang district is accepted the revision of version 4 map.

iv. Gunung Palung National Park

Version 4 map is already presented to Head of TNGP. The result is satisfy in area of TNGP. And they accepted the revision of version 4 map.

v. Kayong Utara district:

- Generally, to accept the revision of provided map on this day, we need one more step, there is ground check.
- The suggestion from all districts and stakeholder are very useful for the consultant team. But we need to step forward by accept the map to calculate the emission of West Kalimantan. So, that, Mr. Nengah give his statement:
- We will not questioning about the method, what we have to concern is in the final report, consultant team will stated all of information. The accuracy, the spot of ground check with its coordinate, and many other. We can see that the method is hybrid, combining qualitative and quantitative. Consultant team not only use the color of each class but also the texture, shape, the possibility, and other. So, at the enclosure there will be method (hybrid), its accuracy (must be transparent), all suggestion must be stated, and all description about land classes must be clear and stated.

b) After that Mr. Karsono step forward to close this meeting.

i. Maya Island imagery will get change with the better imagery with no cloud with same year.

ii. For plantation area, we will discuss separately with Dinas Perkebunan, Mr. Hendarto.

iii. For specific location, consultant team need to revise the map by digitation on screen.

Attendance List

Technical Meeting Basemap
IJ-REDD+ PROJECT
Pontianak, 21 May 2015

No	Name	Institution	Email/No. HP	Sign
1	Tamri Jamiatri	BPKH III Pontianak	tamrijamiatri@yahoo.com/ 0858256857	1
2	Sofar Sirait	BPKH III Pontianak	[illegible]	2
3	Julianti Hapriza	Bappeda prov	[illegible]@gmail.com	3
4	Syf. Warnidah	Bappeda prov. Kalbar		4
5	Yuliansyah	DP3K-KB Mempawah	081345 498499	5
6	KEI SUZUKI	IJ-REDD	kei@jafta.or.jp	6
7	Wahyu Iskandar.	TN. Gunung Palung	wahyoe18@yahoo.co.id /082151146685	7
8	HENRY O. K	DISHUT PROV		8
9	Hafiz	Interpreter	arahmanhafiz@gmail.com	9
10	Wahyu Mustika Jati	BPDAS KAPUAS	mustika.djty@gmail.com	10
11	Tanimoto Tetsuo	IJ-REDD	Tetsuo[illegible] @gmail.com	11
12	Murti [illegible]	[illegible]		12
13	Hilarat Megantara	IJ-REDD	hilaratmegantara@yahoo.co.id	13
14	A. Syamsudin	Dishut Ketapang		14
15	Yakobus Tek	Disbunhutfam KKR	cinta.tek@gmail.com	15
16	HENDRA	Dishut Prov Kalbar		16
17	Erianto	Fahutan	erianto1883@yahoo.com	17
18	Zuhry H	Fahutan	zuhry2014@Gmail.com	18
19	PETRUS PARYONO	PT WAINDO SPECTERRA	petrus@waindo.co.id 0812296 1136	19
20	H.R. SUDEWO.	KADIS HUTBUN KKR	081257682626	20

Attendance List

Technical Meeting Basemap
IJ-REDD+ PROJECT
Pontianak, 21 May 2015

No	Name	Institution	Email/No. HP	Sign
21	Agus Ruchi	Untan	0896 9339 4282	21
22	Fajar Aminullah	Untan	089624633259	22
23	Anton E.S	PHKA	0816 5678 45	23
24	ALI SUDARMA	TNGP	085245277492	24
25	Gusni H	[illegible]	082254998985	25
26	Sigit N	Fahutan	08135218288	26
27	Hendranto	Disbun Prov	081592114492	27
28				28
29				29
30				30
31				31
32				32
33				33
34				34
35				35
36				36
37				37
38				38
39				39
40				40

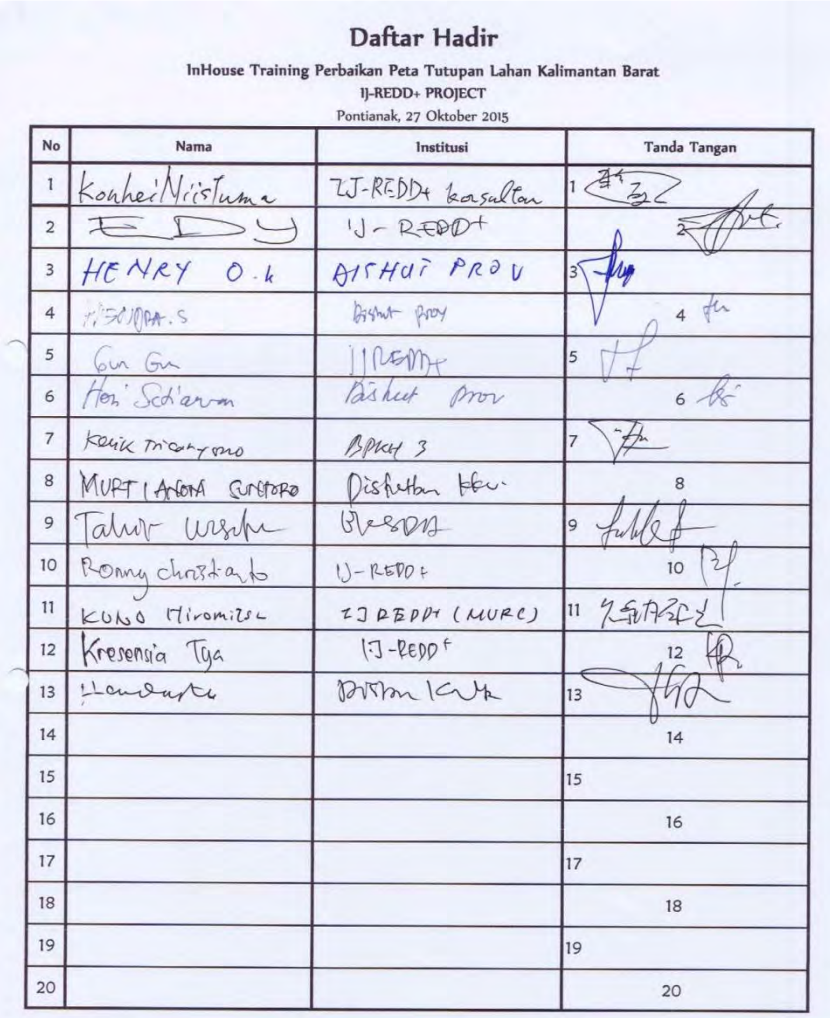
Figure 14 List of attendants Technical 2nd Meeting of TC on 21 May 2015

(3) In-house training for improvement of land cover base maps held on 26-27 October 2015

The following is the summary of the conclusions. The list of attendants is Figure 15.

a) The participants checked visually version 4.1 map. (mainly Maya Island).
b) The polygons on settlement of Maya Island were shared from Dishut Prov.
c) The accuracy assessment should be revised after using the ground reference data minimal 4 points of sample (attribute sample point from the participants from Dishut KKU, BKSDA, BPKH.
d) Whole version 4.1 map should be updated using plantation map from Mr. Hendarto.

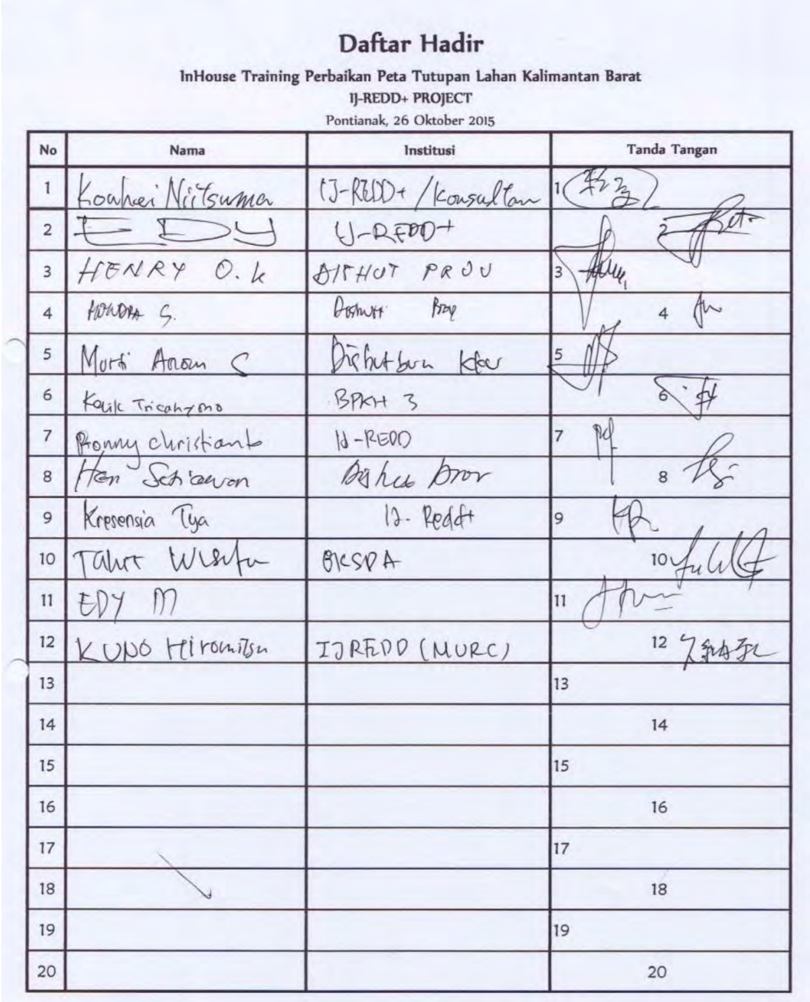
Since November 2015 until Jan. 2016, Draft Version 4 of REDD+ base maps on current time (2013) were enhanced and revised based on the comments above mainly on Maya Island and whole plantation according to the data obtained from Mr. Hendarto on 29 October 2015 (becoming version 5 map).



Daftar Hadir

InHouse Training Perbaikan Peta Tutupan Lahan Kalimantan Barat
IJ-REDD+ PROJECT
Pontianak, 27 Oktober 2015

No	Nama	Institusi	Tanda Tangan
1	Kouhei Niitsuma	IJ-REDD+ konsultan	1
2	EDY	IJ-REDD+	2
3	HENRY O.k	DISHUT PROV	3
4	HENDRA.S	Dishut Prov	4
5	Gun Gun	IJ REDD+	5
6	Heri Setiawan	Dishut Prov	6
7	Kaik Trisahyono	BPKH 3	7
8	MURTI ANOM SUSETORO	Dishutbun Kkr.	8
9	Tahir Wisafu	BPSDA	9
10	Ronny christianto	IJ-REDD+	10
11	KUNO Hiromitsu	IJ REDD+ (MURC)	11
12	Kresensia Tya	IJ-REDD+	12
13	Hendarto	Dishbun Kkr	13
14			14
15			15
16			16
17			17
18			18
19			19
20			20



Daftar Hadir

InHouse Training Perbaikan Peta Tutupan Lahan Kalimantan Barat
IJ-REDD+ PROJECT
Pontianak, 26 Oktober 2015

No	Nama	Institusi	Tanda Tangan
1	Kouhei Niitsuma	IJ-REDD+ /konsultan	1
2	EDY	IJ-REDD+	2
3	HENRY O.k	DISHUT PROV	3
4	HENDRA S.	Dishut Prov	4
5	Murti Anom S	Dishutbun Kkr	5
6	Kaik Trisahyono	BPKH 3	6
7	Ronny christianto	IJ-REDD	7
8	Heri Setiawan	Dishut Prov	8
9	Kresensia Tya	IJ-REDD+	9
10	Tahir Wisafu	BKSDA	10
11	EDY M		11
12	KUNO Hiromitsu	IJREDD (MURC)	12
13			13
14			14
15			15
16			16
17			17
18			18
19			19
20			20

Figure 15 Attendants of In-house training for improvement of land cover base maps held on 26-27 October 2015

3.1.3. Version 5-Version 6

(1) Consultation with BPKH and Dinas Perkebunan Provinsi (Provincial agency of estate crops) on 11 and 12 Feb. 2016.

The following is the summary of the consultations.

i. The detail result of Accuracy Assessments were received and approved by BPKH.

ii. Preparation of legends for cartography according to new rule is ongoing in BPKH, too. So current legends of REDD+ base map by project is not problematic.

iii. The mapping result is approvable, Mr. Hendarto has already start utilizing the mapping result to investigate land cover in Kab. Mempawah together with local government.

(2) Interview about current administration boundary in BAPPEDA with Mr. Yohda on 12 Feb. 2016.

i. Boundary data for newest RTRWP is shared to the project.

(3) Reporting in National Park office on 14 Feb. 2016.

(4) Consultation with Forest agency in Kayong Utara district on 15 Feb. 2016.

The following is the summary of the consultations.

i. The detail result of Accuracy Assessments were received and approved.

ii. Satellite image for Maya island has already changed to cloud free image.

Version 5 of REDD+ base maps on current time (2013) were produced according to recommendations before. And consulted and approved in Feb 2016. But difference in administrative boundary between version 5 map and current RTRWP was found. Additional region were manual delineated and visual interpreted. The difference in coast line also corrected. The result became REDD+ base map Ver.6.

3.2. Accuracy Assessment Results

As mentioned in 2.6. Ground Truth Surveys, accuracy assessment was conducted on the points sampled randomly and using ground reference data collected from higher resolution imagery and/or ground truth. As a result, 1,199 points was assessed as shown in Figure 16 below (see Appendix 3 for point information).

Table 14 shows the accuracy assessment results. The overall accuracy rises up 81.1 % to 83.8% between versions[22].(Table 15) The classes show relatively lower accuracy are “Shrub”, “Swamp shrub” and “Mixed Agriculture”.

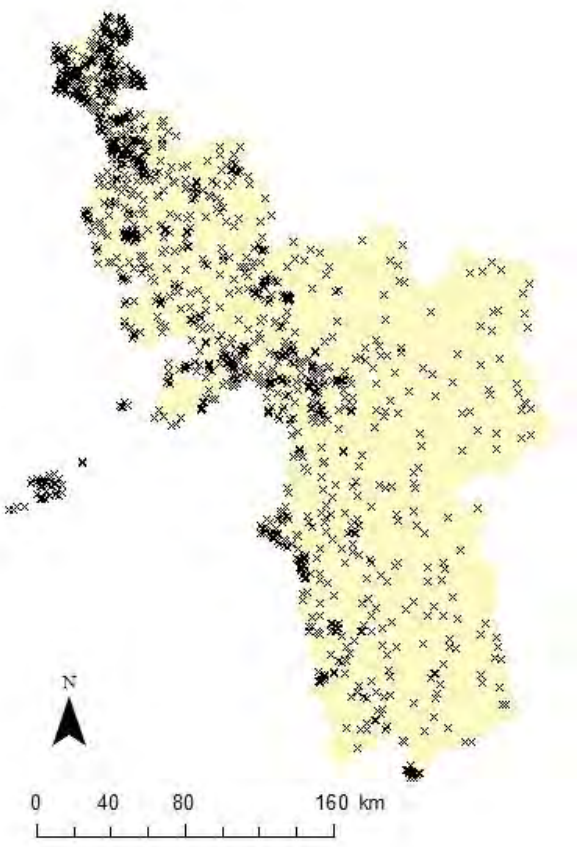


Figure 16 Distribution of accuracy assessment points

[22] If it is focused into forest/non-forest classification, the accuracy become 94 % even in Ver. 4.

Table 14 Matrix of Accuracy Assessment Data (Ver. 5)

Unit: Number of Polygon

	Verification																			
Version 5	**2001_PrimaryDryForest**	**2002_SecondaryDryForest**	**20041_SecondaryMangroveForest**	**2005_PrimarySwampForest**	**20051_SecondarySwampForest**	**2006_PlantsForest**	**2007_Shrub**	**20071_SwampShrub**	**20091_Agriculture**	**20092_MixedAgriculture**	**20093_RiceField**	**20094_FishPond**	**Plantation**	**2012_Settlement**	**2014_OpenGround**	**3000_GrassLand**	**5001_WaterBody**	**50011_Swamp**	**Total**	**Users Accuracy (%)**
Classified as																				
2001_PrimaryDryForest	35																		35	100.0
2002_SecondaryDryForest		84					3	1		6			2						96	87.5
20041_SecondaryMangroveForest			64					6					1				2		73	87.7
2005_PrimarySwampForest				13	1														14	92.9
20051_SecondarySwampForest			1	1	79			8		1			4						94	84.0
2006_PlantsForest					1	35									2				38	92.1
2007_Shrub		2					39	9	1	5					3	7			66	**59.1**
20071_SwampShrub			2		2		3	59	2	1	4		7		5				85	69.4
20091_Agriculture							1	3	25				3						32	78.1
20092_MixedAgriculture		5					8	1		46	2		5	2	2	1			72	**63.9**
20093_RiceField								6	4		55		7						72	76.4
20094_FishPond								1			2	33					1	1	38	86.8
2010_Plantation							1	6	6		6		229						248	92.3
2012_Settlement									2					38	5				45	84.4
2014_OpenGround							2	5		2	3		1	1	86				100	86.0
3000_GrassLand																0			0	
5001_WaterBody											1						57	1	59	96.6
50011_Swamp								1			2						1	28	32	87.5
Total	35	91	67	14	83	35	57	106	40	61	75	33	259	41	103	8	61	30	1199	2.5

Table 15 Overall Accuracy and User's Accuracy of REDD+ Base Maps per Version[23]

Land Cover Class	User's accuracy (%)		
	Version 4	Version 4.1	Version 5
Over all accuracy (%)	81.1	81.2	83.8
2001_PrimaryDryForest	100.0	100.0	100.0
2002_SecondaryDryForest	93.3	93.3	87.5
20041_SecondaryMangroveForest	89.0	90.3	87.7
2005_PrimarySwampForest	86.7	86.7	92.9
20051_SecondarySwampForest	88.9	89.0	84.0
2006_PlantsForest	92.1	92.1	92.1
2007_Shrub	58.6	58.6	59.1
20071_SwampShrub	76.3	76.3	69.4
20091_Agriculture	65.1	63.6	78.1
20092_MixedAgriculture	65.8	65.8	63.9
20093_RiceField	75.3	75.3	76.4
20094_FishPond	89.2	89.2	86.8
Plantation	83.0	83.3	92.3
2012_Settlement	74.5	74.5	84.4
2014_OpenGround	75.0	75.0	86.0
20141_Mining	67.6	67.6	
3000_GrassLand	100.0	100.0	100.0
5001_WaterBody	95.0	95.0	96.6
50011_Swamp	84.4	84.4	87.5

3.3. Compiling REDD+ Planning Maps

3.3.1. Base Maps for 4 Targeted Districts

Following maps were prepared and compiled as REDD+ planning map. Legends of REDD+ Base map is arranged so that the difference between forest area and non-forest area became more clearly visible. Sample of these map for 2013 are shown in Figure 17 until Figure 20.

a) Peta Kawasan Hutan based on SK733, 2014
b) Forest Moratorium Map (Peta Indikatif Penundaan Izin Baru) Version 7, 2014
c) REDD+ Base map by IJ-REDD+ project

[23] Because the delineation of Primary Dry Forest is basically according to the MoF's delineation, the accuracy of Primary Dry Forest became 100%. Because the distribution of grass land is limited and all grass land was delineated by visual, the accuracy of grass land becamee100%, too.

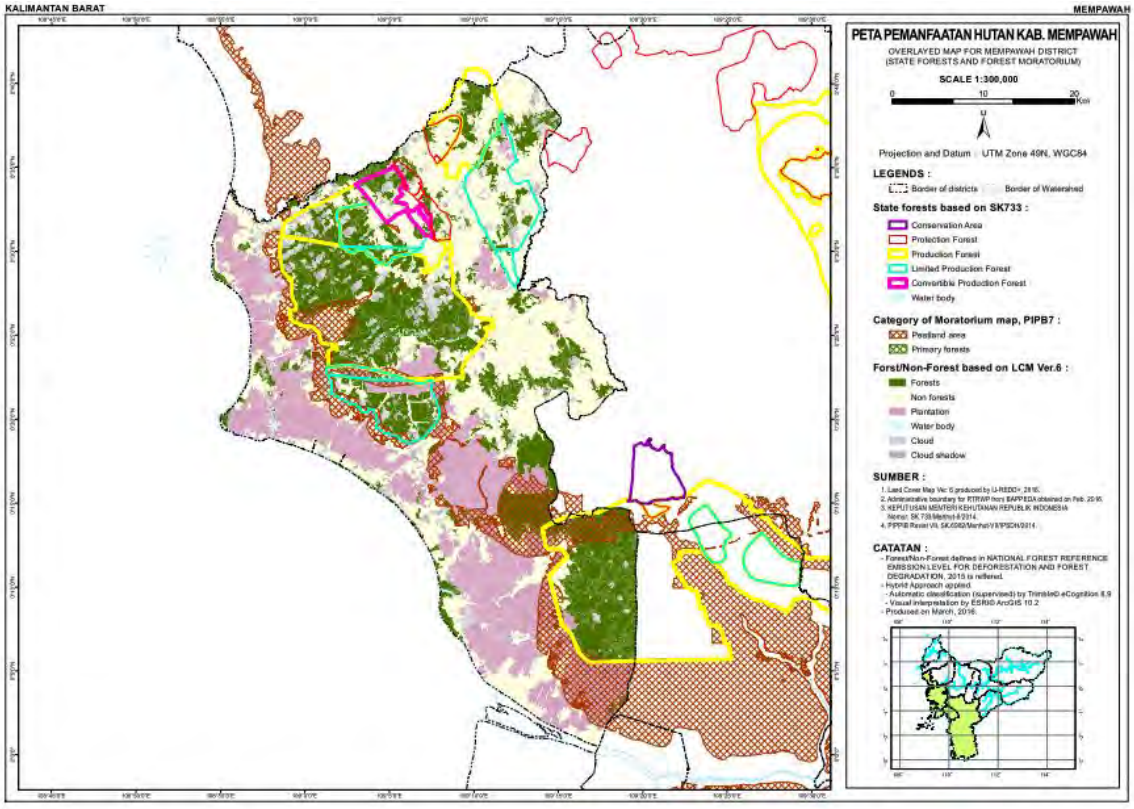


Figure 17 District level REDD+ Planning Map for Mempawah district

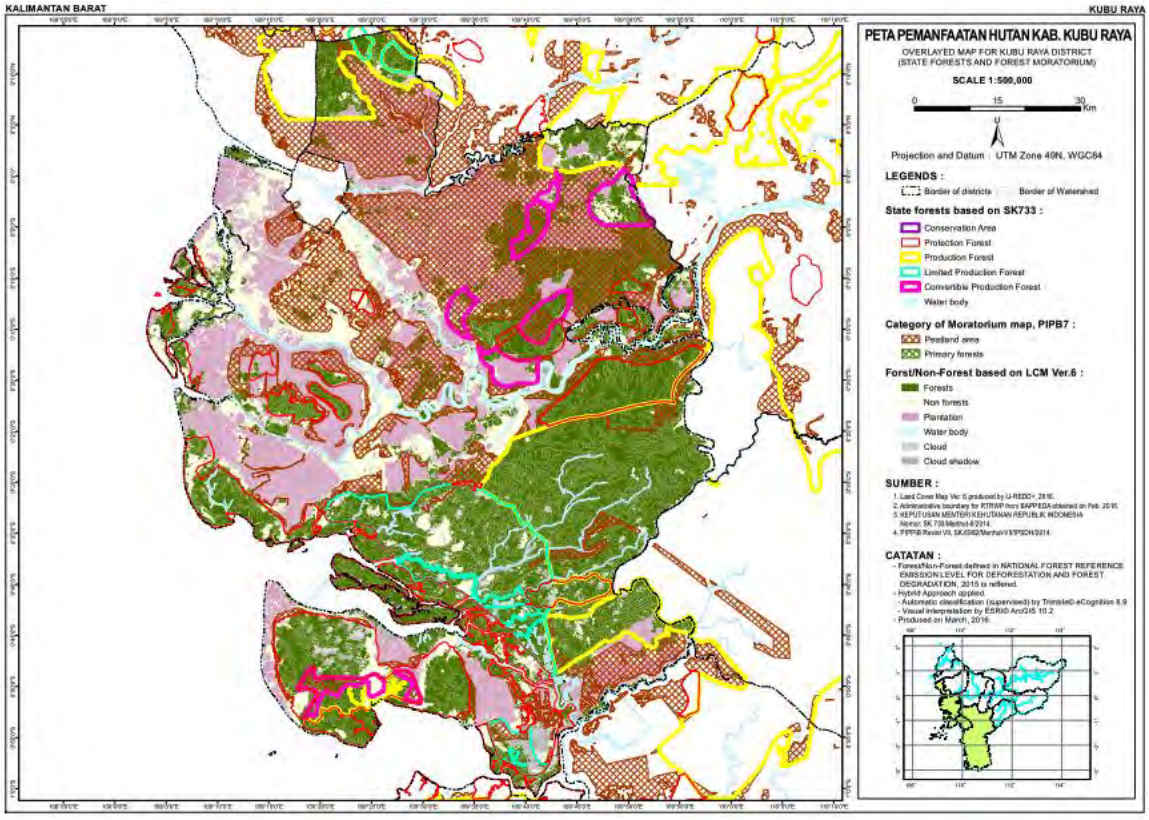


Figure 18 District level REDD+ Planning Map for Kubu Raya district

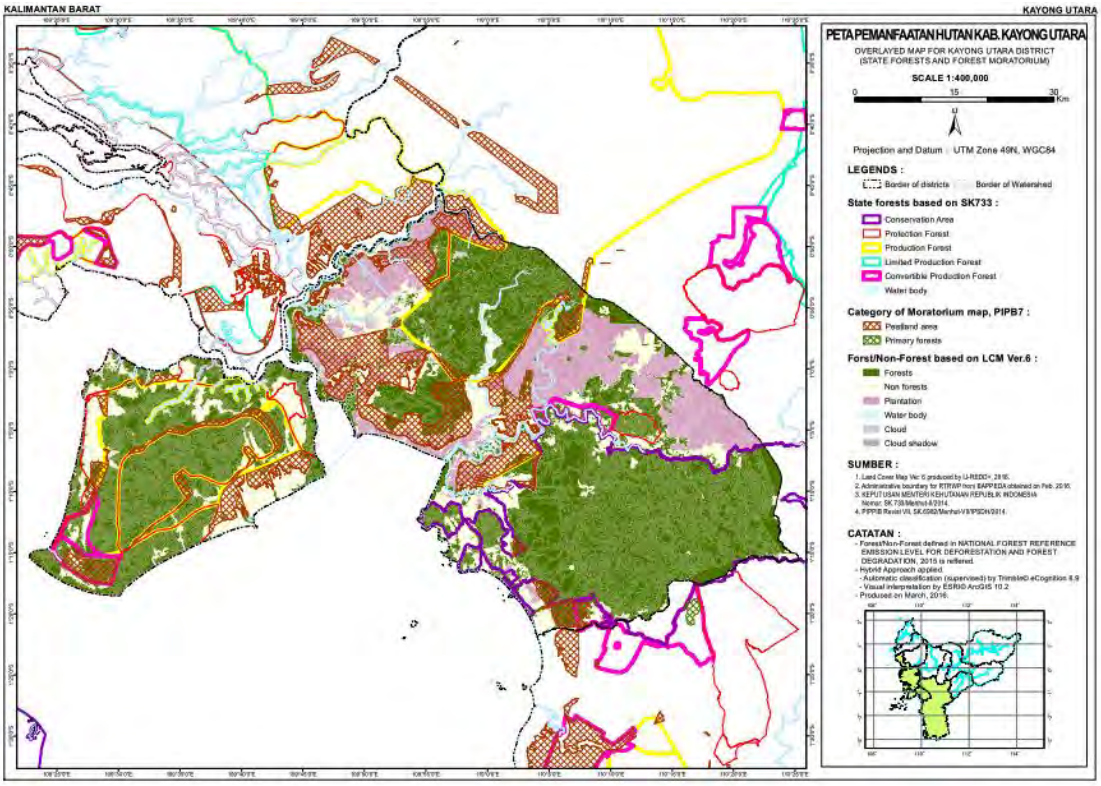


Figure 19 District level REDD+ Planning Map for Kayong Utara district

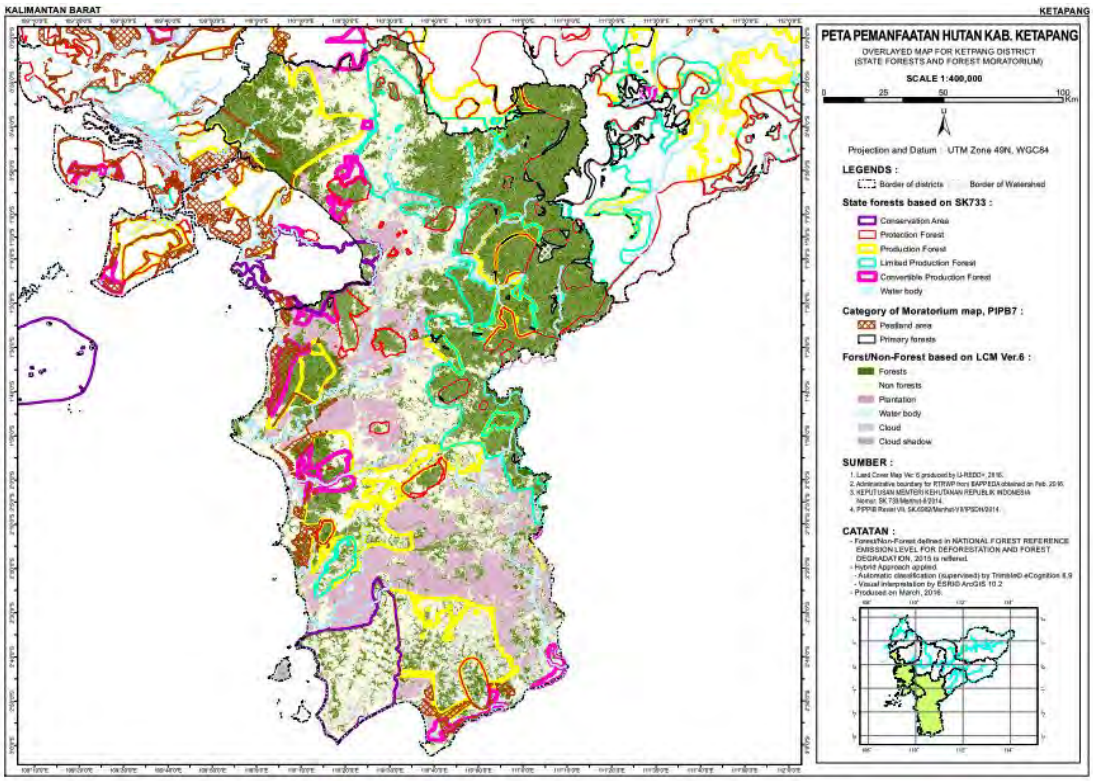


Figure 20 District level REDD+ Planning Map for Ketapang district

3.4. Area Calculation of REDD+ Planning Maps

3.4.1. Base Maps for Development of FREL of 4 Targeted Districts

(1)Whole Targeted 4 Districts

Table 16 Land cover area change in Targeted 4 Districts

(Unit: ha)

Land Cover Class	2000	2006	2009	2011	2013
2001_PrimaryDryForest	188,133	186,464	185,766	185,456	183,765
2002_SecondaryDryForest	1,086,551	975,766	923,317	898,994	869,316
2004_PrimaryMangroveForest	0	11	0	0	0
20041_SecondaryMangroveForest	147,513	139,916	141,182	137,993	148,027
2005_PrimarySwampForest	13,933	13,260	12,768	10,049	4,957
20051_SecondarySwampForest	1,266,792	1,164,633	1,069,731	983,968	874,185
2006_PlantsForest	0	2,520	4,881	13,891	37,432
2007_Shrub	50,744	32,716	85,346	37,459	122,326
20071_SwampShrub	356,310	289,364	428,166	420,929	361,435
20091_Agriculture	72,814	59,022	78,316	94,508	42,096
20092_MixedAgriculture	552,904	482,024	594,651	594,381	516,986
20093_RiceField	74,237	74,619	72,133	78,455	67,109
20094_FishPond	1,653	3,531	7,501	11,101	6,133
2010_Plantation_oilpalm	107,721	180,391	343,449	444,586	587,144
2010_Plantation_others	83,469	85,720	84,385	86,364	82,209
2010_Plantation_rubber	76,410	80,346	78,974	83,755	84,892
2012_Settlement	9,881	9,206	8,073	13,424	11,385
2014_OpenGround	189,083	170,147	229,177	192,260	176,663
20141_Mining	1,505	15,685	24,828	53,750	1
3000_GrassLand	630	217	1,254	720	604
5001_WaterBody	33,833	33,882	33,675	36,262	41,021
50011_Swamp	48,869	13,255	16,099	54,039	39,713
Cloud	60,358	301,035	7,392	107	86,405
CloudShadow	5,912	111,879	112	69	89,289
unclassified	3,838	7,481	1,915	571	0
Total Area	4,433,092	4,433,092	4,433,092	4,433,092	4,433,092

(2) Mempawah District

Table 17 Land cover area change in Mempawah district

(Unit: ha)

Land Cover Class	2000	2006	2009	2011	2013
2001_PrimaryDryForest	0	0	0	0	0
2002_SecondaryDryForest	22,679	21,030	18,150	16,542	14,774
2004_PrimaryMangroveForest	0	0	0	0	0
20041_SecondaryMangroveForest	2,789	2,658	2,471	2,409	1,436
2005_PrimarySwampForest	7	7	0	0	0
20051_SecondarySwampForest	66,989	63,754	57,977	49,819	38,937
2006_PlantsForest	0	0	0	46	0
2007_Shrub	2,794	3,302	2,199	2,748	3,160
20071_SwampShrub	4,201	5,332	9,937	16,394	9,255
20091_Agriculture	9,945	8,941	8,650	8,603	7,941
20092_MixedAgriculture	26,065	27,365	33,794	35,440	31,503
20093_RiceField	6,155	6,061	7,804	7,041	6,955
20094_FishPond	357	309	272	286	296
2010_Plantation_oilpalm	216	1,590	4,164	5,272	15,817
2010_Plantation_others	28,634	28,421	28,527	28,516	28,189
2010_Plantation_rubber	3,535	4,011	4,259	4,448	3,747
2012_Settlement	1,331	1,360	1,213	1,227	1,730
2014_OpenGround	168	554	277	751	3,754
20141_Mining	122	251	456	554	0
3000_GrassLand	0	0	60	1	0
5001_WaterBody	281	256	278	315	560
50011_Swamp	0	191	15	69	144
Cloud	1,989	3,114	0	0	6,576
CloudShadow	2,255	1,767	0	0	5,739
unclassified	0	240	11	31	0
Total Area	180,513	180,513	180,513	180,513	180,513

(3) Kubu Raya District

Table 18 Land cover area change in Kubu Raya district

(Unit: ha)

Land Cover Class	2000	2006	2009	2011	2013

Land Cover Class	2000	2006	2009	2011	2013
2001_PrimaryDryForest	0	0	0	0	0
2002_SecondaryDryForest	10,426	9,206	8,850	8,835	5,767
2004_PrimaryMangroveForest	0	0	0	0	0
20041_SecondaryMangroveForest	110,331	104,856	105,977	103,156	97,425
2005_PrimarySwampForest	13,323	12,649	12,165	9,445	4,346
20051_SecondarySwampForest	430,203	416,909	369,253	341,892	285,614
2006_PlantsForest	0	2,520	4,881	13,211	28,337
2007_Shrub	2,617	1,396	811	2,085	1,093
20071_SwampShrub	57,635	53,869	76,689	71,833	78,055
20091_Agriculture	42,820	47,471	46,242	51,957	31,689
20092_MixedAgriculture	4,401	1,453	6,702	5,991	1,161
20093_RiceField	29,280	25,450	26,562	29,309	24,820
20094_FishPond	527	1,474	2,492	2,979	2,585
2010_Plantation_oilpalm	24,494	47,936	68,474	84,271	129,283
2010_Plantation_others	47,613	49,088	48,635	48,605	45,001
2010_Plantation_rubber	61,233	61,983	63,074	63,295	63,593
2012_Settlement	3,453	4,432	2,555	4,004	3,596
2014_OpenGround	7,513	3,661	4,452	6,071	11,275
20141_Mining	23	4	39	388	1
3000_GrassLand	413	0	19	0	0
5001_WaterBody	16,261	17,325	17,476	17,161	18,302
50011_Swamp	1,427	722	1,014	1,898	907
Cloud	1,541	2,304	36	76	16,349
CloudShadow	249	1,757	44	69	17,381
unclassified	794	112	137	48	0
Total Area	866,578	866,578	866,578	866,578	866,578

(4) Kayong Utara District

Table 19 Land cover area change in Kayong Utara district

(Unit: ha)

Land Cover Class	2000	2006	2009	2011	2013
2001_PrimaryDryForest	21,434	21,324	21,434	22,048	23,425
2002_SecondaryDryForest	63,395	53,100	63,395	76,970	70,302
2004_PrimaryMangroveForest	0	0	0	0	0

Land Cover Class	2000	2006	2009	2011	2013
20041_SecondaryMangroveForest	25,418	23,820	25,418	25,242	26,474
2005_PrimarySwampForest	0	0	0	0	0
20051_SecondarySwampForest	173,046	156,718	173,046	143,144	134,610
2006_PlantsForest	0	0	0	486	0
2007_Shrub	9,126	3,301	9,126	3,792	11,663
20071_SwampShrub	37,940	41,467	37,940	34,581	30,936
20091_Agriculture	513	142	513	2,167	509
20092_MixedAgriculture	5,902	4,859	5,902	6,782	5,517
20093_RiceField	10,269	8,908	10,269	8,677	13,825
20094_FishPond	182	505	182	498	272
2010_Plantation_oilpalm	23,240	26,942	23,240	46,639	36,025
2010_Plantation_others	5,039	6,028	5,039	7,061	4,418
2010_Plantation_rubber	5,620	8,331	5,620	9,944	14,571
2012_Settlement	422	364	422	245	1,124
2014_OpenGround	3,423	2,128	3,423	2,672	13,549
20141_Mining	2	6	2	1,705	0
3000_GrassLand	0	0	0	0	0
5001_WaterBody	3,637	3,560	3,637	3,407	3,935
50011_Swamp	539	534	539	588	378
Cloud	7,305	32,417	7,305	0	3,013
CloudShadow	16	2,196	16	0	2,104
unclassified	181	0	181	2	0
Total Area	396,649	396,649	396,649	396,649	396,649

(5) Ketapang District

Table 20 Land cover area change in Ketapang district

(Unit: ha)

Land Cover Class	2000	2006	2009	2011	2013
2001_PrimaryDryForest	166,699	165,141	164,333	163,408	160,340
2002_SecondaryDryForest	990,051	892,430	832,922	796,647	778,473
2004_PrimaryMangroveForest	0	11	0	0	0
20041_SecondaryMangroveForest	8,974	8,583	7,316	7,186	22,692
2005_PrimarySwampForest	603	603	603	603	611
20051_SecondarySwampForest	596,554	527,253	469,456	449,113	415,024

Land Cover Class	2000	2006	2009	2011	2013
2006_PlantsForest	0	0		148	9,095
2007_Shrub	36,207	24,717	73,210	28,834	106,410
20071_SwampShrub	256,534	188,696	303,600	298,122	243,190
20091_Agriculture	19,536	2,468	22,911	31,781	1,957
20092_MixedAgriculture	516,535	448,348	548,254	546,168	478,805
20093_RiceField	28,533	34,200	27,498	33,429	21,510
20094_FishPond	586	1,243	4,555	7,338	2,980
2010_Plantation_oilpalm	59,771	103,922	247,570	308,404	406,018
2010_Plantation_others	2,183	2,183	2,183	2,183	4,600
2010_Plantation_rubber	6,021	6,021	6,021	6,067	2,981
2012_Settlement	4,675	3,050	3,884	7,948	4,936
2014_OpenGround	177,978	163,805	221,024	182,767	148,085
20141_Mining	1,358	15,424	24,331	51,103	0
3000_GrassLand	217	217	1,176	718	604
5001_WaterBody	13,654	12,742	12,284	15,379	18,224
50011_Swamp	46,902	11,807	14,530	51,484	38,284
Cloud	49,523	263,201	51	31	60,468
CloudShadow	3,391	106,158	53	0	64,064
unclassified	2,864	7,129	1,587	490	0
Total Area	2,989,352	2,989,352	2,989,352	2,989,352	2,989,352

3.4.2. Base Maps for REDD+ Planning of Gunung Palung National Park Landscape

Following table shows land cover area change based on REDD+ Base map Version 6.

(1) Targeted 2 Sub-districts (Gunung Palung National Park Landscape)

Table 21 Land cover area change in Gunung Palung National Park Landscape

(Unit: ha)

Land Cover Class	2000	2006	2009	2011	2013
2001_PrimaryDryForest	24,573	24,481	25,290	25,290	26,657
2002_SecondaryDryForest	49,462	48,341	56,201	55,884	49,351
2004_PrimaryMangroveForest	0	0	0	0	0
20041_SecondaryMangroveForest	6,087	6,419	6,562	6,504	4,552
2005_PrimarySwampForest	0	0	0	0	0
20051_SecondarySwampForest	93,067	90,126	79,804	73,460	73,095

Land Cover Class	2000	2006	2009	2011	2013
2006_PlantsForest	0	0	0	360	0
2007_Shrub	5,767	2,714	1,198	1,268	5,467
20071_SwampShrub	21,132	26,104	13,700	13,129	15,192
20091_Agriculture	465	142	919	1,876	494
20092_MixedAgriculture	5,220	4,844	7,492	6,422	5,325
20093_RiceField	6,020	5,721	7,431	4,634	6,230
20094_FishPond	152	356	239	294	116
2010_Plantation_oilpalm	11,698	14,404	21,865	31,065	29,656
2010_Plantation_others	2,409	2,434	2,469	2,469	3,150
2010_Plantation_rubber	2,640	4,382	6,351	6,424	5,271
2012_Settlement	287	284	757	189	506
2014_OpenGround	2,410	1,424	2,195	1,483	5,192
20141_Mining	2	6	58	1,680	0
3000_GrassLand	0	0	0	0	0
5001_WaterBody	1,605	1,622	1,388	1,437	1,736
50011_Swamp	200	289	238	285	356
Cloud	884	33	0	0	996
CloudShadow	0	33	0	0	815
unclassified	76	0	0	2	0
Total Area	234,157	234,157	234,157	234,157	234,157

3.4.3. Base Maps for REDD+ Planning of Gunung Palung National Park Landscape

Following table shows land cover area change based on Detailed REDD+ Base map Version 6. This map classified land covers by using SPOT6. Please refer to 2.7. Trial Supplemental Visual Interpretation on Forest Degradation in Secondary Forest Classes for Gunung Palung National Park Landscape about detail.

(1)Targeted 2 Sub-districts

Table 22 Land cover area change in Gunung Palung National Park Landscape

(Unit: ha)

Land Cover Class (Detailed classification by SPOT6)	2000	2006	2013
Primary Dry Forest <<LARGE BIOMASS>>	7,545	6,365	6,577
Primary Dry Forest <<SMALL BIOMASS>>	14,829	16,187	17,898
Secondary Dry Forest <<LARGE BIOMASS>>	203	69	219

Land Cover Class (Detailed classification by SPOT6)	2000	2006	2013
Secondary Dry Forest <<SMALL BIOMASS>>	22,659	14,437	6,869
Secondary Dry Forest <<MEDIUM BIOMASS>>	25,357	37,718	42,372
Secondary Mangrove Forest	577	574	749
Primary Swamp Forest	0	0	0
Secondary Swamp Forest <<SMALL BIOMASS>>	8,324	4,746	4,510
Secondary Swamp Forest <<MEDIUM BIOMASS>>	16,146	18,519	18,212
Shrub	3,055	1,943	5,557
Swamp Shrub	3,690	2,960	2,727
Agriculture	372	79	58
Mixed Agriculture	4,037	3,165	642
RiceField	261	262	287
FishPond	3	3	24
Plantation	0	0	0
Oilpalm Plantation	8	18	42
Rubber Plantation	0	0	4
Settlement	19	2	5
Open ground	734	478	536
Grass land	49	189	462
Water body	29	46	31
Swamp	103	254	207
Cloud	13	0	6
Cloud shade	0	0	7
unclassified	0	0	13
Total Area	108,013	108,013	108,013

Chapter 4 Lessons Learned and Suggestions for Provincial Base Maps for REDD+

4.1. Lessons Learned

4.1.1. Effectiveness to base cost

The followings are the summary of workload and time consumed in this REDD+ base mapping. The hybrid approach will be effective to base cost if we can outsourcing the party having the relevant software for automated classification and utilize local human resources who are familiar with the field fact of land covers and use for visual correction.

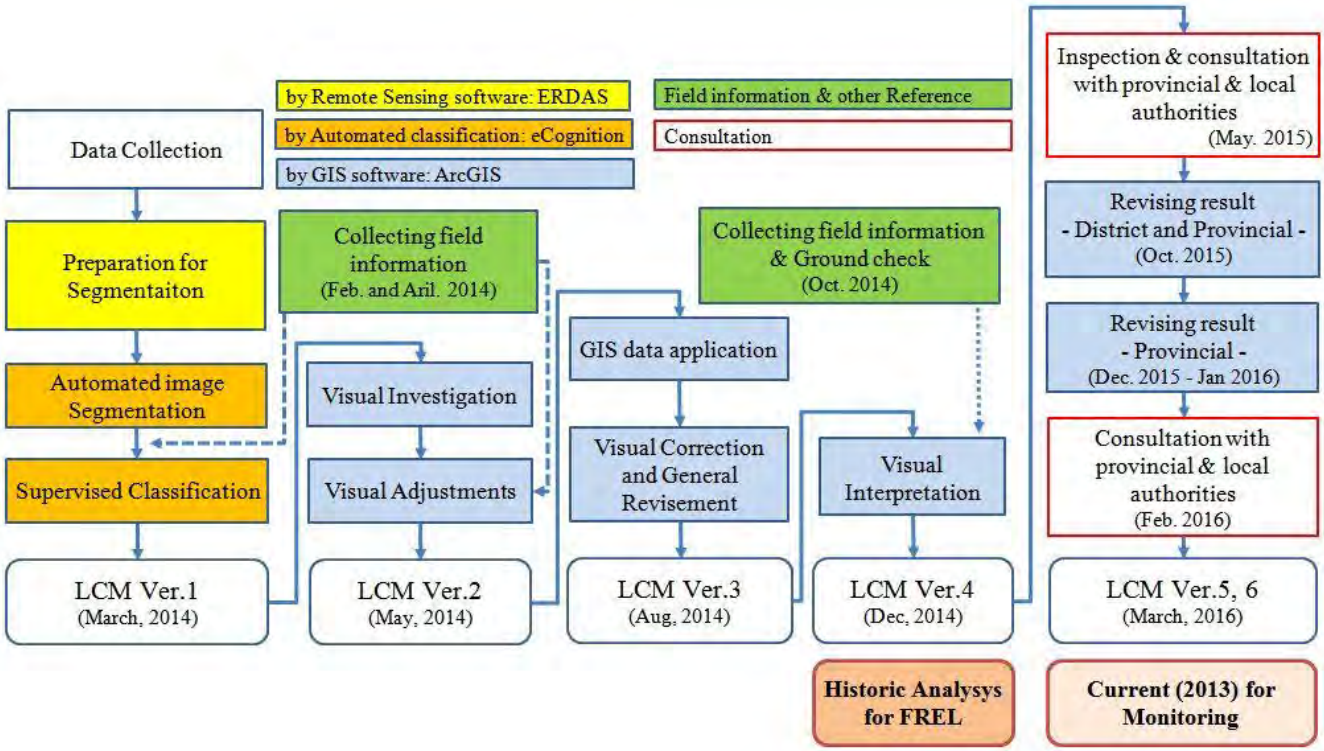


Figure 21 Flowchart of Mapping Process

Table 23 Approximate Base Cost of REDD+ Base Mapping (4 districts + GPNP Landscape)

No.	Process	Actual persons-days	Area of work (ha)	Effectiveness (persons-days/ha)
1-1	Pre-processing & Preparation of interpretation 【LANDSAT】	a) Data selection: 7 b) Data download: 7 c) Stocking layer: 3 d) Clipping: 3 e) Radiometric adjustment: 3 f) Calculation of PCA: 3 g) Calculation of NDVI: 3 h) Mosaic processing: 2 **Total: 31**	4,516,500 (4 districts)	6.86372E-06

No.	Process	Actual persons-days	Area of work (ha)	Effectiveness (persons-days/ha)
1-2	Pre-processing 【SPOT】	a) Data selection: 7 b) Procurement: 5 c) Radiometric correction: 3 d) Geometric correction: 7 **Total : 22**	599,000 (GPNP Landscape)	3.67279E-05
2	Needs analysis	Interviews and the existing collecting geographical information: 25 **Total: 25**	4,516,500 (4 districts)	5.53526E-06
3	Semi-automated delineation and class labeling 【V1→V3】	a) Examination for method development: 45 b) Auto-Segmentation: 7 c) Class labeling: 70 **Total: 122**	4,516,500 (4 districts)	2.70121E-05
4	Ground truth surveys	a) Preparation of GT Surveys: 30 b) Implementation of GT surveys: 72 **Total: 102**	4,516,500 (4 districts)	2.25839E-05
5	Modification 【V3→V4】	Visual correction: 150 **Total: 150**	4,516,500 (4 districts)	3.32116E-05
6	Accuracy assessment	Accuracy assessment: 14 **Total: 14**	4,516,500 (4 districts)	3.09975E-06
6	Cartography 【V4→Final】	a) Hybrid classification, basic digitizing: 5 b) Visual correction (Maya Island): 2 c) Visual correction (Oil Palm Plantation) and digitalizing by sheet: 42 **Total: 49**	4,516,500 (4 districts)	1.08491E-05
7	Area calculation	a) Calculation: 3 b) Tabulation and graphic making: 3 **Total: 6**	4,516,500 (4 districts)	1.32846E-06
	Total	**521 man-days**		

4.1.2. Experienced Issues in Mapping Process

The following issues were experienced during map production.

a) Discrepancy of Boundary data

Here, "boundary data" means like administration boundary, coast lines and rivers. When several boundary data were investigated, it was revealed discrepancies of boundary is relatively common in Indonesia.

This is because of the difference of scale of the data aims at. When it comes to producing land cover map, boundary data is used for;

1) Clipping: Original satellite images, various supportive raster data like DEM.
2) Buffering: Provide source for various size of buffers
3) Dividing: Divide large shape file to optimize operation. (ex. provincial scale data on GIS software is too large and problematic and difficult to handle.)
4) Dividing: Divide target region for area calculation.

Administrative boundary is related with political or institutional matters. To avoid later complexity or additional work, advanced communication and well coordinated discussion would be necessary.

Actually in this mapping process, the border of districts the project used was found different with the boundary data which BAPPEDA used for RTRWP. Therefore after Version 5 map produced, additional interpretation and delineation/digitizing was needed to produce Version 6.

Future change of boundary should be considered, too. So when clipping raster or produced land cover map, clipping by current boundary is not recommended. It is better to leave sufficient buffer to prepare future

change of boundary when clipping various data.

b) Introducing local knowledge

Ground truth surveys (102 man-day) and Visual correction (150 man-day) have held about 48% of all mapping process (Table 23). Actually, these activities have important roles in producing map and time consumed task. Ground truth survey is carried out to correct ground reference data for classification. The example result of survey is shown in Table 9.

Because the budget of project is limited. Local knowledge should be introduced to improve accuracy of map effectively. Local knowledge include information about current land cover, history of land cover and its background and other experiences acquired by local residents or other correspondents like local government staffs in the field. If collaboration with them or stakeholders considered as one of the important task for producing map and successful, effectiveness of mapping process can be improved.

Even if there are some automated step to produce land cover map, visual interpretation and visual correction are critically important to improve accuracy of the products. The map correction task is usually shared between several workers who are engaged in. So the consistency of quality of interpretation matters because each workers' experience or technical skill is different between. To ensure the quality, some kind of guideline for interpretation is required. A part of example of this guide looks like Table 9. Collaborative work to prepare these guide or internal standard with local stakeholders will be very fruitful for later process.

4.1.3. Applicability of the hybrid approach

The hybrid approach by combination of automated classification and visual interpretation would have applicability in order to reduce the work load and time consuming if we start annual or biannual monitoring including forest inventory. We will compile the best mixture of combination to be appropriate with sub-national circumstances.

4.2. Suggestions

4.2.1. Use of base maps for sub-national-level monitoring

The current time (2013) of base maps for trial FREL for 4 targeted districts and Draft PDD for GPNP landscape will also be useful in monitoring by sub-national level like province by updating and/or detailing Land Cover (LC) and Land Use (LU) for 4 districts hopefully utilizing SPOT satellite image data of the time 2015.

4.2.2. Methodology to develop sub-national-level monitoring

The Governor should implement forest inventory of provincial level and the District Governor should implement forest inventory of district level at least once in 5 years, according to Governmental Regulation[24]. Those local government who have faced limited human resources to conduct full visual LC/LU classification

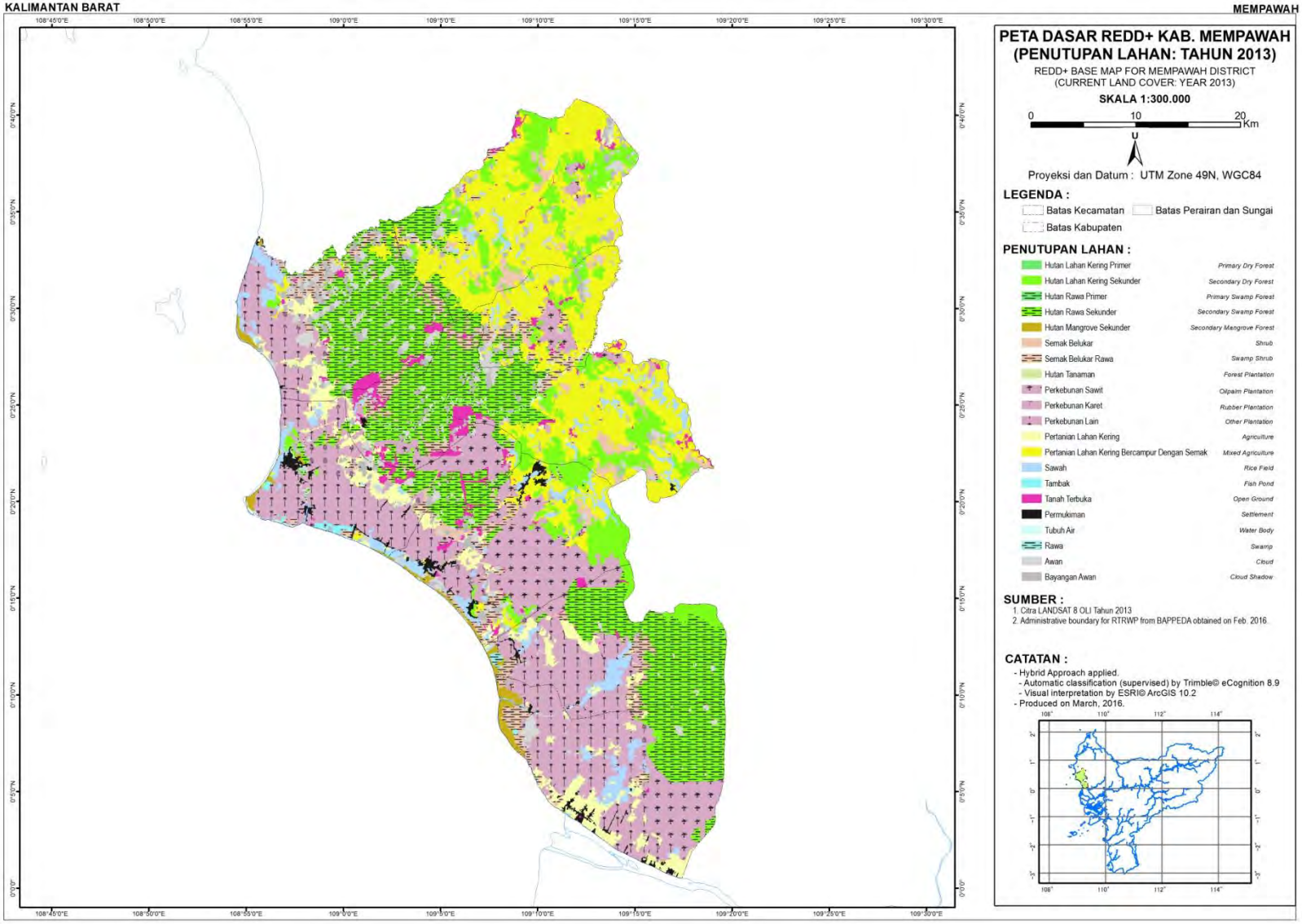
[24] Peraturan Pemerintah Republik Indonesia Nomor 44 Tahun 2004 tentang Perencanaan Kehutanan (18 Oktober 2004)

for monitoring will have a potential to apply this hybrid method by procuring a third party who own automated classification software to outsourcing the whole work and/or the some process in order to save time and workload of government human resources.

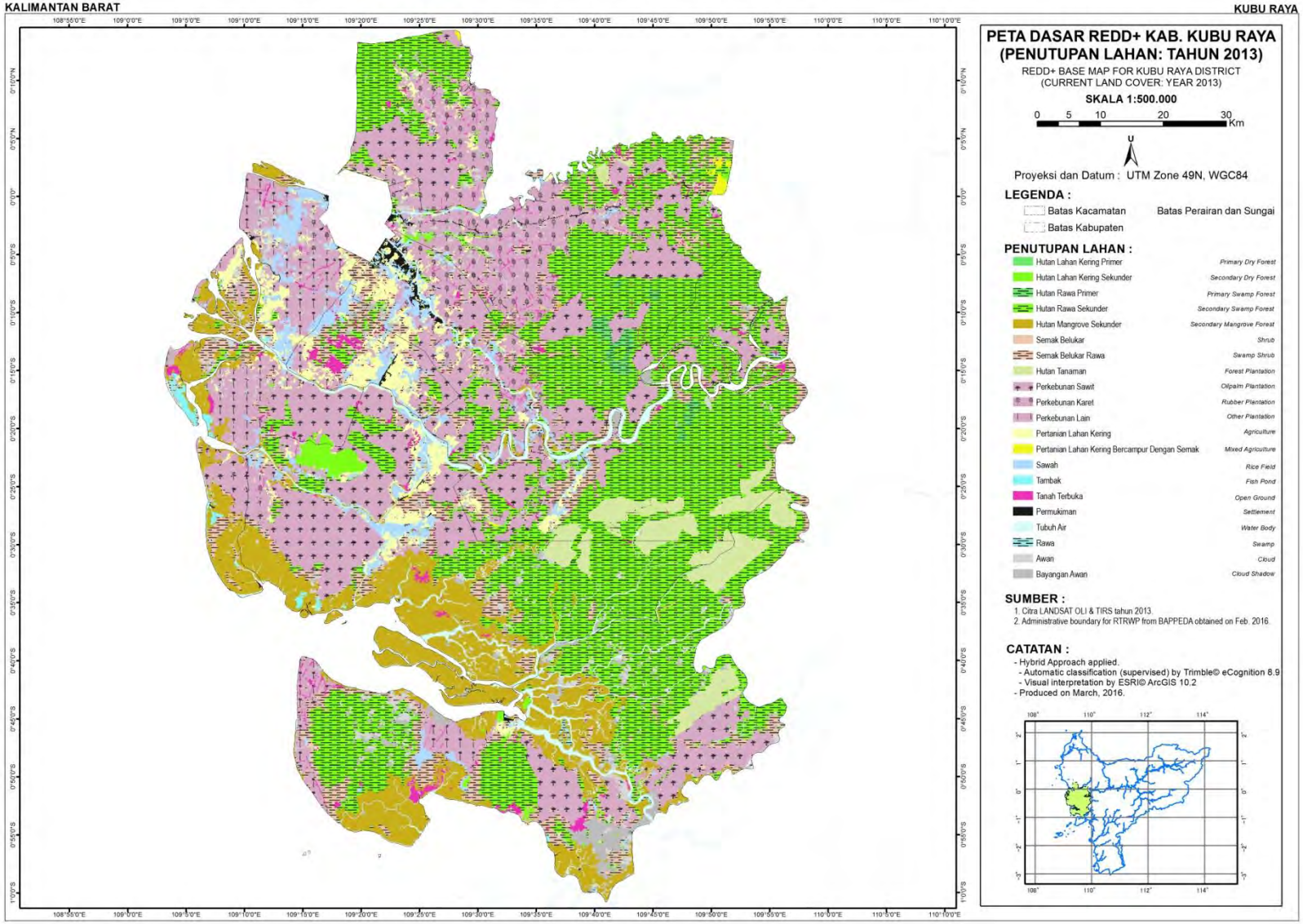
Chapter 5 Produced REDD+ Base Maps for Each Targeted District

Produced REDD+ Base maps for current (2013) land covers are showed following pages.

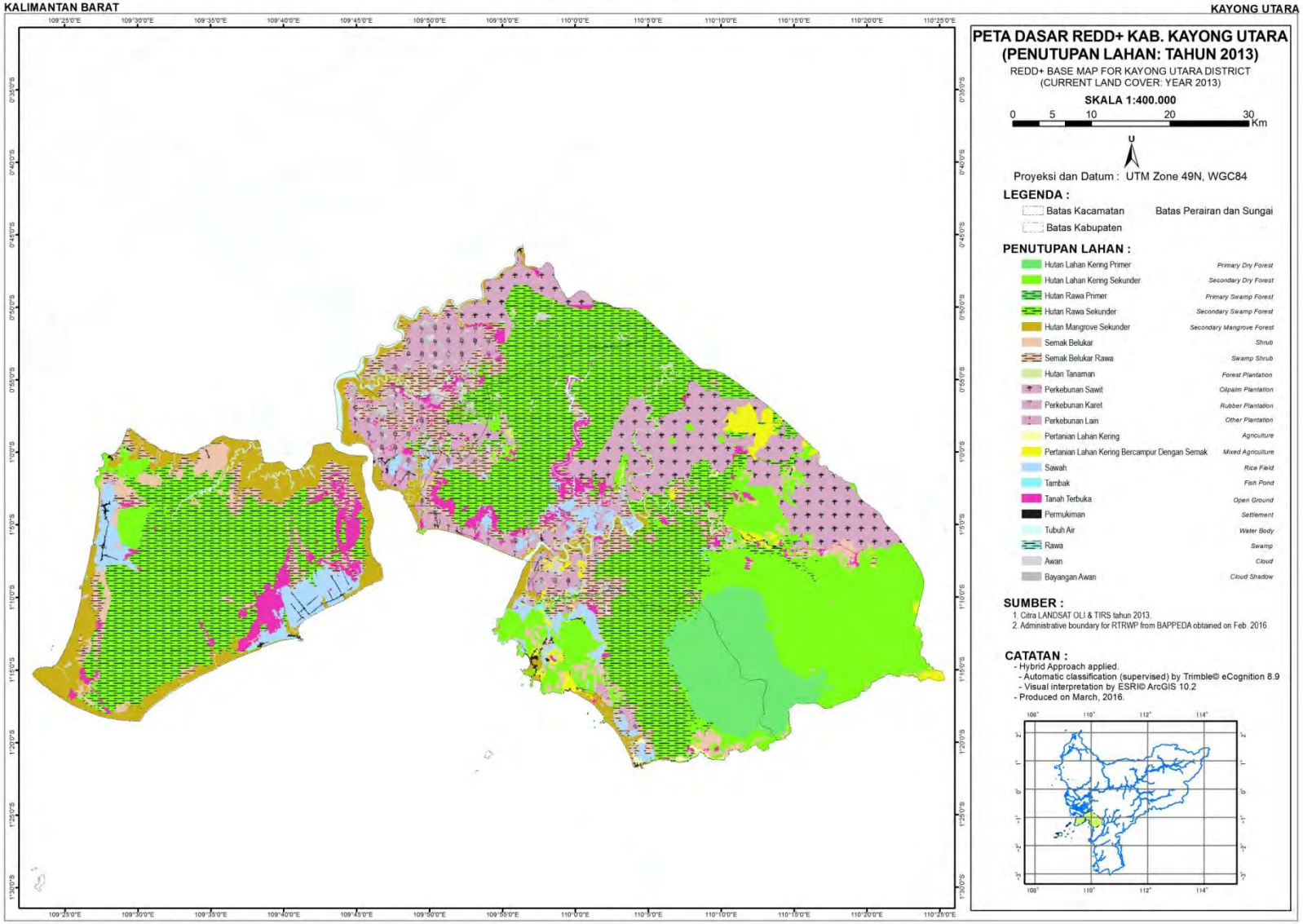
Mempawah District



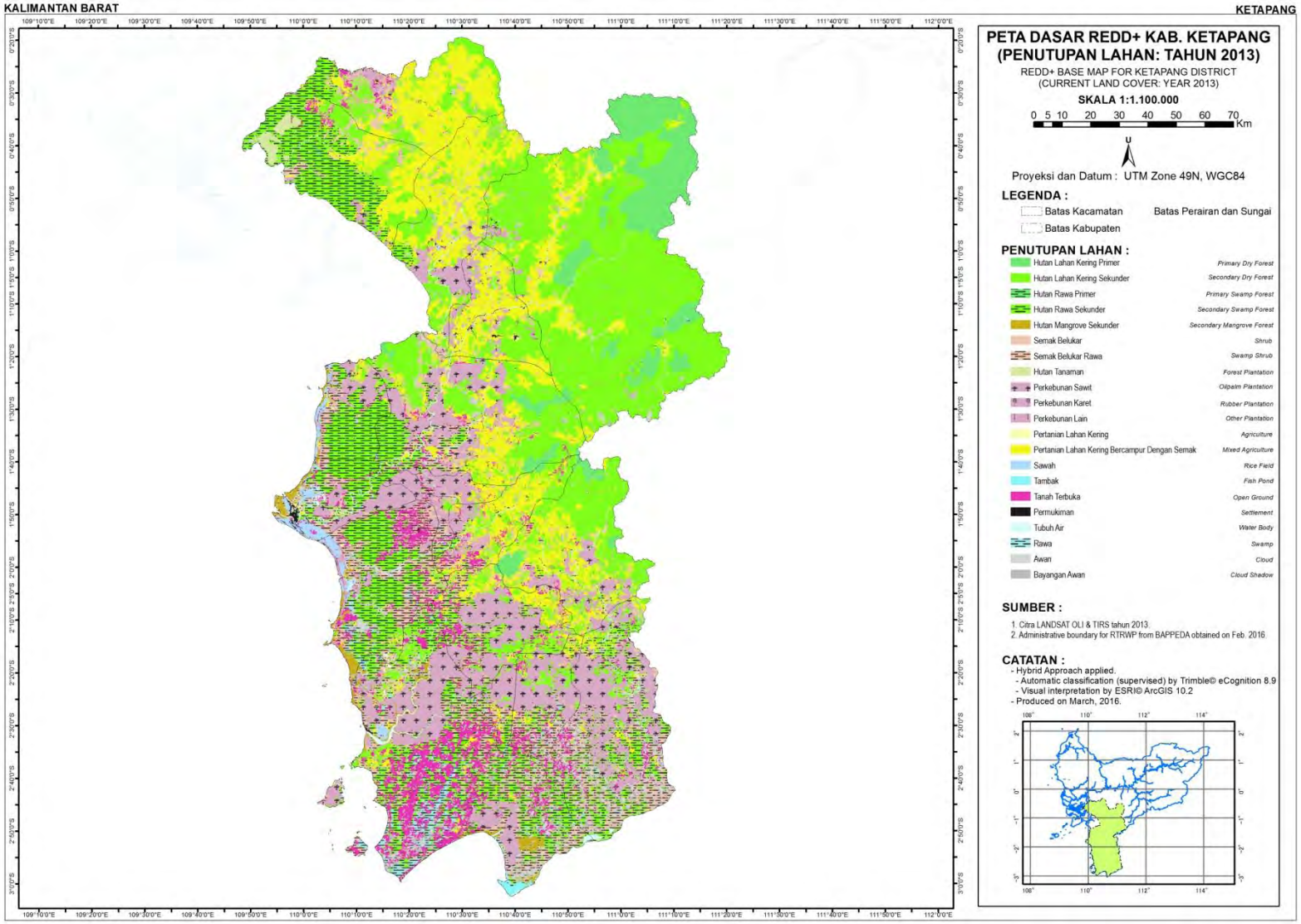
Kubu Raya District



Kayong Utara District



Ketapang District



Chapter 6 Ground Truth Survey Sites (Feb. & Apr. 2014)

Table 24 Records of Ground Truth Survey Sites (Feb. & Apr. 2014)

Photo ID	Shooting direction (degree)	Location X (m)	Location X (m)	Shooting date
CIMG3953	158	405483	-145250	2014-04-12
CIMG3954	210	405483	-145250	2014-04-12
CIMG3955	304	405219	-144815	2014-04-12
CIMG3956	50	405101	-144601	2014-04-12
CIMG3957	42	405101	-144599	2014-04-12
CIMG3958	268	405102	-144611	2014-04-12
CIMG3959	98	405109	-144604	2014-04-12
CIMG3960	68	405231	-144307	2014-04-12
CIMG3961	90	405281	-144055	2014-04-12
CIMG3962	48	405387	-143663	2014-04-12
CIMG3963	46	405382	-143690	2014-04-12
CIMG3964	58	405382	-143690	2014-04-12
CIMG3965	44	405383	-143688	2014-04-12
CIMG3966	140	405158	-144007	2014-04-12
CIMG3967	358	405068	-143874	2014-04-12
CIMG3968	64	404988	-143839	2014-04-12
CIMG3969	268	405106	-143991	2014-04-12
CIMG3970	72	405181	-144100	2014-04-12
CIMG3971	352	404949	-144541	2014-04-12
CIMG3972	22	404367	-144395	2014-04-12
CIMG3973	32	404366	-144397	2014-04-12
CIMG3974	20	404366	-144397	2014-04-12
CIMG3975	26	404167	-144097	2014-04-12
CIMG3976	18	404175	-144099	2014-04-12
CIMG3977	228	404180	-144094	2014-04-12
CIMG3978	184	404180	-144094	2014-04-12
CIMG3979	324	404183	-144087	2014-04-12
CIMG4235	354	321712	-6029	2014-02-19
CIMG4236	352	321931	-5973	2014-02-19
CIMG4237	300	322355	-5507	2014-02-19
CIMG4238	310	322369	-5461	2014-02-19
CIMG4239	312	322492	-5066	2014-02-19
CIMG4240	296	322601	-4741	2014-02-19
CIMG4241	2	322979	-4257	2014-02-19
CIMG4242	8	323057	-4254	2014-02-19
CIMG4243	356	323103	-4253	2014-02-19

CIMG4244	338	324715	-4109	2014-02-19
CIMG4245	342	324720	-4108	2014-02-19
CIMG4246	340	325038	-4045	2014-02-19
CIMG4247	354	326121	-3886	2014-02-19
CIMG4248	4	328627	-4000	2014-02-19
CIMG4249	342	328814	-4002	2014-02-19
CIMG4250	22	330480	-4494	2014-02-19
CIMG4251	358	330480	-4494	2014-02-19
CIMG4252	344	331839	-5194	2014-02-19
CIMG4253	56	332954	-5606	2014-02-19
CIMG4254	310	337957	-3948	2014-02-19
CIMG4255	14	338640	-3476	2014-02-19
CIMG4256	30	338969	-3523	2014-02-19
CIMG4257	40	339228	-3718	2014-02-19
CIMG4258	2	339465	-3935	2014-02-19
CIMG4259	12	339654	-4083	2014-02-19
CIMG4260	8	340140	-4330	2014-02-19
CIMG4261	20	340560	-4375	2014-02-19
CIMG4262	68	340743	-4395	2014-02-19
CIMG4263	346	340856	-4403	2014-02-19
CIMG4264	348	342099	-4338	2014-02-19
CIMG4265	354	342214	-4321	2014-02-19
CIMG4266	2	342510	-4249	2014-02-19
CIMG4267	340	343591	-3888	2014-02-19
CIMG4268	352	344286	-3600	2014-02-19
CIMG4269	350	344355	-3579	2014-02-19
CIMG4270	348	344396	-3567	2014-02-19
CIMG4271	10	344544	-3540	2014-02-19
CIMG4272	358	344875	-3484	2014-02-19
CIMG4273	354	345086	-3440	2014-02-19
CIMG4274	356	345221	-3413	2014-02-19
CIMG4275	330	345767	-3291	2014-02-19
CIMG4276	334	345861	-3255	2014-02-19
CIMG4277	332	346111	-3166	2014-02-19
CIMG4278	338	346630	-3036	2014-02-19
CIMG4279	8	347178	-3033	2014-02-19
CIMG4280	0	347276	-3045	2014-02-19
CIMG4281	352	347760	-3108	2014-02-19
CIMG4282	10	347999	-3087	2014-02-19
CIMG4283	348	348529	-3020	2014-02-19
CIMG4284	356	348907	-3000	2014-02-19
CIMG4285	346	349287	-2960	2014-02-19
CIMG4286	342	349356	-2918	2014-02-19
CIMG4287	332	349527	-2805	2014-02-19

CIMG4288	0	349747	-2641	2014-02-19
CIMG4289	12	350141	-2526	2014-02-19
CIMG4290	8	350316	-2479	2014-02-19
CIMG4291	344	350444	-2449	2014-02-19
CIMG4292	344	350467	-2448	2014-02-19
CIMG4293	16	350919	-2426	2014-02-19
CIMG4295	358	351658	-2486	2014-02-19
CIMG4296	332	352892	-2835	2014-02-19
CIMG4297	316	353283	-2621	2014-02-19
CIMG4298	314	353309	-2583	2014-02-19
CIMG4299	308	353532	-2144	2014-02-19
CIMG4300	298	353552	-2038	2014-02-19
CIMG4301	334	353764	-1814	2014-02-19
CIMG4302	350	354158	-1626	2014-02-19
CIMG4303	338	354210	-1606	2014-02-19
CIMG4304	342	354419	-1546	2014-02-19
CIMG4305	350	355328	-1625	2014-02-19
CIMG4306	320	355496	-1537	2014-02-19
CIMG4307	292	355681	-1267	2014-02-19
CIMG4308	286	355692	-1181	2014-02-19
CIMG4309	312	355655	-709	2014-02-19
CIMG4310	314	355775	-474	2014-02-19
CIMG4311	302	355895	-338	2014-02-19
CIMG4312	304	355953	-275	2014-02-19
CIMG4313	316	356201	62	2014-02-19
CIMG4314	308	356369	408	2014-02-19
CIMG4315	266	356427	609	2014-02-19
CIMG4316	300	356441	765	2014-02-19
CIMG4317	286	356539	1765	2014-02-19
CIMG4318	300	356578	1931	2014-02-19
CIMG4319	334	357489	2749	2014-02-19
CIMG4320	338	357892	2949	2014-02-19
CIMG4321	356	358023	2975	2014-02-19
CIMG4322	352	358305	3022	2014-02-19
CIMG4323	12	358546	3060	2014-02-19
CIMG4324	346	359747	3239	2014-02-19
CIMG4325	320	360162	3589	2014-02-19
CIMG4326	352	361104	3911	2014-02-19
CIMG4327	44	361364	3989	2014-02-19
CIMG4328	338	361832	4133	2014-02-19
CIMG4329	340	362046	4194	2014-02-19
CIMG4330	14	362494	4321	2014-02-19
CIMG4331	18	362608	4296	2014-02-19
CIMG4332	22	362798	4205	2014-02-19

CIMG4333	38	362931	4147	2014-02-19
CIMG4334	32	363019	4099	2014-02-19
CIMG4335	52	363192	3986	2014-02-19
CIMG4336	138	363278	3888	2014-02-19
CIMG4337	38	363358	3803	2014-02-19
CIMG4338	58	363652	3494	2014-02-19
CIMG4339	54	363729	3412	2014-02-19
CIMG4340	22	363882	3258	2014-02-19
CIMG4341	30	363975	3160	2014-02-19
CIMG4342	58	364083	3055	2014-02-19
CIMG4343	170	364115	3017	2014-02-19
CIMG4344	358	364115	3022	2014-02-19
CIMG4345	50	364105	3019	2014-02-19
CIMG4346	48	364093	3024	2014-02-19
CIMG4347	20	364093	3024	2014-02-19
CIMG4348	14	364092	3017	2014-02-19
CIMG4349	346	364088	3010	2014-02-19
CIMG4350	344	364088	3010	2014-02-19
CIMG4351	26	365774	2113	2014-02-19
CIMG4352	38	365810	2034	2014-02-19
CIMG4353	24	366264	1481	2014-02-19
CIMG4354	8	366696	1398	2014-02-19
CIMG4355	52	367608	1014	2014-02-19
CIMG4356	24	367778	758	2014-02-19
CIMG4357	60	368194	601	2014-02-19
CIMG4358	344	368341	625	2014-02-19
CIMG4359	340	369027	732	2014-02-19
CIMG4360	356	369315	782	2014-02-19
CIMG4361	10	369546	819	2014-02-19
CIMG4362	340	369756	852	2014-02-19
CIMG4363	338	370138	912	2014-02-19
CIMG4364	6	370618	976	2014-02-19
CIMG4365	200	370566	964	2014-02-19
CIMG4366	214	370126	907	2014-02-19
CIMG4367	222	369476	800	2014-02-19
CIMG4368	248	369060	734	2014-02-19
CIMG4369	224	368443	639	2014-02-19
CIMG4370	302	368050	585	2014-02-19
CIMG4371	284	367837	706	2014-02-19
CIMG4372	254	367463	1231	2014-02-19
CIMG4373	232	367153	1317	2014-02-19
CIMG4374	236	366710	1390	2014-02-19
CIMG4375	160	366469	1375	2014-02-19
CIMG4376	220	366460	1355	2014-02-19

CIMG4377	136	366329	1059	2014-02-19
CIMG4378	124	366316	1022	2014-02-19
CIMG4379	224	366301	983	2014-02-19
CIMG4380	100	366252	886	2014-02-19
CIMG4381	134	366226	823	2014-02-19
CIMG4382	142	366180	690	2014-02-19
CIMG4383	228	366169	702	2014-02-19
CIMG4384	150	366162	707	2014-02-19
CIMG4385	144	366163	717	2014-02-19
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CIMG6284	340	406373	-149521	2014-02-27
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CIMG6286	34	406381	-149537	2014-02-27
CIMG6287	10	406381	-149537	2014-02-27
CIMG6288	0	400407	-149499	2014-02-27
CIMG6289	352	400407	-149499	2014-02-27
CIMG6290	310	397510	-149936	2014-02-27
CIMG6291	246	396572	-150774	2014-02-27
CIMG6292	226	396933	-151172	2014-02-27
CIMG6293	240	397952	-152018	2014-02-27
CIMG6294	248	397970	-152003	2014-02-27
CIMG6295	230	397996	-151981	2014-02-27
CIMG6296	258	398005	-151973	2014-02-27
CIMG6297	252	398617	-154305	2014-02-27
CIMG6298	260	398650	-155001	2014-02-27
CIMG6299	286	397935	-155955	2014-02-27
CIMG6300	266	398047	-157140	2014-02-27
CIMG6301	264	397997	-158607	2014-02-27
CIMG6302	258	397642	-160812	2014-02-27
CIMG6303	260	397751	-161406	2014-02-27
CIMG6304	296	397775	-162015	2014-02-27
CIMG6305	274	397077	-163881	2014-02-27
CIMG6306	280	396900	-164199	2014-02-27
CIMG6307	304	396647	-164574	2014-02-27
CIMG6308	300	396122	-164926	2014-02-27
CIMG6309	290	394936	-165879	2014-02-27
CIMG6310	276	394275	-167087	2014-02-27
CIMG6311	260	393930	-168583	2014-02-27
CIMG6312	260	393871	-168918	2014-02-27
CIMG6313	228	393728	-170276	2014-02-27
CIMG6314	254	394602	-172511	2014-02-27
CIMG6315	242	394599	-172529	2014-02-27

CIMG6316	260	393508	-180770	2014-02-27
CIMG6317	266	393478	-180964	2014-02-27
CIMG6318	260	393440	-181243	2014-02-27
CIMG6319	262	393336	-181882	2014-02-27
CIMG6320	246	393251	-182307	2014-02-27
CIMG6321	260	393135	-182792	2014-02-27
CIMG6322	264	393050	-183090	2014-02-27
CIMG6323	266	392918	-183567	2014-02-27
CIMG6324	272	392835	-184300	2014-02-27
CIMG6325	262	392648	-184858	2014-02-27
CIMG6326	266	392591	-185021	2014-02-27
CIMG6327	248	392353	-185818	2014-02-27
CIMG6328	278	388747	-191582	2014-02-27
CIMG6329	264	388394	-192409	2014-02-27
CIMG6330	256	388671	-196096	2014-02-27
CIMG6331	264	388566	-196434	2014-02-27
CIMG6332	282	388383	-196710	2014-02-27
CIMG6333	276	388091	-197135	2014-02-27
CIMG6334	294	387641	-197809	2014-02-27
CIMG6335	298	387422	-198175	2014-02-27
CIMG6336	288	386568	-199176	2014-02-27
CIMG6337	272	386258	-199494	2014-02-27
CIMG6338	320	385743	-199581	2014-02-27
CIMG6339	310	384926	-199760	2014-02-27
CIMG6340	314	384793	-199797	2014-02-27
CIMG6341	256	384269	-199988	2014-02-27
CIMG6342	258	384200	-201739	2014-02-27
CIMG6343	270	384174	-202152	2014-02-27

Chapter 7 Accuracy Assessment Points (Ver. 5 map, Current [2013])

Table 25 Location of Accuracy Assessment points (Ver. 5 map, Current [2013])

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
1	Open Ground	Open Ground	477296	-228432	Satellite
2	Plantation	Plantation	286353	32683	Ground
3	Water Body	Water Body	407120	-199875	Satellite
4	Settlement	Settlement	383305	-137551	Satellite
5	Open Ground	Open Ground	428578	-201800	Satellite
6	Water Body	Water Body	412388	-279359	Satellite
7	Plantation	Plantation	435003	-252843	Satellite
8	Plantation	Plantation	298002	51373	Satellite
9	Mixed Agriculture	Shrub	430560	-108159	Satellite
10	Open Ground	Open Ground	341501	-87229	Satellite
11	Rice Field	Rice Field	301744	-5824	Satellite
12	Plantation	Plantation	300276	65422	Satellite
13	Shrub	Mixed Agriculture	462246	-191048	Satellite
14	Plantation	Plantation	450152	-177302	Satellite
15	Fish Pond	Swamp Shrub	290153	-47024	Satellite
16	Mixed Agriculture	Mixed Agriculture	414105	-120986	Satellite
17	Water Body	Water Body	424827	-279185	Satellite
18	Open Ground	Open Ground	472603	-278642	Satellite
19	Water Body	Swamp	506473	-259794	Satellite
20	Swamp Shrub	Swamp Shrub	297080	47985	Satellite
21	Fish Pond	Swamp	431295	-182480	Satellite
22	Water Body	Water Body	427026	-267942	Satellite
23	Swamp	Swamp	409351	-256073	Satellite
24	Water Body	Water Body	323472	-74939	Satellite
25	Agriculture	Swamp Shrub	270791	39541	Ground
26	Plantation	Plantation	455476	-105190	Satellite
27	Secondary Dry Forest	Plantation	467314	-262617	Satellite
28	Swamp	Swamp	410638	-256864	Satellite
29	Mixed Agriculture	Shrub	294086	59541	Ground
30	Mixed Agriculture	Open Ground	444402	-106762	Satellite
31	Swamp	Swamp	411175	-258044	Satellite
32	Secondary Swamp Forest	Swamp Shrub	292622	41113	Satellite
33	Open Ground	Open Ground	474153	-289575	Satellite
34	Plantation	Plantation	477685	-247381	Satellite
35	Plantation	Plantation	432802	-215116	Satellite
36	Secondary Swamp Forest	Secondary Swamp Forest	411461	-240801	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
37	Agriculture	Agriculture	280235	38993	Ground
38	Plantation	Plantation	424986	-192003	Satellite
39	Plantation	Plantation	357512	2351	Satellite
40	Swamp Shrub	Swamp Shrub	295317	-24548	Satellite
41	Settlement	Settlement	465856	-155948	Satellite
42	Settlement	Settlement	386264	-202204	Satellite
43	Open Ground	Open Ground	315099	41682	Satellite
44	Plantation	Plantation	301504	-53903	Satellite
45	Plantation	Plantation	311799	-38418	Satellite
46	Water Body	Water Body	322630	-77290	Satellite
47	Agriculture	Agriculture	390805	-136613	Satellite
48	Swamp	Swamp	410446	-125391	Satellite
49	Swamp	Water Body	413508	-196634	Satellite
50	Open Ground	Open Ground	315985	39027	Satellite
51	Mixed Agriculture	Open Ground	449241	-130896	Satellite
52	Open Ground	Open Ground	446830	-308738	Satellite
53	Shrub	Shrub	492586	-137249	Satellite
54	Rice Field	Rice Field	399659	-211724	Satellite
55	Mixed Agriculture	Settlement	446917	-137177	Satellite
56	Plantation	Plantation	454894	-102660	Satellite
57	Swamp Shrub	Swamp Shrub	394846	-195413	Satellite
58	Open Ground	Open Ground	472798	-302448	Satellite
59	Cloud	Open Ground	431023	-175191	Satellite
60	Water Body	Water Body	305037	2658	Satellite
61	Swamp Shrub	Swamp Shrub	284057	37308	Satellite
62	Swamp	Swamp	436438	-292051	Satellite
63	Open Ground	Open Ground	429421	-213270	Satellite
64	Shrub	Grass Land	417347	-256381	Satellite
65	Water Body	Water Body	423369	-272934	Satellite
66	Mixed Agriculture	Shrub	300568	64106	Satellite
67	Plantation	Plantation	298002	54121	Satellite
68	Water Body	Water Body	304635	2836	Satellite
69	Fish Pond	Fish Pond	461085	-333436	Satellite
70	Plantation	Plantation	469654	-221489	Satellite
71	Open Ground	Open Ground	434847	-291086	Satellite
72	Open Ground	Open Ground	437158	-238288	Satellite
73	Cloud	Open Ground	435989	-109437	Satellite
74	Open Ground	Open Ground	414823	-194605	Satellite
75	Open Ground	Open Ground	438400	-216857	Satellite
76	Open Ground	Settlement	414374	-202307	Satellite
77	Open Ground	Open Ground	430405	-203228	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
78	Rice Field	Agriculture	327532	-38808	Satellite
79	Fish Pond	Fish Pond	286148	-32291	Satellite
80	Open Ground	Open Ground	393321	-58995	Satellite
81	Mixed Agriculture	Grass Land	440814	-145508	Satellite
82	Shrub	Grass Land	419916	-252918	Satellite
83	Mixed Agriculture	Plantation	384227	-124841	Satellite
84	Shrub	Shrub	295059	51771	Satellite
85	Plants Forest	Plants Forest	359394	-52768	Satellite
86	Mixed Agriculture	Rice Field	293211	61011	Ground
87	Open Ground	Open Ground	432780	-285846	Satellite
88	Secondary Dry Forest	Secondary Dry Forest	308891	65957	Satellite
89	Settlement	Settlement	285536	30860	Ground
90	Open Ground	Open Ground	448327	-276911	Satellite
91	Plantation	Plantation	298707	51065	Satellite
92	Shrub	Open Ground	423120	-258953	Satellite
93	Swamp Shrub	Shrub	433088	-107748	Satellite
94	Settlement	Settlement	363113	-111732	Satellite
95	Swamp Shrub	Swamp Shrub	291736	37263	Satellite
96	Open Ground	Open Ground	449256	-280824	Satellite
97	Water Body	Water Body	367863	-71443	Satellite
98	Water Body	Water Body	352712	-91854	Satellite
99	Plantation	Plantation	326035	10444	Satellite
100	Plantation	Plantation	297020	54987	Satellite
101	Open Ground	Open Ground	467388	-203177	Satellite
102	Fish Pond	Fish Pond	307626	-65688	Satellite
103	Plantation	Plantation	433660	-160971	Satellite
104	Settlement	Settlement	478622	-222347	Satellite
105	Fish Pond	Water Body	381258	-86320	Satellite
106	Swamp	Swamp	405434	-124261	Satellite
107	Water Body	Water Body	341436	-30946	Satellite
108	Settlement	Settlement	272884	39586	Satellite
109	Secondary Swamp Forest	Secondary Swamp Forest	310898	21945	Satellite
110	Settlement	Settlement	271427	47752	Satellite
111	Secondary Swamp Forest	Secondary Swamp Forest	414057	-163893	Satellite
112	Open Ground	Open Ground	315239	39167	Satellite
113	Plantation	Plantation	316146	7100	Satellite
114	Secondary Dry Forest	Shrub	453820	-138314	Satellite
115	Shrub	Shrub	296510	54791	Satellite
116	Mixed Agriculture	Mixed Agriculture	383462	-136179	Satellite
117	Settlement	Settlement	410689	-277772	Satellite
118	Plantation	Plantation	412552	-156883	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
119	Mixed Agriculture	Secondary Dry Forest	294124	63173	Ground
120	Plantation	Agriculture	306061	-27118	Satellite
121	Swamp Shrub	Swamp Shrub	306090	21136	Satellite
122	Swamp	Swamp	456469	-316157	Satellite
123	Shrub	Shrub	287449	61185	Satellite
124	Swamp Shrub	Plantation	394759	-181372	Satellite
125	Swamp Shrub	Swamp Shrub	447871	-269035	Satellite
126	Fish Pond	Fish Pond	458426	-330783	Satellite
127	Plantation	Plantation	444912	-263557	Satellite
128	Swamp	Swamp	508100	-286022	Satellite
129	Rice Field	Rice Field	289045	26411	Satellite
130	Shrub	Open Ground	421234	-71733	Satellite
131	Mixed Agriculture	Mixed Agriculture	445921	-74259	Satellite
132	Agriculture	Shrub	441623	-98594	Satellite
133	Secondary Swamp Forest	Swamp Shrub	445024	-254577	Satellite
134	Open Ground	Open Ground	428023	-291216	Satellite
135	Shrub	Shrub	418103	-96918	Satellite
136	Settlement	Settlement	383630	-137868	Satellite
137	Swamp	Swamp	405513	-123945	Satellite
138	Swamp	Swamp	394568	-128178	Satellite
139	Open Ground	Open Ground	312537	40564	Satellite
140	Secondary Dry Forest	Shrub	314967	-42216	Satellite
141	Secondary Mangrove Forest	Water Body	414072	-282141	Satellite
142	Mixed Agriculture	Mixed Agriculture	304246	75628	Satellite
143	Swamp	Swamp	411508	-247867	Satellite
144	Mixed Agriculture	Mixed Agriculture	296234	56794	Satellite
145	Mixed Agriculture	Mixed Agriculture	478132	-219257	Satellite
146	Settlement	Settlement	416248	-112953	Satellite
147	Fish Pond	Fish Pond	347453	-135417	Satellite
148	Settlement	Open Ground	429307	-208966	Satellite
149	Settlement	Agriculture	285994	29698	Satellite
150	Secondary Mangrove Forest	Plantation	433357	-255869	Satellite
151	Fish Pond	Fish Pond	290058	-35377	Satellite
152	Plantation	Plantation	340687	-47495	Satellite
153	Mixed Agriculture	Mixed Agriculture	435389	-102396	Satellite
154	Plantation	Plantation	441334	-136070	Satellite
155	Secondary Swamp Forest	Mixed Agriculture	485753	-248983	Satellite
156	Open Ground	Open Ground	442015	-243133	Satellite
157	Mixed Agriculture	Mixed Agriculture	446827	-87168	Satellite
158	Settlement	Settlement	385074	-203579	Satellite
159	Plantation	Plantation	487160	-211938	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
160	Shrub	Swamp Shrub	443288	-177105	Satellite
161	Mixed Agriculture	Secondary Dry Forest	297423	49771	Ground
162	Settlement	Settlement	384153	-202717	Satellite
163	Shrub	Shrub	424163	-158601	Satellite
164	Secondary Mangrove Forest	Water Body	418909	-279018	Satellite
165	Secondary Dry Forest	Secondary Dry Forest	296928	76036	Satellite
166	Swamp Shrub	Swamp Shrub	445224	-297778	Satellite
167	Plantation	Rice Field	402185	-236010	Satellite
168	Fish Pond	Rice Field	366068	-111890	Satellite
169	Settlement	Settlement	383130	-136884	Satellite
170	Secondary Mangrove Forest	Secondary Mangrove Forest	303676	-59737	Satellite
171	Plantation	Plantation	505605	-270183	Satellite
172	Plantation	Plantation	461946	-169733	Satellite
173	Mixed Agriculture	Shrub	440064	-113140	Satellite
174	Open Ground	Mixed Agriculture	304666	62757	Satellite
175	Rice Field	Rice Field	316260	-22658	Satellite
176	Swamp	Rice Field	393415	-193443	Satellite
177	Rice Field	Rice Field	304048	-3674	Satellite
178	Secondary Swamp Forest	Secondary Swamp Forest	309415	-91411	Satellite
179	Plantation	Plantation	447044	-178236	Satellite
180	Secondary Dry Forest	Secondary Dry Forest	466844	-113792	Satellite
181	Settlement	Open Ground	329585	-111146	Satellite
182	Rice Field	Swamp Shrub	309627	-18982	Satellite
183	Plants Forest	Plants Forest	371798	-58390	Satellite
184	Open Ground	Open Ground	425560	-308000	Satellite
185	Fish Pond	Fish Pond	461806	-333267	Satellite
186	Plantation	Plantation	305869	63693	Satellite
187	Plantation	Plantation	408422	-104637	Satellite
188	Settlement	Settlement	384480	-121796	Satellite
189	Mixed Agriculture	Mixed Agriculture	453224	-57713	Satellite
190	Open Ground	Open Ground	305796	-8633	Satellite
191	Plants Forest	Plants Forest	381995	-76067	Satellite
192	Shrub	Shrub	415028	-62672	Satellite
193	Agriculture	Agriculture	300919	8260	Satellite
194	Swamp Shrub	Open Ground	391524	-205975	Satellite
195	Rice Field	Rice Field	392101	-209656	Satellite
196	Shrub	Agriculture	316988	-59333	Satellite
197	Fish Pond	Fish Pond	286882	-33950	Satellite
198	Open Ground	Swamp Shrub	398702	-203876	Satellite
199	Secondary Dry Forest	Secondary Dry Forest	309856	-42423	Satellite
200	Swamp Shrub	Swamp Shrub	297593	50590	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
201	Swamp	Swamp	470819	-281558	Satellite
202	Swamp Shrub	Open Ground	438823	-218959	Satellite
203	Settlement	Settlement	384837	-134757	Satellite
204	Primary Dry Forest	Primary Dry Forest	504057	-93222	Satellite
205	Plantation	Plantation	438942	-255674	Satellite
206	Mixed Agriculture	Mixed Agriculture	289273	56401	Satellite
207	Plants Forest	Open Ground	378667	-73655	Satellite
208	Rice Field	Rice Field	303597	21497	Satellite
209	Plants Forest	Plants Forest	369884	-59045	Satellite
210	Open Ground	Open Ground	364799	1790	Satellite
211	Swamp Shrub	Swamp Shrub	277912	33813	Satellite
212	Swamp	Swamp	436989	-309283	Satellite
213	Settlement	Open Ground	411004	-225217	Satellite
214	Fish Pond	Fish Pond	291280	-48871	Satellite
215	Primary Dry Forest	Primary Dry Forest	520410	-151780	Satellite
216	Plantation	Plantation	326011	-36056	Satellite
217	Settlement	Settlement	385708	-205087	Satellite
218	Agriculture	Plantation	306838	5112	Ground
219	Swamp Shrub	Swamp Shrub	357885	-6416	Satellite
220	Swamp Shrub	Plantation	293365	21197	Satellite
221	Mixed Agriculture	Mixed Agriculture	401104	-116307	Satellite
222	Open Ground	Open Ground	328288	-49399	Satellite
223	Plantation	Plantation	334921	-31773	Satellite
224	Plantation	Agriculture	367377	-87775	Satellite
225	Mixed Agriculture	Mixed Agriculture	483370	-237112	Satellite
226	Swamp Shrub	Swamp Shrub	285710	41934	Satellite
227	Plants Forest	Plants Forest	374958	-71627	Satellite
228	Plantation	Plantation	447887	-106562	Satellite
229	Fish Pond	Fish Pond	293883	14879	Satellite
230	Rice Field	Rice Field	390744	-196888	Satellite
231	Plantation	Plantation	499320	-283747	Satellite
232	Plantation	Plantation	315585	10435	Satellite
233	Plantation	Plantation	329532	14187	Satellite
234	Water Body	Water Body	305304	1677	Satellite
235	Secondary Dry Forest	Secondary Dry Forest	306391	-38535	Satellite
236	Agriculture	Agriculture	288981	31732	Satellite
237	Open Ground	Open Ground	339080	-16830	Satellite
238	Open Ground	Shrub	286524	32567	Ground
239	Rice Field	Rice Field	390769	-195380	Satellite
240	Primary Dry Forest	Primary Dry Forest	525008	-135146	Satellite
241	Swamp	Rice Field	390833	-197412	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
242	Plantation	Plantation	389987	-193119	Satellite
243	Open Ground	Open Ground	306870	50334	Satellite
244	Fish Pond	Fish Pond	460844	-333421	Satellite
245	Fish Pond	Fish Pond	284684	-31347	Satellite
246	Open Ground	Open Ground	429608	-203197	Satellite
247	Plantation	Plantation	433846	-255929	Satellite
248	Fish Pond	Fish Pond	271643	35256	Satellite
249	Open Ground	Open Ground	344638	-19278	Satellite
250	Rice Field	Swamp Shrub	397295	-161482	Satellite
251	Settlement	Settlement	293321	23761	Satellite
252	Plantation	Plantation	432039	-198571	Satellite
253	Shrub	Shrub	294039	54791	Satellite
254	Mixed Agriculture	Mixed Agriculture	453823	-218624	Satellite
255	Fish Pond	Fish Pond	285524	-32296	Satellite
256	Swamp	Swamp	433637	-308921	Satellite
257	Swamp Shrub	Swamp Shrub	473637	-292145	Satellite
258	Shrub	Mixed Agriculture	303100	53301	Satellite
259	Swamp Shrub	Secondary Swamp Forest	372306	-63715	Satellite
260	Plantation	Plantation	363445	-109869	Satellite
261	Settlement	Settlement	289768	27138	Satellite
262	Settlement	Settlement	317031	-8733	Satellite
263	Swamp Shrub	Open Ground	426823	-203030	Satellite
264	Rice Field	Swamp Shrub	270987	40250	Ground
265	Plantation	Plantation	331622	-4391	Satellite
266	Secondary Mangrove Forest	Secondary Mangrove Forest	297660	4512	Satellite
267	Mixed Agriculture	Mixed Agriculture	411055	-116827	Satellite
268	Plantation	Plantation	416994	-192551	Satellite
269	Swamp Shrub	Swamp Shrub	325644	-89776	Satellite
270	Water Body	Water Body	388955	-67360	Satellite
271	Secondary Mangrove Forest	Swamp Shrub	418945	-277759	Satellite
272	Settlement	Open Ground	300051	6555	Satellite
273	Swamp	Swamp Shrub	444354	-300664	Satellite
274	Plantation	Plantation	417360	-268986	Satellite
275	Agriculture	Agriculture	333199	-50198	Satellite
276	Water Body	Water Body	299239	5601	Satellite
277	Plantation	Plantation	299657	66698	Satellite
278	Secondary Mangrove Forest	Swamp Shrub	405414	-253136	Satellite
279	Shrub	Shrub	406232	-49904	Satellite
280	Shrub	Shrub	443576	-102105	Satellite
281	Mixed Agriculture	Mixed Agriculture	451986	-115770	Satellite
282	Secondary Mangrove Forest	Secondary Mangrove Forest	271175	41360	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
283	Settlement	Agriculture	336797	-4622	Satellite
284	Shrub	Swamp Shrub	425104	-115302	Satellite
285	Settlement	Settlement	339867	-4194	Satellite
286	Plantation	Plantation	382992	-129740	Satellite
287	Water Body	Rice Field	406248	-224954	Satellite
288	Swamp Shrub	Swamp Shrub	417921	-183281	Satellite
289	Settlement	Settlement	284780	30934	Satellite
290	Settlement	Settlement	286016	31023	Satellite
291	Settlement	Settlement	317523	-8389	Satellite
292	Secondary Mangrove Forest	Secondary Mangrove Forest	293773	17970	Satellite
293	#N/A	Rice Field	296341	41609	Ground
294	Swamp Shrub	Swamp Shrub	291295	-56968	Satellite
295	Shrub	Grass Land	420793	-254680	Satellite
296	Open Ground	Open Ground	447449	-307608	Satellite
297	Mixed Agriculture	Secondary Dry Forest	465210	-149370	Satellite
298	Agriculture	Agriculture	315034	-27499	Satellite
299	Mixed Agriculture	Mixed Agriculture	413398	-122656	Satellite
300	Open Ground	Open Ground	474039	-278772	Satellite
301	Water Body	Water Body	304145	2034	Satellite
302	Plantation	Plantation	400945	-221089	Satellite
303	Rice Field	Swamp Shrub	420262	-88618	Satellite
304	Swamp Shrub	Swamp Shrub	342272	-98571	Satellite
305	Plantation	Plantation	325204	-37072	Satellite
306	Shrub	Shrub	381518	-21565	Satellite
307	Shrub	Shrub	308207	67618	Satellite
308	Open Ground	Open Ground	344500	-12727	Satellite
309	Shrub	Shrub	300864	59459	Satellite
310	Swamp Shrub	Swamp Shrub	476337	-284741	Satellite
311	Swamp Shrub	Plantation	392347	-191394	Satellite
312	Rice Field	Rice Field	304000	-2477	Satellite
313	Plantation	Plantation	339586	-47721	Satellite
314	Swamp	Swamp	358085	-96234	Satellite
315	Shrub	Shrub	304927	-40093	Satellite
316	Settlement	Settlement	308616	1713	Satellite
317	Water Body	Water Body	432812	-166637	Satellite
318	Plantation	Plantation	302023	-931	Satellite
319	Swamp Shrub	Swamp Shrub	305308	22900	Satellite
320	Plantation	Plantation	430158	-196654	Satellite
321	Mixed Agriculture	Mixed Agriculture	303406	71865	Satellite
322	Plantation	Rice Field	306138	-91184	Satellite
323	Plantation	Rice Field	310901	-29859	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
324	Settlement	Settlement	278534	34399	Satellite
325	Secondary Swamp Forest	Secondary Swamp Forest	368435	6516	Satellite
326	Plantation	Plantation	299163	30962	Satellite
327	Shrub	Swamp Shrub	436883	-227580	Satellite
328	Secondary Mangrove Forest	Secondary Mangrove Forest	379281	-198453	Satellite
329	Open Ground	Open Ground	299244	-323	Satellite
330	Agriculture	Agriculture	275180	47229	Satellite
331	Water Body	Water Body	414988	-187928	Satellite
332	Open Ground	Open Ground	314121	38794	Satellite
333	Plantation	Plantation	304639	-18479	Satellite
334	Rice Field	Swamp Shrub	421400	-252027	Satellite
335	Swamp Shrub	Swamp Shrub	431371	-195272	Satellite
336	Open Ground	Swamp Shrub	411329	-227815	Satellite
337	Plantation	Plantation	272712	53559	Satellite
338	Water Body	Water Body	298004	-23073	Satellite
339	Swamp Shrub	Swamp Shrub	289879	25140	Satellite
340	Swamp Shrub	Swamp Shrub	444594	-225743	Satellite
341	Settlement	Settlement	273789	36231	Satellite
342	Shrub	Secondary Dry Forest	306552	39925	Satellite
343	Swamp	Swamp	351226	-110628	Satellite
344	Shrub	Mixed Agriculture	411179	-50818	Satellite
345	Shrub	Shrub	307198	-43028	Satellite
346	Rice Field	Rice Field	292204	-13904	Satellite
347	Open Ground	Open Ground	281289	39113	Satellite
348	Water Body	Water Body	330725	-75072	Satellite
349	Plantation	Plantation	296941	55340	Satellite
350	Plantation	Plantation	300738	20791	Satellite
351	Settlement	Settlement	383535	-136670	Satellite
352	Swamp Shrub	Agriculture	279946	45454	Ground
353	Secondary Mangrove Forest	Secondary Mangrove Forest	350065	-76734	Satellite
354	Mixed Agriculture	Swamp Shrub	445604	-291350	Satellite
355	Open Ground	Swamp Shrub	428896	-177569	Satellite
356	Open Ground	Open Ground	311792	45409	Satellite
357	Plants Forest	Plants Forest	377434	-70494	Satellite
358	Plantation	Plantation	302863	50668	Satellite
359	Mixed Agriculture	Mixed Agriculture	463577	-198676	Satellite
360	Rice Field	Swamp Shrub	310138	-19730	Satellite
361	Rice Field	Rice Field	310694	-17755	Satellite
362	Rice Field	Rice Field	305851	-3108	Satellite
363	Plantation	Plantation	272587	46053	Satellite
364	Rice Field	Rice Field	328247	-39104	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
365	Open Ground	Open Ground	308996	48065	Satellite
366	Plantation	Plantation	330656	-29941	Satellite
367	Shrub	Shrub	311285	39600	Satellite
368	Swamp	Swamp	407448	-253336	Satellite
369	Fish Pond	Fish Pond	460146	-328829	Satellite
370	Agriculture	Agriculture	302199	4844	Satellite
371	Open Ground	Open Ground	441223	-304090	Satellite
372	Rice Field	Rice Field	303015	19723	Satellite
373	Secondary Mangrove Forest	Secondary Mangrove Forest	268512	37113	Satellite
374	Plantation	Rice Field	411252	-282789	Satellite
375	Shrub	Shrub	304394	75934	Satellite
376	Plantation	Plantation	428051	-198793	Satellite
377	Shrub	Shrub	306395	39532	Satellite
378	Shrub	Grass Land	418138	-255079	Satellite
379	Plants Forest	Plants Forest	380586	-69471	Satellite
380	Water Body	Water Body	298838	6449	Satellite
381	Mixed Agriculture	Shrub	307200	70251	Satellite
382	Plantation	Plantation	365438	-2811	Satellite
383	Fish Pond	Fish Pond	459240	-333127	Satellite
384	Agriculture	Agriculture	274682	46698	Satellite
385	Secondary Dry Forest	Secondary Dry Forest	421284	-146489	Satellite
386	Secondary Swamp Forest	Secondary Swamp Forest	310846	-45071	Satellite
387	Fish Pond	Fish Pond	275117	34484	Satellite
388	Plantation	Plantation	500976	-252175	Satellite
389	Secondary Mangrove Forest	Secondary Mangrove Forest	410230	-282643	Satellite
390	Rice Field	Rice Field	307635	-44811	Satellite
391	Swamp Shrub	Swamp Shrub	418884	-237021	Satellite
392	Fish Pond	Fish Pond	284739	-28197	Satellite
393	Plantation	Plantation	273263	54540	Satellite
394	Fish Pond	Fish Pond	463519	-333479	Satellite
395	Swamp Shrub	Plantation	402821	-216299	Satellite
396	Secondary Swamp Forest	Plantation	388143	-203468	Satellite
397	Settlement	Settlement	281646	32854	Satellite
398	Open Ground	Open Ground	313396	-20100	Satellite
399	Open Ground	Open Ground	453838	-195767	Satellite
400	Water Body	Water Body	445698	-139573	Satellite
401	Swamp Shrub	Swamp Shrub	275418	58914	Satellite
402	Swamp Shrub	Swamp Shrub	280390	46045	Ground
403	Swamp Shrub	Rice Field	292013	-10467	Satellite
404	Secondary Swamp Forest	Secondary Swamp Forest	350884	-1627	Satellite
405	Settlement	Settlement	319800	-8795	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
406	Water Body	Water Body	316198	-29798	Satellite
407	Open Ground	Open Ground	449164	-290204	Satellite
408	Plantation	Plantation	305924	-88572	Satellite
409	Plantation	Plantation	410951	-283909	Satellite
410	Rice Field	Plantation	354875	-130510	Satellite
411	Water Body	Water Body	320035	-64501	Satellite
412	Plantation	Plantation	402215	-161606	Satellite
413	Plantation	Plantation	297298	15396	Satellite
414	Agriculture	Agriculture	324212	-21147	Satellite
415	Primary Swamp Forest	Primary Swamp Forest	357420	-29462	Satellite
416	Secondary Mangrove Forest	Swamp Shrub	401849	-239084	Satellite
417	Primary Swamp Forest	Secondary Swamp Forest	394071	-75649	Satellite
418	Water Body	Water Body	399348	-204334	Satellite
419	Water Body	Water Body	357240	-62793	Satellite
420	Swamp	Swamp	431871	-319284	Satellite
421	Fish Pond	Fish Pond	461842	-335285	Satellite
422	Agriculture	Agriculture	282199	37861	Satellite
423	Plants Forest	Plants Forest	358317	-48475	Satellite
424	Rice Field	Rice Field	330061	-121867	Satellite
425	Shrub	Grass Land	419561	-255968	Satellite
426	Swamp	Swamp	441823	-288921	Satellite
427	Plants Forest	Plants Forest	378007	-70857	Satellite
428	Swamp Shrub	Swamp Shrub	291473	34159	Satellite
429	Settlement	Open Ground	279395	44199	Satellite
430	Rice Field	Rice Field	326108	-51133	Satellite
431	Fish Pond	Fish Pond	460631	-332217	Satellite
432	Fish Pond	Fish Pond	348111	-135349	Satellite
433	Plants Forest	Plants Forest	382097	-66927	Satellite
434	Settlement	Settlement	286921	30515	Satellite
435	Open Ground	Open Ground	294042	72989	Satellite
436	Agriculture	Agriculture	299753	8349	Satellite
437	Open Ground	Open Ground	422757	-211490	Satellite
438	Swamp Shrub	Swamp Shrub	509953	-295703	Satellite
439	Plants Forest	Secondary Swamp Forest	357434	5742	Satellite
440	Plantation	Plantation	402825	-215204	Satellite
441	Swamp Shrub	Swamp Shrub	293322	36098	Satellite
442	Agriculture	Agriculture	328632	-38471	Satellite
443	Rice Field	Rice Field	391505	-136416	Satellite
444	Settlement	Settlement	386474	-205399	Satellite
445	Swamp	Swamp	291916	21943	Satellite
446	Plants Forest	Plants Forest	382157	-65851	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
447	Rice Field	Rice Field	392679	-206930	Satellite
448	Secondary Mangrove Forest	Swamp Shrub	285376	29544	Satellite
449	Secondary Dry Forest	Secondary Dry Forest	341354	-80441	Satellite
450	Fish Pond	Fish Pond	291143	-50290	Satellite
451	Swamp Shrub	Swamp Shrub	277790	58738	Satellite
452	Secondary Swamp Forest	Secondary Swamp Forest	363937	-2079	Satellite
453	Secondary Swamp Forest	Swamp Shrub	452365	-264059	Satellite
454	Agriculture	Swamp Shrub	406720	-113418	Satellite
455	Plantation	Plantation	399005	-216670	Satellite
456	Settlement	Settlement	285773	30758	Satellite
457	Secondary Dry Forest	Mixed Agriculture	433660	-44360	Satellite
458	Rice Field	Rice Field	282660	31844	Satellite
459	Open Ground	Open Ground	286299	53340	Satellite
460	Open Ground	Open Ground	342687	-18077	Satellite
461	Rice Field	Plantation	274877	44271	Satellite
462	Secondary Mangrove Forest	Swamp Shrub	405237	-255857	Satellite
463	Plantation	Swamp Shrub	274719	52740	Satellite
464	Water Body	Water Body	298659	6805	Satellite
465	Rice Field	Rice Field	402487	-223487	Satellite
466	Secondary Mangrove Forest	Secondary Mangrove Forest	304856	2137	Satellite
467	Plantation	Plantation	297908	54447	Satellite
468	Plants Forest	Plants Forest	350706	-57503	Satellite
469	Rice Field	Rice Field	402847	-220493	Satellite
470	Water Body	Water Body	492744	-315583	Satellite
471	Water Body	Water Body	345317	-71306	Satellite
472	Swamp shrub	Swamp Shrub	323900	-86035	Satellite
473	Secondary Dry Forest	Secondary Dry Forest	307086	64829	Satellite
474	Secondary Dry Forest	Secondary Dry Forest	310378	-43004	Satellite
475	Swamp Shrub	Open Ground	438989	-247516	Satellite
476	Plants Forest	Plants Forest	383478	-65983	Satellite
477	Swamp	Swamp	356284	-98760	Satellite
478	Secondary Mangrove Forest	Secondary Mangrove Forest	284345	29845	Satellite
479	Rice Field	Rice Field	389810	-208933	Satellite
480	Mixed Agriculture	Mixed Agriculture	473421	-128838	Satellite
481	Mixed Agriculture	Mixed Agriculture	389625	-141121	Satellite
482	Secondary Dry Forest	Secondary Dry Forest	309816	-41605	Satellite
483	Plantation	Plantation	311266	-59608	Satellite
484	Secondary Swamp Forest	Secondary Swamp Forest	413377	-164772	Satellite
485	Plantation	Agriculture	306408	5161	Ground
486	Swamp Shrub	Swamp Shrub	511826	-295763	Satellite
487	Plants Forest	Plants Forest	368211	-58657	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
488	Agriculture	Swamp Shrub	326830	-43072	Satellite
489	Rice Field	Rice Field	268259	56334	Satellite
490	Agriculture	Agriculture	396394	-149378	Satellite
491	Plantation	Plantation	425276	-264427	Satellite
492	Open Ground	Open Ground	314727	41496	Satellite
493	Open Ground	Open Ground	328094	-90878	Satellite
494	Swamp	Swamp	405250	-122786	Satellite
495	Secondary Dry Forest	Plantation	386768	-203945	Satellite
496	Mixed Agriculture	Mixed Agriculture	294254	59223	Ground
497	Plantation	Swamp Shrub	295962	11947	Satellite
498	Secondary Dry Forest	Secondary Dry Forest	305796	-41651	Satellite
499	Plantation	Plantation	299135	20893	Satellite
500	Rice Field	Plantation	280788	32257	Satellite
501	Rice Field	Agriculture	383092	-121826	Satellite
502	Plantation	Plantation	403523	-227219	Satellite
503	Plantation	Plantation	317657	3477	Satellite
504	Open Ground	Plantation	290397	44752	Satellite
505	Rice Field	Rice Field	392057	-134566	Satellite
506	Open Ground	Open Ground	310811	42653	Satellite
507	Rice Field	Rice Field	393247	-119039	Satellite
508	Secondary Swamp Forest	Secondary Swamp Forest	402943	-167342	Satellite
509	Plantation	Plantation	346336	-90663	Satellite
510	Mixed Agriculture	Mixed Agriculture	449433	-55064	Satellite
511	Plantation	Plantation	276870	46136	Satellite
512	Shrub	Shrub	308278	69227	Satellite
513	Secondary Mangrove Forest	Secondary Mangrove Forest	421837	-272335	Satellite
514	Primary Dry Forest	Primary Dry Forest	520302	-136059	Satellite
515	Plants Forest	Plants Forest	375547	-55880	Satellite
516	Rice Field	Rice Field	302822	20989	Satellite
517	Mixed Agriculture	Plantation	411908	-191833	Satellite
518	Open Ground	Open Ground	289037	43655	Satellite
519	Shrub	Grass Land	418481	-252156	Satellite
520	Secondary Swamp Forest	Secondary Mangrove Forest	400714	-157843	Satellite
521	Secondary Swamp Forest	Secondary Swamp Forest	393535	-83550	Satellite
522	Plantation	Plantation	297256	55286	Satellite
523	Mixed Agriculture	Mixed Agriculture	462130	-175998	Satellite
524	Rice Field	Rice Field	390764	-119636	Satellite
525	Secondary Swamp Forest	Secondary Swamp Forest	314289	-93894	Satellite
526	Mixed Agriculture	Shrub	305796	64633	Satellite
527	Shrub	Open Ground	340581	-112686	Satellite
528	Plantation	Plantation	292591	-36100	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
529	Plantation	Plantation	402431	-225657	Satellite
530	Swamp Shrub	Agriculture	312686	-12388	Satellite
531	Shrub	Shrub	344850	-115190	Satellite
532	Fish Pond	Fish Pond	270152	38623	Satellite
533	Plants Forest	Plants Forest	358738	-55614	Satellite
534	Shrub	Shrub	295793	69380	Satellite
535	Shrub	Shrub	330285	-118215	Satellite
536	Plantation	Plantation	400651	-217248	Satellite
537	Secondary Dry Forest	Mixed Agriculture	291864	61705	Ground
538	Mixed Agriculture	Mixed Agriculture	310622	45981	Satellite
539	Plantation	Plantation	403577	-226525	Satellite
540	Secondary Dry Forest	Secondary Dry Forest	480487	-194882	Satellite
541	Open Ground	Open Ground	278885	47462	Satellite
542	Open Ground	Open Ground	402878	-55512	Satellite
543	Secondary Dry Forest	Secondary Dry Forest	306175	-43123	Satellite
544	Mixed Agriculture	Plantation	296514	42427	Ground
545	Plantation	Plantation	301625	-11544	Satellite
546	Rice Field	Rice Field	369813	-112428	Satellite
547	Plantation	Plantation	399469	-160624	Satellite
548	Fish Pond	Fish Pond	304806	-64032	Satellite
549	Plantation	Plantation	402425	-216507	Satellite
550	Plantation	Plantation	309951	5881	Satellite
551	Shrub	Shrub	298942	47691	Satellite
552	Primary Dry Forest	Primary Dry Forest	506563	-157466	Satellite
553	Plantation	Plantation	429965	-261365	Satellite
554	Plantation	Plantation	330679	-40045	Satellite
555	Rice Field	Rice Field	303428	20337	Satellite
556	Rice Field	Rice Field	302921	19221	Satellite
557	Secondary Mangrove Forest	Secondary Mangrove Forest	268728	36610	Satellite
558	Shrub	Shrub	338602	-113661	Satellite
559	Mixed Agriculture	Mixed Agriculture	310876	45003	Satellite
560	Plantation	Plantation	344886	-13282	Satellite
561	Plantation	Swamp Shrub	306417	9600	Satellite
562	Rice Field	Rice Field	389611	-118398	Satellite
563	Plantation	Plantation	284007	32823	Satellite
564	Shrub	Shrub	306473	66795	Satellite
565	Open Ground	Open Ground	370939	-115089	Satellite
566	Primary Swamp Forest	Primary Swamp Forest	394804	-76403	Satellite
567	Shrub	Swamp Shrub	364404	-6677	Satellite
568	Secondary Dry Forest	Secondary Dry Forest	488280	-137999	Satellite
569	Plantation	Plantation	307502	-32359	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
570	Plantation	Plantation	343413	-16035	Satellite
571	Plantation	Plantation	347910	-17139	Satellite
572	Rice Field	Rice Field	388630	-206990	Satellite
573	Open Ground	Rice Field	392473	-188700	Satellite
574	Secondary Dry Forest	Secondary Dry Forest	298131	42480	Satellite
575	Open Ground	Mixed Agriculture	296557	76996	Satellite
576	Swamp Shrub	Swamp Shrub	311263	-95885	Satellite
577	Open Ground	Open Ground	296651	44390	Satellite
578	Water Body	Water Body	293512	-39828	Satellite
579	Secondary Mangrove Forest	Secondary Mangrove Forest	268297	52299	Satellite
580	Rice Field	Rice Field	388665	-195121	Satellite
581	Primary Swamp Forest	Primary Swamp Forest	393519	-75150	Satellite
582	Fish Pond	Fish Pond	284401	-29966	Satellite
583	Swamp Shrub	Swamp Shrub	400750	-160163	Satellite
584	Open Ground	Open Ground	409113	-116170	Satellite
585	Open Ground	Open Ground	388860	-106878	Satellite
586	Water Body	Water Body	384262	-122134	Satellite
587	Fish Pond	Fish Pond	457564	-331062	Satellite
588	Open Ground	Open Ground	326728	-139325	Satellite
589	Shrub	Grass Land	417459	-252198	Satellite
590	Settlement	Settlement	364889	-113015	Satellite
591	Secondary Mangrove Forest	Secondary Mangrove Forest	268872	37545	Satellite
592	Open Ground	Open Ground	315658	39353	Satellite
593	Secondary Dry Forest	Secondary Dry Forest	298761	39408	Satellite
594	Rice Field	Rice Field	303459	19834	Satellite
595	Plants Forest	Plants Forest	372142	-70943	Satellite
596	Plants Forest	Plants Forest	379718	-66216	Satellite
597	Secondary Dry Forest	Secondary Dry Forest	289514	57508	Satellite
598	Secondary Swamp Forest	Secondary Swamp Forest	450032	-251231	Satellite
599	Plantation	Plantation	462045	-239836	Satellite
600	Open Ground	Open Ground	388544	-110036	Satellite
601	Rice Field	Rice Field	328571	-121196	Satellite
602	Settlement	Settlement	294601	38394	Satellite
603	Open Ground	Shrub	410623	-116170	Satellite
604	Agriculture	Plantation	387312	-200037	Satellite
605	Swamp Shrub	Swamp Shrub	442792	-298717	Satellite
606	Water Body	Water Body	351721	-111828	Satellite
607	Shrub	Shrub	411258	-113707	Satellite
608	Plantation	Plantation	294973	35208	Satellite
609	Plantation	Plantation	275846	39655	Satellite
610	Plants Forest	Plants Forest	370696	-62234	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
611	Plantation	Plantation	288476	-39117	Satellite
612	Rice Field	Rice Field	300175	44030	Ground
613	Open Ground	Open Ground	351265	-125516	Satellite
614	Plantation	Plantation	278735	41389	Satellite
615	Open Ground	Open Ground	287033	32701	Satellite
616	Plantation	Plantation	310009	7686	Satellite
617	Swamp Shrub	Shrub	290134	52951	Ground
618	Swamp Shrub	Swamp Shrub	274139	56999	Satellite
619	Rice Field	Rice Field	353534	-130361	Satellite
620	Plantation	Plantation	308634	6045	Satellite
621	Plantation	Plantation	272668	37830	Satellite
622	Plantation	Plantation	348285	-92284	Satellite
623	Plantation	Plantation	353404	-12264	Satellite
624	Secondary Dry Forest	Secondary Dry Forest	313072	-43087	Satellite
625	Mixed Agriculture	Mixed Agriculture	301848	38895	Satellite
626	Settlement	Settlement	322487	-11938	Satellite
627	Mixed Agriculture	Mixed Agriculture	307756	43840	Satellite
628	Secondary Dry Forest	Secondary Dry Forest	336612	-81907	Satellite
629	Plants Forest	Plants Forest	385436	-66455	Satellite
630	Rice Field	Rice Field	304233	21468	Satellite
631	Secondary Mangrove Forest	Secondary Mangrove Forest	413708	-279932	Satellite
632	Secondary Dry Forest	Secondary Dry Forest	455678	-46972	Satellite
633	Open Ground	Open Ground	360912	-121325	Satellite
634	Rice Field	Rice Field	270658	58331	Satellite
635	Shrub	Mixed Agriculture	459335	-125840	Satellite
636	Plantation	Plantation	329427	-9322	Satellite
637	Swamp Shrub	Secondary Swamp Forest	346357	-111986	Satellite
638	Mixed Agriculture	Plantation	300292	44332	Ground
639	Plantation	Plantation	308086	4783	Satellite
640	Rice Field	Rice Field	389058	-208609	Satellite
641	Secondary Dry Forest	Secondary Dry Forest	303574	41186	Satellite
642	Open Ground	Open Ground	348755	-132062	Satellite
643	Swamp Shrub	Swamp Shrub	478042	-273452	Satellite
644	Rice Field	Plantation	304316	10807	Satellite
645	Plantation	Plantation	314987	-57127	Satellite
646	Plantation	Plantation	294052	-38005	Satellite
647	Plantation	Agriculture	296447	-42039	Satellite
648	Secondary Swamp Forest	Secondary Swamp Forest	328548	-59672	Satellite
649	Primary Swamp Forest	Primary Swamp Forest	361957	-14642	Satellite
650	Water Body	Water Body	380635	-202482	Satellite
651	Swamp Shrub	Swamp Shrub	372536	-92502	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
652	Plantation	Plantation	299123	68769	Satellite
653	Mixed Agriculture	Shrub	296269	60455	Satellite
654	Water Body	Water Body	385341	-74256	Satellite
655	Plantation	Plantation	325951	5829	Satellite
656	Open Ground	Open Ground	284562	50401	Satellite
657	Water Body	Water Body	300785	-25005	Satellite
658	Swamp	Swamp	385813	-114517	Satellite
659	Open Ground	Open Ground	348281	-132220	Satellite
660	Mixed Agriculture	Mixed Agriculture	410773	-121771	Satellite
661	Shrub	Swamp Shrub	406094	-120779	Satellite
662	Swamp	Swamp	292204	22215	Satellite
663	Swamp Shrub	Swamp Shrub	310871	-95124	Satellite
664	Open Ground	Open Ground	349856	-99627	Satellite
665	Secondary Mangrove Forest	Secondary Mangrove Forest	379810	-200352	Satellite
666	Water Body	Water Body	358813	-109421	Satellite
667	Water Body	Water Body	365201	-117933	Satellite
668	Swamp	Swamp	347364	-86490	Satellite
669	Secondary Mangrove Forest	Secondary Mangrove Forest	426037	-271854	Satellite
670	Plantation	Plantation	473216	-242411	Satellite
671	Fish Pond	Fish Pond	464895	-332889	Satellite
672	Mixed Agriculture	Mixed Agriculture	388300	-139735	Satellite
673	Mixed Agriculture	Mixed Agriculture	296434	40916	Ground
674	Mixed Agriculture	Secondary Dry Forest	488223	-158634	Satellite
675	Plants Forest	Plants Forest	375805	-73213	Satellite
676	Open Ground	Open Ground	381473	-120677	Satellite
677	Mixed Agriculture	Shrub	454291	-66453	Satellite
678	Open Ground	Swamp Shrub	280814	46475	Ground
679	Secondary Dry Forest	Secondary Dry Forest	311985	-42796	Satellite
680	Agriculture	Agriculture	274043	50238	Satellite
681	Shrub	Shrub	456482	-67329	Satellite
682	Water Body	Water Body	325042	-78988	Satellite
683	Secondary Mangrove Forest	Secondary Mangrove Forest	382503	-195466	Satellite
684	Agriculture	Agriculture	273380	55016	Satellite
685	Swamp Shrub	Rice Field	375523	-99376	Satellite
686	Secondary Dry Forest	Secondary Dry Forest	290635	62294	Ground
687	Open Ground	Open Ground	312677	44664	Satellite
688	Fish Pond	Fish Pond	460591	-335253	Satellite
689	Shrub	Shrub	415856	-113246	Satellite
690	Secondary Swamp Forest	Plantation	390491	-191487	Satellite
691	Secondary Dry Forest	Mixed Agriculture	469670	-247798	Satellite
692	Plantation	Plantation	282391	42411	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
693	Water Body	Water Body	366750	-119797	Satellite
694	Water Body	Water Body	424833	-270982	Satellite
695	Secondary Mangrove Forest	Secondary Mangrove Forest	381484	-201006	Satellite
696	Open Ground	Open Ground	438916	-282618	Satellite
697	Agriculture	Agriculture	299264	-11885	Satellite
698	Water Body	Water Body	365075	-123254	Satellite
699	Plantation	Plantation	441986	-121951	Satellite
700	Mixed Agriculture	Mixed Agriculture	297464	75963	Satellite
701	Plants Forest	Open Ground	376688	-73372	Satellite
702	Shrub	Swamp Shrub	367271	-6437	Satellite
703	Rice Field	Rice Field	271617	42489	Ground
704	Swamp Shrub	Shrub	424965	-219181	Satellite
705	Swamp Shrub	Secondary Mangrove Forest	287346	27971	
706	Secondary Swamp Forest	Swamp Shrub	405474	-197258	Satellite
707	Plantation	Plantation	387212	-120230	Satellite
708	Water Body	Water Body	365444	-119126	Satellite
709	Plantation	Plantation	339034	-43724	Satellite
710	Mixed Agriculture	Mixed Agriculture	297435	60374	Satellite
711	Swamp Shrub	Swamp Shrub	305911	22200	Satellite
712	Fish Pond	Fish Pond	286646	-34417	Satellite
713	Plants Forest	Plants Forest	383539	-77859	Satellite
714	Swamp Shrub	Swamp Shrub	292999	35194	Ground
715	Secondary Swamp Forest	Plantation	388554	-203302	Satellite
716	Swamp Shrub	Plantation	403590	-214723	Satellite
717	Open Ground	Open Ground	431552	-288637	Satellite
718	Swamp Shrub	Swamp Shrub	390625	-106395	Satellite
719	Swamp Shrub	Swamp Shrub	315102	-61929	Satellite
720	Open Ground	Open Ground	371412	-116904	Satellite
721	Open Ground	Rice Field	372764	-102648	Satellite
722	Agriculture	Agriculture	297884	7904	Satellite
723	Rice Field	Plantation	288615	27442	Satellite
724	Swamp Shrub	Swamp Shrub	379147	-97767	Satellite
725	Fish Pond	Fish Pond	463865	-333690	Satellite
726	Secondary Swamp Forest	Secondary Swamp Forest	384352	-76865	Satellite
727	Agriculture	Agriculture	299683	9648	Satellite
728	Swamp Shrub	Swamp Shrub	398412	-121404	Satellite
729	Shrub	Swamp Shrub	408366	-122008	Satellite
730	Secondary Dry Forest	Secondary Dry Forest	517679	-121568	Satellite
731	Mixed Agriculture	Mixed Agriculture	469856	-228733	Satellite
732	Secondary Dry Forest	Secondary Dry Forest	296781	41953	Ground
733	Rice Field	Rice Field	390368	-120330	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
734	Rice Field	Rice Field	301262	-23409	Satellite
735	Mixed Agriculture	Mixed Agriculture	300467	47309	Satellite
736	Water Body	Water Body	455594	-314891	Satellite
737	Plantation	Plantation	307657	-28503	Satellite
738	Shrub	Shrub	423911	-125433	Satellite
739	Secondary Mangrove Forest	Secondary Mangrove Forest	293198	14443	Satellite
740	Swamp Shrub	Open Ground	451437	-220628	Satellite
741	Plantation	Agriculture	308654	-29690	Satellite
742	Rice Field	Agriculture	404091	-218340	Satellite
743	Secondary Mangrove Forest	Secondary Mangrove Forest	299180	-55889	Satellite
744	Mixed Agriculture	Mixed Agriculture	301170	74442	Satellite
745	Water Body	Water Body	363861	-119154	Satellite
746	Swamp Shrub	Plantation	309943	-97776	Satellite
747	Swamp Shrub	Swamp Shrub	405119	-119679	Satellite
748	Plants Forest	Plants Forest	383740	-63116	Satellite
749	Open Ground	Open Ground	314820	39632	Satellite
750	Open Ground	Swamp Shrub	310859	-77625	Satellite
751	Plantation	Plantation	306774	5859	Ground
752	Swamp Shrub	Swamp Shrub	393993	-121681	Satellite
753	Secondary Mangrove Forest	Swamp Shrub	297206	-26045	Satellite
754	Mixed Agriculture	Plantation	393818	-178178	Satellite
755	Secondary Mangrove Forest	Secondary Mangrove Forest	342513	-87707	Satellite
756	Water Body	Water Body	365006	-122168	Satellite
757	Plantation	Plantation	315346	9988	Satellite
758	Mixed Agriculture	Mixed Agriculture	447153	-228920	Satellite
759	Shrub	Shrub	416789	-58496	Satellite
760	Shrub	Swamp Shrub	343600	-110139	Satellite
761	Secondary Swamp Forest	Swamp Shrub	468096	-309940	Satellite
762	Water Body	Water Body	301781	4353	Satellite
763	Water Body	Water Body	300220	5468	Satellite
764	Secondary Swamp Forest	Secondary Swamp Forest	274990	42367	Satellite
765	Rice Field	Rice Field	341564	-37950	Satellite
766	Swamp	Swamp	507579	-264401	Satellite
767	Water Body	Water Body	366900	-121579	Satellite
768	Plantation	Plantation	360091	-103014	Satellite
769	Secondary Mangrove Forest	Secondary Mangrove Forest	335494	-68980	Satellite
770	Mixed Agriculture	Mixed Agriculture	294600	67563	Satellite
771	Plantation	Plantation	400561	-221070	Satellite
772	Secondary Dry Forest	Secondary Dry Forest	312084	-43391	Satellite
773	Rice Field	Rice Field	393389	-210527	Satellite
774	Plantation	Plantation	366127	-114862	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
775	Settlement	Settlement	295682	40248	Satellite
776	Mixed Agriculture	Mixed Agriculture	299188	37131	Satellite
777	Plantation	Shrub	277446	44896	Ground
778	Secondary Dry Forest	Secondary Dry Forest	307601	66488	Satellite
779	Open Ground	Open Ground	376573	-118229	Satellite
780	Plantation	Plantation	314256	9500	Satellite
781	Plantation	Plantation	306234	-78749	Satellite
782	Secondary Mangrove Forest	Secondary Mangrove Forest	267865	52874	Satellite
783	Plantation	Plantation	304332	63091	Satellite
784	Open Ground	Open Ground	372912	-117773	Satellite
785	Open Ground	Open Ground	306626	-77021	Satellite
786	Plants Forest	Plants Forest	381946	-49287	Satellite
787	Mixed Agriculture	Mixed Agriculture	290931	56305	Satellite
788	Agriculture	Agriculture	294109	-9979	Satellite
789	Plantation	Plantation	311345	-36046	Satellite
790	Rice Field	Rice Field	395925	-208757	Satellite
791	Rice Field	Rice Field	271094	40013	Ground
792	Agriculture	Agriculture	275077	49742	Satellite
793	Agriculture	Plantation	275788	44899	Satellite
794	Swamp Shrub	Swamp Shrub	362960	-100462	Satellite
795	Water Body	Water Body	344276	-85739	Satellite
796	Primary Dry Forest	Primary Dry Forest	521907	-84309	Satellite
797	Agriculture	Agriculture	306457	4160	Ground
798	Secondary Swamp Forest	Secondary Swamp Forest	294606	49998	Satellite
799	Secondary Mangrove Forest	Secondary Mangrove Forest	381486	-201605	Satellite
800	Secondary Mangrove Forest	Secondary Mangrove Forest	298955	3936	Satellite
801	Open Ground	Open Ground	378323	-118589	Satellite
802	Secondary Dry Forest	Secondary Dry Forest	288557	63642	Satellite
803	Plantation	Plantation	403324	-226639	Satellite
804	Plantation	Plantation	298993	12440	Satellite
805	Secondary Mangrove Forest	Secondary Mangrove Forest	379485	-202661	Satellite
806	Swamp Shrub	Mixed Agriculture	289399	52501	Ground
807	Open Ground	Open Ground	350087	-100386	Satellite
808	Swamp Shrub	Swamp Shrub	462279	-294363	Satellite
809	Swamp Shrub	Swamp Shrub	385035	-31094	Satellite
810	Swamp Shrub	Swamp Shrub	361148	-34135	Satellite
811	Water Body	Water Body	490001	-315655	Satellite
812	Swamp Shrub	Swamp Shrub	293984	14350	Satellite
813	Secondary Mangrove Forest	Secondary Mangrove Forest	305446	-66284	Satellite
814	Primary Dry Forest	Primary Dry Forest	415853	-141018	Satellite
815	Plantation	Plantation	395055	-143546	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
816	Rice Field	Rice Field	270515	56333	Satellite
817	Plantation	Plantation	315974	-52770	Satellite
818	Plants Forest	Plants Forest	348565	-56792	Satellite
819	Secondary Swamp Forest	Swamp Shrub	480254	-308634	Satellite
820	Open Ground	Open Ground	305869	71708	Satellite
821	Plantation	Plantation	296252	27909	Satellite
822	Plantation	Plantation	318318	-38496	Satellite
823	Secondary Swamp Forest	Plantation	371283	-53600	Satellite
824	Primary Dry Forest	Primary Dry Forest	413734	-138689	Satellite
825	Secondary Mangrove Forest	Secondary Mangrove Forest	292550	18474	Satellite
826	Primary Swamp Forest	Primary Swamp Forest	355594	-14003	Satellite
827	Rice Field	Plantation	329540	-120525	Satellite
828	Rice Field	Plantation	329391	-115607	Satellite
829	Primary Dry Forest	Primary Dry Forest	482771	-121281	Satellite
830	Secondary Swamp Forest	Secondary Swamp Forest	397835	-54225	Satellite
831	Plantation	Plantation	343999	-21251	Satellite
832	Secondary Mangrove Forest	Secondary Mangrove Forest	300250	4224	Satellite
833	Water Body	Water Body	296472	-7377	Satellite
834	Water Body	Water Body	361520	-110163	Satellite
835	Water Body	Water Body	363888	-123235	Satellite
836	Mixed Agriculture	Mixed Agriculture	303808	47773	Ground
837	Swamp Shrub	Swamp Shrub	280942	47588	Satellite
838	Primary Swamp Forest	Primary Swamp Forest	351644	-19692	Satellite
839	Secondary Dry Forest	Mixed Agriculture	304696	43644	Satellite
840	Swamp	Swamp	346762	-84507	Satellite
841	Shrub	Shrub	419557	-71909	Satellite
842	Swamp Shrub	Swamp Shrub	392740	-128945	Satellite
843	Secondary Swamp Forest	Secondary Swamp Forest	418384	-206274	Satellite
844	Secondary Dry Forest	Secondary Dry Forest	525345	-149681	Satellite
845	Shrub	Shrub	366307	-7982	Satellite
846	Open Ground	Open Ground	350176	-129852	Satellite
847	Primary Dry Forest	Primary Dry Forest	504060	-56140	Satellite
848	Water Body	Water Body	307400	1409	Satellite
849	Plantation	Plantation	380568	-122553	Satellite
850	Swamp Shrub	Secondary Mangrove Forest	338457	-111837	Satellite
851	Plantation	Plantation	361954	-108677	Satellite
852	Secondary Swamp Forest	Secondary Swamp Forest	379081	-34381	Satellite
853	Plantation	Plantation	388254	-126729	Satellite
854	Primary Dry Forest	Primary Dry Forest	412024	-134165	Satellite
855	Plantation	Plantation	291419	44083	Satellite
856	Secondary Dry Forest	Secondary Dry Forest	508350	-108846	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
857	Swamp	Swamp	404832	-234851	Satellite
858	Primary Dry Forest	Primary Dry Forest	405872	-135616	Satellite
859	Plantation	Plantation	324413	-7072	Satellite
860	Plants Forest	Plants Forest	376111	-48633	Satellite
861	Secondary Dry Forest	Shrub	314900	43219	Satellite
862	Primary Dry Forest	Primary Dry Forest	506944	-148897	Satellite
863	Secondary Mangrove Forest	Secondary Mangrove Forest	326555	-76786	Satellite
864	Primary Dry Forest	Primary Dry Forest	520928	-73041	Satellite
865	Plantation	Plantation	271066	54011	Satellite
866	Plantation	Plantation	400978	-217909	Satellite
867	Open Ground	Open Ground	279686	47796	Satellite
868	Fish Pond	Rice Field	277876	34321	Satellite
869	Primary Swamp Forest	Primary Swamp Forest	393565	-74234	Satellite
870	Plantation	Swamp Shrub	360995	-107212	Satellite
871	Plantation	Plantation	369246	-104662	Satellite
872	Plantation	Plantation	400095	-218308	Satellite
873	Primary Dry Forest	Primary Dry Forest	411528	-139036	Satellite
874	Open Ground	Open Ground	326192	-93885	Satellite
875	Secondary Dry Forest	Swamp Shrub	497993	-257368	Satellite
876	Water Body	Water Body	358417	-107282	Satellite
877	Swamp Shrub	Swamp Shrub	281280	47518	Satellite
878	Swamp Shrub	Plantation	378823	-94844	Satellite
879	Secondary Swamp Forest	Secondary Swamp Forest	362259	-73288	Satellite
880	Plantation	Swamp Shrub	340086	-40422	Satellite
881	Swamp Shrub	Swamp Shrub	287275	53438	Satellite
882	Open Ground	Open Ground	280287	48330	Satellite
883	Rice Field	Rice Field	304681	12495	Satellite
884	Secondary Dry Forest	Secondary Dry Forest	309780	-39645	Satellite
885	Open Ground	Open Ground	265622	-171971	Satellite
886	Primary Dry Forest	Primary Dry Forest	412367	-143235	Satellite
887	Primary Dry Forest	Primary Dry Forest	523820	-91302	Satellite
888	Open Ground	Open Ground	359097	-122983	Satellite
889	Secondary Swamp Forest	Secondary Swamp Forest	364595	-65756	Satellite
890	Secondary Dry Forest	Secondary Dry Forest	309165	-40914	Satellite
891	Secondary Mangrove Forest	Secondary Mangrove Forest	419128	-278384	Satellite
892	Plantation	Plantation	282963	34621	Satellite
893	Secondary Mangrove Forest	Secondary Mangrove Forest	306161	-65122	Satellite
894	Rice Field	Rice Field	301827	-11003	Satellite
895	Secondary Mangrove Forest	Secondary Mangrove Forest	341717	-72721	Satellite
896	Secondary Mangrove Forest	Secondary Mangrove Forest	331501	-144429	Satellite
897	Secondary Dry Forest	Secondary Dry Forest	428886	-129476	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
898	Secondary Swamp Forest	Primary Swamp Forest	404868	-169263	Satellite
899	Plantation	Plantation	297523	30385	Satellite
900	Plantation	Plantation	332854	-13456	Satellite
901	Agriculture	Agriculture	309257	2214	Satellite
902	Secondary Mangrove Forest	Secondary Mangrove Forest	336645	-140686	Satellite
903	Secondary Mangrove Forest	Secondary Mangrove Forest	361850	-111250	Satellite
904	Rice Field	Agriculture	381875	-122361	Satellite
905	Secondary Mangrove Forest	Secondary Mangrove Forest	324399	-136090	Satellite
906	Plants Forest	Plants Forest	384279	-65492	Satellite
907	Plantation	Plantation	296229	31096	Satellite
908	Secondary Swamp Forest	Secondary Swamp Forest	363457	-6730	Satellite
909	Shrub	Shrub	302323	42039	Satellite
910	Secondary Swamp Forest	Secondary Swamp Forest	413500	-99584	Satellite
911	Secondary Dry Forest	Secondary Dry Forest	410107	-127450	Satellite
912	Secondary Dry Forest	Secondary Dry Forest	304711	70187	Satellite
913	Shrub	Shrub	299924	35948	Satellite
914	Settlement	Settlement	300141	7054	Satellite
915	Primary Dry Forest	Primary Dry Forest	406849	-135273	Satellite
916	Secondary Dry Forest	Secondary Dry Forest	408627	-126347	Satellite
917	Mixed Agriculture	Secondary Dry Forest	300405	67668	Satellite
918	Secondary Dry Forest	Secondary Dry Forest	298513	67590	Satellite
919	Secondary Mangrove Forest	Secondary Mangrove Forest	384157	-196706	Satellite
920	Plantation	Plantation	276830	44445	Ground
921	Secondary Dry Forest	Secondary Dry Forest	310732	-41759	Satellite
922	Plantation	Plantation	355570	-21527	Satellite
923	Secondary Dry Forest	Secondary Dry Forest	298569	55795	Satellite
924	Shrub	Shrub	292117	57066	Satellite
925	Rice Field	Rice Field	302894	9483	Satellite
926	Primary Dry Forest	Primary Dry Forest	408151	-140610	Satellite
927	Secondary Swamp Forest	Secondary Swamp Forest	404682	-193272	Satellite
928	Plantation	Plantation	344668	-16277	Satellite
929	Shrub	Shrub	268576	-175922	Satellite
930	Plants Forest	Plants Forest	379984	-49519	Satellite
931	Fish Pond	Fish Pond	459465	-332494	Satellite
932	Plantation	Plantation	325775	7911	Satellite
933	Swamp Shrub	Swamp Shrub	292697	16180	Satellite
934	Plants Forest	Plants Forest	378780	-47188	Satellite
935	Plantation	Plantation	364515	-12387	Satellite
936	Plantation	Plantation	378028	-122263	Satellite
937	Secondary Dry Forest	Secondary Dry Forest	412261	-116288	Satellite
938	Swamp Shrub	Swamp Shrub	380133	-42433	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
939	Plantation	Plantation	401333	-222295	Satellite
940	Plantation	Plantation	395457	-109807	Satellite
941	Plantation	Plantation	340032	-38980	Satellite
942	Primary Swamp Forest	Primary Swamp Forest	365257	-37091	Satellite
943	Plantation	Plantation	338681	-11769	Satellite
944	Plantation	Plantation	302775	-17023	Satellite
945	Plantation	Plantation	281091	35893	Satellite
946	Plantation	Plantation	402356	-110197	Satellite
947	Plants Forest	Plants Forest	380713	-68641	Satellite
948	Plantation	Agriculture	295375	-14657	Satellite
949	Water Body	Water Body	362059	-113058	Satellite
950	Rice Field	Rice Field	269265	60717	Satellite
951	Open Ground	Rice Field	369597	-103957	Satellite
952	Secondary Mangrove Forest	Secondary Mangrove Forest	324852	-136005	Satellite
953	Secondary Dry Forest	Secondary Dry Forest	424578	-129279	Satellite
954	Shrub	Mixed Agriculture	471752	-116940	Satellite
955	Secondary Dry Forest	Secondary Dry Forest	297977	64183	Satellite
956	Plantation	Plantation	318922	7597	Satellite
957	Plantation	Plantation	280427	34750	Satellite
958	Plantation	Plantation	367894	-108609	Satellite
959	Plantation	Plantation	379591	-88343	Satellite
960	Secondary Swamp Forest	Swamp Shrub	337450	-48481	Satellite
961	Primary Dry Forest	Primary Dry Forest	406843	-130847	Satellite
962	Secondary Mangrove Forest	Secondary Mangrove Forest	334254	-71996	Satellite
963	Plantation	Plantation	509436	-271140	Satellite
964	Plantation	Plantation	288460	30485	Satellite
965	Plantation	Plantation	419377	-121954	Satellite
966	Plantation	Plantation	360602	-3630	Satellite
967	Secondary Swamp Forest	Secondary Swamp Forest	357702	-80614	Satellite
968	Secondary Swamp Forest	Secondary Swamp Forest	411725	-211135	Satellite
969	Plantation	Plantation	275905	40082	Satellite
970	Mixed Agriculture	Mixed Agriculture	308866	41816	Satellite
971	Secondary Dry Forest	Secondary Dry Forest	309903	-40968	Satellite
972	Plantation	Plantation	307683	8337	Satellite
973	Secondary Swamp Forest	Secondary Swamp Forest	349963	-118372	Satellite
974	Secondary Dry Forest	Secondary Dry Forest	299388	36649	Satellite
975	Swamp Shrub	Rice Field	369656	-101529	Satellite
976	Plantation	Plantation	325010	17413	Satellite
977	Plantation	Plantation	327070	-17262	Satellite
978	Secondary Mangrove Forest	Secondary Mangrove Forest	333789	-143689	Satellite
979	Plantation	Plantation	293307	28115	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
980	Plants Forest	Plants Forest	375333	-58694	Satellite
981	Secondary Dry Forest	Secondary Dry Forest	428369	-136548	Satellite
982	Primary Dry Forest	Primary Dry Forest	522723	-133332	Satellite
983	Plantation	Plantation	391356	-120310	Satellite
984	Secondary Dry Forest	Secondary Dry Forest	304579	73251	Satellite
985	Shrub	Swamp Shrub	335345	-114104	Satellite
986	Plantation	Plantation	274001	41336	Satellite
987	Plantation	Plantation	297286	19136	Satellite
988	Secondary Swamp Forest	Swamp Shrub	436751	-305504	Satellite
989	Secondary Dry Forest	Secondary Dry Forest	296686	41231	Ground
990	Primary Swamp Forest	Primary Swamp Forest	367562	-32766	Satellite
991	Secondary Dry Forest	Secondary Dry Forest	307025	-41199	Satellite
992	Secondary Mangrove Forest	Secondary Mangrove Forest	364271	-97565	Satellite
993	Secondary Swamp Forest	Secondary Swamp Forest	399274	-148305	Satellite
994	Primary Dry Forest	Primary Dry Forest	408586	-142932	Satellite
995	Secondary Mangrove Forest	Secondary Mangrove Forest	292766	15091	Satellite
996	Plantation	Rice Field	276462	44337	Ground
997	Plantation	Plantation	402072	-217826	Satellite
998	Plantation	Plantation	308690	-56161	Satellite
999	Secondary Mangrove Forest	Secondary Mangrove Forest	346978	-135895	Satellite
1000	Swamp Shrub	Swamp Shrub	370271	-106400	Satellite
1001	Shrub	Shrub	292666	59028	Satellite
1002	Primary Dry Forest	Primary Dry Forest	499383	-61671	Satellite
1003	Primary Dry Forest	Primary Dry Forest	412503	-136656	Satellite
1004	Plantation	Plantation	306426	13735	Satellite
1005	Swamp Shrub	Rice Field	370512	-101837	Satellite
1006	Mixed Agriculture	Mixed Agriculture	303057	44454	Satellite
1007	Plantation	Plantation	269754	53257	Satellite
1008	Plantation	Plantation	389595	-91351	Satellite
1009	Secondary Swamp Forest	Secondary Swamp Forest	342092	-22184	Satellite
1010	Secondary Mangrove Forest	Secondary Mangrove Forest	358768	-102291	Satellite
1011	Secondary Mangrove Forest	Secondary Mangrove Forest	298811	3504	Satellite
1012	Secondary Dry Forest	Secondary Dry Forest	518337	-126808	Satellite
1013	Secondary Dry Forest	Secondary Dry Forest	428947	-133947	Satellite
1014	Secondary Swamp Forest	Secondary Swamp Forest	415693	-229505	Satellite
1015	Secondary Swamp Forest	Secondary Swamp Forest	280726	42901	Satellite
1016	Secondary Swamp Forest	Secondary Swamp Forest	286107	38551	Satellite
1017	Mixed Agriculture	Mixed Agriculture	295147	71219	Satellite
1018	Plantation	Plantation	332304	-12310	Satellite
1019	Plantation	Plantation	427357	-120858	Satellite
1020	Secondary Swamp Forest	Secondary Swamp Forest	399638	-125688	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
1021	Plantation	Plantation	396847	-111160	Satellite
1022	Water Body	Water Body	358833	-105999	Satellite
1023	Secondary Mangrove Forest	Secondary Mangrove Forest	357069	-111166	Satellite
1024	Plantation	Plantation	314339	-53253	Satellite
1025	Plantation	Plantation	370233	-118812	Satellite
1026	Plantation	Plantation	323390	-20380	Satellite
1027	Secondary Swamp Forest	Secondary Swamp Forest	407237	-248820	Satellite
1028	Primary Dry Forest	Primary Dry Forest	408413	-140875	Satellite
1029	Secondary Dry Forest	Secondary Dry Forest	265634	-182759	Satellite
1030	Secondary Swamp Forest	Secondary Swamp Forest	396836	-100576	Satellite
1031	Mixed Agriculture	Rice Field	308379	39451	Satellite
1032	Secondary Swamp Forest	Secondary Swamp Forest	395567	-141388	Satellite
1033	Plantation	Plantation	387393	-88356	Satellite
1034	Plantation	Swamp Shrub	364339	-112403	Satellite
1035	Plantation	Plantation	339709	-32768	Satellite
1036	Secondary Dry Forest	Secondary Dry Forest	308123	-40743	Satellite
1037	Secondary Dry Forest	Secondary Dry Forest	311718	-41163	Satellite
1038	Primary Dry Forest	Primary Dry Forest	407561	-134272	Satellite
1039	Secondary Dry Forest	Secondary Dry Forest	407101	-70330	Satellite
1040	Secondary Dry Forest	Secondary Dry Forest	463127	-178746	Satellite
1041	Secondary Mangrove Forest	Secondary Mangrove Forest	353349	-115397	Satellite
1042	Secondary Dry Forest	Secondary Dry Forest	464327	-167689	Satellite
1043	Plantation	Plantation	386568	-88812	Satellite
1044	Plantation	Plantation	358647	-26553	Satellite
1045	Secondary Mangrove Forest	Secondary Mangrove Forest	297373	-55865	Satellite
1046	Secondary Mangrove Forest	Secondary Mangrove Forest	381938	-199377	Satellite
1047	Secondary Swamp Forest	Secondary Swamp Forest	339046	-60561	Satellite
1048	Plantation	Plantation	333435	12439	Satellite
1049	Plantation	Plantation	302110	18454	Satellite
1050	Secondary Dry Forest	Secondary Dry Forest	304632	64745	Satellite
1051	Plantation	Plantation	323188	-8210	Satellite
1052	Fish Pond	Fish Pond	459070	-332547	Satellite
1053	Secondary Swamp Forest	Secondary Swamp Forest	394589	-101117	Satellite
1054	Plantation	Plantation	396607	-104362	Satellite
1055	Secondary Dry Forest	Mixed Agriculture	301016	41210	Satellite
1056	Plantation	Plantation	324976	-1521	Satellite
1057	Secondary Mangrove Forest	Secondary Mangrove Forest	299099	4512	Satellite
1058	Plantation	Plantation	343326	-89007	Satellite
1059	Secondary Mangrove Forest	Secondary Mangrov Forest	351740	-113120	Satellite
1060	Agriculture	Agriculture	299246	-14894	Satellite
1061	Secondary Mangrove Forest	Secondary Mangrove Forest	363540	-113504	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
1062	Plantation	Plantation	362061	-107481	Satellite
1063	Plantation	Plantation	407204	-112490	Satellite
1064	Secondary Dry Forest	Secondary Dry Forest	408862	-114445	Satellite
1065	Plantation	Plantation	275069	41434	Satellite
1066	Primary Dry Forest	Primary Dry Forest	409267	-132003	Satellite
1067	Secondary Dry Forest	Secondary Dry Forest	260916	-183417	Satellite
1068	Primary Swamp Forest	Primary Swamp Forest	394909	-76642	Satellite
1069	Secondary Mangrove Forest	Secondary Mangrove Forest	286235	-28287	Satellite
1070	Secondary Dry Forest	Secondary Dry Forest	306614	-40528	Satellite
1071	Secondary Swamp Forest	Secondary Swamp Forest	392531	-99233	Satellite
1072	Plantation	Plantation	292744	-34595	Satellite
1073	Secondary Dry Forest	Secondary Dry Forest	502692	-125364	Satellite
1074	Primary Dry Forest	Primary Dry Forest	507659	-82194	Satellite
1075	Secondary Dry Forest	Secondary Dry Forest	283216	-164691	Satellite
1076	Plantation	Plantation	307596	-10420	Satellite
1077	Plants Forest	Plants Forest	362784	-53472	Satellite
1078	Plantation	Plantation	297736	10600	Satellite
1079	Secondary Swamp Forest	Secondary Swamp Forest	434464	-240893	Satellite
1080	Plantation	Plantation	400359	-110205	Satellite
1081	Shrub	Secondary Dry Forest	266665	-177469	Satellite
1082	Plantation	Plantation	307702	10586	Satellite
1083	Secondary Mangrove Forest	Secondary Mangrove Forest	333247	-70925	Satellite
1084	Plantation	Plantation	311195	9262	Satellite
1085	Primary Dry Forest	Primary Dry Forest	509405	-60131	Satellite
1086	Secondary Swamp Forest	Secondary Swamp Forest	409965	-216350	Satellite
1087	Shrub	Shrub	423056	-122806	Satellite
1088	Secondary Dry Forest	Secondary Dry Forest	518335	-127354	Satellite
1089	Plantation	Plantation	306210	-16853	Satellite
1090	Secondary Swamp Forest	Secondary Swamp Forest	316671	16874	Satellite
1091	Secondary Swamp Forest	Secondary Swamp Forest	401037	-120265	Satellite
1092	Mixed Agriculture	Mixed Agriculture	290936	67723	Satellite
1093	Secondary Dry Forest	Secondary Dry Forest	296941	65971	Satellite
1094	Plantation	Plantation	297463	-30858	Satellite
1095	Plantation	Plantation	385286	-121174	Satellite
1096	Secondary Swamp Forest	Secondary Swamp Forest	325786	19534	Satellite
1097	Plants Forest	Plants Forest	377758	-75095	Satellite
1098	Agriculture	Agriculture	301085	7892	Satellite
1099	Secondary Mangrove Forest	Secondary Mangrove Forest	351152	-114805	Satellite
1100	Plantation	Plantation	397507	-106200	Satellite
1101	Swamp Shrub	Swamp Shrub	316446	-12625	Satellite
1102	Plantation	Plantation	420939	-119833	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
1103	Rice Field	Rice Field	319527	-12576	Satellite
1104	Secondary Mangrove Forest	Secondary Mangrove Forest	321890	-140413	Satellite
1105	Secondary Swamp Forest	Secondary Swamp Forest	294727	48871	Satellite
1106	Secondary Dry Forest	Secondary Dry Forest	299946	39641	Satellite
1107	Plantation	Plantation	480967	-260345	Satellite
1108	Plantation	Plantation	400609	-111729	Satellite
1109	Primary Dry Forest	Primary Dry Forest	492502	-62022	Satellite
1110	Secondary Mangrove Forest	Secondary Mangrove Forest	303859	-65066	Satellite
1111	Plantation	Plantation	298023	22242	Satellite
1112	Plants Forest	Plants Forest	347835	-54647	Satellite
1113	Plantation	Rice Field	271789	39586	Ground
1114	Secondary Swamp Forest	Secondary Swamp Forest	392515	-87324	Satellite
1115	Secondary Dry Forest	Secondary Dry Forest	300576	50292	Satellite
1116	Secondary Swamp Forest	Secondary Swamp Forest	419778	-176825	Satellite
1117	Plantation	Plantation	439045	-188512	Satellite
1118	Secondary Dry Forest	Secondary Dry Forest	421053	-136519	Satellite
1119	Mixed Agriculture	Mixed Agriculture	498450	-280019	Satellite
1120	Secondary Dry Forest	Secondary Dry Forest	503016	-127583	Satellite
1121	Plantation	Plantation	307099	-14242	Satellite
1122	Secondary Mangrove Forest	Secondary Mangrove Forest	333280	-67976	Satellite
1123	Secondary Swamp Forest	Secondary Swamp Forest	397495	-93985	Satellite
1124	Primary Dry Forest	Primary Dry Forest	496792	-147311	Satellite
1125	Plantation	Plantation	405415	-108572	Satellite
1126	Plantation	Plantation	417942	-119975	Satellite
1127	Shrub	Shrub	272170	-180818	Satellite
1128	Plantation	Plantation	366140	-103421	Satellite
1129	Plantation	Plantation	268962	58131	Satellite
1130	Primary Swamp Forest	Primary Swamp Forest	355917	-27836	Satellite
1131	Plants Forest	Plants Forest	386665	-66223	Satellite
1132	Secondary Swamp Forest	Secondary Swamp Forest	277085	52913	Satellite
1133	Secondary Swamp Forest	Secondary Swamp Forest	387250	-106342	Satellite
1134	Secondary Dry Forest	Secondary Dry Forest	425091	-134624	Satellite
1135	Plantation	Plantation	340030	-15691	Satellite
1136	Secondary Swamp Forest	Secondary Swamp Forest	379351	-56154	Satellite
1137	Secondary Mangrove Forest	Secondary Mangrove Forest	319698	-58370	Satellite
1138	Primary Dry Forest	Primary Dry Forest	410741	-137244	Satellite
1139	Primary Swamp Forest	Primary Swamp Forest	351935	-21168	Satellite
1140	Plantation	Plantation	421458	-120092	Satellite
1141	Plantation	Plantation	425061	-118420	Satellite
1142	Plantation	Plantation	481020	-264506	Satellite
1143	Plantation	Plantation	303743	18415	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
1144	Secondary Swamp Forest	Secondary Swamp Forest	307947	22336	Satellite
1145	Plantation	Plantation	299154	2367	Satellite
1146	Secondary Swamp Forest	Secondary Swamp Forest	407432	-117775	Satellite
1147	Secondary Swamp Forest	Secondary Swamp Forest	396880	-140105	Satellite
1148	Secondary Swamp Forest	Secondary Swamp Forest	372484	-9502	Satellite
1149	Mixed Agriculture	Settlement	452669	-192838	Satellite
1150	Secondary Dry Forest	Secondary Dry Forest	471448	-82849	Satellite
1151	Secondary Swamp Forest	Secondary Swamp Forest	412336	-172162	Satellite
1152	Plantation	Plantation	279761	36594	Satellite
1153	Secondary Swamp Forest	Secondary Swamp Forest	327139	20882	Satellite
1154	Secondary Dry Forest	Secondary Dry Forest	295034	72047	Satellite
1155	Plantation	Plantation	313092	9259	Satellite
1156	Plantation	Plantation	365516	-108156	Satellite
1157	Secondary Swamp Forest	Secondary Swamp Forest	391402	-90873	Satellite
1158	Secondary Swamp Forest	Secondary Swamp Forest	349853	-32091	Satellite
1159	Secondary Mangrove Forest	Secondary Mangrove Forest	346295	-103888	Satellite
1160	Secondary Swamp Forest	Secondary Swamp Forest	285622	42906	Satellite
1161	Secondary Swamp Forest	Secondary Swamp Forest	283935	49313	Satellite
1162	Plantation	Plantation	283952	32452	Satellite
1163	Primary Dry Forest	Primary Dry Forest	505159	-82988	Satellite
1164	Secondary Dry Forest	Mixed Agriculture	457404	-244285	Satellite
1165	Secondary Dry Forest	Secondary Dry Forest	302365	68321	Satellite
1166	Secondary Swamp Forest	Secondary Swamp Forest	283328	55286	Satellite
1167	Mixed Agriculture	Mixed Agriculture	298132	75378	Satellite
1168	Secondary Dry Forest	Secondary Dry Forest	295768	67715	Satellite
1169	Plantation	Plantation	484382	-265121	Satellite
1170	Secondary Dry Forest	Secondary Dry Forest	498459	-111727	Satellite
1171	Primary Dry Forest	Primary Dry Forest	524459	-67920	Satellite
1172	Secondary Swamp Forest	Secondary Swamp Forest	412999	-179045	Satellite
1173	Primary Swamp Forest	Primary Swamp Forest	357039	-23127	Satellite
1174	Primary Dry Forest	Primary Dry Forest	522150	-132143	Satellite
1175	Secondary Swamp Forest	Secondary Swamp Forest	315692	15311	Satellite
1176	Secondary Dry Forest	Secondary Dry Forest	496452	-189067	Satellite
1177	Secondary Mangrove Forest	Secondary Mangrove Forest	321943	-66624	Satellite
1178	Plantation	Plantation	423915	-120022	Satellite
1179	Secondary Dry Forest	Secondary Dry Forest	272320	-176502	Satellite
1180	Secondary Swamp Forest	Secondary Swamp Forest	378216	-116640	Satellite
1181	Secondary Dry Forest	Secondary Dry Forest	269932	-179988	Satellite
1182	Secondary Dry Forest	Secondary Dry Forest	498023	-90555	Satellite
1183	Secondary Swamp Forest	Secondary Swamp Forest	314438	24210	Satellite
1184	Secondary Swamp Forest	Secondary Swamp Forest	308288	15136	Satellite

No	Land Cover Map (Final Version)	Verification	Location (WGS 84 zone 49N)		Method
			X (m)	Y (m)	
1185	Secondary Swamp Forest	Secondary Swamp Forest	396991	-45474	Satellite
1186	Secondary Dry Forest	Secondary Dry Forest	269853	-182257	Satellite
1187	Secondary Swamp Forest	Secondary Swamp Forest	390945	-74628	Satellite
1188	Secondary Swamp Forest	Secondary Swamp Forest	287964	51265	Satellite
1189	Secondary Swamp Forest	Secondary Swamp Forest	380071	-111958	Satellite
1190	Secondary Swamp Forest	Secondary Swamp Forest	384667	-105153	Satellite
1191	Secondary Mangrove Forest	Secondary Mangrove Forest	349590	-82738	Satellite
1192	Secondary Swamp Forest	Secondary Swamp Forest	398069	-132356	Satellite
1193	Secondary Dry Forest	Secondary Dry Forest	485349	-106226	Satellite
1194	Secondary Swamp Forest	Secondary Swamp Forest	392257	-104640	Satellite
1195	Secondary Swamp Forest	Secondary Swamp Forest	373116	-14274	Satellite
1196	Secondary Swamp Forest	Secondary Swamp Forest	311378	15213	Satellite
1197	Secondary Swamp Forest	Secondary Swamp Forest	378408	-115728	Satellite
1198	Secondary Dry Forest	Secondary Dry Forest	266060	-177921	Satellite
1199	Secondary Swamp Forest	Secondary Swamp Forest	309041	19550	Satellite
1200	Secondary Dry Forest	Secondary Dry Forest	305325	-133052	Satellite
1201	Secondary Dry Forest	Secondary Dry Forest	247856	-189154	Satellite
1202	Secondary Dry Forest	Secondary Dry Forest	263181	-177691	Satellite