SMALLHOLDER TRAINING NEEDS ASSESSMENT

Sustainable Production Project

GOOD GROWTH PARTNERSHIP

UNDP

CONSERVATION INTERNATIONAL

WWF

gef

EXECUTIVE SUMMARY

The study was conducted as part of the Global Environment Facility (GEF) funded programme - Good Growth Partnership (GGP)'s child project, namely, *Reducing Deforestation from Commodity Production project*. The Training Needs Assessment (TNA) was conducted in three GGP's target landscapes, which represent major palm oil producers in Indonesia, namely Pelalawan District in Riau, Sintang District in West Kalimantan, and South Tapanuli District in North Sumatera.[1] A combination of qualitative and quantitative methods was used in this study. Literature review, desk research and consultations were conducted prior to the assessment to provide context and preliminary information in each site. Data and information were obtained from various research and policy papers, as well as materials produced by government agencies and NGOs. A field survey questionnaire was then developed and a random sample of farmers representing 20% of the target farmers in each site were selected.

Some results of the TNA provided useful insights for the next project activity. It showed that average yield in all three sites **remained low due to a host of factors including:** low quality (uncertified) seedling, poor plantation maintenance including long periods between fertilizer applications, and lack of knowledge regarding Good Agriculture Practices (GAP). Low productivity, compounded by poor supply chain and limited access to financial assistance, was directly translated to low level of income among farmers.

In terms of training priority, the case was different from one landscape to another. Respondents in South Tapanuli identified GAP techniques as the most priority training topic. Meanwhile, both independent and plasma smallholders in Pelalawan identified land clearing method as the most important. Additionally, plasma smallholders identified training on facilities as another area of priority, while independent smallholders identified infrastructure and business development as their priority. In Sintang, although the priority differs by village, in general training on farmer institution was considered the most priority.

The TNA results show that GAP and farmer financial literacy are key to helping farmers make better and more informed decisions regarding their plantation and eventually improve their productivity and livelihoods. Additionally, improving awareness on land legality and strengthening farmer group institution are also imperative in reducing farmer's vulnerabilities and improving knowledge transfer among smallholder farmers. Lastly, the survey results highlight different contexts and needs in each site; and therefore, the training should be tailored accordingly.

[1] TNA in Pelalawan District was conducted by UNDP, while the assessment in South Tapanuli and Sintang districts was conducted by Conservation International and WWF-Indonesia, respectively.

Table of Contents

List of Abbreviations

ISPO	Indonesian Sustainable Palm Oil
PHT	*Pengendalian Hama Terpadu* or Integrated Pest Management
GAP	Good Agricultural Practices
RKP3KS	*Rencana Kebutuhan dan Pendanaan Peremajaan Perkebunan Kelapa Sawit* or Plan for Oil Palm Plantation Rejuvenation Needs and Funding
SHM	*Surat Hak Milik* or Land Title
AJB	*Akta Jual Beli* or Deed of Sale & Purchase
SKRKT	*Surat Keterangan Riwayat Kepemilikan Tanah* or Land Ownership Certificate
APL	*Area Penggunaan Lain* or Other Land Uses
HGU	*Hak Guna Usaha* or Plantation Rights
BPS	*Badan Pusat Statistik* or Central Bureau of Statistics
GIS	Geographic Information System
PIR	*Perkebunan Inti Rakyat* or Community Nucleus Plantation
KKPA	*Kredit Koperasi Primer Anggota* or Primary Cooperative Credit for Members
PPKS	*Pusat Penelitian Kelapa Sawit* or Indonesia Oil Palm Research Institute

Introduction

Background

The *Reducing Deforestation from Commodity Production*, also called **Production Project,** is a child project under UNDP-GEF 6 Good Growth Partnership (GGP) programme aiming at taking deforestation out commodity supply chains. This project consists of four components: (1) dialogue, action planning, policies and enforcement, (2) farmer support systems, and (3) land use mapping and planning, and (4) knowledge management and M&E. The Component 2 of the Production Project aims to strengthen oil palm farmer support systems through proper extension services and other approaches that would assist the farmers implement best practices and increase the sustainability of their production. The project will also help formulate strategies that will encourage and regulate good production practices and sustainability principles that contribute to forest conservation, increasing farm productivity, and protecting water sources.

To achieve these objectives, the project seeks to develop a national farmer support strategy with emphasize on: (i) reduced deforestation, (ii) sustainable intensification, (iii) biodiversity conservation and (iv) elimination of gender gap in agricultural productivity. Therefore, the Training Needs Assessment (TNA) was conducted in three target landscapes with potential linkages to REDD+, namely Pelalawan, Sintang, and South Tapanuli, to first understand the needs of smallholder farmers.

The objective of the TNA is to **identify technical knowledge-related barriers preventing more efficient, intensified, and sustainable practices from taking hold**. The TNA focused specifically on the broad training needs related to sustainable intensification and smallholder needs for awareness-raising activities to avoid deforestation. The assessment was conducted on farmers within deforestation borderlines ('deforestation landscapes'). It assumed that sustainable commodity intensification in legally compliant land use zones (i.e. outside protected areas or deep peat areas) will help reduce extensification of production areas into protected or remaining forest areas.

Methodology

Although methodology may vary slightly between sites, a combination of qualitative and quantitative methods was used to collect and analyze data. Literature review, desk research and consultations were conducted prior to the assessment to understand the context and gather preliminary information about each site. Data and information were obtained from

various research and policy papers, as well as materials produced by government agencies and NGOs.[2]

A field survey questionnaire was developed and a random sample of farmers representing 20% of the project's target farmers in each site were selected. Hence, a total of 421 smallholders in Pelalawan, 153 smallholders in South Tapanuli, and 63 smallholders in Sintang were interviewed for this study. The sample selected for this assessment represents both plasma and independent smallholders in and around forest areas and critical ecosystems (such as peatlands and primary forests outside government's conservation areas). The questionnaire developed for this assessment covered the socio-economic background of the farmers, farming activities and practices, plantation profiles, institutions and training needs (*See Annex for questionnaire*). Gender-based assessment was also included in the survey and covered questions on male and female's access to technical training; women's role in the decision-making process; equal rights and access to land tenure; time spent on household management; economic and social activities.

Survey data from the three districts was analyzed using statistical software such as SPSS. Particularly for Pelalawan District, training needs were also evaluated utilizing ***the Borich Model*** using the mean-weighted-discrepancy scores to determine the level of priority as reported by the smallholders' perceived level of training importance. Competencies with the highest scores were those with the highest need and priority for training.[3] The analysis also explored differences in knowledge and importance of each of the training areas for smallholders, by looking at different characteristics of respondents, such as education, gender and the proportion of income coming from agriculture and other sources. Only areas with the most important and statistically significant differences are described in this report.

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[2] In Palalawan, spatial plan of the district overlaid with the Ecosystem Essential area was used to determine potential locations for the training need assessment.

[3]To determine discrepancy scores, weighted discrepancy scores and mean weighted discrepancy scores, the following procedures were followed. First, the ability (self-assessment) rating was subtracted from the importance rating to determine the discrepancy score for each individual on each training area. To do this, the seven-point Likert scale of the importance rating was converted into a scale with values **1** for very not important, **2** for not important, **3** for rather not important, **4** neutral, **5** for rather important, **6** important, and **7** for very important. In addition, if participants did not choose a particular training area, their response on the importance rating was considered 'not important'. Next, the discrepancy score was multiplied by the mean importance rating to calculate the weighted discrepancy score on each individual for each training area. A mean weighted discrepancy score for each of the competencies was then calculated by taking the sum of the weighted discrepancy scores and dividing by the number of observations. Using the mean weighted discrepancy scores, the competencies were then ranked.

Site Overview

The TNA was conducted in three districts namely Pelalawan, Sintang and South Tapanuli. The three sites represent major palm oil producers in Riau, West Kalimantan and North Sumatera.

Pelalawan

Pelalawan district covers an area of approximately 13,925 km^2 and represents 14.73% of Riau Province's total area. It consists of land (1,282,181 ha) and waters (110,312 ha) covering 12 sub-districts and 104 villages. The largest sub-district, Teluk Meranti, covers 30.45% of the district (or 423,984 Ha), and the smallest sub-district, Pangkalan Kerinci, covers only 1.39% of the district (or 1.39%).[4] Ninety three percent of the total district area consist of lowland, which extends eastwards, with some parts of the district are under conservation status. The average annual deforestation rate in Pelalawan between 2009 and 2015 is roughly 4.91%.[5] Pelalawan Regency lies on the equator, thus it has fairly high rainfall intensity (227.57 mm^3/month). November usually has the highest rainfall intensity reaching up to 457.50 mm^3/month. During the wettest month, several settlements in Teluk Meranti and settlements along Kampar River, tend to be flooded.

In 2017, the total population of Pelalawan, based on BPS data, was 449,790 people. The population growth rate between 2015 and 2017 is around 2.53%.[6] High birth and migration rates were said to contribute most significantly to high population growth rate.[6] Population in Pelalawan remains highly concentrated in urban areas - mainly in the district capital and surrounding capitals of subdistricts. Population in Pelalawan is fairly-heterogeneous with Malay being the main ethnic group. Other ethnic groups such as Minang, Batak, Aceh, Javanese, Sundanese, Banjar and Bugis are also present in the district.

Pelalawan is one of the main oil palm production centers in Riau. It is also a major producer of rubber. Palm Oil plantation covers 473,623 ha of land in Pelalawan, 39% of which belongs to smallholders (*Kebun Rakyat*). For the past few years, oil palm production in Pelalawan tends to fluctuate. In 2011, CPO production reached 1.53 million tons and this number climbed to 1.76 million tons in 2014. Since then, the production had been declining; and in 2017, the production in was approximately only 0.75 million tons. Meanwhile, rubber

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[4] Bupati Pelalawan Propinsi Riau. (2016). *Peraturan Daerah Kabupaten Pelalawan Nomor 11 tahun 2016*; Kabupaten Pelalawan Riau. (2017)). *RPJMD Kabupaten Pelalawan (2017-2021)*

[5] Ministry of Environment & Forestry. (2017). Peta Penutupan Lahan Indonesia. Retrieved from http://webgis.menlhk.go.id:8080/pl/pl.htm

[6] BPS Kabupaten Pelalawan. (2018). *Statistik Daerah Kabupaten Pelalawan 2018*. Retrieved from https://pelalawankab.bps.go.id/publication/2018/09/21/3d7b9e94227f2b3730d24c62/statistik-daerah-kabupaten-pelalawan-2018.html

production has been declining; in 2011, the volume of production was 37.45 thousand tons, and in 2014, this number decreased to 34.51 thousand tons. Both commodities are exported in raw form[7] and to attract investors, the district government of Pelalawan is building an industrial estate in Sokoi, Kuala Kampar Sub-district, and a Technopolitan Area in Langgam Sub-district.

Palm oil production centers are spread evenly in almost all sub-districts in Pelalawan District. Therefore, the site selection was based on conservation factor: areas selected are located near conservation and priority ecosystems such as Tesso Nilo National Park, Kerumutan Wildlife Reserve and protected-peat areas. Based on this consideration, the assessment was conducted in Ukui, Kerumutan, Pangkalan Kuras and Pangkalan Lesung sub-districts.

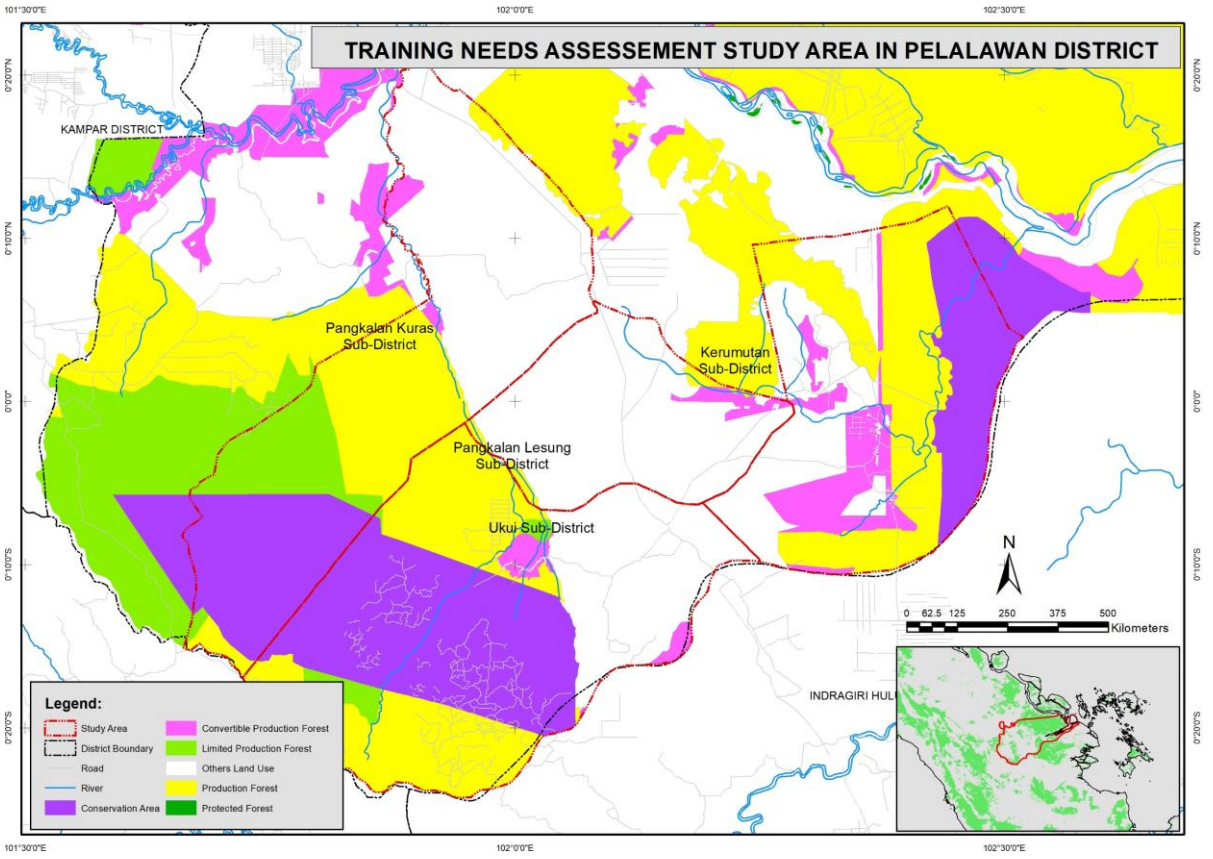

***FIGURE 1**. TNA SITES IN PELALAWAN DISTRICT*

Sintang

Sintang District covers an area of approximatelt 21,638 km^2, and is currently the second largest district in West Kalimantan, after Ketapang District. Located directly adjacent to Sarawak (East Malaysia), Sintang has become the main port entry point to Indonesia for goods and people from Malaysia and Brunei Darussalam. It consists of 14 sub-districts, with Ambalau

[7] Standard Indonesian Rubber.

being the largest sub-district covering 19.79% of the district. About 69.3% of Sintang district consists of hilly area. It has two major rivers namely Kapuas and Melawi, and two smaller streams – Ketungau and Kayan. Both Ketungau and Kayan rivers are tributaries of Kapuas River and Melawi River, respectively. A little over a million ha (or 46.99%) of land in Sintang consists Latasol soil, and 0.93 million ha (or 42.89%) consists of Podsolik soil. The district is located on the equator; therefore, it has high rainfall intensity (approximately 243.1mm^3/month), and September being the wettest month with rainfall intensity reaching 404.1 mm^3/month. On average, it rains 19 days a month.

Sintang's estate-forest area represents 21.99% of the total estate-forest area in West Kalimantan Province. Based on the Minister of Forestry Decree No. 259/KPTS-11/2000, estate-forest area in Sintang District consists of the following: National Park—68,603 Ha, Protection Forest—446,799 Ha, Limited Production Forest—623,505 Ha, Production Forest—188,465 Ha, and Tourism Forest—1,334 Ha.

In 2017, the total population of Sintang was 407,903 people. It has a population density of 19 persons/km^2.[8] Agriculture has been the biggest contributor to the district's GDP, contributing up to 23.46% of the total GDP in 2016, with plantation sector contributed up to 13.72%. The main commodity in Sintang is oil palm. Oil palm plantation covers an area of 168,107.57 ha, followed by rubber plantation which covered an area of 93,113 ha. An increase share of other commodities was observed, however their contribution to the local economy remained small compare to oil palm and rubber. In 2017, oil palm production reached 935,941 tons (or equal to 5.57 tons of FFB/ha/year), and rubber reached 93,113 tons. Rubber is mainly cultivated in independent plantations owned by smallholders, while oil palm is mainly cultivated under the Plasma-plantation scheme. Sites were identified based on two criteria: first, the existence of independent smallholders in the area, and second, proximity to forest areas. Based on these considerations, areas around Merpak forest and around Kapuas River were selected.

[8] BPS Kabupaten Sintang. (2017). *Kabupaten Sintang Dalam Angka 2017*. Retrieved from https://sintangkab.bps.go.id/publication/2017/08/12/33111d490a7e55cc00d13e4d/kabupaten-sintang-dalam-angka-2017.html

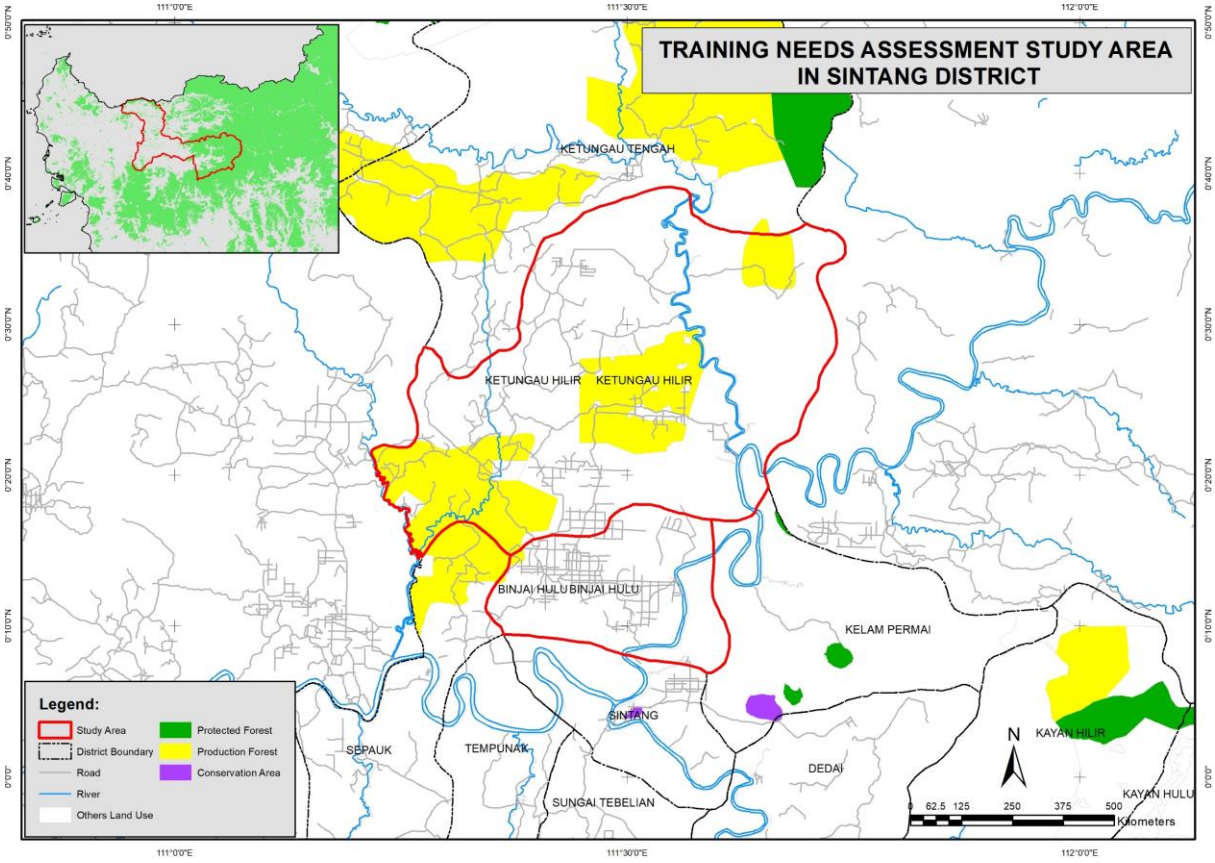

***FIGURE 2**. TNA SITES IN SINTANG DISTRICT*

South Tapanuli

The total area of South Tapanuli District is approximately 4,355.35 km^2 (or 6% of the total area of North Sumatra Province), consisting of 14 sub-districts and 248 villages. South Tapanuli is part of the Bukit Barisan landscape, thus the contour tends to be hilly with elevation ranging between 0 m and 1,985 m above sea level. It is generally a wet region with rainfall intensity of 1,315.33 mm^3/month, and January being the wettest month with rainfall intensity reaching 2,362 mm^3/month. The main watershed in the area is located in Batang Toru forest, which hosts a variety of rare flora and fauna. The main rivers in South Tapanuli Regency are: Batang Toru River (extends 69.32 Km)—an important part of the Siais Lake ecosystem, Aek Bilah River (extends 24.00 km), Aek Godang River (extends 28.00 Km), Garoga River (extends 77 km), Batang Angkola River (extends 77.00 km) and Batang Gadis River (extends 85 km)—which serves as a natural border between South Tapanuli and Mandailing Natal districts.

The most common plantation crops in South Tapanuli Regency are oil palm, rubber, cocoa and coffee. In 2017, oil palm plantation covered 5,445,25 ha and produced 55,761 tons of

FFB[9]/year (or equal to 10 tons of FFB/ha/year). Both Batang Toru Sub-district and Muara Batang Toru Sub-district contributed approximately 74% of the total palm oil production in South Tapanuli District. Population in South Tapanuli is dominated by working age population with relatively low birth rate. The average population density is approximately 64 persons/km^2. Aek Bilah Sub-district and Saipar Dolok Hole Sub-District were the most sparsely populated Sub-districts in South Tapanuli with a population density of only 16 to 24 persons/km^2. A 37.19% of the population in the district do not have primary school education, while 24.54% of labor force complete at least junior high school and only 20.07% finish high school.

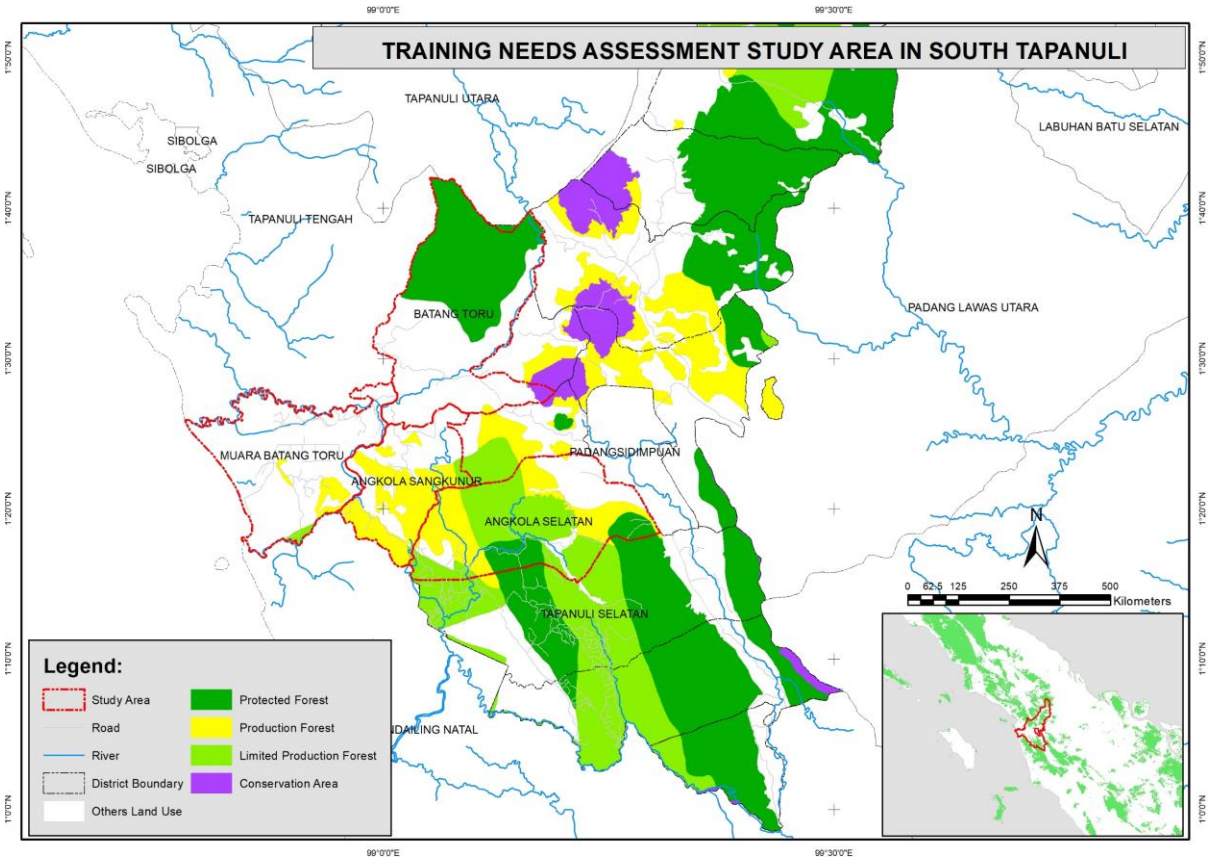

***FIGURE 3**. TNA SITES IN SOUTH TAPANULI DISTRICT.*

[9] Fresh fruit bunches

Key Findings

Socio-Demographics Characteristics

The data suggests that most of respondents in the three study locations were local people, while some of them were migrants—generally dominated by Javanese, except in South Tapanuli where the migrant communities were dominated by groups with Mandailing ethnic background (24%) but followed closely by Javanese (21%). Given the regional diversity and ethnic origin of the smallholders, effective communication strategy is imperative when designing training and mentoring methods. The training by trainers should accommodate the needs of Bahasa and non-Bahasa (i.e. local dialect) speaker. It is important to note that instructors who are able to gain trust and create bond with smallholders will potentially be able to deliver the materials more effectively. Another important factor to consider is literacy: the majority of respondents were able to write, read, and perform basic math; except in Pelalawan, where 13.57% of respondents were identified not able to read and write.

The results also showed that plantations, especially oil palm, contributed the most to the livelihoods of local communities. It should be noted that the cultivation of oil palm as non-native species might have affected the way of life of the indigenous population. The age distribution of respondents also indicated that the majority of population in the three sites were dominated by working age population. Therefore, trainings to improve smallholder's capacity would have significant trickle-down effect in the long run. Detailed findings for each site are elaborated below.

Pelalawan District

Respondents' origin and ethnicity. A 72.7% of respondents in Pelalawan District were native,[10] and the rest were immigrants[11] originated from various regions around Pelalawan (mainly from North Sumatera) and Java. Only 0.71% of the immigrants originated from West and South Kalimantan. A 75% of respondents identified themselves as ethnic Malay, while 17% identified themselves as Javanese. The rest identified themselves as Bataknese (2.85%), Sundanese (1.43%), Lampung (1.43%), Minang (0.71%), Acehnesse (0.48%), Dayak (0.48%) and Banjarians (0.24%). Ethnic groups from Java arrived through government-led transmigration programme as part of the Perkebunan Inti Rakyat programme (PIR or Nucleus Plantation Programme) in the 80s.

[10]Born and raised in Pelalawan, and whose parents are not immigrants (i.e. they are not second-generation of immigrants).
[11]Born and raised in Pelalawan, and whose parents are not immigrants (i.e. they are not second generation of immigrants).

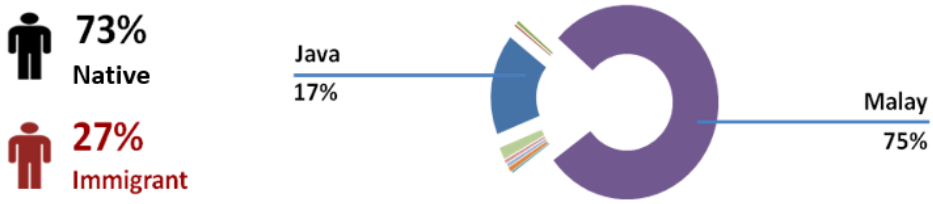

FIGURE 4. DISTRIBUTION OF RESPONDENTS ACCORDING TO ETHNICITY IN PELALAWAN DISTRICT.

Household characteristics. Majority of respondents were male (96.67%) between the age of 40 and 49 years old (55.71%) with the youngest being 20 years old and oldest being 78 years old. The average age of respondents was 43.78 years old (± 11.02 years). An 89.79% of respondents were working age population and only a small proportion (8.08%) of respondents had entered retirement (i.e. exceed working age standard). Based on marital status, the majority of respondents were married (94.30%) and only 2.61% of respondents were unmarried. Average households surveyed in Pelalawan had 3 to 4 dependents, dominated by children.

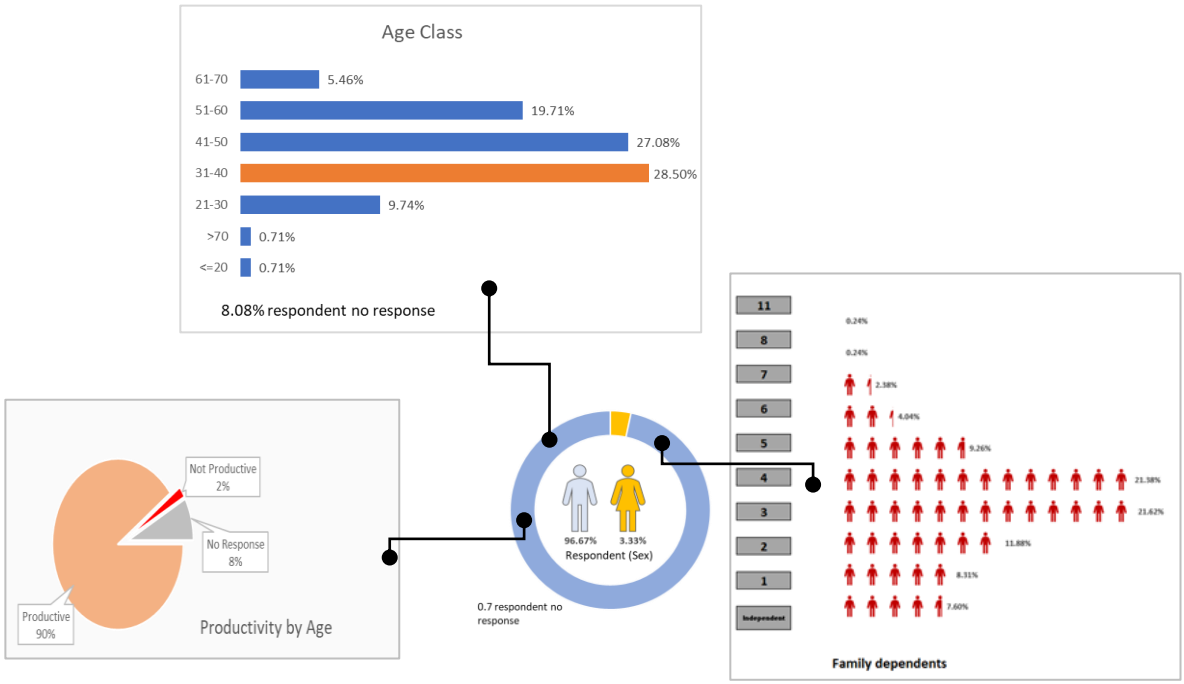

FIGURE 5. DISTRIBUTION OF RESPONDENTS ACCORDING TO AGE AND HOUSEHOLD'S CHARACTERISTICS IN PELALAWAN DISTRICT.

Level of Education. A 43% of respondents had completed their primary school education, 15% completed secondary school, 18% completed high school, and 4% had higher education. Only 20% on respondents declared they did not complete primary school or had no formal education. Thirteen-point five percent of respondents stated that they could not read or write.

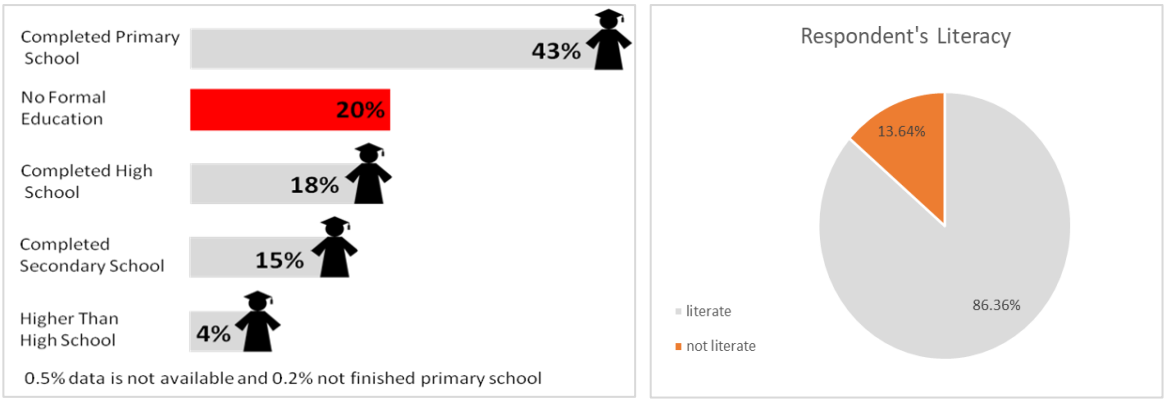

FIGURE 6. DISTRIBUTION OF RESPONDENTS BASED ON EDUCATION LEVEL IN PELALAWAN DISTRICT.

Livelihoods. A 75% of respondents depended on farming as their main livelihoods, while 13% depended on entrepreneur activities, and 12% on other activities.[12] More than 40% of respondents represented two-incomes household. Although 51% of the spouses were housewives with no income, approximately 24% of the spouse provided in-kind support in the plantation.

The survey showed 79.10% of respondents in Pelalawan earned on average between IDR 1 million/month and IDR 5 million/month; about 64% earned less than IDR 3 million/month. The main source of income was oil palm cultivation and businesses associated with the plantation (i.e. plantation labor). Approximately 66.7% of the smallholders had monthly expenditure that was almost equal to the income; only 28.29% of the smallholders were able to accrue savings; and approximately 5% of the smallholders had expenditures exceeding their income.

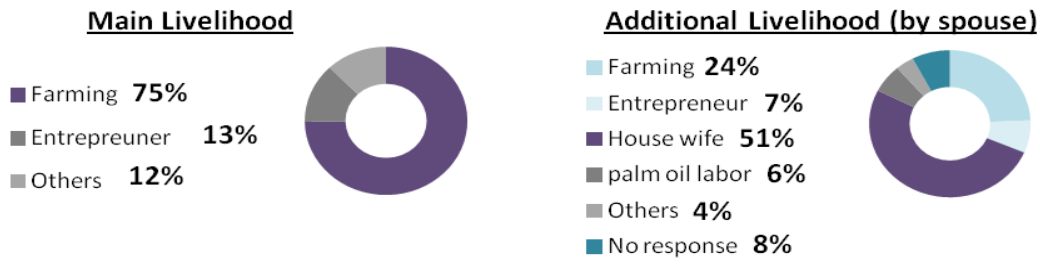

FIGURE 7. DISTRIBUTION OF RESPONDENTS ACCORDING TO LIVELIHOODS IN PELALAWAN DISTRICT.

The data was further disaggregated to independent and plasma smallholders, and it was found that plasma smallholders fared better than independent smallholders (*See Table 1*). Independent smallholders were able to harvest 9.1 ton/ha/year with standard deviation of 5.7, while plasma smallholders harvested 22.2 ton/ha/year with standard deviation of 7.9.

[12] Such as government officers, drivers, teachers, and midwife.

For independent smallholders, 67.8% had income less than 3 million/month and only 6.5% had income of 7.5 million/month or more (*see Table 1*).

TABLE 1. DISTRIBUTION OF RESPONDENTS ACCORDING TO INCOME AND PRODUCTIVITY IN PALALAWAN

Plantation Type	Productivity (ton/ha/year)	Income from Palm Oil (million IDR)			Expenditure for Palm Oil (million IDR)		
		< 3	3 - 7.5	> 7.5	< 3	3 - 7.5	> 7.5
Independent	9.1	67.8%	25.7%	6.5%	93.9%	5.5%	0.6%
Plasma	22.2	47.6%	49.2%	3.2%	93.4%	6.6%	0.0%

Sintang District

Respondents' origin and ethnicity. In Sintang, 67% of respondents were native Dayak population. About 25.40% of the migrants in Sintang relocated voluntarily, while 6.35% were relocated under the government-funded transmigration programme. The immigrants were coming mainly from Java (22%) dominated by people from Banyuwangi District (71.43% of all Javanese respondents). The increasing number of migrants in Sintang has boosted the economic growth in the district. [13]

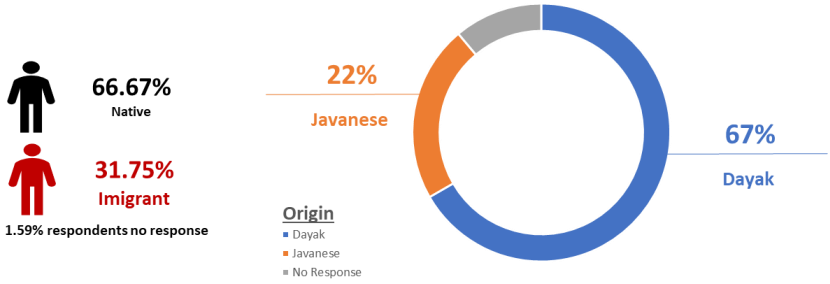

FIGURE 8. DISTRIBUTION OF RESPONDENTS ACCORDING TO ETHNICITY IN SINTANG DISTRICT.

Household characteristics. A 95.96% of respondents were males, and the majority were younger than 65 years old (the youngest respondent was 25 years old and the oldest was 64 years old). The majority of the smallholders in Sintang were still working age population.[14] The average age of respondents was 40.96 ± 8.63 years old. Compared to the other two sites, respondents in Sintang District tended to be younger with smaller age variation. Based on marital status, majority of respondents were married (90.48%), and the average households

[13] Langston, James,D., Riggs, Rebecca,A., Sururi, Yazid., Sunderland, Terry., Munawir, Muhammad. (2017). Estate Crops More Attractive than Community Forest in West Kalimantan Indonesia. Retrieved from https://www.mdpi.com/2073-445X/6/1/12/pdf; dan Markus., Fanani, Zainal.,Wike., Hakim, Luchman. (2018). Lands, Indigenous Communitya and the Future of Sustainable Community Development: Dayak Community in Ensaid Panjang, Sintang, West Kalimantan. Retrieved from http://www.iosrjournals.org/iosr-jhss/papers/Vol.%2023%20Issue2/Version-9/C2302091420.pdf

[14] The working age population follows category sets by the BPS (Statistics Indonesia).

had 3 to 4 dependents, majority were children (younger than 18 years old). Almost all respondents in Sintang District lived around or in close proximity to their plantation.

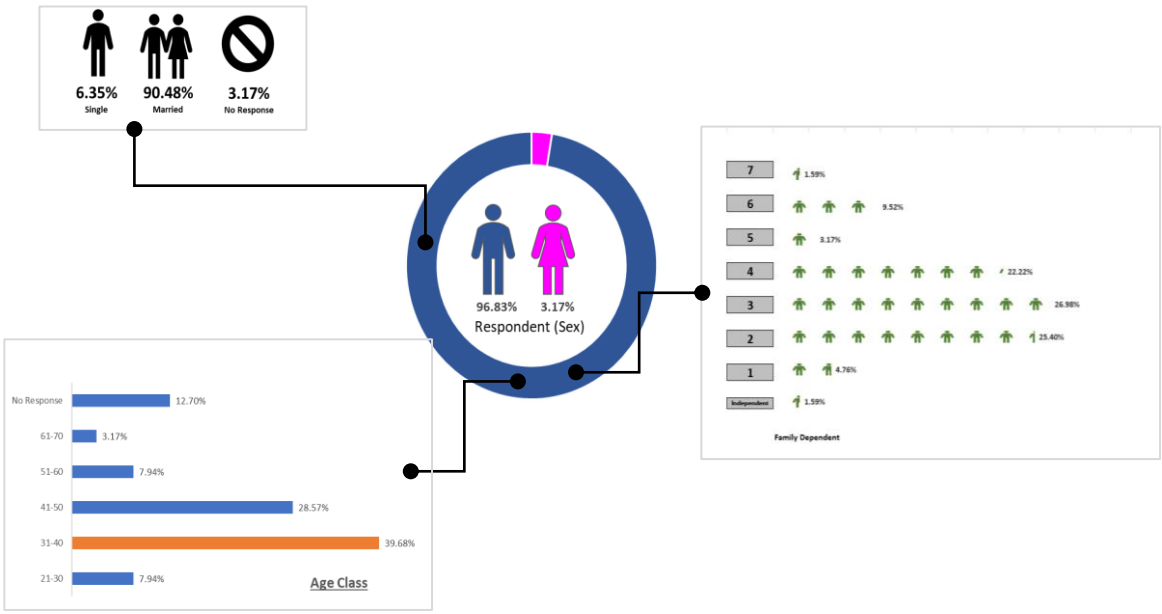

FIGURE 9. DISTRIBUTION OF RESPONDENTS ACCORDING TO AGE AND HOUSEHOLD CHARACTERISTICS IN SINTANG DISTRICT.

Level of Education. Almost half of respondents completed elementary school (41.27%) and 23.81% completed high school. A 7.94% of respondents were without formal education and 6.35% of respondents could not read nor write.

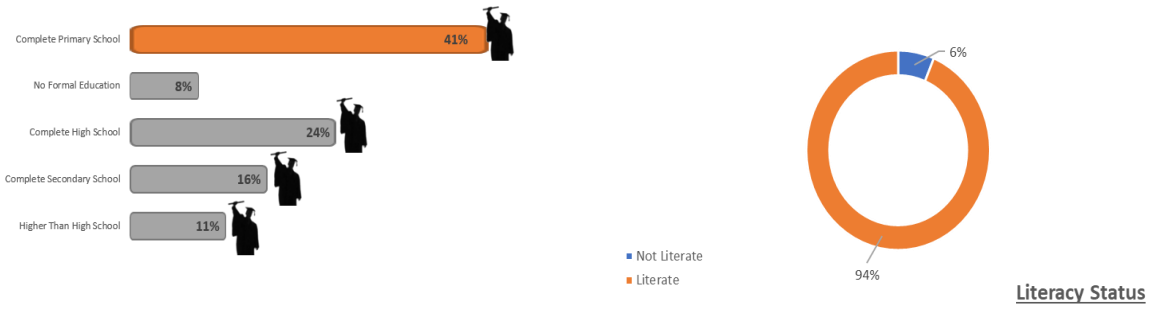

FIGURE 10. DISTRIBUTION OF RESPONDENTS BASED ON EDUCATION LEVEL IN SINTANG DISTRICT.

Livelihoods. Fifty eight percent of respondents relied on farming as their main source of livelihood and approximately 6% had multiple income sources. For households with multiple income sources, 48% of the spouses helped with plantation management and were involved in rubber sap harvesting activity. A 42.86% of respondents earned between IDR 1 million/month – IDR 3 million/month, and about 25.40% earned between IDR 7.5 million/month – IDR 10 million/month. About 55.56% of respondents spent between IDR 1 million/month – IDR 3 million/month, and 53.23% of respondents had monthly expenditure

that was almost equal to their income. Roughly 38.71% were able to accrue savings; and approximately 8.09% had expenditure that exceeded their income.

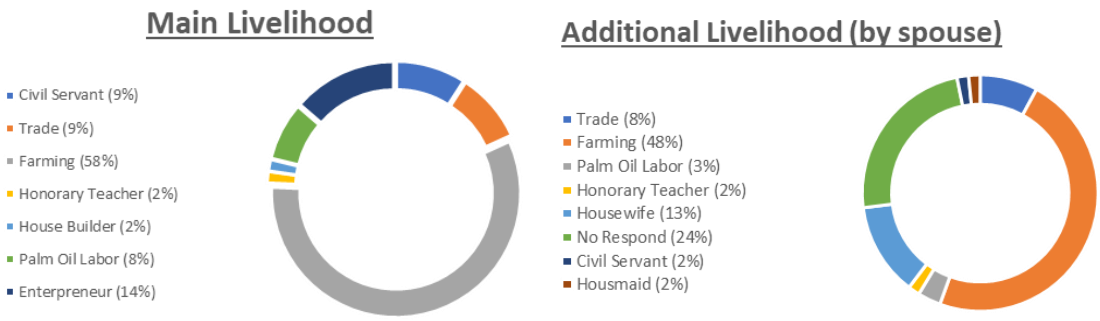

Figure 11. *Distribution of respondents according to livelihoods in Sintang District.*

In Sintang, about 13% of respondents produced ≥ 1 ton/ha/month while 87% of respondents produced below 1 ton/ha/month (*See Table 2*). An 84% of respondents made less than IDR 1 million/month, while about 13% made between IDR 1 million and IDR 3 million/month; and only 3% made more than 3 million/month (*see figure 12*).

Table 2. *Oil Palm Production in Sintang (by Village)*

No	Oil Palm Production (Kg/Ha/Month)	Program Site (Village)				
		Telaga Satu	Telaga Dua	Lepung Pantak	Baung Sengatap	Setungkup
1	< 1,000 Kg	16	5	11	14	9
2	1,000-2,000 Kg	1	5	0	0	2
3	> 2,000 Kg	0	0	0	0	0
TOTAL		17	10	11	14	11

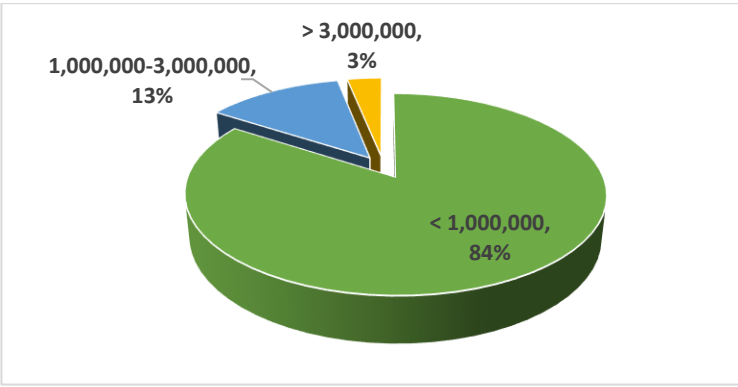

Figure 12*. Income from the Oil Palm Cultivation in Sintang (IDR/month)*

South Tapanuli

Respondents' origin and ethnicity. In South Tapanuli, 68.6% of respondents were native population; 3,27% of respondents claimed to be indigenous; and 58% of respondents were migrants. A 28.1% of the migrants came from neighboring regions, and 3.27% were migrants relocated under the government's transmigration programme that started in 1957 and

continued until 2016. A 36.64% of respondents were of Toba Bataknese ethnic group; 24.18% were Mandailing; 20.92% were Javanese; 11.11% were Angkola Bataknese (native to South Tapanuli). The rest were Nias Bataknese, Karo Bataknese, Minang, and Malay.

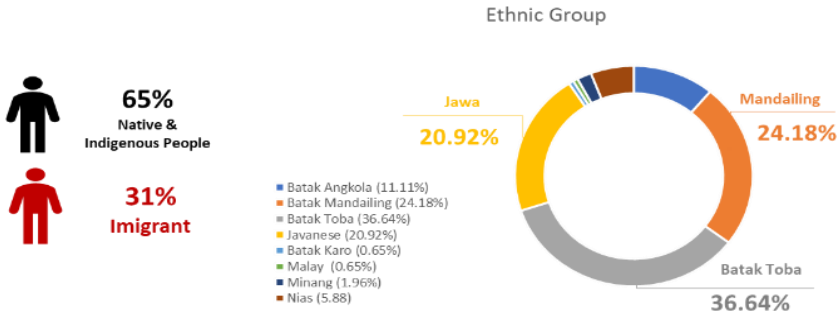

FIGURE 13. DISTRIBUTION OF RESPONDENTS ACCORDING TO ETHNICITIES IN SOUTH TAPANULI DISTRICT.

Household characteristics. The overwhelming majority of respondents were males (97%), married and lived in a household with 3 to 4 dependents (mainly children). The majority of respondents were between the age of 45 and 54 (46 ± 10.67 years old), with 22 years old being the youngest age and 72 being the oldest. A 6.54% of respondents had entered retirement age. The survey indicated that the proportion between male and female was quite balance (female 50.96% and male 49.04%).[15] Population increase in South Tapanuli could directly translate into increasing pressure on forests. More dependent in each household means the plantation would have to be divided into smaller parcels after inheritance, and it may induce further land clearing for plantation to meet the need for each family.

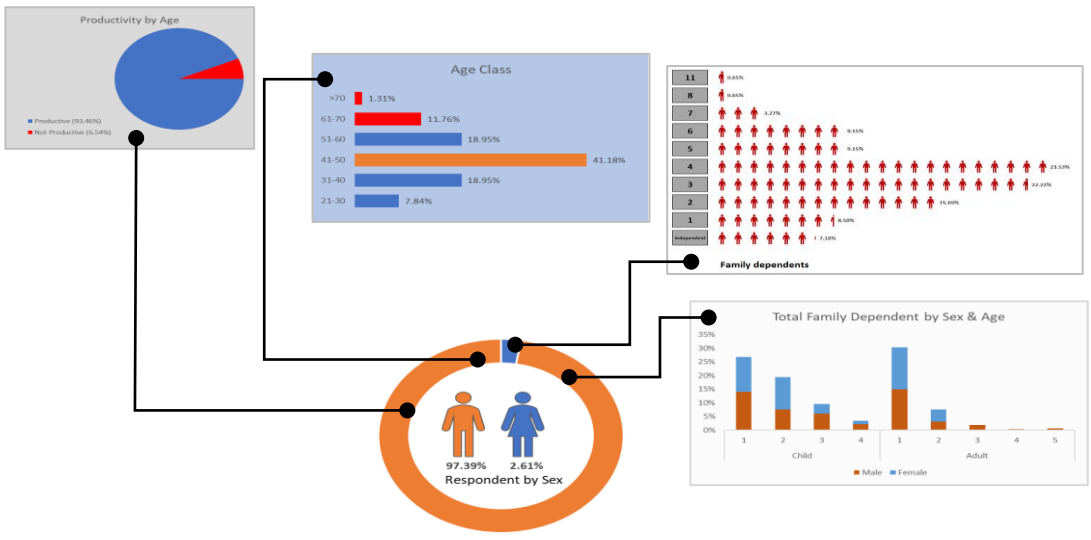

FIGURE 14. DISTRIBUTION OF RESPONDENTS ACCORDING TO AGE AND HOUSEHOLD CHARACTERISTICS IN SOUTH TAPANULI DISTRICT.

[15] Marpaung M. (1969). *Djop ni Roha Pardomuan (Paradaton Tapanuli Selatan).* Padang Sidempuan: Pustaka Timur

Level of Education. Thirty one percent of respondents had primary school education; 26% had at least secondary school level education; and 48% obtained high school diploma or attend higher education. Only less than 1% of the sampled respondents received no formal education, and claimed not being able to read nor write.

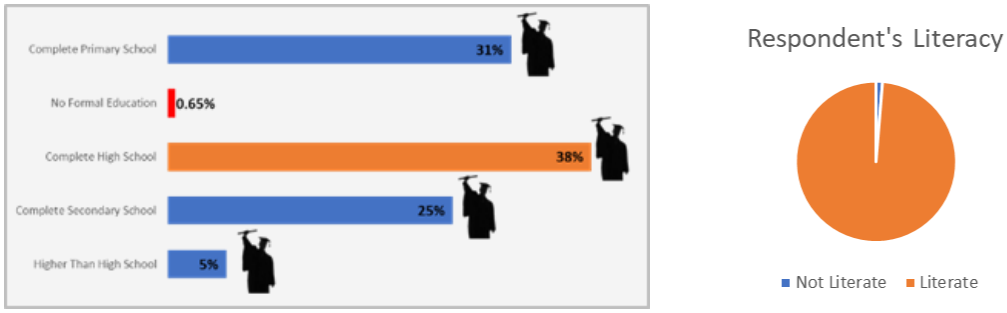

FIGURE 15. DISTRIBUTION OF RESPONDENTS BASED ON EDUCATION LEVEL IN SOUTH TAPANULI DISTRICT.

Livelihoods. A 78% of respondents recorded farming as their main source of income, 7% relied on trade, 9% relied on entrepreneur activities, and 1% were oil palm labor; while the rest were divided between teacher, civil servant, and other sources of income. Twenty three percent of respondents stated to have multiple income sources. The survey recorded that additional income coming from these alternative livelihoods could range from IDR 1.5 million/month to IDR 4.3 million/month. Three percent of respondents recorded having higher expenditure than income; 41% having equal income and expenditure; and 56% stated saving less than IDR 3.6 million/Ha or US$ 267/Ha. These figures are relatively low compared to the expected income from productive plantations, which could reach up to IDR 8.84 million/ha/month or US$ 655/Ha/mo.

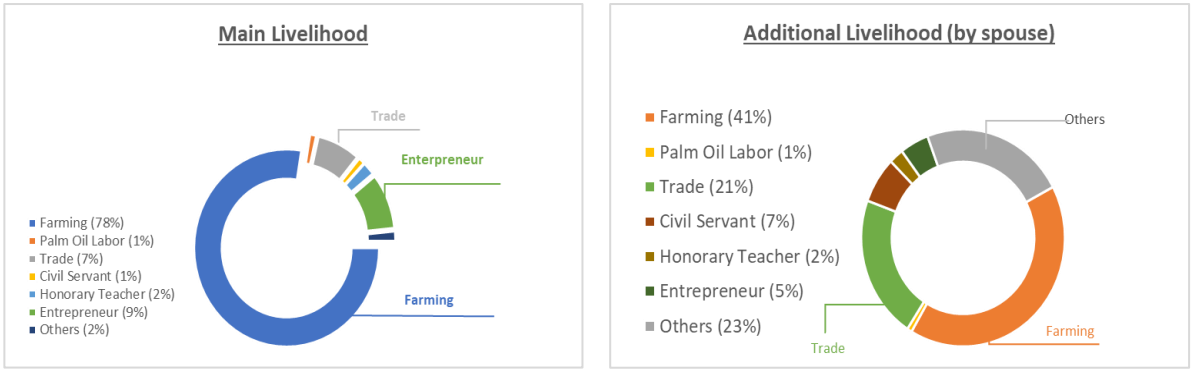

FIGURE 16. DISTRIBUTION OF RESPONDENTS ACCORDING TO LIVELIHOODS IN SOUTH TAPANULI DISTRICT

Land Ownership & Legality.

Generally, there was a clear lack of understanding among smallholders related to land legality and its implications. This was consistent across three sites. A significant portion of the farmers surveyed were without any type of land certificate. Not only this hampered the ability of

farmers to access financial assistance from formal institutions, it also increased the risks related to conflict and land tenure security.

The results also showed that the average farmers were cultivating in mineral soil and outcrop peat. The analysis showed that the way in which farmers acquired their land varied. In Pelalawan, farmers acquired land through land clearing, while in Sintang and South Tapanuli, land was mainly acquired through land/commodity conversion. With the exception in South Tapanuli, less than 30% of the smallholders had legitimate land title documents. This may indicate the risks of conflict because the government could at any time give land use permits to company or other parties. Furthermore, more than 80% of respondents stated that they did not have STDB (Plantation Business Permit). This finding suggests that there is an urgent need to improve awareness regarding the legal aspect of land and oil palm business to facilitate tenure security and business sustainability among farmers.

In addition to problematic legal status of land and business permit, the assessment found some farmers cultivated land between 0.25 ha - 0.5 ha, which did not reach the economics of scale. The average cultivation area in Pelalawan and South Tapanuli was between 2 - 5 ha, and in Sintang the number was less than 2 ha. On average, plantation size needs to be at least 1.5 ha to reach the economics of scale in which plantation would not result in negative income.[16] In North Sumatera, farmers should at least cultivate 2 ha of land to reach the economics of scale. [17] The switching value analysis also showed that the maximum price drop of the FFBs in a 5-hectares-land is 41.70%; about 37.88% in a 3-hectares-area; and 11.00% in a 1.5-hectares-land.[18] The current price fluctuation of the FFB[19] is 30%; and therefore the training should target farmers who cultivate in area of at least 2 ha or larger to achieve maximum impacts from the training.

Pelalawan District

Land ownership and legality. The study in Pelalawan showed 1,288.85 ha of land belonged to independent smallholders, of which 69.38% were sowned by the native population. On average, native smallholders owned 3.06± 4.04 hectares (with the smallest area being 0.5 ha

[16] Ananda, A.R., Muflikh, Y.N. (2016). *Kelayakan Bisnis Perkebunan Kelapa Sawit Skala Rakyat Kecamatan Cikeusik Kabupaten Pandeglang, Provinsi Banten.* Retrieved from https://repository.ipb.ac.id/handle/123456789/84046

[17] Handayani, P.,Chalil, D., Supriana, T.xx. *Analisis Skala Usaha Minimum Untuk Perkbunan Sawit Rakyat Di Kabupaten Labuhan Batu Utara (Studi Kasus : Desa Meranti Omas, Kecamatan Na IX-X, Kabupaten Labuan Batu Utara).* Retrieved from https://media.neliti.com/media/publications/15034-ID-analisis-skala-usaha-minimum-untuk-perkebunan-sawit-rakyat-di-kabupaten-labuhan.pdf

[18] Ananda, A.R., Muflikh, Y.N. (2016). *Kelayakan Bisnis Perkebunan Kelapa Sawit Skala Rakyat Kecamatan Cikeusik Kabupaten Pandeglang, Provinsi Banten.* Retrieved from https://repository.ipb.ac.id/handle/123456789/84046

[19] Redaksi. (November 1, 2018). Kelebihan Produksi, Harga Sawit Merosot Hampir 30 Persen. *Kumparan Bisnis.* Retrieved from https://kumparan.com/@kumparanbisnis/kelebihan-produksi-harga-sawit-merosot-hampir-30-persen-1541065601251276291

and the largest area being 30 ha). A 67.46% of respondents owned between 2 and 4 ha of land; and this pattern was similar among non-native smallholders.

Approximately 96% of respondents owned the land they cultivate; while 3% declared that the land was owned by someone else. Of the farmers who claimed ownership of land, only 34% had legitimate land title document (or SHM/Surat Hak Milik). Only 24.6% owned Certificate of Land Ownership History (SKRKT /Surat Keterangan Riwayat Kepemilikan Tanah)[20]; 29.6% were without any land certificate. Under the Law No. 5/1960 Article 19C, and Government Regulation No. 24/1997 Article 1 number 20, only 34% of respondents had legitimate claim of land ownership. Consistent to these findings, further GIS analysis showed that 53.24% of the land were illegal and located within company concessions. A few independent and plasma smallholders were located on protected peatland (7.09% and 1.01%, respectively).[21]

TABLE 3. DISTRIBUTION OF RESPONDENT ACCORDING TO LAND CONDITIONS IN PELALAWAN

Plantation Type	Land Conditions:		
	Peatland	swamp and dry	Mineral
Independent	7.09%	51.35%	19.93%
Plasma	1.01%	5.74%	4.05%
Mixed (Plasma & Independent)	1.35%	7.77%	0.34%
No response	1.35%		

Business License. Only 16.43% of respondents had STDB (Plantation Business Permit), of which, 63.77% were associated with company's plasma plantation. Some respondents who were associate with government's program such as PIR, PIR- Trans, KKPA and other Plasma-Nucleus Scheme had no STDB.

Soil Type. About 56.77% of respondents cultivated their oil palm on mineral soil; and 36.34% on peat outcrop; and the rest on peatlands. Peat outcrop and peatlands were mainly located in Pangkalan Lesung and Pangkalan Kuras sub-districts.

Land Acquisition and Original Land Cover. Roughly 60.33% of respondents acquired their land through land clearing; 15.44% through inheritance; 14.96% through transaction or investing; 4.04% through plasma plantation linked to a company; and 5.23% through other

[20] Usually issued by either village leader, and is not sufficient to obtain financial loan or sustainable certifications such as ISPO and RSPO.

[21] Cultivation of palm oil or other on ground minerals can be done on peatlands but it has to meet the criterias that can ensure sustainability of the peatlands, namely: *(a) cultivated only on community land and cultivated area, (b) thickness layer of peat less than 3 (three) meters, (c) substratum mineral soil under peat instead of quartz sand and not sour soil sulfate; (d) maturity level sapric peat (mature) or hemic (half-baked); and (e) the fertility level of eutrophic peat soil.* In palm oil cultivation, climatic conditions and land are the major factors influencing productivity in addition to factors such as genetic properties and treatment given (Permentan no. 18/Permentan/KB.330/5/2016. Pedoman Peremajaan Perkebunan Kelapa Sawit),

means (mainly through compensation [22] and loan guarantee). Based on the history of land cover, 39% of land was originally bushes, 30% of land was converted from other commodities and 20% from forested areas.

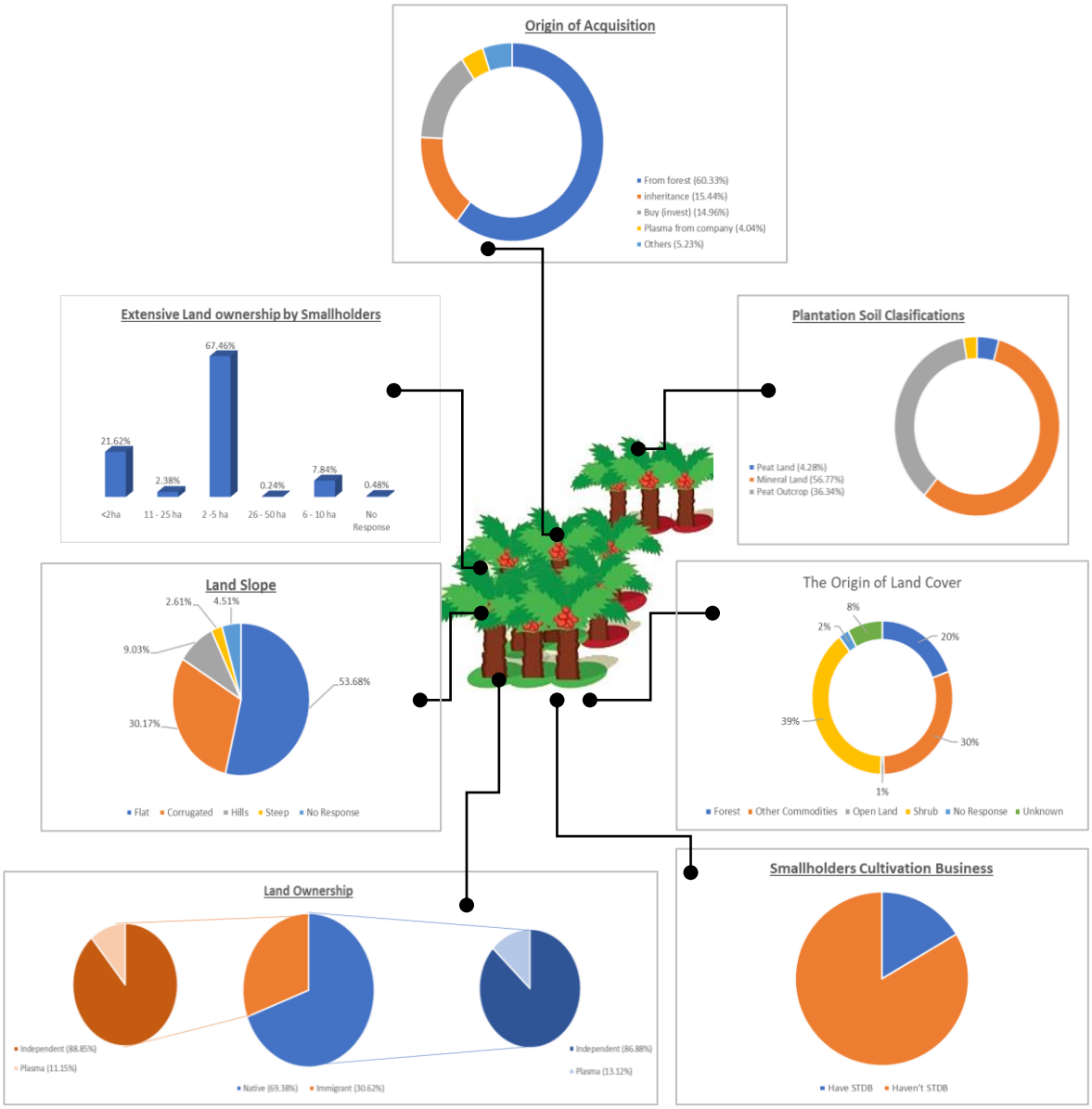

FIGURE 17. *DISTRIBUTION OF RESPONDENTS ACCORDING TO LAND CHARACTERISTICS IN PELALAWAN DISTRICT.*

[22] Local land compensation system known as *simpak beliung* ('axe chippings'). This term describes compensation given in exchange for labor to help clear land (mainly forest lands), for plantation.

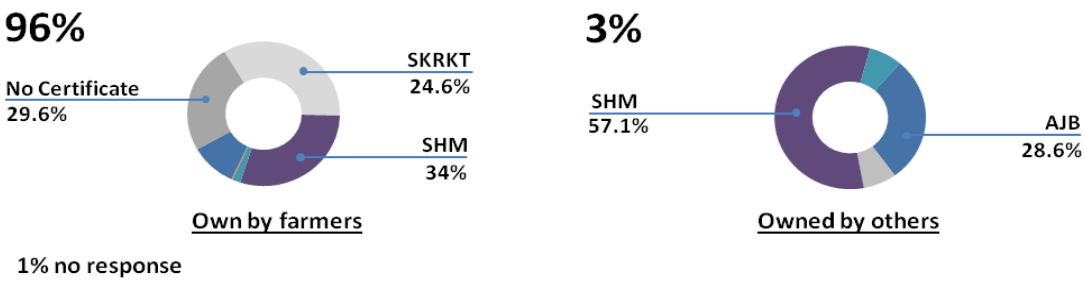

FIGURE 18. DISTRIBUTION OF RESPONDENTS ACCORDING TO LAND OWNERSHIP CONDITIONS IN PELALAWAN DISTRICT.

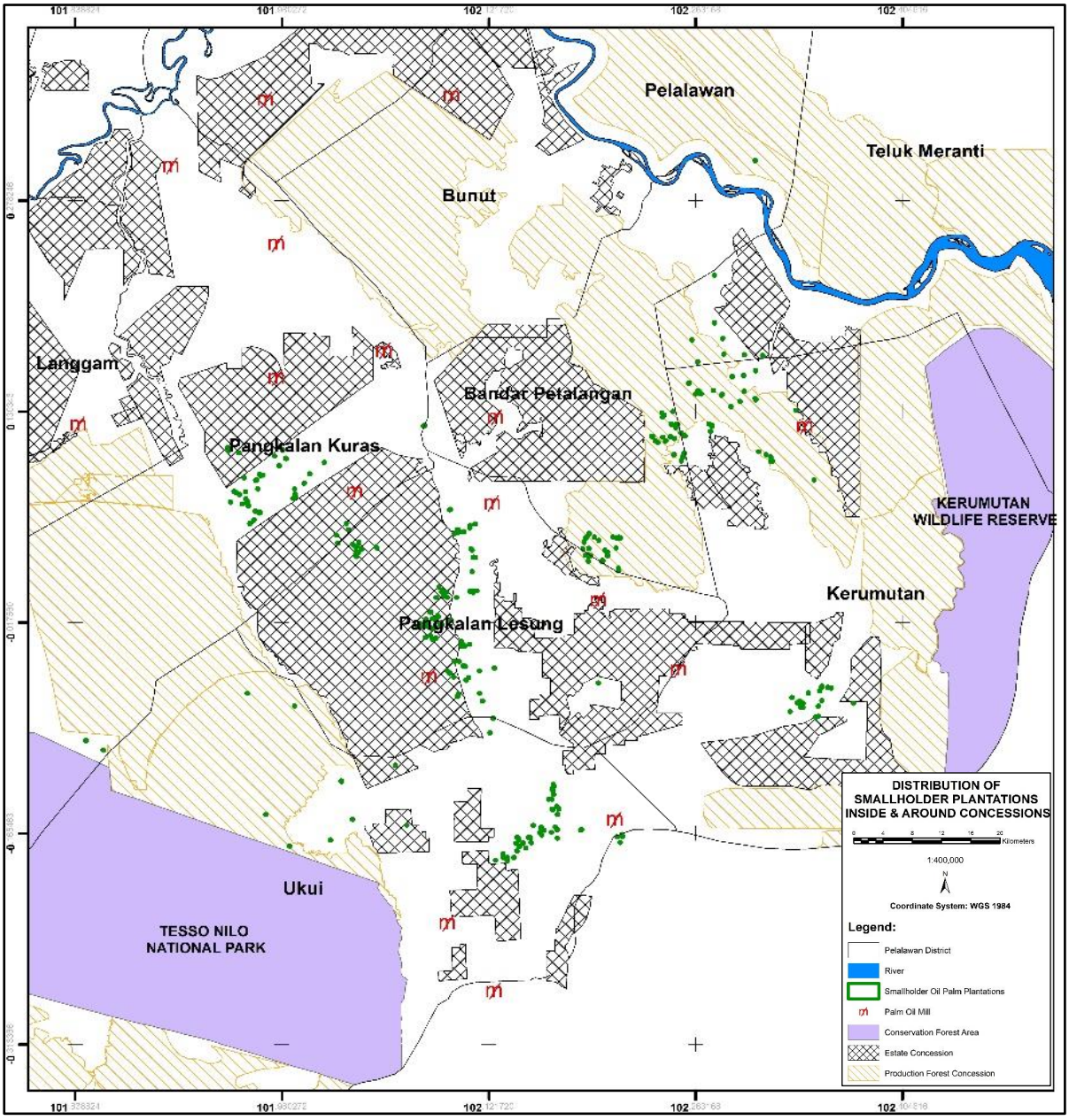

FIGURE 19. DISTRIBUTION OF SMALLHOLDER OIL PALM PLANTATIONS INSIDE AND AROUND CONCESSIONS IN PELALAWAN.

Sintang

Land ownership and legality. Respondents involved in this study owned in total 238.85 hectares of land, comprising of 88.41% independent smallholders, and 11.59% plasma smallholders. The plasma plantation consisted of the Nucleus-Plasma scheme and the KKPA scheme. [23] On average respondent owned 1.85 ± 0.39 hectares of oil palm plantation with the smallest plantation area was 0.25 hectares and the largest area was 9 hectares. A 53.97% of respondents cultivated on area ranging between 2 and 5 hectares. All respondents claimed owning land, though, only 20.59% provided valid proof of land ownership.

Business License. A 53.97% of respondents stated that they did not have a Plantation Business Permit (STDB), while the rest did not respond to the question. Land certificate in the form of SHM is one of the prerequisites to obtain STDB. [24]

Soil Type. A 47.06% of respondents cultivated on mineral soil; and 32.94% on peat outcrop mainly located along the border of the Kapuas river tributaries. Based on the slope, 56.92% of the plantation was located on flat land, and only 38.46% of the plantation located on hilly area.

Land Acquisition and Original Land Cover. A 42.19% of respondents obtained their land through land clearing; 35.94% through inheritance; and 18.75% through buying. Based on the history of land cover, 56.92% of the land was converted from other crops such as rice fields and rubber plantations, and the rest was newly cleared land, originating from various types of land cover such as shrubs (24.62%), forests (12.31%)—both protected forests and production forests; and open land (3.08%).

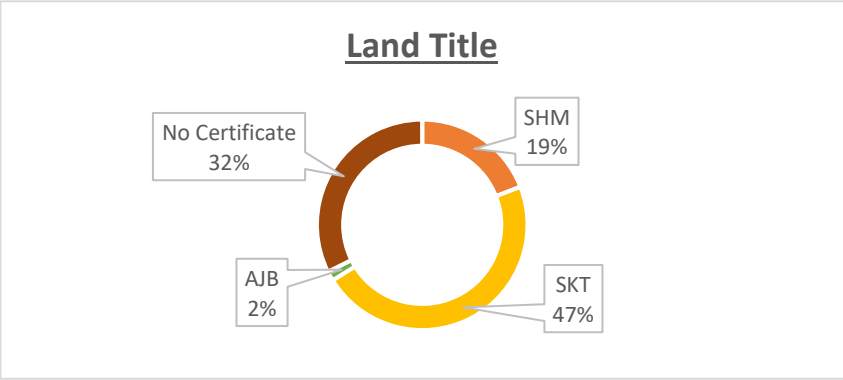

Figure 20. *Distribution of respondents according to Land certificate conditions in Sintang District.*

[23] KPPA financing derives from bank. Under this scheme, core company acts as the guarantor, and priority is given to local/native community, and the land is provided by the farmers (member of the KPPA scheme). The land provided usually belongs to a family or group.

[24] Menteri Pertanian Indonesia RI. Pedoman Perizinan Usaha Perkebunan, Peraturan Menteri Pertanian RI No 98/Permentan/OT.140/9/2013. Jakarta, October 2, 2013. *Retrieved from* http://ditjenbun.pertanian.go.id/tinymcpuk/gambar/file/Permentan%2098-2013.pdf

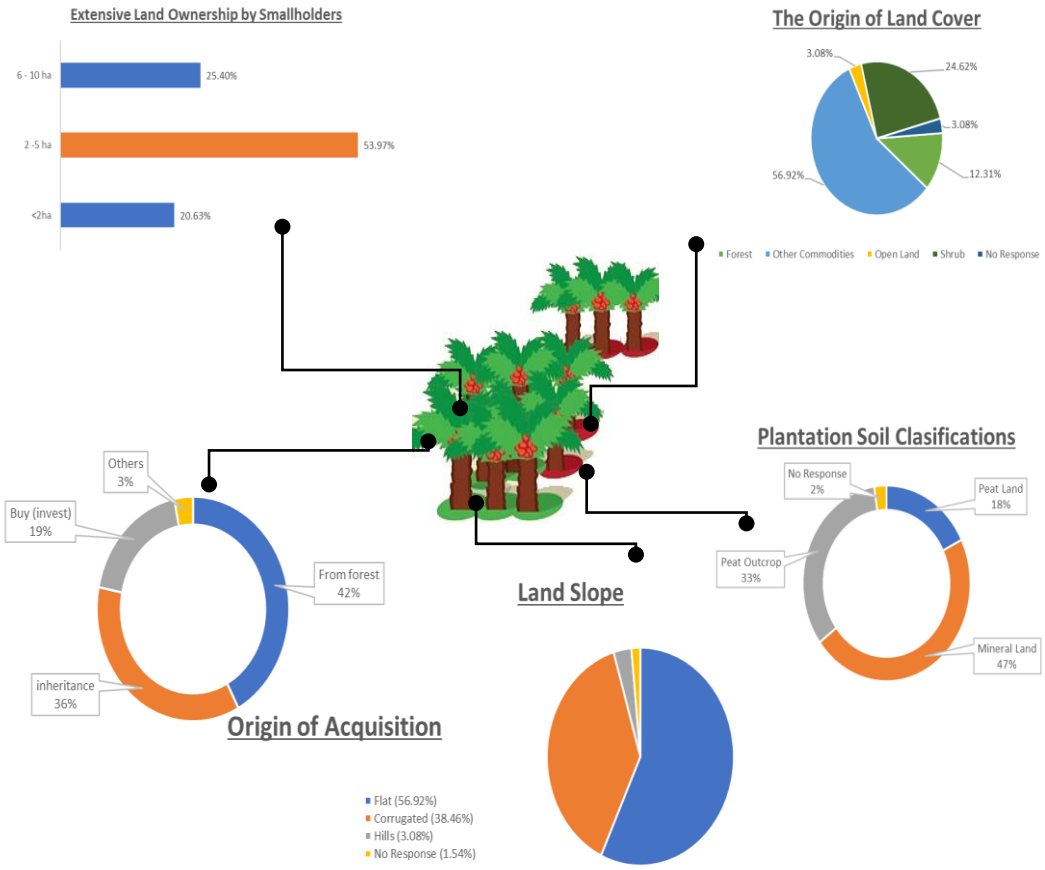

FIGURE 21. *DISTRIBUTION OF RESPONDENTS ACCORDING TO LAND CHARACTERISTICS IN SINTANG DISTRICT.*

South Tapanuli

Land ownership and legality. The studied respondents represented 395.55 ha of cultivated land, consisted of 96.08% independent smallholders and the rest were plasma smallholders under PIR-Trans scheme. The average smallholders cultivated an area of 1.30 ± 0.60 hectares, with the smallest plantation area was 0.50 hectares and the largest was 12 hectares. About 54.90% of the smallholders owned between 2 - 5 hectares, and 36.60% of respondents owned less than 2 hectares.

Based on the status of ownership, 99.35% of the land was owned by the surveyed smallholders; the remaining was owned by other people, usually with family ties with the farmers. The results showed that only 11.76% of respondents stated they did not own land certificates. However, upon further analysis[25] about 32.68% of respondents actually were able to obtain legitimate land certificates. Noted that land under the PIR-trans scheme with only *Girik/ Pethok D* certificates cannot be considered as legitimate land ownership as it is not registered under the state's land registry, and needs to further obtain AJB/SHM certificate. [26]

[25] Based on Government Regulation No 24 Year 1997 on Land Registration

[26] Indigenous forest that has not been registered to the state. Girik only proofs or tax payment, and it is not a valid proof of ownership.

Ninety nine percent of the certificates were under the husband or son's name; only 1% of the certificate were under the wife's name.[27]

Business License. Only around 1.31% of respondents claimed to have Plantation Business Permit or STDB.

Soil Type. A 68.15% of respondents cultivated on mineral soil, and 19.75% on peatlands. Based on slope category, 73.86% of the plantation were located on flat land, and 19.61% on hilly area.

Land Acquisition and Original Land Cover. A 71.90% of respondents acquired their land through buying, and 28.10% through inheritance. Based on the history of land cover, 16.34% of the land were originally forested area, cleared using fires, while 52.94% were converted from other commodities such as rubber, mixed plantations and rice field. Approximately 39% of respondents lived inside the plantation area or less than 500 meters away from the plantation location; and 61% lived between 0.5 km - 30 km away from the plantation. About 34% of respondents stated that there was at least one mill located less 10 km from their plantation; 23% had at least one mill located around 11 – 20 km away from their plantation and; 43.1% of respondents stated that their plantation were located more than 20 km away from the nearest mill.

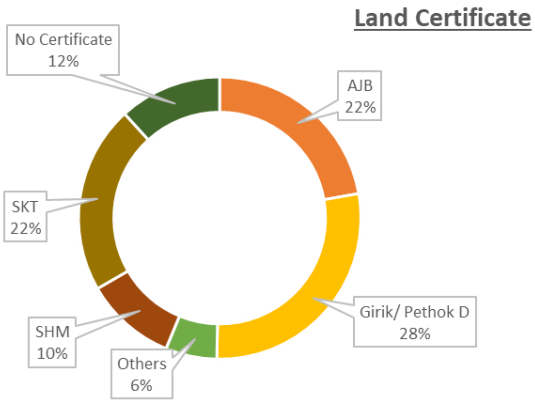

FIGURE 22. *DISTRIBUTION OF RESPONDENTS ACCORDING TO LAND CERTIFICATE CONDITIONS IN SOUTH TAPANULI.*

[27] 11% of respondents were not able to show their document as it was at the moment being held by banks as collateral.

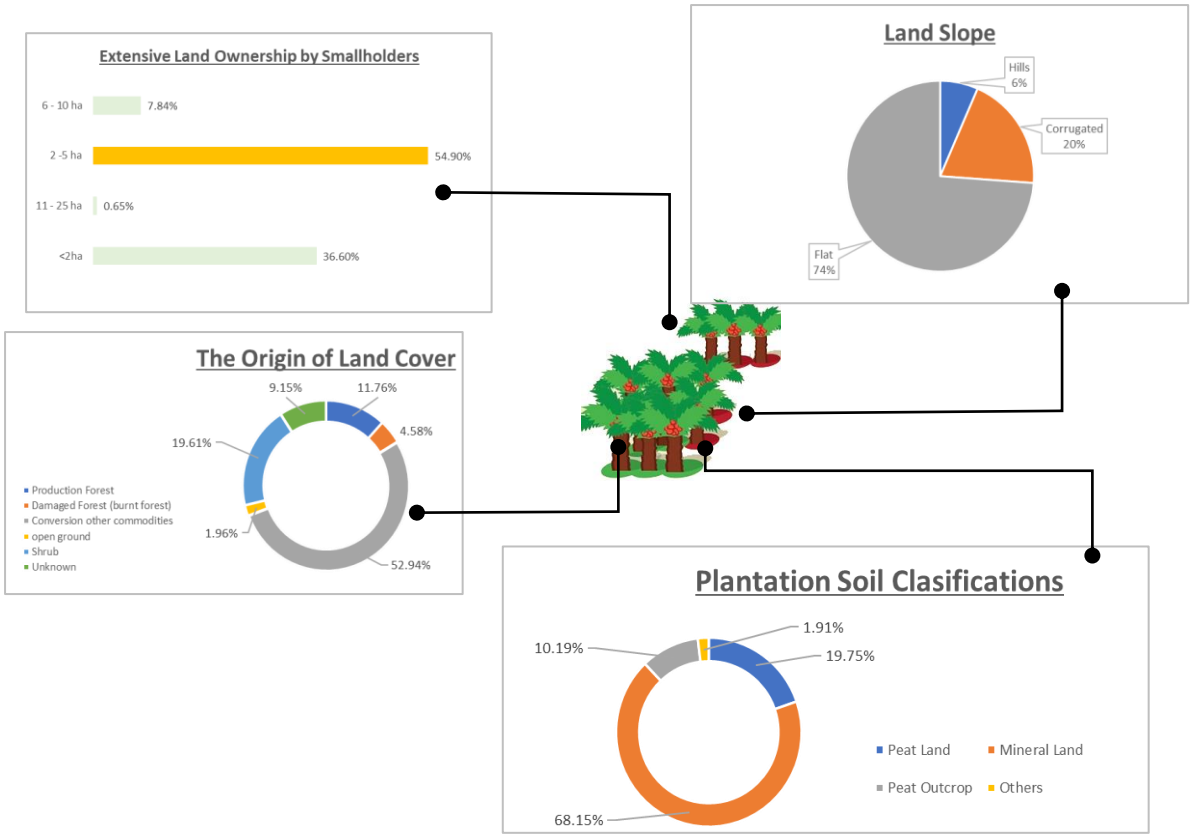

FIGURE 23. *DISTRIBUTION OF RESPONDENTS BASED ON LAND CHARACTERISTICS IN SOUTH TAPANULI DISTRICT.*

Access to Finance

This section describes smallholder's access to finance including the type of financial services that were available in each site, and the requirements to obtain the loan. Unsurprisingly, the findings showed that farmers with legitimate land certificate or clear legal ownership were better able to access loans and other financial assistance. These findings provide valuable insights to improve farmer's access to finance as a mean to increase productivity and improve livelihoods. Based on access to credit and the ability to save, generally, respondents from the three study areas were not able to accrue savings. More than 60% of respondents stated that they had never and could not take up loans from the banks since they did not own any collateral.[28]

These results showed that the establishment of farmer groups or unions could be a strategic avenue to encourage farmers to save parts of their income for emergency fund, or to access loan since it is more likely for the banks to provide loan to the group compared to individual farmer.

[28] Some lands are not legally obtained, or has no legal document as proof of ownership.

Pelalawan District

A 60.33% of respondents stated they had never accessed loans. For those who took loans, they usually borrowed from banks and *Toke* or private money lenders, with loan ranging from IDR 612,000 to IDR 50 million; of which 79.14% borrowed between IDR 20 million and IDR 100 million. Farmers usually took up loans to expand their plantation, capital for other business (small shops, vehicle repair, etc) and for daily household needs. The loan tenure was usually between 3 months to 15 years, and most tenure was 3 year.

Seventy five percent of independent smallholders and 34% of the plasma smallholders in Pelalawan had no access to credit. Insecured tenure prevented farmers from being able to use their land certificate as collateral.[29] Also, smallholder farmers are still considered risky lenders by banks and other formal institutions. So even when they do get access to loan, farmers usually get high interest rate.

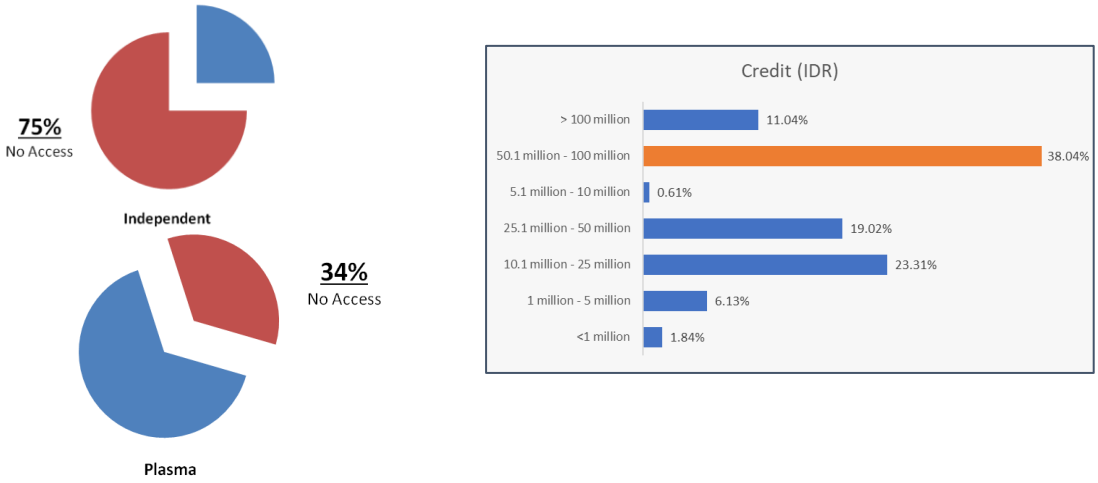

FIGURE 24. DISTRIBUTION OF RESPONDENTS ACCORDING TO ACCESS TO FINANCE IN PELALAWAN DISTRICT.

Sintang

Fifty six percent of independent smallholders and 80% of plasma smallholders interviewed for this TNA had access to financial institutions. These farmers generally obtained loans from banks (76%), followed by cooperatives (10%), and the rest through government credit program (14%). A 20.63% obtained loan between IDR 50 million and IDR 100 million.

South Tapanuli

In South Tapanuli, approximately 60% of respondents had previously received loan with value ranging from IDR 200,000 - IDR 1.3 billion or equal to US $14 – US $90,000,[30] both to fulfill

[29] Kajian Transformasi Untuk Keadilan Indonesia, 2016. (see the ebook: https://drive.google.com/open?id=0B-NrsmIaftChVHd4LWhGYk5Ya3c)
[30] US$ 1= IDR 14,444.44

daily needs and to finance activities in their plantation. The loan providers were mainly banks, credit cooperatives, and a government credit association (*Program Nasional Pemberdayaan Masyarakat Mandiri* or PNPM Mandiri[31]). Other loan providers included *"Toke"* or private money lenders who were also traders, relatives, friends, and neighbors. These findings suggested that none of respondents had access to micro finance institutions or agricultural kiosk credit. It remained unclear why the remaining respondents chose not to seek financial assistance. Further study on the linkages between access to financial assistance and farmer's productivity is needed to understand this relation.

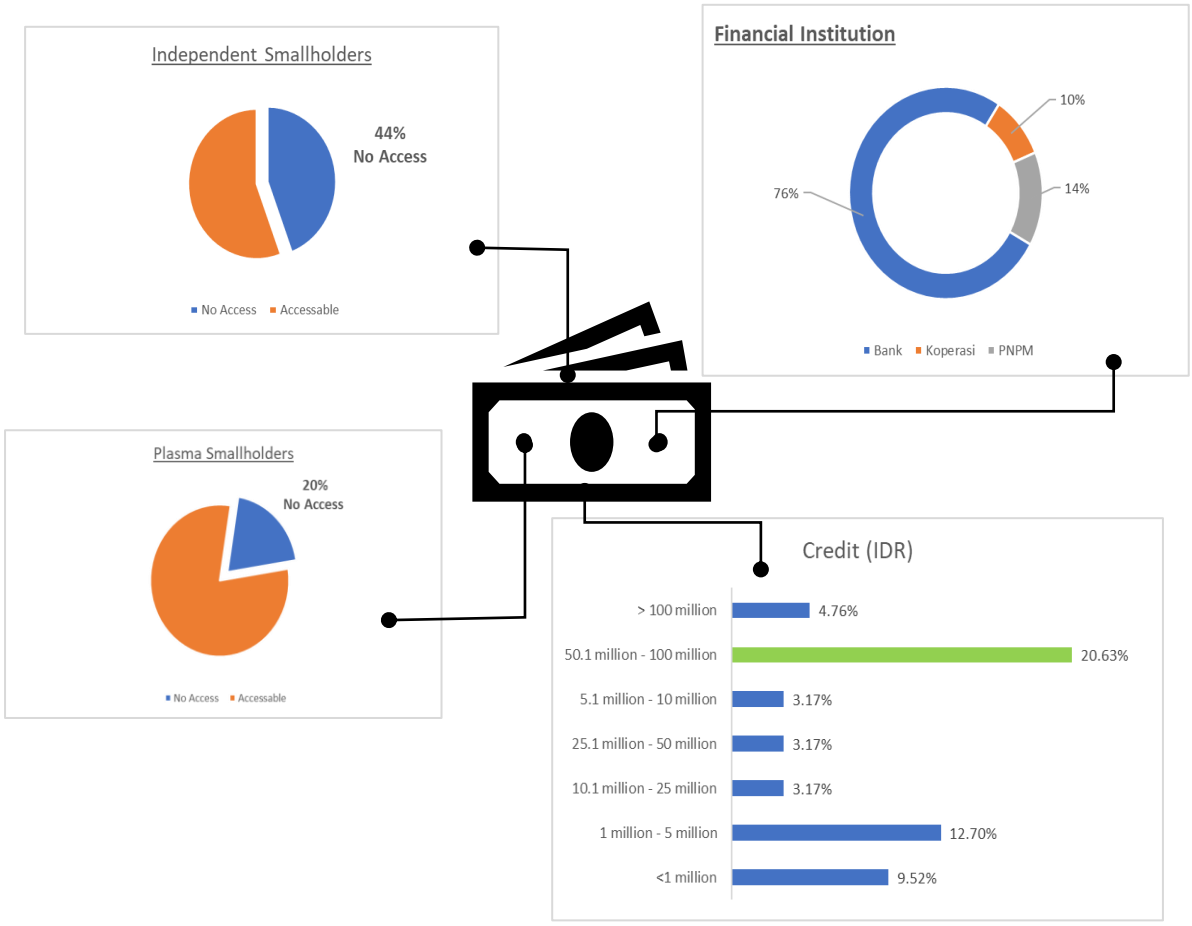

FIGURE 25. DISTRIBUTION OF RESPONDENTS ACCORDING TO ACCESS TO FINANCE IN SINTANG DISTRICT.

Eleven percent of respondents accessed loans through credit from cooperatives. About 57% of respondents had applied for loans from banks ranging from IDR 1 million to IDR 1.3 billion, with a minimum interest rate of 1.2% and maximum interest rate of 30%. Loan tenure ranges

[31] *Program Nasional Pemberdayaan Masyarakat Mandiri*, PNPM Mandiri, is a national program that aims to reduce poverty and improve local-level governance in rural areas of Indonesia through the investment resource provisions. To access this loan, farmers are required to form a farmer group, and this group must have activities beyond farming. This may include value addition or marketing activities. The group then has to submit a proposal detailing their business plan, which is developed using a participatory planning process, and to be verified by the local government. Support is given in the form of cash aid, seed and fertilizers, farm equipment and seed and fertilizer subsidies. Although this scheme does not require any collateral, the survey shows that it is still hard to access loan from this scheme due to complicated process of getting consensus within the farmer group and obtaining approval from local government agencies.

between 2-12 years, with collateral in the form of 0.75-hectares and 15-hectares of certified land.[32,33] Sixteen percent of respondents obtained loans from private money lenders or "*Toke*", who are also middlemen traders. Farmers seemed to prefer this arrangement due to its simplicity. Under this scheme, farmers could obtain loan ranging from IDR 200,000 to IDR 20,000,000 with no interest, flexible tenure, and sometime no collateral required. The loan could be in form of direct cash and in-kind supports such as fertilizers and pesticides. The loan agreement agreed between the *Toke* and farmers, usually stipulates around the rules for production and payment arrangements; usually paid off in the form of FFBs from the harvest. When a farmer failed to pay within one harvest cycle, the amount would be accumulated to the next harvest. This scheme is beneficial for both farmer and *the Toke*: farmers would have confirmed buyers with agreed price, and the *Toke* would have guaranteed supply from the farmers. Although it is relatively straightforward to access this loan, for more substantial loan, *Toke* usually preferred to invest in plantations that are larger than 5 hectares, while the average size of plantation in this district according to this assessment was around 2 hectares.

As for the credit from bank, depending on the requirements, availability of fixed assets and savings, respondents were able to apply for loan between IDR 2,000,000 and IDR 20,000,000 with 5%-12% interest rate, and loan tenure of 6 months up to 3 years. Only 4% of respondents had accessed the Credit Association from the Government Program (or PNPM Mandiri). And 12% of respondents obtained loans from friends, relatives and others. This informal transaction was mainly based on trust, built on existing relationships. This type of loan often loosely transacted and made bilaterally without any third-party involvement. The terms and conditions are usually simple, often with no requirement/collateral. The amount of the loan also depends on the lender's trust and the lender's financial ability.

[32] The loan interest differs from bank to bank based on the policy of the bank, amount of credit applied for, loan duration, and any type of deal.

[33] Alternative arrangements are available to help farmers with no collateral to access loans from banks or get favorable interest rate. For example, through the government subsidized credit program farmers could access loan with 7% interest rate from select banks. The Micro Credit Loans (KUR- Kredit Usaha) also enables farmers with no collateral to secure loans up to IDR 20 million for a maximum tenure of 3 years. Some farmers even receive loans with better terms, with loan up to IDR 50-100 million with 2.5-5 years tenure. To secure this type of loan, the farmers have to develop a proposal, endorsed by an agricultural officer, that will be then proposed to the House of Representative (DPR). Under this scheme, it is often difficult to secure the administrative requirement including for the farmers to provide the ID, and certificate that ensures the land use is in line with its designation. For palm oil, loans may be processed through special scheme in which the loan tenure is extended to 5 years, with 7% interest rate and limited only for replanting. During the planting period, the bank holds the loan payment for around 3 years- or adjusting to the planting period.

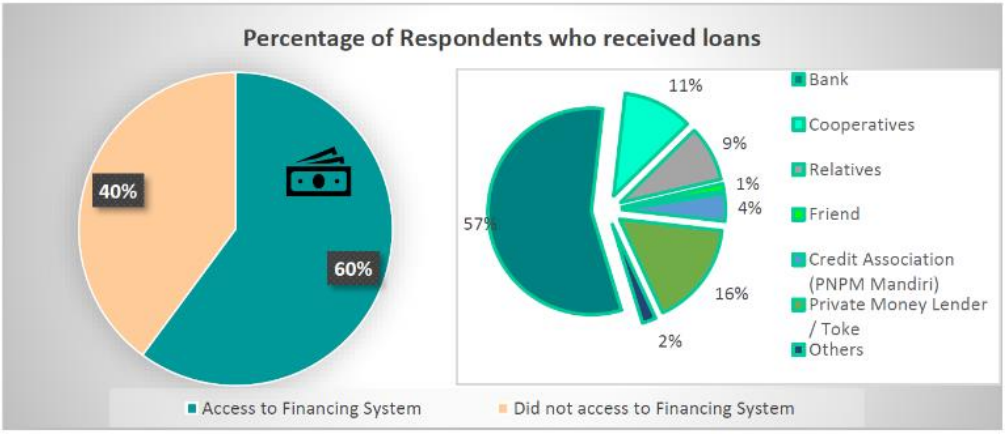

FIGURE 26. *FINANCE ACCESSED BY RESPONDENTS IN SOUTH TAPANULI DISTRICT.*

Gender Role

This survey showed that the majority of activities in the plantation, especially those requiring physical strength, were mainly done by male members of the household, while domestic chores and tasks related to financial management were shouldered by the female members of the household. This finding is consistent across the three sites. One plausible explanation for this trend is partly due to the traditional division of labor between man and woman within households, where man is automatically considered as the head of the household thus vested with the rights (and responsibility) to make decisions for the household; whereas woman takes up supporting role for the husband and children. This concept was apparent among trans-migrant respondents especially those coming from Java, which influenced gender dynamics among local population.[34]

Therefore, in the training, the inclusion of women and girls is an important topic to include. Raising awareness on the importance of equality and equal access to resources between men and women, including through a more equal division of labor, and more inclusive institutions such as the cooperative is imperative.

Pelalawan District

Respondents were asked to indicate agricultural activities they engaged in, as well as activities engaged by hired labor [35] and palm oil mill workers (for Plasma smallholders). Most smallholders and family members (wife and sons) were engaged in all activities although with

[34] Langston, James,D., Riggs, Rebecca,A., Sururi, Yazid., Sunderland, Terry., Munawir, Muhammad. (2017). Estate Crops More Attractive than Community Forest in West Kalimantan Indonesia. Retrieved from https://www.mdpi.com/2073-445X/6/1/12/pdf; dan Elmhirst, Rebecca., Basnett, Bimbika Sijapati., Siscawati, Mia., Ekowati, Dian. (2017). Gender Issues in Large Scale Land Acquisition : Insights from Oil Palm in Indonesia. Retrieved from http://rightsandresources.org/wp-content/uploads/2017/05/Gender-Issues-in-Large-Scale-Land-Acquisition-Insights-from-Oil-Palm-in-Indonesia_April-2017_CIFOR.pdf

[35] Hired labor is additional manpower for agriculture activities. They were needed by smallholders for particular activities which need more manpower or physical strength. Smallholders rarely use hired labor because it will increase the costs.

different level of engagement/contributions. The findings suggested that hired workers were involved in very particular stages of the farming cycle, and in limited capacity (e.g. harvesting). Palm oil mill engagement also remained very limited (under 10%).

The male members of the household still held dominant roles in agricultural activities. Women contributed more in activities that were less strenuous such as picking up loose fruits, filling the polybags, and pruning. Another gender dynamic observed during the assessment in Palalawan was the negative correlation between the distance of plantation and women's involvement in farming activity. Shorter distance between plantation and houses correlated positively to women's active role in the plantation. One plausible explanation for this is that women took up all domestic tasks around the house; therefore, making it harder for women to get more involved in the plantation activities (*See Table 4*).

TABLE 4. DIVISION OF LABOR BETWEEN FAMILY MEMBERS AND HIRED LABORS IN PELALAWAN

Agricultural Activity	Family members:		Hired Labors	Palm oil mills
	Men	Women		
Chopping	75.4%	13.1%	6.0%	5.6%
Slashing twigs	75.3%	11.9%	6.6%	6.2%
Cutting trees	81.1%	4.9%	7.4%	6.6%
Burning grass	71.6%	14.2%	7.0%	7.2%
Clearing after chopping	76.4%	11.3%	6.3%	6.1%
Collecting twigs	75.3%	10.8%	7.0%	7.0%
Purchase of seedling	77.9%	7.9%	5.5%	8.7%
Filling polybag	68.2%	18.6%	5.2%	8.0%
Sowing seeds	68.9%	17.5%	5.5%	8.1%
Watering the seeds	67.1%	19.5%	5.4%	8.0%
Weed the seeds	68.3%	18.5%	5.3%	7.9%
Transporting seeds	78.3%	7.6%	5.7%	8.4%
Spacing	78.9%	6.7%	6.0%	8.4%
Digging planting hole	78.5%	7.3%	5.9%	8.3%
Planting	75.5%	10.5%	5.7%	8.3%
Cleaning	70.2%	21.8%	7.2%	0.8%
Cleaning gawangan	72.0%	19.7%	7.7%	0.6%
Fertilize	73.9%	18.1%	7.3%	0.6%
Spraying pesticides	80.1%	10.4%	8.8%	0.7%
Wiping	77.5%	11.6%	10.0%	0.9%
Pruning	77.5%	4.1%	17.9%	0.5%
Loose Fruits	50.4%	35.7%	13.7%	0.2%
Preparing the midrib	73.0%	12.1%	14.6%	0.2%
Deliver FFB to pick up location	75.9%	6.7%	16.9%	0.5%
Weigh harvest	89.8%	6.2%	4.0%	0.0%
Record weight of harvest	89.3%	7.1%	3.7%	0.0%
Receive sales result	78.8%	19.6%	1.6%	0.0%

Sintang District

A 93.65% of respondents in Sintang stated that they managed their plantation independently. The results showed that 55.56% of the decisions related to plantation management was taken by husbands; 9.52% was taken jointly by husbands and wives; only 1.59% of respondents stated that decision was made by women. The rest of respondents did not provide any response.

The survey results also showed that men dominated all aspects of the plantation management, from land clearing to selling of harvests. On average, about 76.41 ± 3.85% of the activities were carried out by men. The tendency to outsource tasks that were usually carried out by women, such as tree nurseries, and other activities that required more labors was observed.

TABLE 5. DIVISION OF LABOR BETWEEN FAMILY MEMBERS AND HIRED LABORS IN SINTANG

Agriculture Activity	Men	Women	Children	Hired Labor
Land Clearing	79.17%	6.94%	1.39%	12.50%
Nursery	77.14%	8.57%	1.43%	12.86%
Planting	77.14%	8.57%	1.43%	12.86%
Handling	79.69%	4.69%	1.56%	14.06%
Cultivation	79.69%	4.69%	1.56%	14.06%
Harvesting	71.43%	5.71%	2.86%	20.00%
Selling FFBs	70.59%	5.88%	2.94%	20.59%

South Tapanuli

Almost all farming activities from planting, applying fertilizers, spraying pesticides and harvest were done by men. Some activities where men and women had relatively equal contributions include the management of cashflow. Women were usually the ones receiving the money from selling the harvest (76.5%) (*See Table 6*).

TABLE 6. DIVISION OF LABOR BETWEEN IN EACH HOUSEHOLD

Activity	HH	Spouse	Son	Daughter
Cleaning Dishes	74.5%	45.1%	45.8%	12.4%
Cleaning Clothes	68.6%	34.6%	27.5%	32.7%
Fertilizing.	69.9%	30.7%	13.7%	14.4%
Spraying Pesticide	69.9%	8.5%	11.8%	3.3%
Weeding	5.9%	0.0%	0.0%	1.3%
Checking FFB	52.3%	1.3%	13.7%	0.0%
Citing	49.0%	30.7%	20.9%	0.0%
Managing labor	53.6%	15.0%	17.6%	8.5%
Dropping FFB to pick up location	52.3%	9.8%	15.7%	1.3%
Counting Harvest	66.0%	9.8%	5.2%	1.3%

Activity	HH	Spouse	Son	Daughter
Recording Harvest Weigh	71.2%	12.4%	3.3%	0.7%
Managing Family Cash Flow	47.1%	58.2%	0.7%	0.7%
Receiving Selling Money	65.4%	76.5%	26.1%	0.7%
Attending Community Meeting	79.7%	7.8%	2.6%	27.5%
Attending Farmer Group Meeting	65.4%	5.2%	14.4%	0.7%
Taking Decision for Plantation	79.7%	10.5%		
Seedling	24.2%	4.6%		
Land Clearing	20.9%	3.3%		
Planting	24.8%	4.6%		
Fertilizing	38.6%	19.6%		

Existing Agricultural Practices and Supply Chain

Pelalawan District

Land Clearing Methods. More than half of respondents (54.97%) in Pelalawan stated that land clearing involved fires. Some of the common techniques used were: a mixture of cutting, chopping, and burning (29.33%), a mixture of cutting and burning (24.71%), and burning immediately (0.92%). Another common technique used in land clearing by respondents was to simply cut down and feed without burning (21.48), they would then use the twigs for firewood for cooking. The use of fire as one of the most common land clearing methods was due to low awareness about the regulation among local communities (48.46%), and a lack of technical know-how related to alternative methods that do not involved burning.[36]

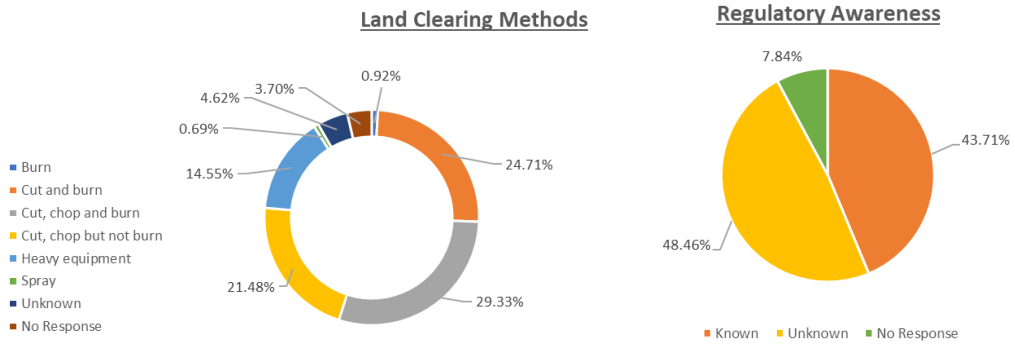

FIGURE 27. LAND CLEARING METHODS IN PELALAWAN AND REGULATORY AWARENESS

Type of seedling used. About 94% of plasma smallholders used certified seeds, and only 24% of the independent smallholders used certified seeds. Forty six percent of independent smallholders did not know whether they used certified seed or not.

[36] Menteri Pertanian RI. Pembukaan Dan Atau Pengolahan Lahan Perkebunan Tanpa Membakar, Peraturan Menteri Pertanian RI NO 05/PERMENTAN/KB.410/1/2018. Jakarta, January 18 2018. Retrieved from http://ditjenbun.pertanian.go.id/tinymcpuk/gambar/file/info-publik/Permentan%205%20Tahun%202018.pdf

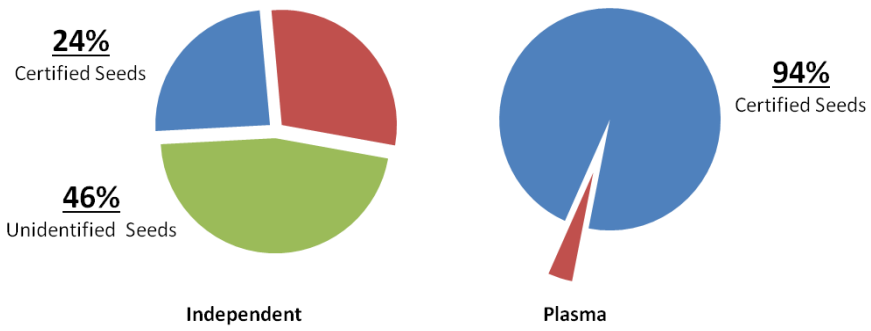

FIGURE 28. DISTRIBUTION OF RESPONDENTS ACCORDING TO SEEDS USED IN PELALAWAN DISTRICT.

Fertilizer and pesticides handling. In Pelalawan, 93% of the plasma smallholders used fertilizers 4 times a year, while 65% of the independent smallholders used fertilizers only 2 times a year (*see Table 7*). Often, independent smallholders did not have enough resources to get sufficient fertilizers for their plantation[37] as fertilizers represented approximately 60% of cultivation costs.[38] In contrast, Plasma smallholders who were partnering with large plantation companies (private or state-owned) benefitted from the provision of production facilities, coaching, harvesting, sorting, higher FFB prices, payment system, and processing of FFB, including business plan development.[39] Plasma smallholders harvested 3 times during both low and high seasons, while independent smallholders only harvested twice.

TABLE 7. THE USE OF FERTILIZERS AND HARVEST IN PELALAWAN

Plantation Type	Apply Fertilizer	Frequency (per year)	Number of Harvest Times (per year):	
			High session	Low session
Independent	65%	2	2	2
Plasma	93%	4	3	3

Plant Age & Replanting. In Pelalawan, 94% of trees in independent plantation were between the age of 3 and 25 years. In Plasma plantation, 69% of the trees were between the age of 3 to 25 years; and 30% of palm trees were above 25 years. A 37.95% of the independent smallholders and 6.14% of the plasma smallholders were eligible for rejuvenation.[40] Seventy two percent of Plasma smallholder respondents and 56% independent smallholder respondents stated they were planning to replant.

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[37] Jelsma, I., Schnoneevld, G.C.,Zoomers, A., van Westen, A.C.M.(2017). Unpacking Indonesia's Independent Oil Palm Smallholders: An Actor Disaggregated Approach to Identifying Environmental and Social Performance Challenges. Land Use Policy 69 281-297. http://dx/doi.org/10.1016/j.landusepol.2017.08.12

[38] Janice Ser Huay Lee. 2013. Oil palm smallholder yields and incomes constrained by harvesting practices and type of smallholder management in Indonesia.

[39] Ernawati HD. (2013). Updaya Pengembangan Perkebunan Kelapa Sawit Melalui Implementasi Kemitraan Yang Berorientasi Kesejahteraan Petani.

[40] The ideal productive age of the palm oil is between 3 and 25 years and producvitiy below 10tons/ha (Permentan no. 18/Permentan/KB.330/5/2016. Pedoman Peremajaan Perkebunan Kelapa Sawit.)

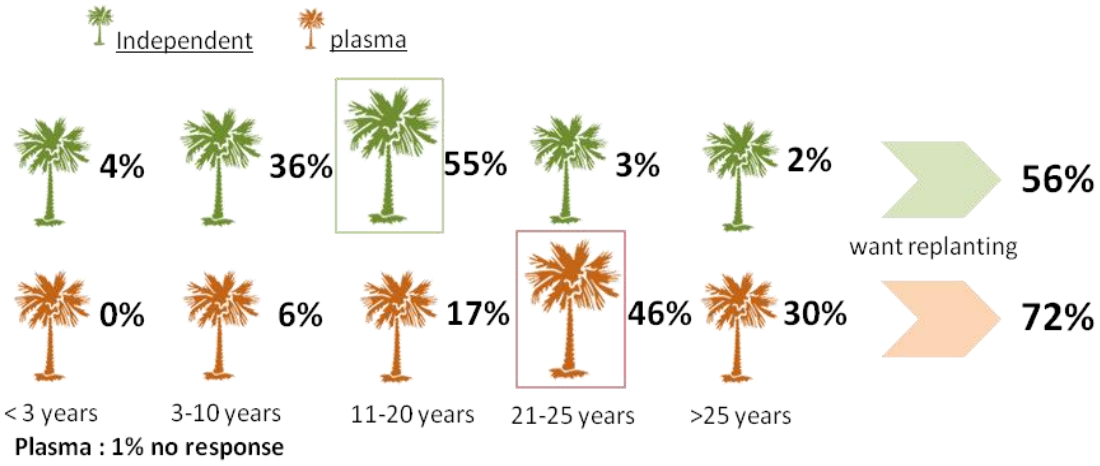

FIGURE 29. DISTRIBUTION OF RESPONDENTS ON AGE OF TREES AND REPLANTING IN PELALAWAN DISTRICT.

Supply Chain. In Palalawan, 84% of the plasma smallholders sold their harvest to the mills, and 70% of the independent smallholders preferred selling FFBs to middlemen, even though the price set by middlemen tended to be lower than the mill. Long-standing kinship and the availability of financial aid in difficult times were common justifications to sell their products to middlemen[41] (*see Figure 18*).

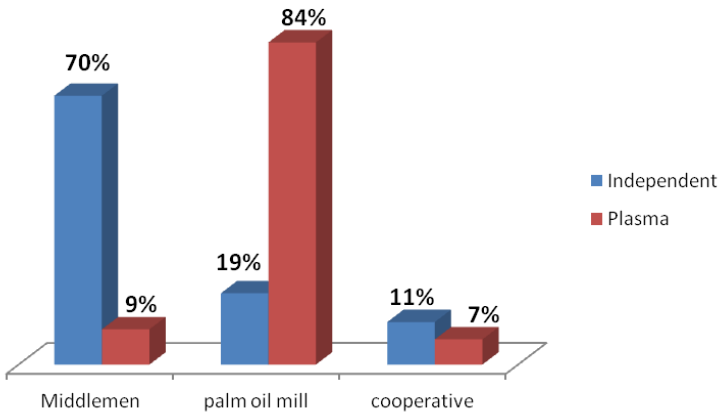

FIGURE 30. DISTRIBUTION OF RESPONDENTS BASED ON FFB SUPPLY CHAIN IN PELALAWAN DISTRICT

Sintang District

Land Clearing Methods. A 62.32% of respondents stated that they cleared land by burning; 43.48% by cutting and burning; and 18.84% by cutting, stacking and burning. Few smallholders who used the no-burning method in land clearing activities were using manual methods such as cutting, fetching without burning, spraying or by using heavy equipment.

[41] Redaksi. (March 13, 2015). Petani Sawit Dipermainkan Tengkulak. *Haluan. Com.* Retrieved from https://www.harianhaluan.com/mobile/detailberita/38565/petani-sawit-dipermainkan-tengkulak.

Only about 46.77% of respondents stated that they knew and understood regulations banning the use of fires for land clearing. According to the findings, it is possible that there were intentional violations of this regulation by smallholders. Techniques that involved burning were considered more practical, effective, and inexpensive compared to other methods such as spraying or the use of heavy equipment.

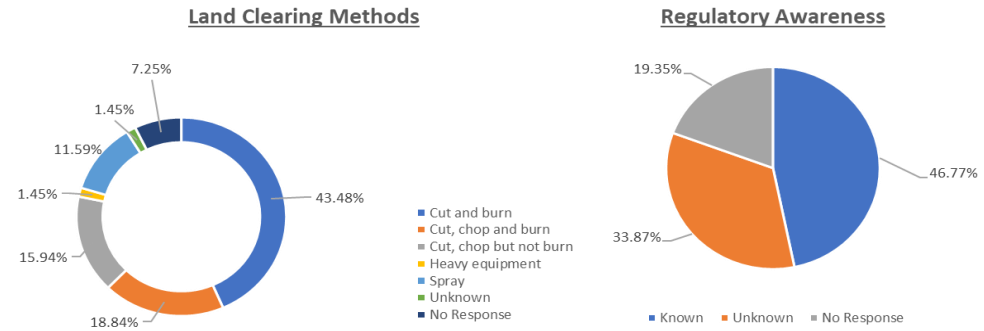

FIGURE 31. DISTRIBUTION OF LAND CLEARING METHODS AND REGULATORY AWARENESS IN SINTANG DISTRICT

Type of seedling used. In Sintang, only 38.10% of respondents could respond with certainty that the seeds used were certified seeds; 33.33% stated that the seeds used were not certified; while 9.52% stated that they were unaware of the type of seeds they were using. With regards to the origin of seeds, 40% of respondents stated that the seeds were from PPKS Marihat and 4.62% were from PPKS Parindu. It is interesting to note that most respondents stated they were unaware of the type of seeds they were using despite the fact that 40% of farmers stated they bought their seeds from the PPKS. [42]

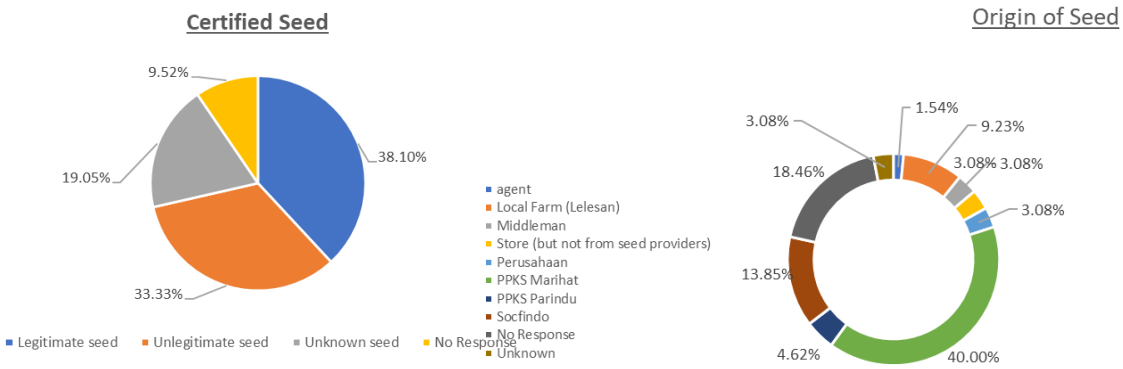

FIGURE 32. *DISTRIBUTION OF RESPONDENTS ACCORDING TO SEEDS USED IN SINTANG*

Fertilizer and pesticides handling. In Sintang, only 77.78% of respondents stated that they fertilized their plantation. Fertilization was generally carried out 1-3 times a year (2.29 ± 0.91

[42] PPKS or Indonesia Oil Palm Research Institut (IOPRI) is the leading palm oil research and development agenct in Indonesia and it has the permit to produce and distribute certified seeds in Indonesia (www.iopri.org).

times / year). A 33.33% of respondents fertilized their land 3 times/year. About 1.59% of respondents fertilized their land 6 times/year.

Roughly 73% of respondents had done some type of pest control/management, while 27% had not done so. More information is required to determine the level of knowledge the smallholders have on the importance of pest management/control, including the dosage, and the use of pesticides/herbicides.

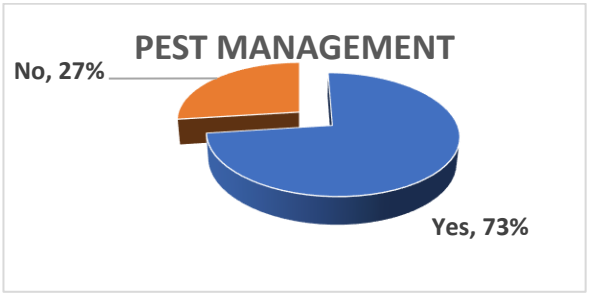

FIGURE 33. PEST MANAGEMENT IN SINTANG.

Plant Age & Replanting. Roughly 49.21% of respondents were planning to replant. Although, majority of the surveyed plantations (79.36%) had trees younger than 10 years.

South Tapanuli

Land Clearing Methods. Sixty four percent of respondents in South Tapanuli stated that they had understood the rules regarding the method of land clearing and processing without burning. However, similar to Sintang, land clearing by burning was still widely practiced in South Tapanuli (49.10%), using either (i) direct burning method (0.70%), (ii) cutting and burning (7.20%), or (iii) cutting, slashing and burning(41.20%). These numbers suggested that 13.15% of respondents who were aware of the regulations may have intentionally violated the law, by practicing burning. Similar to Sintang, the considerations were mainly due to practicality and cost saving implications.

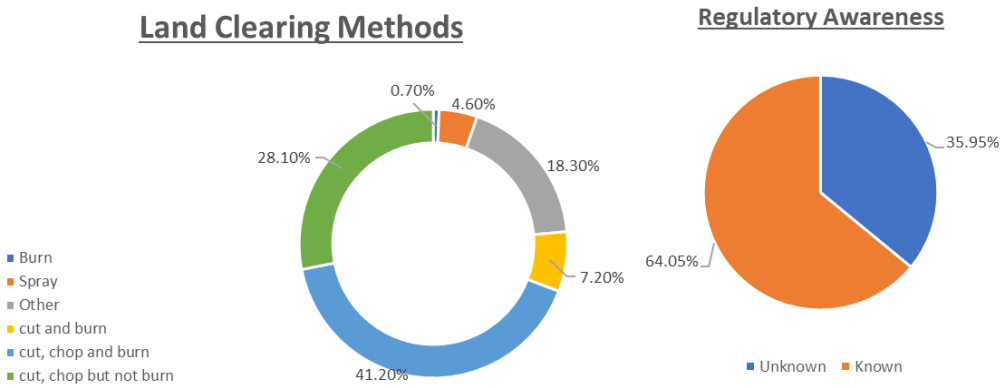

FIGURE 34. DISTRIBUTION OF LAND CLEARING METHODS IN SOUTH TAPANULI

Type of seedling used. Eighty one percent of respondents used unknown seeds and only 19% of them confirmed using certified seeds. About 42% of respondents obtained their seeds from local farms (*lelesan tunasan)*; 11% obtained it from local nurseries; approximately 18% were handed by the government (PPKS Marihat); 18% from agents; 3% from Palm oil mills; 3% not from seedling providers; 1% from other types of providers; and around 5% of respondents did not know where their seedling came from.

Fertilizer and pesticides handling. In South Tapanuli 23% of respondents fertilized their crops once a year; 64% did it twice a year; 10% did it three times a year; and 3% recorded fertilizing four times or more each year. Eighty seven percent of respondents used chemical fertilizer; 1% used organic fertilizers; and, 12% used other types of fertilizers. Even though 100% of respondents fertilized their plantation at least once a year, the type and the amount of fertilizers used were not measured appropriately. About 48% of respondents understood *urea* application, and they applied 1 - 5 kgs of urea/tree/year or 200 kgs/ha/per year. About 18% of respondents were aware about Dolomite, and they applied 1-6 kgs/tree/year. Twelve percent of respondents were knowledgeable about *potassium chloride* (KCL), and they applied 1-25 kgs of KCL/tree/year. About 14% of respondents used NPK[43] as much as 1-3 kgs of NPK/tree/ year. About 22% used *Phonska Fertilizers* [44] and applied 0,5-4 kgs of phonska/tree/year. About 14 % were aware on TSP (*Triple Super Phosphate*) and applied 4-6 kgs of TSP/ tree/ year. About 2% of respondents knew about ZA (*Amonium Sulfate*) and applied 2-5 kgs of ZA /tree/ year. A 96% of respondents had harvested twice/month during the high season, and 94% harvested twice/month during the low season.

In South Tapanuli, 65% of respondents stated that they did not know how to control pest and diseases. About 35% had applied insecticide, used organic and or chemical spray, pesticides for rats, and cut down dead trees. For weed control, about 60% of respondents sprayed herbicide to control weed growth, and 22% of respondents manually pulled the weed out.

Plant Age & Replanting. The majority of farmer's land in South Tapanuli was utilized for oil palm plantations (25%-100%). On average, the farmers planted 120 trees/ha, with a minimum number of 80 trees and maximum 215 trees, depending on the contour of the land.[45] About 66.67 % of respondents had not done any replanting; and 70% of respondents did not plan to replant. Roughly 8% of respondents mentioned they were planning to replant in the next 1-5 years; 8% in the next 6-10 years; 16% of them within the next 11 to 20 years; and 2% planned to do it in the next 20 years.

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[43] A brand of compound fertilizers consisting of Nitrogen, Phosphorus, Potassium
[44] Another brand of the compound fertilizers comprising of Nitrogen, Phosphorus, Potassium
[45] Tree spacing is crucial in ensuring trees productivity and resilient especially from BSR (Basal Stem Root).

Supply Chain. In South Tapanuli, ninety percent of respondents sold their harvest to local traders, 7% to local mills and 3% to other places— non-local traders and mills (eg. PT ANJ Agri Siais, PT Maju Indo Raya, PTPN III PT Sago Nauli in Mandailing Natal District).

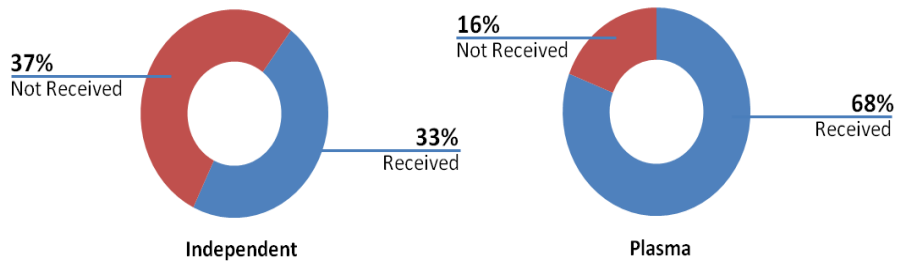
Agricultural Extension and Farmer's Organization[46]

Under ISPO or RSPO certifications schemes, smallholder institutions play a key role in developing sustainable oil palm standards for their members and in ensuring cultivation practices are carried out properly by their members. In addition to that, these organizations could be an effective avenue for knowledge sharing and serve as a support system for farmers.

Pelalawan District

Agricultural Extension. Agricultural extension providers funded by the government generally delivered three basic services: (1) disseminating useful and practical information relating to agriculture practices and financial management, (2) supporting farmers to apply knowledge to analyze their farming problems, and (3) assisting farmers to apply technical knowledge to better solve their farming constraints.[47]

The results showed that 32.6% of independent smallholders had received training, of which only 77% stated they understood the materials delivered during the training. While among the plasma smallholders, 68% had received trainings, and of which only 74% stated they understood the materials delivered.



31% data independent and 16 % plasma are not available

FIGURE 35. DISTRIBUTION OF RESPONDENT ACCORDING TO EXTENSION ADVICE RECEIVED BY RESPONDENTS IN PELALAWAN

[46] Smallholder organizations are smallholder groups or a group of individuals who are members of association/institution to achieve certain objectives.

[47] Zakaria, H. (2010). Introduction to agricultural extension. Department of Agricultural Extension, Rural Development and Gender Studies, Faculty of Agriculture, University for Development Studies.

In general, plasma smallholders had received more trainings on weed and pest management, harvesting, and fertilizer application, compared to independent smallholders (*see Figure 37*). On fire prevention, only 6.7% of plasma smallholders had received the training in the past, and no independent smallholder had received this training.

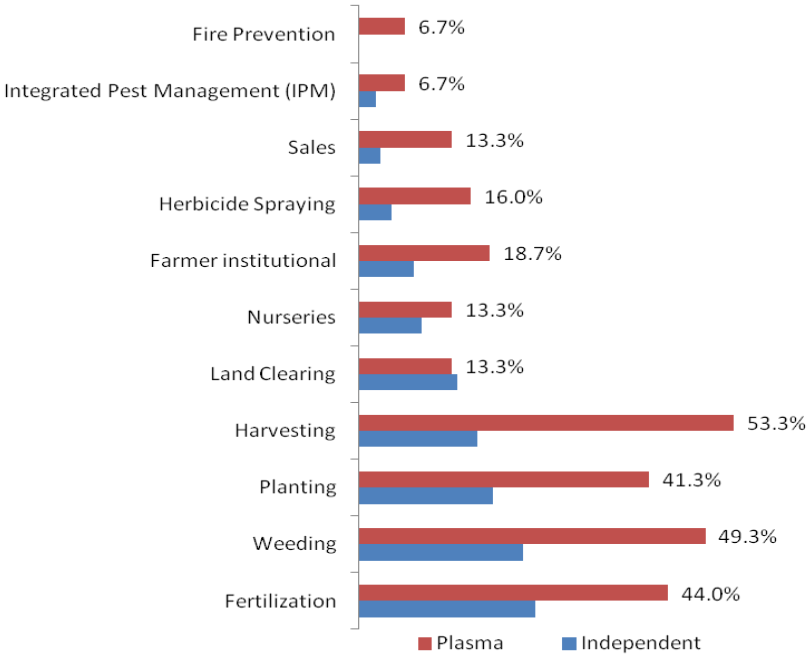


FIGURE 36. *AREAS OF EXTENSION ADVICE RECEIVED BY RESPONDENTS IN PELALAWAN*

Farmer's Group. In Pelalawan 96% of plasma smallholders were part of a farmer group (*see Figure 38*). Meanwhile, 94% of the independent smallholders had not joined a farmer group but were interested in joining or forming a group.

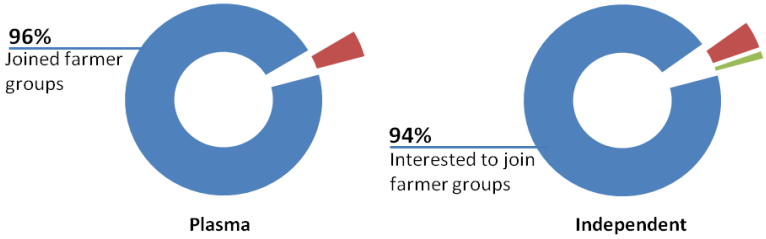


FIGURE 37. *DISTRIBUTION OF RESPONDENTS ACCORDING TO PARTICIPATION IN FARMERS GROUPS IN PELALAWAN*

Sintang

Agricultural Extensions. Roughly 21% of respondents said they were supported by extension providers; 3% stated they were not supported by any extension service provider, and the rest of respondents did not provide any response.

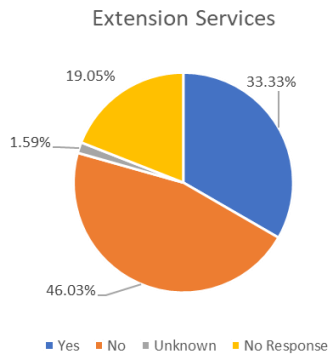


FIGURE 38. *EXTENSION SERVICE IN SINTANG DISTRICT*

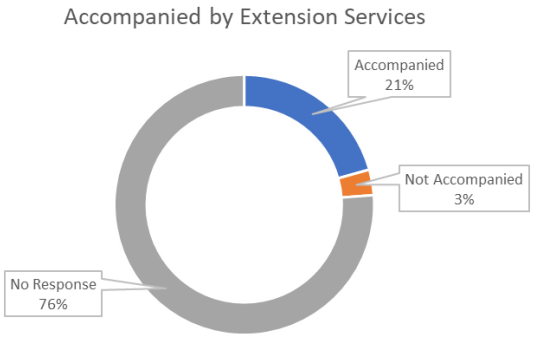


FIGURE 39. *EXTENSION SERVICE SUPPORT IN SINTANG DISTRICT*

Farmer's Organization. In Sintang, only 35% of respondents were members of a farmer group while the reminding 65% had not joined any farmer group (*See Figure 36).*

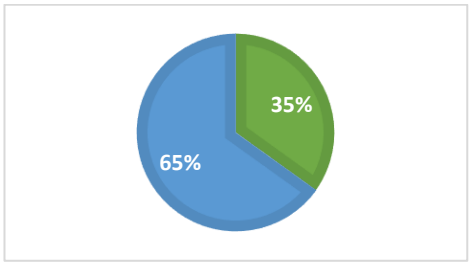


FIGURE 40. *MEMBERSHIP IN ORGANIZATIONS OF SMALLHOLDERS IN SINTANG DISTRICT*

South Tapanuli

Agricultural Extension. The extension support in South Tapanuli was usually provided by companies operating around the area. However, only 47.73% of respondents said they were supported by extension providers. The training activities provided by government extension service were usually on fertilization techniques (43.10%), institutional strengthening (13.79%), tree planting (13.79%), and seedling nursery (13.79%).

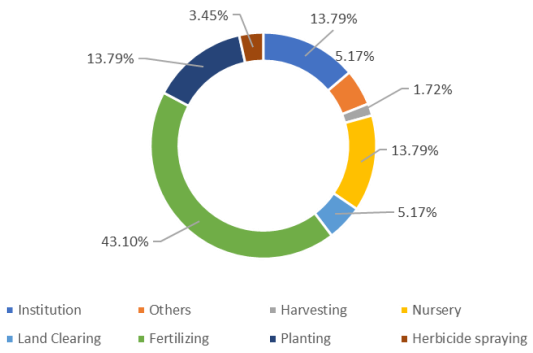


FIGURE 41. *TRAINING PROVIDED BY EXTENSION SERVICE PROVIDERS IN SOUTH TAPANULI.*

Farmer's Organization. In South Tapanuli, all respondents stated that they were motivated to form a farmer group or join a group. However, only 61% of respondents were member of a farmer group, and 60% were member of a cooperative.

Training Needs

A training needs assessment identifies "gaps" between the current performance of smallholders and the level of performance required for farmers to obtain a sustainable certification (ISPO and RSPO). It also explores the factors leading to performance gaps among smallholders, and methods to close or eliminate those gaps.[48] A training needs assessment should take into account the views of smallholders to ensure that the design and development of training curricula meet the needs of those it aims to serve. In this TNA, needs were identified by smallholders and they were then ranked according to participant's responses (*see tables below*). The level of interest on the training maybe influenced by previous exposures to such activity; this case was observed in Pelalawan. Plasma smallholders tended to be more eager because they had received training assistance in the past. In addition to that, incentives and disincentives from the government through regulation also serves as "nudges" that would lead the farmers to identify their needs for training. For example, the ban on the use of fire for land clearing made training on land clearing methods more relevant for the smallholders. Tables detailing the ranking of training topic in each site are provided below.

Pelalawan District

In Pelalawan, responses between plasma and independent smallholders were disaggregated, and the topics were divided into two categories: (i) farmers institution and capacity, and (ii) plantation management. For plasma smallholders, under "**farmers institution and capacity**"

[48] Ageogun, S.O., Fapojuwo, E.O., Oyeyinka, R.A., Adamu, C.O. and Abiona, B.J. (2013). Training needs assessment of cocoa farmers' association members on soil management techniques in Cross River State of Nigeria. Ethiopian Journal of Environmental Studies and Management, 6(5): 551–560.

category, training on “facilities and infrastructure management” was identified as the most needed. Meanwhile, for independent smallholders, training on “institutional and business development” was identified as the most needed. Under “**plantation management**” category, both plasma and independent smallholders identified land clearing technique as the most needed.

TABLE 8. TRAINING NEED IN PELALAWAN (PLASMA SMALLHOLDERS)

Types of Training	MDWS	Ranking
Farmers Institution and Capacity		
Training on Facilities and Infrastructure Management	31.26	1
Leadership Training	27.61	2
Training on Financial Management and Administration	26.84	3
ISPO Training	25.73	4
Training on RKP3KP Proposal Development	24.01	5
Training on Farmer Institution	23.95	6
Training on Growing Togetherness	23.57	7
Training on Institutional and Business Development	23.43	8
Training on Institutional Strengthening	22.18	9
Training on Legality of Land Management	19.92	10
Training on Market Information and Promotion	18.33	11
Training on Land Legality Procedure	15.63	12
Plantation and Environment Management		
Training on Land Opening Mechanism	34.42	1
Training on Seed Cultivation	30.49	2
Training on Fire Control	26.73	3
Training on Fertilization Techniques	24.40	4
Training on Integrated Pest Management (IPM)	23.99	5
Training on Biodiversity	23.65	6
Training on Health and Safety	19.43	7
Training on Harvest and Post-Harvest	18.33	8

TABLE 9. TRAINING NEEDS IN PELALAWAN (INDEPENDENTS SMALLHOLDERS)

Types of Training	MWDS	Ranking
Farmers Institution and Capacity		
Training on Institutional and Business Development	42.41	1
Leadership Training	38.19	2
Training on Financial Management and Administration	36.88	3
Training on Growing Togetherness	36.37	4
Training on Institutional Strengthening	35.27	5
Training on Farmer Institution	33.97	6
ISPO Training	32.90	7
Training on Facilities and Infrastructure Management	31.98	8
Training on Techniques and Mapping of Plantation	31.63	9
Training on RKP3KP Proposal Development	28.75	10

Training on Market Information and Promotion	27.82	11
Training on Land Legality Procedure	24.01	12
Plantation and Environment Management		
Training on Land Opening Mechanism	43.63	1
Training on Biodiversity	32.27	2
Training on Seed Cultivation	31.19	3
Training on Fire Control	28.14	4
Training on Fertilization Techniques	28.02	5
Training on Integrated Pest Management (IPM)	26.68	6
Training on Harvest and Post-Harvest	26.64	7
Training on Health and Safety	20.39	8

South Tapanuli District

In South Tapanuli, GAP was identified as the most important training topic by respondents, followed by information on ISPO, and Farmer Institution. Consistent with the findings in the previous section, respondents identified land legality as one of the most important training topics. Finance, including Replanting Financing, was identified as somewhat important by the smallholders (Finance and Administration #9, and Replanting Financing #13).

TABLE 10. *TRAINING NEEDS IN SOUTH TAPANULI*

Topic of Training		**Rank**
Good Agriculture Practices (GAP)	95.4%	1
Indonesian Sustainable Palm Oil, ISPO	92.2%	2
Farmer Institution	66.0%	3
Harvest and Post-Harvest	60.8%	4
Land Legality	42.5%	5
Market Information and Promotion	40.2%	6
Institutional Strengthening	38.6%	7
Institutional and Business Development	35.3%	8
Finance and Administration	30.7%	9
Farmers Mapping and Technique	29.4%	10
Work Health and Safety (*kesehatan dan keselamatan kerja, K3*)	29.4%	11
Leadership	28.8%	12
Development of Activity and Replanting Financing Plan (*Rencana Kegiatan dan Pembiayaan Peremajaan Kelapa Sawit, RKP3KS*)	28.1%	13
Team building	25.5%	14
Facility and Infrastructure Management	24.2%	15
Other Topics	1.3%	16

Sintang District

In Sintang, the responses were classified based on village. The survey results showed that respondents identified smallholder institutional training and institutional strengthening as two of the most needed training. In addition to that, respondents were also interested in gaining more knowledge on sustainable palm oil practices.

TABLE 11. TRAINING NEEDS IN SINTANG (BY VILLAGE)

No	Type of Priority Training	Program Site (Village)				
		Telaga Satu	Telaga Dua	Lepung Pantak	Baung Sengatap	Setungkup
1	Smallholder Institutional Training	7	10	4	8	1
2	Institutional Strengthening Training	0	0	0	0	0
3	Good Cultivation Technique Training	9	0	0	5	10
4	Land Legality Management Training	0	0	0	1	0
5	Plantation Mapping Technique Training	0	0	0	0	0
6	Market Information and Promotion Training	1	0	7	0	0
7	Financial Management & Administration Trainin	0	0	0	0	0
TOTAL		**17**	**10**	**11**	**14**	**11**

Conclusions and Recommendations

The TNA results showed that average yield in all three sites remained relatively low due to a host of factors, including poor quality (uncertified) seedling, low plantation maintenance including long fertilizing periods, and lack of knowledge among farmers regarding Good Agriculture Practices (GAP). Low yield, compounded by poor supply chain and lack of access to financial assistance directly contributed to low level of income among farmers, particularly independent smallholders.

The TNA results showed that in South Tapanuli, GAP was identified as the most important training topic. In Pelalawan, both plasma and independent smallholders identified land clearing methods as one of the key areas for training. In addition to that, training on facilities and infrastructure, and business development were also deemed important for plasma smallholders and independent smallholders, respectively. In Sintang, priority training needs differ from one village to another, but in general smallholder institutional training was considered as priority.

Training on GAP is necessary to help farmers make better and more informed decision regarding their plantation, and eventually improve their yield and livelihoods. High impact GAP trainings to close the knowledge gaps would be a necessary first step. These trainings should be tailored to local contexts and needs, including ways in which the materials will be delivered. Parallel to this, the efforts to improve financial literacy is also key to improve farmer's livelihoods. A proper support system and better financial literacy would help farmers decide which, when, and how to access financial assistance to help boost productivity and improve livelihoods. This could be done through providing support on business-loan analysis, direct training, and or the provision of reading materials. In addition to this, improving

awareness on land legality is also important to manage risks related to conflict and reduce farmer's vulnerabilities. And lastly, capacity building in terms of farmer's group operations and management would also be beneficial to strengthen farmer's group and ensure better knowledge transfers among farmers. Further study is required to determine the needs of different farmer's group depending on the institutional capacity and maturity of the group.

Annexes

Annex 1. Survey Questionnaire

(The questionnaire has been translated by an android application, the original questions are below).

A. DATA SURVEY

A01	Tanggal Survey	
A02	Nama Enumerator	
A03	Data Enumerator Nomor :	E-
A04	Lokasi	(GPS Point)

B. DATA PRIBADI RESPONDEN

Wawancara ini dilakukan kepada Kepala Keluarga

B01	Nama	: _____
B02	Tempat / tanggal lahir	: _____/_____
B03	Nomor Telepon	: _____
B04	No. KTP	: _____
B05	Asal usul keluarga	☐ Masyarakat adat ☐ Penduduk asli ☐ Transmigran (program pemerintah), Tahun _____ ☐ Transmigran spontan Pendatang, Tahun _____ ☐ Lainnya (sebutkan), _____
B06	Suku	: _____
B08	Status pernikahan	☐ Belum menikah ☐ Menikah ☐ Duda/ Janda
B08	No. KK	: _____
B07	Jenis kelamin kepala keluarga	☐ Laki-laki ☐ Perempuan
B10-B13	Tempat tinggal	Kampung: _____ Desa: _____ RT/RW: ____/___ Kecamatan:_____ Kabupaten:Tapanuli Selatan Provinsi : Sumatera Utara
B14-B15	Jumlah tanggungan (tinggal bersama keluarga)	☐ < 18 tahun, Perempuan_____ Orang ; Laki-laki_____ Orang

		☐ ≥ 18 tahun, Perempuan_____ Orang ; Laki-laki _____Orang
B16	Jumlah anggota keluarga yang bekerja	_____ orang
B17	Apakah anda bisa baca dan tulis? ☐ Ya ☐ Tidak	
B18	Tingkat pendidikan	☐ Tidak Sekolah ☐ TK ☐ SR / SD / sederajat ☐ SMP / sederajat ☐ SMA/ sederajat ☐ D3/D4/S1 Sederajat ☐ S2 atau S3

C. LATAR BELAKANG PEKERJAAN

C01	Mata pencaharian utama (bisa lebih dari satu jawaban)	☐ Petani Kepala Sawit ☐ Pegawai /Buruh Perusahaan Kelapa Sawit ☐ Berdagang ☐ PNS ☐ Guru Honorer ☐ Wiraswasta ☐ pensiunan PNS/TNI/Polri ☐ Petani Lainnya _____ ☐ Lainnya (sebutkan), _____
C02	Mata pencaharian pasangan (jika ada dan bisa lebih dari satu)	☐ Petani Kepala Sawit ☐ Pegawai /Buruh Perusahaan Kelapa Sawit ☐ Berdagang ☐ PNS ☐ Guru Honorer ☐ Wiraswasta ☐ pensiunan PNS/TNI/Polri ☐ Petani Lainnya _____ ☐ Lainnya (sebutkan), _____
C03	Mata pencaharian anggota keluarga lainnya (jika ada(bisa lebih dari satu)	☐ Petani Kepala Sawit ☐ Pegawai /Buruh Perusahaan Kelapa Sawit ☐ Berdagang ☐ PNS ☐ Guru Honorer ☐ Wiraswasta ☐ pensiunan PNS/TNI/Polri ☐ Petani Lainnya _____ ☐ Lainnya (sebutkan), _____
C04	Apakah anda pensiunan PNS/TNI/Polri? ☐ Ya ☐ Tidak	
C05	Sebutkan total pendapatan keluarga / bulan (Rp): ☐ < 1 juta ☐ 1 juta - 3 juta ☐ 3 juta - 5 juta ☐ 5juta - 7.5 juta ☐ 7.5 juta - 10 juta ☐ > 10 juta	

C06	Sebutkan total pengeluaran keluarga / bulan (Rp): ☐ < 1 juta ☐ 1 juta - 3 juta ☐ 3 juta - 5 juta ☐ 5juta - 7.5 juta ☐ 7.5 juta - 10 juta ☐ > 10 juta	
C07	Sebutkan total pendapatan dari kebun kelapa sawit / bulan (Rp): ☐ < 1 juta ☐ 1 juta - 3 juta ☐ 3 juta - 5 juta ☐ 5juta - 7.5 juta ☐ 7.5 juta - 10 juta ☐ > 10 juta	
C08	Sebutkan total pengeluaran untuk kebun kelapa sawit/ bulan (Rp): ☐ < 1 juta ☐ 1 juta - 3 juta ☐ 3 juta - 5 juta ☐ 5juta - 7.5 juta ☐ 7.5 juta - 10 juta ☐ > 10 juta	
C09	Apakah anda memiliki KPR (pinjaman ke bank / koperasi)	☐ Ya ☐ Tidak
C10-C13	Jika Ya, berapa besar pinjaman dan jangka waktunya? Besar pinjaman: _____ Bunga : _____% Jangka waktu (Tahun): _____ Mulai meminjam tahun _____	
C14	Apakah anda memiliki pinjaman?	☐ Tidak
C15	Jika Iya, kemana pinjaman dilakukan	☐ Bank ☐ Koperasi ☐ Toke ☐ Perusahaan ☐ Keluarga ☐ Teman ☐ Lainnya _____
C16	Bentuk Pinjaman	☐ Barang ☐ Uang
C17	Besar Pinjaman	_____
C18	Bunga	_____%
C19	Jangka waktu (Tahun)	_____

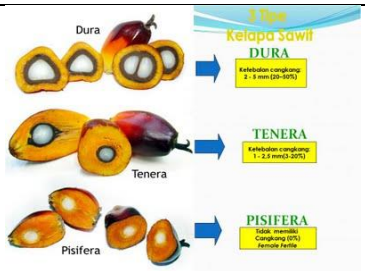
C20	Mulai meminjam tahun	_____

D. PROFIL KEBUN

D01	Status kepemilikan kebun	☐ Milik sendiri ☐ Milik orang lain Jika milik orang lain, sebutkan namanya: _____
D02	Jenis kebun yang dimiliki	☐ Kebun swadaya (membangun sendiri) ☐ Plasma Perusahaan ☐ PIR ☐ PIR - TRANS ☐ KKPA ☐ Lainnya, sebutkan _____
D03	Jumlah Lokasi Kebun	sebutkan _____
D04	Total Luas kebun	_____ Ha
D05	Lokasi kebun	☐ Mineral, Luas _____ Ha ☐ Lahan gambut, Luas _____ Ha ☐ Tanah kering dengan rawa-rawa kecil, Luas _____ Ha ☐ Lainnya _____, Luas _____ Ha
D06	Bentang Kebun	☐ Datar ☐ Bergelombang ☐ Berbukit ☐ Curam/ tebing
D07	Cara mendapatkan lahan	☐ Membuka lahan sendiri ☐ Warisan pembelian ☐ Membeli kebun jadi (sudah ditanam) ☐ Lain - lain, sebutkan _____
D08	Asal usul lahan (sebelum menjadi kebun)	☐ Hutan produksi ☐ Hutan lindung / konservasi ☐ Hutan rusak / bekas kebakaran ☐ Semak belukar ☐ Padang rumput / Lahan terbuka ☐ Kebun, ladang/ Sawah ☐ Tidak tahu
D09	Apakah kebun anda memiliki kelengkapan surat kepemilikan? ☐ Surat Hak Milik (SHM) ☐ Surat Keterangan Tanah (SKT) ☐ Sporadik ☐ Letter C ☐ Akta Jual Beli (AJB) ☐ Girik / Pethok D ☐ Lainnya, (sebutkan) _____	
D10-D11	Nomor sertifikat tanah: _____	Luas sesuai sertifikat :_____Ha
D12	Atas nama siapa surat kepemilikan surat tersebut?	☐ Suami ☐ Istri ☐ Bersama ☐ Ahli waris ☐ Orang lain

		Sebutkan nama sesuai dokumen: _____			
D13	Apakah anda memiliki STDB?	☐ Ya ☐ Tidak			
D14	Jika ada, sebutkan nomor STDB Tersebut: _____ Luas lahan sesuai STDB : _____Ha				
D15	Sebutkan titik koordinat kebun [49] (perlokasi)	S: E: Ketinggian tempat : _____ m dpl Presisi: ____m			
D16-D19	Sebutkan batas-batas kebun (perlokasi)	Utara : _____ Timur : _____ Selatan : _____ Barat : _____			
D20	Jarak kebun dari rumah	: _____ Km			
D21-D22	Jarak kebun dari sungai	: _____ Km, nama sungai: _____			
D23-D24	Jarak kebun dari PKS / mill	: _____ km, Nama PKS / mill: _____			
D25-27	Klasifikasi lahan	Luas yang ditanam (Ha)	Jumlah Pohon yang ditanam	Luas yang tidak Produktif (Ha)	Luas yang Rusak (Ha)
		_____	_____	_____	_____
	Status tahun tanam	Tahun Tanam	Luas Tanaman (Ha)	Produksi / Tahun (2016)	
D28	**Total Produksi Kebun (Ha/kebun/tahun)**				
D29	Pola tanam	☐ Monokultur			

[49] Perlu verifikasi lapangan (digitasi dengan GPS) apabila data ini tidak tersedia di STDB

		☐ Campuran, sebutkan jenisnya _____
D30	Apakah anda yakin kebun anda **tidak** masuk dalam kawasan hutan? ☐ Yakin ☐ Tidak ☐ Tidak Tahu	
D31	Apakah anda yakin kebun anda **tidak** masuk dalam kawasan lindung[50] ☐ Yakin ☐ Tidak ☐ Tidak Tahu	
D32	Jika yakin berapa jarak kebun dari kawasan tersebut (KM)	_____
D33	Sumber benih yang digunakan	☐ Bersertifikat ☐ Tidak ☐ Tidak Tahu
D34	Sumber benih	☐ PPKS Marihat ☐ Socfindo ☐ Kebun Perusahaan ☐ Lelesan / Tunasan ☐ Persemaian Lokal ☐ London Sumatera ☐ Agen ☐ DAMI MAS ☐ Tidak Tahu ☐ Lain - lain, (sebutkan)_____
D35	Sebutkan nama benih yang digunakan	 ☐ Hanya Tenera (unggul) ☐ Hanya Pisifera (cangkang kecil) ☐ Hanya Dura (cangkang tebal) ☐ Tidak Tahu ☐ Lainnya, sebutkan _____
D36	Apakah anda melakukan pemupukan untuk kebun kelapa sawit? ☐ Ya ☐ Tidak	
D37	Berapa kali pemupukan dilakukan per tahun	☐ 1 ☐ 2 ☐ 3 ☐ Lainnya, _____ Kali

[50] Kawasan Lindung seperti: Suaka Marga Satwa Kerumutan, Taman Nasional Tesso Nilo, Sempadan Sungai Kampar, Danau, dsb.

D38	**Jenis Pupuk** ☐ **Pupuk kimia, sebutkan** jenisnya _____, dosisnya _____ ☐ Pupuk **organic, sebutkan jenisnya_____, dosisnya_____**			
	Jenis Pupuk			
D38	NP	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D39	Urea	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D40	SP3	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D41	Dolomit	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D42	Senator	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D43	TSP	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D44	Phonska	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D45	Tankos	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D46	Janjang kosong	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D47	MOP	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D48	Borat	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D49	Kieserit	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D50	Pupuk hijau/kandang lainnya	☐ Ya	☐ Tidak	Jumlah kebutuhan (kg/bulan): _____
D51	Bagaimana Bapak / Ibu melakukan penanganan Gulma ☐ Kimia , pakai apa ☐ Mekanis , pakai apa ☐ Tidak ada			
D52	Gramoxone	☐ Ya	☐ Tidak	Jumlah kebutuhan (liter/bulan): _____
D53	Roundup	☐ Ya	☐ Tidak	Jumlah kebutuhan (liter /bulan): _____
D53	**Pengendalian Hama dan Penyakit** **Apa penyakit dikebun?** **Apa Hama dikebun?** Bagaimana pengendalian			

D54	Ulat Pemakan Daun Pengendaliannya	☐ Ya ☐ Ya	☐ Tidak ☐ Tidak	Jumlah pohon terserang : _____ Caranya : _____
D55	Ganoderma Pengendaliannya	☐ Ya ☐ Ya	☐ Tidak ☐ Tidak	Jumlah pohon terserang : _____ Caranya : _____
D56	Busuk Pangkal Batang Pengendaliannya	☐ Ya ☐ Ya	☐ Tidak ☐ Tidak	Jumlah pohon terserang : _____ Caranya : _____

E. AKTIVITAS

E01	Apakah anda bekerja di kebun sendiri? ☐ Ya ☐ Tidak	
E02	Siapa yang berwewenang mengambil keputusan di kebun? ☐ Suami ☐ Istri ☐ Bersama-sama	
E03	Jika Iya, pekerjaan apa yang anda lakukan di kebun?	☐ Pembukaan Lahan ☐ Pembibitan ☐ Penanaman ☐ Pemupukan ☐ Pembersihan / Penyiangan ☐ Penyemprotan Herbisida ☐ Penyemprotan Pestisida ☐ Pemanenan ☐ Lainnya, _____
E04	Bagaimana pembukaan lahan di lakukan? (link dgn D07)	☐ Tebang, bakar ☐ Tebang, imas[51], bakar ☐ Tebang dan imas tanpa bakar ☐ Di bakar ☐ Di semprot ☐ Lainnya, _____
E05	Apakah anda tahu peraturan tentang pembukaan lahan? ☐ Tahu ☐ Tidak	
E06	Pekerjaan rutin apa yang anda lakukan di kebun?	☐ Pemupukan ☐ Pembersihan / Penyiangan ☐ Penyemprotan Herbisida ☐ Penyemprotan Pesisida ☐ Lainnya, _____
E07	Seberapa sering panen pada masa tinggi / bulan?	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ Lainnya, _____ kali
E08	Seberapa sering panen pada masa trek / bulan?	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ Lainnya, _____ kali
E09	Kemana anda menjual TBS? ☐ Mill/PKS. apakah Mill/PKS tersebut memiliki kebun inti? ☐ Ya, jarak ke Mill/PKS _____Km ☐ Tidak	

[51] Memotong kayu menjadi bagian-bagian kecil

	☐ Toke ☐ Koperasi ☐ Lainnya, sebutkan _____
E091	Bila Ya, jarak ke Mill/PKS _____Km
E10	Apakah ada kerjasama penjualan TBS dengan pabrik kelapa sawit dan/atau perusahaan kelapa sawit yang memiliki PKS/ mill sekitar? ☐ Ada, nama PKS/mill: _____ ☐ Tidak
E11	Apakah ada pernah melakukan peremajaan kebun? ☐ Ada, tahun pelaksanaan: _____ ☐ Tidak
E12	Apakah ada rencana untuk peremajaan kebun? ☐ Ada, tahun pelaksanaan: _____ ☐ Tidak
E13	Sebutkan alasan memperluas lahan kebun: ☐ Meningkatkan pendapatan keluarga ☐ Keamanan kepemilikan lahan ☐ Lainnya, sebutkan _____
E14	Apakah anda membutuhkan bantuan untuk peremajaan kebun? ☐ Ada ☐ Tidak

Terkait dengan kegiatan sehari-hari, mohon agar dapat diisi:

	Kegiatan	**Pelaksana**
	KEGIATAN DI KEBUN	
	Pembukaan Lahan	
E15	a. Membabat	ni ☐ Istri ☐ Anak L ☐ Anak (P)
E16	b. Menebas ranting	ni ☐ Istri ☐ Anak L/) ☐ Anak (P)
E17	c. Menebas pohon besar	ni ☐ Istri ☐ Anak L/ ☐ Anak (P)
E18	d. Membakar rumput	ni ☐ Istri ☐ Anak L/ ☐ Anak (P)
E19	e. Menumpuk hasil pembabatan	ni ☐ Istri ☐ Anak L/ ☐ Anak (P)
E20	f. Membawa pulang ranting kayu bakar	ni ☐ Istri ☐ Anak L/ ☐ Anak (P)
	Pembibitan & Penanaman di Lahan	
E21	a. Membeli bibit	☐ Suami ☐ Istri ☐ Anak L/ ☐ Anak (P)
E22	b. Mengisi polybag	☐ Suami ☐ Istri ☐ Anak L/ ☐ Anak (P)
E23	c. Menyemai bibit di polybag	☐ Suami ☐ Istri ☐ AnakL/ ☐ Anak (P)

E24	d. Menyiram bibit	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
E25	e. Menyiangi bibit	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
E26	f. Mengangkut bibit ke lapangan/lahan	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
E27	g. Memancang/mengukur jarak pohon	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
E28	h. Menggali lobang tanam	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
E29	i. Menanam	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
	Perawatan dan Pemeliharaan				
E30	a. Membersihkan piringan	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
E31	b. Membersihkan gawangan	☐ Suami	☐ Istri	☐ Anak L/- ☐ Anak (P)	
E32	c. Memupuk	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
E33	d. Menyemprot pestisida	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
E34	e. Wiping/Buru alang-alang	☐ Suami	☐ Istri	☐ Anak L/ ☐ Anak (P)	
	Panen Hasil Kebun				
E35	a. Mendodos/mengegrek buah sawit	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
E36	b. Mengutip brondolan	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
E37	c. Menyusun pelepah	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
E38	d. Mengangkut TBS ke TPH	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
E381	e. Mengangkut TBS ke mill / toke				
	Penjualan				
E39	a. Menghitung hasil timbangan	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
E40	b. Mencatat hasil timbangan	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
E41	c. Menerima hasil penjualan	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
E42	d. Mengatur keuangan keluarga	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
	KEGIATAN DI RUMAH				
E43	a. Memasak	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	
E44	b. Memandikan anak	☐ Suami	☐ Istri	☐ Anak L☐ Anak (P)	
E45	c. Mencuci pakaian	☐ Suami	☐ Istri	☐ Anak L ☐ Anak (P)	

E46	d. Mencuci piring	☐ Suami ☐ Istri ☐ Anak L☐ Anak (P)
E47	e. Menyiapkan bekal ke kebun	☐ Suami ☐ Istri ☐ Anak L☐ Anak (P)
E48	f. Membersihkan isi rumah	☐ Suami ☐ Istri ☐ Anak L☐ Anak (P)
E49	g. Membersihkan halaman rumah	☐ Suami ☐ Istri ☐ Anak L☐ Anak (P)
	KEGIATAN SOSIAL	
E50	a. Pengajian rutin (mingguan/ bulanan) [52] atau kegiatan keagamaan rutin	☐ Suami ☐ Istri ☐ Anak L☐ Anak (P)
E51	b. Pengajian insidental (tahlilan, manaqib, dsb)	☐ Suami ☐ Istri ☐ Anak L☐ Anak (P)
E52	c. Perayaan pernikahan/ sunatan	☐ Suami ☐ Istri ☐ Anak L ☐ Anak (P)
E53	d. Upacara adat	☐ Suami ☐ Istri ☐ Anak L ☐ Anak (P)
E54	f. Perayaan hari kemerdekaan RI	☐ Suami ☐ Istri ☐ Anak L ☐ Anak (P)
E55	g. Rapat RT/RW	☐ Suami ☐ Istri ☐ Anak L ☐ Anak (P)
E56	h. Rapat Kelembagaan Pekebun	☐ Suami ☐ Istri ☐ Anak L ☐ Anak (P)

G. KELEMBAGAAN PEKEBUN & PENDAMPINGAN

G01	Apakah anda tergabung dalam koperasi / kelompok tani / kelembagaan pekebun lainnya?	☐ Ya ☐ Tidak Jika ya, sebutkan nama kelembagaan pekebun tersebut: _____
G02 (KII)	Apakah Koperasi tersebut tergabung dalam Sistem Manajemen Penyuluhan Pertanian (Simluhtan)? ☐ Ya ☐ Tidak ☐ Tidak tahu	
G03 (KII)	Apakah Koperasi tersebut memiliki Akta Notaris? ☐ Ya ☐ Tidak ☐ Tidak tahu	
G04	Apakah anda masuk dalam kepengurusan koperasi / kelompok tani / kelembagaan pekebun lainnya? ☐ Ya, sebutkan jabatan anda: _____ ☐ Tidak	
G05	Apakah pengurus Koperasi tersebut aktif/ tidak aktif? ☐ Ya ☐ Tidak	

[52] Coret yang tidak perlu

G06	Apakah ada PPL?	☐ Ada, Jumlah: _____ orang ☐ Tidak
G07	Apakah ada arahan PPL atau bantuan dari perkebunan besar di sekitar? ☐ Ya ☐ Tidak	
G08	Arahan apa yang diberikan oleh PPL	☐ Tidak ada ☐ Kelembagaan ☐ Pembukaan Lahan ☐ Pembibitan ☐ Penanaman ☐ Pemupukan ☐ Pembersihan / Penyiangan ☐ Penyemprotan Herbisida ☐ Pemanenan ☐ Penjualan ☐ Lainnya, _____
G09	Apa bentuk pendampingan yang penting menurut anda?	
G10	Bantuan apa yang diberikan oleh Perkebunan Besar	☐ Pembukaan Lahan (Alat Berat, cangkul, parang, dsb) ☐ Bibit ☐ Pupuk ☐ Lainnya, _____
G11	Apakah ada dukungan untuk program kredit? ☐ Ada ☐ Tidak	
G12	Apakah ada rencana kerja yang dimiliki oleh Lembaga Pekebun? ☐ Ada ☐ Tidak	

H. KEBUTUHAN TRAINING

H01	Apakah anda memiliki motivasi/berkeinginan untuk berkelompok dalam kelembagaan pekebun	☐ Ya ☐ Tidak
H02	Apakah anda memiliki motivasi/berkeinginan untuk melakukan legalitas terhadap kebun?	☐ Ya ☐ Tidak
H03	Apakah anda memiliki motivasi/berkeinginan untuk perlindungan hutan dan hewan langka?	☐ Ya ☐ Tidak
H04	Apakah anda memiliki motivasi untuk me-replanting kebun sawit anda?	☐ Ya ☐ Tidak
H05	Apakah anda menyiapkan dana khusus untuk melakukan replanting?	☐ Ya, (Rp/ bulan): _____ ☐ Tidak

H06	Sebutkan sumber pembiayaan buat rencana replanting jika petani tidak punya dana khusus?	☐ Jual/ Gadai Barang ☐ Pinjam keluarga ☐ Kredit ke koperasi ☐ Kredit Bank ☐ Lainnya (sebutkan) _____
H07	Apakah petani berencana memperluas lahan pada saat replanting?	☐ Ya ☐ Tidak
H08	Apakah anda memiliki motivasi/berkeinginan untuk melakukan sertifikasi kebun (ISPO)?	☐ Ya ☐ Tidak
H09	Jenis-jenis pelatihan (checklist)[53]:	
H10	a. Pelatihan kelembagaan pekebun	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H11	b. Pelatihan penumbuhan kebersamaan	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H12	c. Pelatihan kepemimpinan	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H13	d. Pelatihan manajemen keuangan dan administrasi	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H14	e. Pelatihan penguatan kelembagaan	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H15	f. Pelatihan pengembangan kelembagaan dan usaha	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H16	g. Pelatihan teknik dan pemetaan pekebun	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H17	h. Pelatihan pengurusan legalitas tanah	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H18	i. Pelatihan pembuatan proposal Rencana Kebutuhan dan Pembiayaan Peremajaan Kelapa Sawit (RKP3KS)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H19	j. Pelatihan teknik budidaya yang baik	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H20	k. Pelatihan ISPO	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H21	l. Pelatihan panen dan pasca panen	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H22	m. Pelatihan informasi pasar dan promosi	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H23	n. Pelatihan pengelolaan sarana dan prasarana	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H24	o. Pelatihan kesehatan dan keselamatan kerja (K3)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
H25	p. Lainnya, (sebutkan pelatihan yang dianggap penting) _____	

[53] 1 = sangat tidak menginginkan; 2 = tidak menginginkan; 3 = agak tidak menginginkan; 4 = biasa saja; 5 = agak menginginkan; 6 = menginginkan; 7 = sangat menginginkan

H26	Urutkan 10 kebutuhan pelatihan menurut prioritas anda : 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____