

Competence of Small Holder Farmers in Implementing Palm Oil Replanting in Rokan Hulu Regency

Rosnita¹, Hadi Syaiful¹, Dewi Novia¹, Yulida Roza¹,
Andriani Yulia¹, Sayamar Eri¹

¹ Faculty of Agriculture, Universitas Riau Telp. (07610) 63270. Pekanbaru (28293)

Corresponding Author rosnitamag@lecturer.unri.ac.id

Abstract.

Competence of palm oil farmers in global trading competition depends on implementing 4 of 7 Indonesia Sustainable Palm Oil (ISPO) standards that was set by the government. The aims of this research were to : 1) Study the Role of farmer's extension in guiding the farmers to implement the standards, and 2) Analyze farmer's competence in implementing standards set by the government. This research used survey method held from January to June 2019. Multi stage approach was used in site selection (district and village). Sampling respondent consist of 91 palm oil farmers that came from 3 villages representative. Analysis used descriptive statistics (percentage, and Likerts scale). Result of this research showed that farmer profile was dominated by male with high school education, had 4 family members, Javanese who have 10-20 years farming experience, and had farming as the main livelihood. It has an impact on less capable of small holder farmers in fulfilling the 4 standards (legality of land ownership, farmers organization and farm management, enviromental management, and developing a sustainable agribusiness). The government was expected to sinergize with farmers and private sectors (corporation) in improving farmers empowerment and independence during palm oil management according to the set up standards so the farmers could compete globally.

Keywords : palm oil, ISPO, competence

1. Introduction

The plantation sector in Riau Province through palm oil commodities is one of a contributor to the country's revenue. There is about 50 million Indonesians dependent their livelihood on palm oil. Statistical Data on oil palm plantations in 2017 showed that the area of oil palm plantations in Riau Province was 2.260.941 Ha (18,38 percent), with production 7.722.564 tons (22,40 percent) and productivity of 3.989kg / ha (10,93 percent) of those produced by Indonesia (Dirjen Perkebunan, 2017). Palm oil with above average Indonesian productivity only achieved by large state plantations, while the productivity of smallholder plantations was still below average caused by various constraints such as age of oil palm plants that are above 15 years and the productivity below to 10 tons / ha due to the use of uncertified seeds.

International trade in palm oil requires management of oil palm plantations to be managed sustainably (socially, economically, and environmentally) through standard operating procedures that must be obeyed by producing countries known as the Roundtable Sustainable Palm Oil (RSPO). Indonesia sets a management standard called Indonesian Sustainable Palm Oil (ISPO). The government obliged the Smallholder Plantations to implement 4 of the 7 standards that must be implemented by smallholders. The smallholders are expected to be able to implement 4 standards set by the government, such as : (1) legality of plantations, (2) management of plantations, (3) environmental monitoring, and (4) sustainable business improvement. The condition of independent smallholder farms (which age more than 15 years) which has low productivity required plantations replanting, but the farmers' ability to carry out replanting according to standards faced obstacles caused by their inability. This condition makes most of the independent smallholders do not replanting according to the standard, so the replanting target expected by the government has not been achieved as expected. The problems and constraints need to be assessed. Based on this problem, research about the profile and ability of independent smallholders in replanting is carried out. Therefore This paper describes the profile and ability of independent smallholders in replanting palm oil in Rokan Hulu Regency.

2. Methods

This research was conducted in Rokan Hulu Regency with the Survey method. The Study starts from October 2018 to June 2019. Sampling was done by using Multi Stage Sampling (district, sub-district and village) involved 3 villages in 3 sub-districts. The population in the study was independent farmers whose has plant age over 15 years and the productivity of oil palm produced below 10 tons / ha. Sample respondent consisted of 91 people from 3 selected villages (Rambah Samo, Rambah Hilir, and Kepenuhan Hulu). Primary data that were collected included : farmer profiles, legality of plantation, management of plantation, environmental monitoring, and business management. Secondary data were included: area, production and productivity of palm oil in Rokan Hulu Regency. Data analysis was performed using descriptive statistics and Likert scale. Likert scale analysis was used in assessing the ability of farmers for replanting according to 4 ISPO standards for independent smallholders. Scale analysis was carried out to measure farmers' perceptions of farmers' ability to carry out replanting with scale range 1 as the lowest value and 2 as the highest value.. The perception of farmers' level of ability was presented in the Table. 1.

Table 1: The ability of farmers for replanting in Rokan Hulu Regency

Perception	Scale	Score	Category
1. Good	2	1,49 – 2	Competent
2. Not good	1	1 - < 1,49	Not competent

3. Result

The success of independent smallholders in increasing the competitiveness of the palm oil market was related to the quality of farmers' human resources and the ability of farmers to implement 4 of ISPO standards set by the Government through Regulation No. 11 / Permentan / OT.140 / 3/2015. The Smallholders Plantation

Business which is managed by independent smallholders was expected to be able to implement 4 of standards in replanting their palm oil plantations in accordance with government expectations. Factors that determined the success of farmers in replanting accordance with the government's standards could be seen from : (1) Farmer profiles, (2) Plantation Conditions, (3) Farmer institutions in supporting farm management, and (4) Farmers' abilities in applying 4 standards that have been set. Each factor was described below.

3.1. Farmers Profile

The limitation of farmer's human resources could be seen from the internal and external profiles of independent smallholders which also determined by the ability of farmers in replanting. Profiles of independent smallholders were presented in Table 2.

Table 2: The percentage of the profile of independent smallholders in Rokan Hulu Regency in 2018

No	Farmer Profile	Number (person)	Maximum average (%)
1	Internal Profile		
	a. Aged (33 – 43) year	37	40,66
	b. Male sex	88	96,70
	c. Senior high school education	31	34,07
	d. Farming experience 10 – 19 years	39	42,88
	e. The main income as farmers	77	84,62
	f. The side income as farmers	14	15,38
2.	External Profile		
	a. Javanese ethnic	49	53,85
	b. Family member consist of 4 person	31	34,07
	c. Palm oil plantations area 1-2 ha	37	40,66
	d. Rubber plantations area 1-2 ha	30	32,97

Internal profile in Table 2 showed that most of palm oil farmers had palm oil farming as the main income and rubber farming as the side income. Farming experience in palm oil business range from 10 to 19 years. Educational level in supporting business development was senior high school level.

The external profile of independent smallholders showed that the majority of these farmers came from the Javanese ethnic which were known for their diligent, patient and conscientious culture in running their businesses, and were very serious in their works. The average cultivated land area for both oil palm and rubber, ranges from 1 to 2 hectares. Farmers had 4 family members to support. Profile of the farmers showed that they had a good educational level with and enough farming business experience, so it was estimated that they can support 4 family members.

The Plantation's condition owned by smallholder also determined the success of farmers in managing their palm oil plantations. The plantation's condition in this study could be seen from: land certificate, farm's location that was not in the protected forest area, suitability of the farm's location with the spatial layout, and the availability of the Cultivation Certificate (STDB). Others factors that could describe the condition of independent smallholders' plantations consist of : plant access to the collecting place, transportation system in maintaining the quality of the palm oil fruits (TBS) produced, the distance of the farm, and the travel time to the Palm Oil Mill (PKS). Table 3 illustrated the conditions of independent smallholder plantations.

Table 3: The largest percentage of independent smallholders seen from the plantations condition in Rokan Hulu Regency in 2018

No	Plantation's Condition	Number (Person)	%
1.	Land certificate	39	42,86
2.	Suitability of the farm's location with the spatial layout	55	60,43
3.	Farm's location in the protected forest/ country area	0	0,00
4.	Availability of Cultivation Certificate	2	2,20
5.	Plant access to the collecting place (maintain palm fruits)	55	60,44
6.	Transportation system in maintaining the quality of palm fruits Distance form plantation to mill (1 – 10 km)	34	37,36
7.	Travel time from plantation to mill (1 – 2 hours)	59	64,84
8.		87	95,60

Table 3 showed that the ability of farmers (above 60 percent) which plantation that meet the set up standards such as : suitability of the farm's location with the spatial layout, farm's location that is not in the forest area, access of farm's location to the colleting place TBS, farm distance to the factory location under 10 km, and travel time under 2 hours (relatively short). However, there were more than 50 farmers who experiencing problems in improving their ability to meet the standards, such as : not able to meet proof of ownership (only SKT), cultivation certificate availability, and transportation systems in maintaining palm oil fruits quality

The institutionalization of farmers as planters was also one of the factors that will support the ability of farmers to manage the plantations. Farmer institutions that was well functioned will increase the ability of farmers to manage the farm, because the institutions played role as a learning forum, a collaboration unit, and a production unit, so that agricultural business activities will succeed if farmers have sufficient capacity. To be able to achieve optimal productivity and efficiency, farmers must conduct a collective business (Anantanyu, 2011). Farmers' capacity building could be done if farmers as group members use the group as a institution to improve themselves (improving quality) by making the group as a place for learning. The farmers institution situation (farmers' organizations) was presented in Table 4.

Table 4: Institutional smallholder farmers in supporting the ability to meet ISPO standards that must be implemented in Rokan Hulu Regency

No	Farmers institution	Number (Person)	%
1.	Farmers as the members of the farmers group	51	56,04
2.	The role of groups in raising farmer awareness	36	39,56
3.	Availability of the planters activity reports, groups or cooperatives	21	23,07
4.	The role of groups in improving the quality of palm oil products	31	34,06
5.	The role of groups in reducing greenhouse gas emissions	18	19,78

The smallholders institution showed that most farmers (more than 50%) join the farmers group but only small percentage of farmers (under 50%) who aware the role of group in improving the ability to make the activity reports, improving quality of palm oil products and reducing green house emission.

The ability of farmers to manage their farm will show how farmers could apply cultivation according to the expected ISPO standards in managing their farms. The ability of farmers to manage their farms was illustrated in Table 5.

Tabel 5: The greatest percentage of farmers' ability to manage palm oil plantations in Rokan Hulu Regency

No	Farmer Farm Management	Number (Person)	%
1.	Sprouts / seeds used (Marihah brand)	71	78,02
2.	Dominant type purchased (seedlings)	65	71,43
3.	High quality seeds	25	27,47
4.	Fertilization frequency 2 times	56	61,54
5.	Weed control frequency	52	57,14
6.	Hatching frequency	67	73,63
7.	Mill Productivity (1 – 2 ton/ha/th)	44	48,35
8.	Mill Selling price (IDR 1.000 – IDR 1.200 / kg)	56	61,54
9.	Net income palm oil farming IDR Million / year (5 - 25)	47	51,64

In managing oil palm plantations, the role of the institution will largely determine the capacity of farmers in managing the oil palm plantations they are cultivating. One of the institutional roles through the education process will be to increase the capacity of farmers. The group is expected to play a role as a forum for farmers to learn. This was in accordance with the results of the study (Prawiranegara, 2016), that the importance of the role of institutions in strengthening the capabilities of farmers. Table 5, shows that in managing a dominant farm the farmer uses seedlings rather than sprouts with the Marihat trademark and the superior seeds purchased by farmers are not the type of seed that has a certified label. Maintenance is carried out by fertilizing, transferring weeds, and cutting, which is the highest frequency 2 times a year. However, almost half of the farmers get the lowest productivity that can only be reached 1 to 2 tons / year from the productivity range of 1-40 tons / ha / year, with the lowest selling price in the group 2 ranging from IDR. 800.00 to IDR. 1,500.00. The management system carried out is only able to provide net income that is in the second lowest group of the income range below IDR. 5 million/ year to above IDR. 88 million / year. The condition of plantation management that is able to be achieved is still far from expectations because only half of the farmers are joined in the group and are still below 40 percent of farmers who are aware of the role of the group so that the group has not been able to increase the productivity and quality of the results obtained. In order for farmers to be able to improve their capabilities, it is necessary to increase their institutional role, because enhancing the capability of farmers to manage innovation can be done; first, improvement of the institutional role of farmers; second, improving the characteristics of the capabilities of farmers to manage innovation; third, improvement of information quality and fourth, increase in support of external institutions (Darojat, 2016).

3.2. Competence of smallholders farmers in implementing ISPO standards of palm oil replanting

Certification is one of the prerequisites that palm oil farmers must fulfill in Indonesia in the management of the palm oil plantation, known as Indonesia Sustainability Palm Oil (ISPO). ISPO aims to allow farmers to manage their plant sustainably in social, economic and environmental.

Regulation of the Kementrian Pertanian No. 11/Permentan/OT. 140/3/2015 on Sustainable Palm oil certification for smallholders plantations was set to do 4 standards namely (1) the legality of non-governmental plantations, (2) Farmers Organization and management of non-governmental plantations, (3) environmental management and monitoring, and (4) continuous business improvement. The

competence of smallholders farmer in applying 4 ISPO principles was presented in Table 6.

The ability of farmers in fulfilling the 4 standards set by the Government in accordance with the Peraturan Menteri Pertanian No. 11/2015 was still inadequate in the legality farm, plantation management, environmental monitoring, and the sustainable business improvement. This finding appropriate with results of the study from Dharmawan Arya H, stated that small-scale palm farmers were not ready to implement ISPO certification (Dharmawan, 2019).

Table 6: The competence of smallholders farmer in applying 4 ISPO principles of palm oil replanting

No	Farmers competence	Number	Percentage	Score	Category
1	Legality of plantation :				
	2 = Competence	41	45,05	1,45	Not
	1 = Not competence	50	54,95		competence
2	Farm Management				
	2 = Competence	27	29,67	1,30	Not
	1 = Not competence	64	70,32		competence
3	Environmental Management and Monitoring				
	2 = Competence	7	7,69	1,07	Not
	1 = Not competence	84	92,31		competence
4	Continuous Business Improvement				
	2 = Competence	6	6,59	1,06	Not
	1 = Not competence	85	93,41		competence

Farm legality was a proof of ownership of the farm as standard number 1 that must be met, only 54.95 percent of farmers who were able to have proof of ownership both ownership (SHM) and usage right (SKGR) while the rest of them only have other evidence that does not comply with predefined proof of ownership. Although it had limitation in proof of ownership but the farm land was not located in the protected forest area and state land. Other problems were those who had had proof of ownership only 60.44 percent of them that was suitable with the spatial planning and the certificate of ownership was in the Bank so that it cannot be used as a legal proof of farm legality ownership.

The standard of farm organization and management as standard number 2 could not be met by farmers, that was because only 56.04 percent of farmers were joined in farmer group. The farmer's institution had not been well-administered because only 49.45 percent was able to demonstrate the management document. The group's role in raising new farmers awareness was able to be perceived by 39.56 percent of the members, only 34.06 percent of the members who felt the group's roles/benefits in improving the quality of palm oil yield, and only 19.78 percent of the group members could reduce greenhouse gases.

In the farm management, 78.02 percent of farmers have used certified superior seeds with a trademark, but the authenticity of the seeds was still doubtful because there were no label in the certificate of the seed used. The frequency of fertilization and pest control had been well done by the farmer, where 61.53 percent and 57.14 percent have been fertilizing and controlling weeds with frequency 2 times a year. Good cultivation process that has been done by the farmers has not given the best results that farmers want because 61.54 percent of farmers got the lowest price ranging from IDR 1.000.00 to IDR 1,200.00 per kg (the 2nd lowest price group from 4 group price), And 51.65 percent were only able to obtain revenues of IDR 5 million to

IDR 25 million/year (the 2nd lowest income from 6 group income). The inability of farmers in getting a decent price showed lower farmer's bargaining position and lower farmer's competitiveness in business development.

The third standard of environmental management and monitoring was not able to met by the farmers. It could be seen that 95.60 percent of farmers did not have environmental permits in accordance with letter of environmental management and monitoring (SPPL), 86.81 percent had not implemented the same joint fire prevention and countermeasures, and 95.60 percent had no record of rare animals and plants around the farm.

The ability of farmers to meet the fourth standards, sustainable business improvement business sustainably still felt under privileged. This condition because 95.60 percent of farmers did not have a record of improvement results made as a results of evaluation from various institutions or related agencies and 91.21 percent did not follow up on the repair process according to Group or Cooperative agreement.

4. Conclusion And Recommendation

1. Profile of the smallholders palm oil determine the participation of farmers in implementing the 4 standards (the legality of farm, farm organization and management, environmental management and monitoring, and continuous business improvement) ISPO certification in Peraturan Menteri Pertanian Republic of Indonesia No. 11/Permentan/OT. 140/3/2015. The Government's role in improving farmer profile quality was expected.
2. The ability of smallholder farmers in implementing ISPO standards set by the Government is still less perceived. The lowest standard that farmers can apply primarily in sustainable business improvement and environmental management and monitoring. It takes government and private attention to improve people's farmers ' ability to apply the 4 standards so that farmers have the competitiveness in managing the palm oil business.

References

- Anantanyu Sapja. 2011. Kelembagaan Petani: Peran Dan Strategi Pengembangan Kapasitasnya. *Jurnal SEPA* : Vol. 7 No.2 Pebruari 2011 : 102 – 109.
- Dharmawan Arya H, Toni FN, Barus B dkk, 2019. Kesiapan Petani Kelapa Sawit Swadaya dalam Implementasi ISPO: Persoalan Lingkungan Hidup, Legalitas dan Keberlanjutan. *Jurnal Ilmu Lingkungan Volume 17 Issue 2* (2019): 304 – 315. Sekolah Pascasarjana UNDIP
- Dirjen Perkebunan, 2017. *Statistik Kelapa Sawit Indonesia*. Badan Pusat Statistik. Jakarta
- Prawiranegara Darajat, 2016. *Penguatan Peran Kelembagaan Petani Dalam Peningkatan Kapabilitas Petani Mengelola Inovasi Berbasis Teknologi Informasi (Kasus Petani Sayuran Di Dataran Tinggi Jawa Barat)*. Disertasi Sekolah Pascasarjana IPB (Tidak dipublikasikan)