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PERFORMANCE OF ISPO-CERTIFIED INDEPENDENT SMALLHOLDER OIL PALM FARMING PRACTICES TOWARD SUSTAINABILITY IN PELEPAT ILIR DISTRICT, BUNGO REGENCY

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Abstract. Oil palm plantations contribute to economic development in rural areas, the creation of employment opportunities, and the improvement of living standards. However, this commodity still suffers from sustainability problems. This is especially true among independent smallholders due to inadequate business scale to cover modern and sustainable agricultural practices with certification standards, especially those outlined in Indonesian Sustainable Palm Oil (ISPO). The study aimed to provide an overview of ISPO-certified oil palm farming practices in Pelepat Ilir District, Bungo Regency. The data were analyzed quantitatively and related to the farming practices of independent oil palm smallholders who are ISPO certified. The results showed that farming ISPO-certified independent oil palm plantations were not per ISPO recommendations and norms, using fertilizers and herbicides was also not in line with recommendations, and ISPO-certified farmers received no FFB price differentiation. In the future, it is hoped that independent oil palm farmers can adopt various sustainable farming practices recommended by ISPO standards. In addition, it is necessary to increase training and education from the government and relevant stakeholders on good agricultural practices.

Keywords: Farming, Independent Smallholder, ISPO-Certified, Oil palm, Sustainability

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INTRODUCTION

The farming sector has made an important contribution to Indonesia's economic development. According to the Ministry of Agriculture of the Republic of Indonesia, in 2019, this sector contributed IDR 2,012,742 billion or 12.71% of Indonesia's total Gross Domestic Product (GDP), then in 2020, the farming sector was able to contribute 2,115,086 billion rupiah or 13.70% of Indonesia's total Gross Domestic Product (GDP) or an increase of 0.9 %. The increase in the farming sector cannot be separated from the increase in the contribution of plantation crop product commodities, one of the sub-sectors in

the farming sector which has great potential to contribute to GDP in 2020, namely 3.63% and a contribution to the farming, forestry, and fisheries. (Kementrian Pertanian Republik Indonesia, 2021).

Indonesia is one of the leading producers of palm oil in the world. Palm oil production contributes to the rural economy and alleviates poverty. In 2023, Indonesia produced 47 million tons of crude palm oil, with a market share of 54% of global exports. (Edwards, 2019; Gatto, Marcel, Wollni, Asnawi, & Qaim, 2017; Kubitza, 2018). Apart from that, independent farmers also benefit from oil palm farming in terms of higher income and living standards. (Euler, et al., 2017; Rist, Lucy, Feintrenie, & Levang, 2010; Sibhatu, 2019).

Even so, the palm oil industry has also received international scrutiny regarding sustainability. Palm oil is one of the plantation commodities that is a favorite and has a strategic role in the country's economy. It is also a natural resource that is a farming commodity in Indonesia, which has a productivity advantage in producing vegetable oil, which is processed from the harvest of fresh fruit bunches (FFB) (Nugraha, 2021).

Management of oil palm plantations in Indonesia is divided into three types of land management status, namely Independent Plantations (PR), Large State Plantations (PBN), and Large Private Plantations (PBS). These three groups showed an increase based on the development of their area. The increase in area is currently being carried out through various cooperation patterns, especially partnership cooperation between independent plantations and large plantations, both state and private, through the independent core plantation pattern (Al-Jaktsa, 2018). The development of the area of oil palm plantations in Indonesia from 1980 to 2020 continues to increase, as can be seen in Table 1.

Table 1. Oil palm plantation land area in Indonesia according to cultivation status (ha) 1980 – 2020

Year	Homework	PBN	PBS	Total
1980	6.175	199.538	88.847	294.560
1990	291.338	372.246	463.093	1.126.677
2000	1.166.758	588.125	2.403.194	4.158.077
2010	3.387.257	631.520	4.366.617	8.385.394
2021	6.029.752	550.333	8.041.608	14.621.693

Source: (Direktorat Jenderal Perkebunan, 2021)

Table 1 shows that in 2021, 55% of oil palm plantations are managed by large private plantations, 41.24% by independent plantations, and large state plantations manage 3.76%. It is feared that the very rapid expansion and increase in palm oil production will ignore sustainability principles. Considering that palm oil is a mainstay commodity for farming in Indonesia, which has a strategic role in the national economy, there are concerns about the lack of concern for sustainability principles. This will undoubtedly threaten the sustainability of oil palm plantation businesses, namely from ecological, social, and economic aspects. (Purba, Veryady, & Hartoyo, 2010). However, the industry's growth has also made it challenging to manage adverse impacts, which has fueled the need to adopt sustainable practices.

To reduce the negative impacts of the palm oil industry, the Certification of Indonesian Sustainable Palm Oil (ISPO) was adopted as an initiative. Indonesian Sustainable Palm Oil (ISPO) certification is a business certification system for oil palm plantations that is economically, socially, and environmentally viable based on existing laws and regulations in Indonesia. The government has stated that ISPO certification is mandatory for class I, II, and III plantation companies integrated with product processing businesses. Meanwhile, ISPO is voluntary for plasma plantations originating from government land reserves, independent plantation businesses whose plantations are self-managed, and plantation companies that produce palm oil for renewable energy, which have a certificate validity period of five years from issuance (Ministry of Agricultural Business of the Republic of Indonesia

2015). ISPO aims to direct the palm oil industry towards farming practices that are more sustainable from an economic, environmental, and social perspective (Fahamsyah, Ermnato, & Pramudya, 2017).

Based on data from the Oil Palm Plantation Fund Management Agency (BPDPKS), as of March 2021, 755 ISPO certificates have been issued. 668 ISPO certificates were awarded to large private plantations, 67 ISPO certificates were awarded to large state plantations, and 20 ISPO certificates were awarded to independent plantations. For details of the land area certified by ISPO, see Table 2.

Table 2. ISPO-certified palm oil plantation area in Indonesia (ha) in 2021

Business Status	Land Area (ha)
PBS	5.450.000
PBN	320.000
Smallholder plantations	12.700
Total	**5.782.700**

Source: (BPDPKS, 2021)

Table 2 shows the area of ISPO-certified oil palm plantations, which covers 5,782,700 ha. However, the ISPO-certified independent oil palm plantation area is only 0.21% of the total independent oil palm plantation area in 2021, as presented in Table 1.

Bungo Regency, especially in the Pelepat Ilir area, is one of the areas whose economy depends on the palm oil industry. According to the latest data from the Jambi Province Plantation Office, 26 ISPO certificates have been issued in 2022, 6 of which were given to independent plantations. Table 3 below shows the area of land that has not been certified and that has been certified by ISPO and the year of certification by the district in Jambi Province.

Table 3. Area of mature land, production, ISPO-certified land, and year of ISPO certification of independent palm oil plantations Jambi Province by district

Regency	Land area (Ha)	Production (tons)	ISPO Certified Land Area (ha)	ISPO Certification Year
Muaro Jambi	89.964	232.725	-	-
Tanjab Barat	41.236	119.346	195,59	2020
Tebo	40.211	119.033	-	-
Batanghari	36.006	140.905	216,23	2018
Moaning	32.763	136.787	528,36	2019
Tanjab Timur	28.541	76.378	-	-
Bungo	27.612	104.038	414,26	2017
Sarolangun	22.439	54.271	-	-
Kerinci	19	14	-	-
Total	337.772	997.483	1.354,44	-

Source: (Dinas Perkebunan Provinsi Jambi, 2022)

Based on Table 3, it shows the distribution of ISPO certification across four districts. The first independent plantation to receive ISPO certification was Bungo Regency in 2017, with a certified land area percentage of 30,58%. The ISPO certification received by independent plantations in Bungo Regency is for plantations whose farmers are members of the Karya Mukti Village Unit Cooperative (KUD) located in Karya Harapan Mukti Village, Pelepat Ilir District with a total of 212 certified members.

Although ISPO has been introduced as a sustainable practice standard for the palm oil industry, its implementation at the local level requires in-depth review. Previous studies have revealed challenges in implementation, including a limited understanding of ISPO standards. This research aims to describe the performance of ISPO-certified independent oil palm farming in Pelepat Iir District, Bungo Regency.

This research will provide new insights regarding the sustainable palm oil farming practices of independent farmers who are ISPO certified.

METHOD

This research aims to understand the diversity of ISPO-certified independent oil palm farming practices in Karya Harapan Mukti Village, Pelepat Ilir District, Bungo Regency. This research uses a quantitative descriptive research method approach to answer the research objective: to provide a comprehensive picture of ISPO-certified independent oil palm farming practices in Karya Harapan Mukti Village. A descriptive approach is used to describe the phenomenon of existing agricultural practices, while Quantitative methods were employed to collect data in the form of measurable numerical values related to farming practices, aligning with the principles of descriptive quantitative research. This approach allows for the analysis of structured and standardized data, enabling objective evaluation of patterns and trends in the observed practices (Mukhid, 2021).

This research uses a descriptive research method. This approach describes the diversity of farming practices that have been ISPO-certified at the local level. Through quantitative descriptive analysis, this research will describe the performance of independent oil palm farming practices that have received ISPO certification. These aspects include land management, use of pesticides and fertilizers, harvesting, and community involvement. Participation and understanding of the community, especially farmers, is crucial in successfully implementing sustainable farming practices. The sample for this research is independent oil palm farmers who have obtained ISPO certification in Karya Harapan Mukti Village. Sampling was carried out purposively. The purposive sampling method is used because the researcher intentionally selects samples based on specific criteria relevant to the research objectives. The sampling frame or the number of farmers implementing ISPO in the village is unknown, so this method allows the researcher to choose farmers who meet specific criteria, such as ISPO certification. The eligibility criteria for selecting farmers as samples include obtaining ISPO certification, being actively involved in oil palm cultivation practices, and being willing to participate in the study. Farmers who were actively engaged in ISPO-certified independent oil palm farming practices.

Primary data was collected through in-depth interviews with selected farmers. The interviews were conducted using a structured questionnaire guide covering various aspects of farming practices, including land management, use of pesticides, and interaction with the surrounding community. In addition to interviews, direct observations will also be conducted in the field to examine the practices of independent oil palm farmers who are ISPO-certified. These observations will focus on specific farming activities related to ISPO certification, such as sustainable cultivation methods. They will provide a deeper understanding of how these practices are implemented in real-world contexts relevant to the study of sustainability in oil palm farming.

Secondary data, such as documents on oil palm farming regulations, ISPO certification standards, and records of certified farmers, will be collected to complement the primary data. These documents will help support the analysis of farming practices and the implementation of ISPO certification in the study.

Data analysis in this research will be carried out quantitatively. Data from interviews, observations, and documents will be analyzed using content analysis techniques. The analysis results will be organized and interpreted to provide a comprehensive picture of ISPO-certified oil palm farming practices. Data validity will be checked through data triangulation, comparing interview results with observation and document data. This will increase confidence in research results and reduce bias.

The validity of the research results will also be strengthened through a credibility test by involving several respondents as additional informants to provide different perspectives on ISPO-certified palm oil farming practices. The limitations of this research are related to the geographical coverage limited to Karya Harapan Mukti Village. However, it is hoped that the research results will provide valuable guidance for understanding the diversity of ISPO-certified oil palm farming practices at the local level.

RESULT AND DISCUSSION

In this study, the identity of the respondent farmers was used to determine the farmers' characteristics and describe their potential. Farmers used as respondents in this study were farmers whose oil palm plantations had been ISPO-certified. The identity of the sample farmers can be seen from various aspects, namely the farmer's age, the number of family members who are dependents, the level of education, farming experience, the area of land owned, and the production produced from the farming he runs.

a) Farmer Age

Age can affect the ability and way of thinking of a farmer (Sanjaya, 2015). According to (Tudi, et al., 2021) In general, farmers who are productive and healthy age have the mental ability to accept new things that are recommended more quickly, and vice versa. Based on the research results on 67 farmers in the research area, the farmers' ages range from 34 to 75, which can be detailed in Table 4 below.

Table 4. Distribution of respondent farmers based on age groups

Age group (Year)	Frequency (Person)	Percentage (%)
30-34	1	1,5
35-39	4	6
40-44	6	9
45-49	6	9
50-54	15	22,4
55-59	10	14,9
60-64	15	22,4
65-69	7	10,4
70-74	3	4,5
Amount	**67**	**100**

Source: Data Processed, 2024

Based on Table 4 illustrates that the age of respondent farmers in the research area is in the age group 50-54 and 60-64 years, totaling 15 people with a percentage of 22,4%. According to the Central Statistics Agency (BPS), the productive age range is 15-64. This illustrates that the age of the respondent farmers in the research area is mostly still at a productive age. Thus, the respondent farmers have stronger physical abilities and are more dynamic in thinking or making decisions regarding their oil palm farming business.

b) Level of education

The level of education is the most important basis for acquiring knowledge and skills (Soekartawi, 2002). It suggests that those with higher education are relatively faster in adopting

innovation. Likewise, if they have low education, it won't be easy to implement innovation adoption efficiently. Table 5 provides more details on the distribution and percentage of sample farmers based on formal education level in the research area.

Table 5. Frequency distribution and percentage of respondent farmers based on education level in the research areas

Level of education	Frequency (Person)	Percentage (%)
Didn't graduate from elementary school	7	10,4
Graduated from elementary school/equivalent	36	53,7
Middle School/Equivalent	17	25,4
High School/Equivalent	6	9,0
College	1	1,5
Amount	67	100

Source: Data Processed, 2024

Based on Table 5, it can be seen that the majority of farmers completed their education only at the elementary school level, namely 53.7%. Limited educational levels will influence the way of thinking, accepting, or rejecting new things. The higher the level of formal education of farmers, the wiser it will be in managing their farming, which can influence farming production, both quality and quantity. According to this, a limited level of education will affect the way of thinking, accepting, or rejecting new things. The higher the farmer's formal education level, the wiser he will be in managing his farm, which can affect farm production in quality and quantity.

c) Number of Family Members

The number of family members is all who live in the same house as the farmer, who is responsible for the farmer as the head of the family. The greater the number of family dependents, the greater the expenditure or costs must be incurred to meet household needs. The number of family members of the farmer can be seen in Table 6.

Table 6. Distribution of respondent farmers based on the number of family members in the research area

Number of Family Members (People)	Frequency (Person)	Percentage (%)
1-2	13	19,40
3-4	39	58,21
5-6	14	20,90
7-8	01	01,49
Amount	**67**	**100**

Source: Data Processed, 2024

Based on Table 6, the majority of ISPO farmer families have 3-4 family members, 58.21% or 39 farmers. The large number of family members who are dependent on farmers will encourage farmers to work harder to increase their income, which can help in farming activities and reduce the use of labor from outside the family if family members are of a productive age to work.

d) Farming Experience

Farming experience is the length of time a farmer has been running his farming business or the length of time he has been an oil palm farmer. According to Swastha, Basu, and Handoko (2002), farming experience is one of the factors that most determines a business's success because it is useful for business considerations and decision-making in the production, management, and marketing

processes. Table 7 shows the frequency distribution of sample farmers based on oil palm farming experience.

Table 7. Frequency distribution and percentage of respondent farmers based on farming experience in the research area

Farming Experience (Year)	Frequency (Person)	Percentage (%)
8-14	5	7,46
15-21	26	38,81
22-28	27	40,30
29-35	9	13,43
Amount	**67**	**100,00**

Source: Data Processed, 2024

Table 7 shows that oil palm farmers have an average experience of 48-54 years, with a percentage of 26.87% or as many as 18 farmers. This suggests that farmers have had experience cultivating oil palm for a long time, so they will be more careful in making decisions and acting in managing their oil palm farming.

Demonstration of ISPO Certified People's Palm Oil Farming Practices

Pelepat Ilir District is a production center area in Bungo Regency. There are already ISPO-certified oil palm farming businesses in Pelepat Ilir District, namely oil palm farmers who are members of the Karya Mukti Village Unit Cooperative in Karya Harapan Mukti Village. KUD Karya Mukti received ISPO certification on April 4, 2017. The oil palm plants of KUD Karya Mukti member farmers had planting years of 1992 and 1998, and they collaborated with PT then. SAL 2 and 3. Partnership programs between farmers and plantation companies in Karya Harapan Mukti Village, namely PIR-TRANS and KKPA (Primary Member Cooperative Credit). Receiving ISPO certification in 2017 aims to make palm oil prices and exports in Indonesia more competitive in foreign markets.

a) Production Factors

According to (Soekartawi, 2002)Production factors are everything used to produce a product or output, called a resource or input needed in the production process. The use of production factors in ISPO-certified oil palm farming in Karya Harapan Mukti Village, Pelepat Ilir District, consists of land use, Plant Year, Planting Distance, Number of Trees and Types of Seeds, fertilizer, pesticides, and labor (Siringoringo, 2023).

1. Land area

The land area is the size of the land owned by ISPO-certified oil palm farmers in Karya Mukti Village. The average land area of ISPO-certified farmers is 2.24 Ha per farmer, which shows that the land area owned by farmers is categorized as sufficient. This is an opinion. (Suharno, 2009) Which states that the average area of oil palm land for smallholders is 2.0 Ha/farmer. This area is not very large but sufficient to meet farmers' daily needs. The land area owned by ISPO farmers in the research area is 2 Ha, and the maximum area is 8 Ha. This land area is registered in ISPO certification, and oil palm farmers entirely on the status of the land in the research area. It is managed independently because the land owned by farmers in the research area already has a valid land ownership certificate that is legally registered, such as STDB and SHM.

2. Plant Year, Planting Distance, Number of Trees, and Type of Seedlings

Indonesian Sustainable Palm Oil (ISPO) certified palm oil farmers have a planting year of 1992 and a planting year 1998. PT manages palm oil planting. SAL 2&3 with the PIR TRANS program 1992 and the KKPA program 1998. Using superior seeds is one of the keys to success in cultivating oil palm plants, so it is expected to provide optimal results.

Table 8. Planting year, planting distance, number of trees, and types of ISPO-certified palm oil seeds in the research area

Description	Plasma	KKPA
Planting Year	1992	1998
Planting Distance	8 x 9 Meters	8 x 9 Meters
Number of Trees	260 Bars	271 Trunks
Types of Seeds	Let's see	Lonsum

Source: (BPDPKS, 2021)

Table 8 shows that the planting distance for ISPO-certified oil palm based on planting years 1992 and 1998 has the same planting distance with different numbers of trees. The types of seeds used in the 1992 planting year were Marihat type seeds, while in the 1998 planting year, they used Lonsum type seeds, as in Appendix 9. Marihat-type seeds have the advantage that they can produce sand fruit at the age of 2.8–3 years, FFB and CPO production produces 20 -30%, and its oil production consists of an average of 7.53 Tons/Ha/Year. The advantage of Lonsum-type seeds is that the oil yield is relatively high, ranging from 27% per TBS. Lonsum seeds are recorded as producing 31 tons/ha in approximately 6 years of planting.

3. Fertilizer Use

Fertilization aims to add food nutrients that plants need in the soil. Providing fertilizer with the right composition can produce high production. In oil palm farming, which applies sustainable palm oil principles, fertilizing is done 2-3 times a year, namely in April, August, and December.

Effectiveness in fertilization is influenced by the 4T elements, which consist of the right time, correct dosage, the correct method, and correct type, and this aims to obtain optimum, environmentally friendly, and sustainable production results. (Juliansyah, Gery, & Supijatno, 2018). (Pusat Penelitian Kelapa Sawit (PPKS), 2007) The optimum fertilization application is carried out with rainfall of 100-250 mm/month, with a minimum rainfall of 60 mm/month and a maximum of 300 mm/month from April to August.

Fertilization in ISPO-certified smallholder oil palm plantations follows the specified recommendations, namely carrying out fertilization with a frequency of 2 times a year, but the application of fertilizer does not entirely fulfill the 4T elements where farmers do not take into account the dose and type of fertilizer needed by oil palm plants. The fertilizer used by ISPO-certified oil palm farmers in the research area is not by recommendations from the Ministry of Agriculture, which recommends using a single fertilizer to match the plant dose. The following are general recommendations for using single fertilizers recommended by the Ministry of Agriculture, as shown in Table 9.

Table 9. General recommendations of the Ministry of Agriculture regarding palm oil fertilization

Plant age (years)	Type and dose of fertilizer (Kg/tree)				Amount (Kg)
	Urea	SP-36	MOP/KCL	Kieseriet	
3 – 8	2	1,5	1,5	1	6
9 – 13	2,75	2,25	2,25	1,5	8,75
14 – 20	2,5	2	2	1,5	8
21 – 25	1,50	1,5	1,25	1,5	5,75

Source: Cybext Ministry of Agriculture, 2019

Table 9 shows that fertilizer use at planting age 21-25 is recommended from 4 types of single fertilizer, namely 5,75 Kg/Tree. However, respondent farmers in the research area tend to use compound fertilizers such as NPK and Phonska. There is very little use of single fertilizers by respondent farmers because farmers do not need to bother determining the required dose and reduce transportation and labor costs when fertilizing. The average use of fertilizer in the study area can be seen in Table 10.

Table 10. Average fertilizer use in ISPO-certified people's palm oil farming in the research area

Description	Use	Recommendation	Status
Fertilization (Per Year)	2	3	1
NPK (Kg)	683	0	0
Urea (Kg)	88	382	(312)
KCL (Kg)	273	319	(70)
Kisrite (Kg)	234	382	(172)
SP 36 (Kg)	34	(382)	348
Phoska (Kg)	344	0	0
Organic (Kg)	334	0	0

Source: (BPDPKS, 2021)

Based on Table 10, it can be seen that the highest average use of fertilizer used by respondent farmers in the research area is NPK fertilizer at 683 kg/year, and the fertilizer that farmers least use is SP 36 fertilizer, which is only used at 34 kg/year. The use of a single fertilizer is not the general fertilizer recommendation for oil palms recommended by the Ministry of Agriculture, which advises the use of a single fertilizer, with recommendations that can be seen in Table 10. In the research area, the average number of oil palm plantations by respondent farmers is for one plot of land or 2 ha, namely 255 trees. So, the use of urea-type fertilizer should be 382 kg for plants aged >24 years in one fertilization but farmers only use 88 kg in one fertilization, as well as the use of other types of single fertilizer, not according to the recommendations that have been set. There are many facts that many factors influencers that do not comply with recommendations, such as those found in the field, respondent farmers do not want to bother determining fertilizer doses, and fertilizer prices continue to soar, which can increase the burden of expenses that are not in line with the cost of palm oil which constantly fluctuates at any time and the level of household expenses. Respondent farmer households are different, causing limited funds to carry out fertilization according to the recommendations.

4. Herbicide Use

Spraying on ISPO-certified palm oil farms in the research area is carried out once a year. The use of pesticides in ISPO-certified oil palm farming at the research location is in the form of herbicides, which aim to eradicate weeds that interfere with the growth of oil palms and weeds that interfere with the process of fertilizing and harvesting oil palms, so spraying is carried out at the gates, picking markets and harvest collection points (TPH).

The use of herbicides by ISPO-certified farmers has not been entirely as recommended, where farmers still use excessive doses of herbicides, namely the average difference between the

recommended and applied doses of 2, 8 liters (Table 11), of course, the use of pesticides not as recommended will have an impact ecologically sound for the soil, plants or other living creatures that can support ecological sustainability.

Pesticides are chemicals that can pollute the environment through water, soil, and air directly related to plants, animals, and humans. Pesticide residues on soil are usually seen at saturation levels due to the high pesticide content per unit volume of soil. The nutrients in the soil will be increasingly stressed and difficult to regenerate, resulting in the soil pH dropping and being unproductive, so excessive use of pesticides in oil palm farming is not environmentally friendly. The less use of pesticides that are applied to the land, the fewer negative impacts it will have. (Arif, 2015). The use of pesticides on oil palm land in the study area can be seen in Table 11 below.

Table 41. Average herbicide use in ISPO-certified people's palm oil farming in the research area

Description	Use	Recommendation	Status
Herbicide Spraying (year)	1	2	1
Round-Up (Liters)	1,2	-	-
Gramaxone (Liter)	4,6	-	-
Rambo (Liters)	1,3	-	-
Turmadan (Liter)	1,7	-	-
Amount (Liter/Year)	**8,8**	**6**	**2,8**

Source: (BPDPKS, 2021)

Table 11 shows the Herbicides used in ISPO-certified oil palm farming in the research area, namely Round-Up, Gramaxone, Rambo, and Turmadan. The average herbicide used by farmers is Gramaxone, which can be used as much as 4.6 Liters/year and is classified as a contact poison. The herbicide that is least used by farmers is Round-Up, which can be used as much as 1 liter/year and is classified as a systemic poison.

5. Use of Labor

Labor is the amount of energy devoted to each production activity in palm oil farming. The labor used comes from both within and outside the family. Workers are assigned to fertilizing, spraying, sprouting or pruning, harvesting, and shunting or transporting fruit to the harvest point (TPH). The following is the use of labor in the research area, which can be seen in Table 12.

Table 12. Average use of labor in ISPO-certified smallholder palm oil plantations in the research area

Description	Use
Family Labor (HOK/Ha/Year)	5,84
Outside Family Labor (HOK/Ha/Year)	32,46
Total Workforce (HOK/Ha/Year)	38,3

Source: Data Processed, 2024

Table 12 shows that in the research area, farmers use more labor outside the family, namely 32.46 HOK/Ha/Year, and use labor within the family less, namely only 5.83 HOK/Ha/Year. The labor agreement between farmers and workers in the research area covers labor wages for each activity. For fertilization, the wage paid is IDR 120,000/day, for spraying activities IDR 150,000/day; when paying/pruning, the wholesale rate is calculated, namely from IDR 900,000– IDR 2,250,000 based on whether or not many fronds must be taken down, for harvesting and transporting the fruit to the TPH, it is calculated based on weight (tons), namely IDR 100,000– IDR 250,000/ton.

6. Use of Agricultural Equipment

Agricultural tools are conventional tools or machines used in farming activities. The tools used in ISPO-certified oil palm farming in the research area consist of 8 types of tools that have different functions needed for the respondent farmers' farming activities. The tools used include egreg, rickshaw, machete, Cancun, spray kep, gabions/transport baskets, fruit, and took.

a) Production

Production is the final result of the entire ISPO-certified oil palm farming production process. The product produced from oil palm farming in the research area is Fresh Fruit Bunches (FFB). Fresh Fruit Bunches (FFB) harvesting in the research area is carried out twice a month or twenty-four harvests in one year. ISPO-certified palm oil farming production can be seen in Table 13.

Table 13. Distribution of fresh fruit bunch production by sample farmers in the research area

Production (Tons)	Frequency (Person)	Percentage (%)
30-37	62	93
48-65	0	0
66-83	2	3
84-101	1	1
102-119	1	1
120-137	0	0
138-155	1	1
Amount		100

Source: Data Processed, 2024

Table 13 shows the distribution of sample farmers' production during one year, with total production between 30 tons and 150 tons. The average ISPO-certified palm oil production range for sample farmers is 30-37 tons, 93%, and respondent farmers who have the highest production, namely between 138-155 tons, are 1% of the total respondent farmers.

b) Price of Fresh Fruit Bunches (FFB)

Table 14. Average price of fresh fruit bunches 2023

Month	Jambi Disbun Price (IDR)	PKS Partner Base Price (IDR)	Realization (IDR)	Disbun Difference (IDR)
November	3.102	3,000	2,967	135
December	3,050	2,968	2,935	115
January	3,093	3,026	2,993	99
February	3,266	3,180	3.147	119
March	3,545	3,423	3,390	155
April	3,505	3,086	3,053	452
May	2,819	1,880	1,847	971
June	2.118	1,443	1,410	707
July	1,527	1.104	1,071	456
August	2,007	1,437	1,404	603
September	2,217	1,863	1830	387
October	2242	2032	1,999	243

Source: Data Processed, 2024

The average price of fresh fruit bunches for oil palm in the study areas from November 2021 to October 2022 is IDR 2,370/kg, with the lowest price at IDR 1,104/kg and the highest price reaching IDR 3,423/kg. FFB prices fluctuate due to the influence of export prices. However, the price received by farmers in the field has a difference between the base price set by the Provincial Agency for Plantation, PKS partners and the realization received by farmers, namely the highest difference between

the price set by the Plantation Agency and the realization received by farmers reaching IDR 971 which occurred in May 2022 and the lowest difference occurring in January 2022 amounting to IDR 99. While the difference in the price of FFB set by the PKS and the realization received by the farmers is IDR 33, this is because there are administrative fee deductions that the farmers must pay to the cooperative, including administrative costs; (1) DO services are IDR 7.75, (2) Farmer group fees are IDR 10, (3) Outpatient care are IDR 5, and (4) PG administration is IDR 5. Apart from finding information in the field submitted by the farmers, the respondents stated that ISPO farmers were not privileged in the FFB price because both ISPO-certified and non-ISPO-certified farmers received the FFB price at the same price. The following is a breakdown of FFB prices in the study area, as seen in Table 13. Apart from finding information in the field submitted by the farmers, the respondents stated that ISPO farmers were not privileged in the FFB price because both ISPO-certified and non-ISPO-certified farmers received the FFB price at the same price. The following is a breakdown of FFB prices in the study area, which can be seen in Table 13. In addition, based on information findings in the field submitted by farmers, respondents stated that ISPO farmers do not receive special FFB prices because both ISPO and non-ISPO-certified farmers receive FFB prices at the same price. The following are details of FFB prices in the research area, which can be seen in Table 14.

CONCLUSION

The performance of ISPO-certified independent oil palm plantation farming practices is not under ISPO recommendations and norms, the use of fertilizers and herbicides is also not under recommendations and there is no difference in the price of FFB received by ISPO-certified farmers. The research findings indicate that independent oil palm plantation practices certified by ISPO still show low compliance with ISPO recommendations and norms, with only 57.04% adherence and no price difference for Fresh Fruit Bunches (FFB) between certified and non-certified farmers. This highlights the need for increased support, awareness, and economic incentives to encourage sustainable practices among smallholder farmers. In the future, it is hoped that independent oil palm farmers can adopt various sustainable farming practices based on ISPO standards. These practices include environmentally friendly land management and the use of pesticides that are more up to the mark in implementing sustainable standards. Furthermore, it is necessary to increase training and education from the government and related stakeholders regarding good agricultural practices.

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