

## Oil Palm Cultivation and Social Indicators of Independent Smallholders in Pompa Air: A Review

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### ABSTRACT

*This study aims to describe the independent smallholders' oil palm farming and the social conditions of the ISPO-certified farmers, who are members of KUD Mutiara Bumi. Descriptive and quantitative data were used to describe oil palm farming and the social needs of independent smallholders who received ISPO certificates. The results showed that the average oil palm production was 23,788 Kg/Ha/Year with an average selling price of IDR. 1,578/Kg. The land use is 3.12 Ha/Farmer, the number of trees is 132/Ha, fertilizer 920 Kg/Ha/Year, pesticides 8.02 litre/Ha/Year, and labour is 64.46 working days/Ha. For comparison, the measurement of farmer social studies consists of livelihood, education level, housing, and consumption patterns. Therefore, each hand was classified with the appropriate category, except for livelihood and education indicators. Ownership of an ISPO Certificate requires a commitment to maintaining compliance with standards and improving social indicators.*

**Keywords:** Oil Palm, Farming, Social Indicators, ISPO

### INTRODUCTION

Oil palm can produce much more vegetable oil per unit of land area than most other oil-producing plants. This comparative advantage has caused palm oil to be widely used for direct consumption, biofuel, and as an ingredient in many processed foods, cosmetics, pharmaceuticals, and other industrial products. (Corley & Tinker, 2016) The global oil palm area has increased from under 5 million hectares in 1980 to more than 20 million hectares in 2018. Most of this increase occurred in Indonesia and Malaysia. Exports from these two countries now account for nearly 85% of internationally traded palm oil (FAO, 2019).

Pompa Air is the village with the largest land area and highest production in Bajubang, with a value of 628 hectares

and 1,044 tons, respectively (Pujiwidodo, 2016). However, in terms of productivity, it is in seventh place, with a value of 3.955 tons/ha. Therefore, smallholders should still be able to increase their production. Pompa Air is home to the highest number of smallholders in Bajubang (170). In 2018, Pompa Air became the first and only village that has received an ISPO (Indonesia Sustainable Palm Oil) certificate in Batanghari and was accepted into the Mutiara Bumi Village Cooperative is funded by the Batanghari regional budget.

According to the head of Mutiara Bumi, the cooperative was established in 1999. At that time, Mutiara Bumi was a savings and loan cooperative and was only active for two years. Following this, the cooperative deed was updated and revised. Starting in 2002, the cooperative

began to engage in agriculture and plantation. Mutiara Bumi consists of a Chairman, Vice Chairman, Secretary, Treasurer, Supervisor and Members. The cooperative office was built in 2018. However, it still carries out door-to-door activities such as the payment for sold fresh fruit bunches (FFB) at the treasurer's home. The business activities of Mutiara Bumi include buying and selling FFB and procuring fertilizer.

Mutiara Bumi consists of nine smallholder groups, three of which are ISPO-certified and 75 certified smallholders. The plants in oil palm plantations in Pompa Air are still at their productive age, ranging from 5 to 18 years. The FFB marketing chain is as follows: ISPO-certified smallholders sell their FFB to Mutiara Bumi, and the cooperative sells directly to companies. Mutiara Bumi is an intermediary for smallholders to sell their FFB to companies. Mutiara Bumi is partnered with several companies that own palm oil mills, including PT ASL (Asia Sawit Lestari) and PT Erasakti Wira Forestama (EWF). While each company buys FFB at different prices, Mutiara Bumi only takes IDR. 15- per kg of FFB from each transaction.

The quality of ISPO-certified smallholders is higher in many aspects, including cultivation activities that are more focused and environmentally friendly (Mulyono, 2020). For example, fertilizer and pesticide use follow the schedule and doses recommended by ISPO, resulting in higher quality FFB. (Fuadah Deilla, 2018). ISPO has advantages and disadvantages that can be felt directly by the smallholders. The benefits of implementing ISPO are increased production and fair FFB prices (Ernah, 2021). The disadvantages or weaknesses of ISPO are the high operational costs. Complying with the ISPO principles and criteria requires substantial funds, including those needed for fertilizers, pesticides and labour. (Agustina et al., 2014). The social conditions of ISPO-certified oil palm smallholders that are part of Mutiara Bumi need to be studied further to analyze their influence on smallholder

income. It will ensure that smallholders can meet their socio-economic needs.

## METHODOLOGY

This research was carried out in the Water Pump Village, Bajubang District, considering that the Water Pump Village is the only village that has received an ISPO certificate in Bajubang District. This research was conducted purposively and consisted of 3 ISPO certified farmer groups, namely the Sido Mukti, Suka Maju and Teras Jaya farmer groups, with a population of 75 farmers. For each farmer group, a precision of 15% was taken, in more detail, where the number of samples for each farmer group was 15. The number of samples in each farmer group was determined by the Cross-Sectional method. Social conditions were measured using the Score Range method, which classifies the results into two categories, namely excellent and poor. It is calculated as follows (Sugiyono, 2012):

$$SR = \frac{HS - LS}{NC}$$

Where:

- SR = Score range
- HS = Highest score (3 x 4 = 12)
- LS = Lowest score (1 x 4 = 4)
- NC = number of classifications (2)
- 4 = number of social indicators (livelihood, education level, housing, and consumption patterns)
- 3 = Highest indicator score (good)
- 2 = Second-highest indicator score (fair)
- 1 = Lowest indicator score (poor)

The equation produced a score range (SR) of four. Based on this result, the social conditions of oil palm smallholders can be classified as follows:

1. A score of 4 to 8 indicates a poor social condition.
2. A score of 8 to 12 indicates an excellent social condition.

The total score is obtained from the livelihood, education level, housing, and consumption pattern scores. The results are then classified into one of the two categories above.

## RESULTS AND DISCUSSION

### Overview of Oil Palm Cultivation

Bajubang is one of the main areas of oil palm production in Batanghari. Pompa Air is the only village with a village cooperative, Mutiara Bumi, whose members are ISPO certified. Mutiara Bumi consists of 144 members and nine smallholder groups. However, only three

groups are ISPO-certified, comprising 75 farmers or 52.1% of the total oil palm smallholders in the research location (144). The research location's overview of oil palm cultivation includes land area, plant age, fertilizer use, pesticide use, labour, cultivation tools, production and prices.

**Table 1**  
**Overview of Oil Palm Cultivation in the Research Location**

Overview	Plant Age (Years)					
	10	11	12	13	14	15
Land Area (Ha)	3,05	2,48	3,02	3,79	2,4	1
Total Plants	132	131	132	132	136	130
Planting	9 x 8	9 x 8	9 x 8	9 x 8	9 x 8	9 x 8
Distance	Meter	Meter	Meter	Meter	Meter	Meter
Seed	Marihat	Marihat	Marihat	Marihat	Marihat	Marihat
Fertilizer Use (Kg/Ha/Year)	2 - 3 x Per Year	2 - 3 x Per Year	2 - 3 x Per Year	2 - 3 x Per Year	2 - 3 x Per Year	2 - 3 x Per Year
1.NPK	316	390	255	373	300	390
2.Urea	301	197	237	312	250	-
3. TSP	86	-	165	137	300	-
4.KCl	131	-	-	214	300	-
5. Dolomit	17	-	-	17	-	-
6. Organic	30	124	-	-	200	1.540
Total	881	711	657	1.053	1.350	1.930
Trimming	2 x Per Year	2 x Per Year	2 x Per Year	2 x Per Year	2 x Per Year	2 x Per Year
Pesticide Spraying (Liter/Ha/Year)	1 x Per Year	1 x Per Year	1 x Per Year	1 x Per Year	1 x Per Year	1 x Per Year
1. Round-Up	1	4	1	-	-	-
2. Gramaxon	7	4	7	8	8	8
Total	8	8	8	8	8	8
Harvest	24 x Per Year	24 x Per Year	24 x Per Year	24 x Per Year	24 x Per Year	24 x Per Year
Production (Kg/Ha/Year)	25.315	24.234	20.316	24.033	24.000	22.000

Source: Processed Primary Data, 2021

Table 1 shows differences in land area and total plants between oil palms aged 10 to 15 years. Smallholders carry out the same maintenance procedures regardless of plant age. The differences in land area, plant age, and whole plants cause production to vary. Production significantly affects smallholder income; the higher the production, the higher the income (Sibarani et al., 2015).

### Social Conditions of Smallholders

Livelihood is an indicator that significantly affects an individual's condition and social status (Lalita et al., 2019). In this case, it is the respondents' income source in the research location. An individual's livelihood ensures the fulfilment of their needs, including stability, activities and assets (Rusmawardi, 2007). The existence of oil palm plantations has reduced unemployment rates and increased household income (Syamsudin, 2011). Based on the cultivation pattern,

the livelihood asset distribution in the research location can be seen in Table 2.

**Table 2**  
**Distribution of Livelihood Assets Based on Cultivation Pattern**

Cultivation Pattern	Description	Frequency (Persons)
Pattern I	Oil Palm	32
Pattern II	Oil Palm + Rubber	5
Pattern III	Oil Palm + Rubber + Livestock	1
Pattern IV	Oil Palm + Melon	4
Pattern V	Oil Palm + Livestock	3
Total		45

Source: Processed Primary Data, 2021

The results show that pattern I is the primary source of livelihood for smallholders, while Patterns II to V is secondary sources. Oil palm smallholders do not solely depend on oil palm as their livelihood (Ernia Lestari et al., 2015). The livelihood indicator has seven measurement parameters. The distribution of smallholders based on their livelihood can be seen in Table 3.

**Table 3**  
**Distribution of Respondents Based on Livelihood**

Parameter	Score	Frequency (Persons)
Livelihood affects the social status of smallholders	a. Agree	3
	b. Neutral	2
	c. Disagree	1
Respondent has secondary sources of income aside from oil palm	a. Yes	3
	b. Occasionally	2
	c. No	1
Respondent is engaged in Pattern I as the primary source of livelihood	a. Yes	3
	b. Occasionally	2
	c. No	1
Respondent is engaged in Pattern II	a. Yes	3
	b. Occasionally	2
	c. No	1
Respondent is engaged in Pattern III	a. Yes	3
	b. Occasionally	2
	c. No	1
Respondent is engaged in Pattern IV	a. Yes	3
	b. Occasionally	2
	c. No	1
Respondent is engaged in Pattern V	a. Yes	3
	b. Occasionally	2
	c. No	1

Thirteen smallholders have secondary sources of livelihood, and 32 smallholders do not. Smallholders with a small land area utilize the land to support family needs (Pramudya et al., 2013). Based on the livelihood indicator, the

social conditions of respondents can be classified as poor as most only have one source of livelihood. The distribution of respondents based on education level can be seen in Table 4.

**Table 4**  
**Distribution of Respondents Based on Education Level**

Parameter		Score	Frequency (Persons)
Education level affects the social status of smallholders	a. Agree	3	45
	b. Neutral	2	-
	c. Disagree	1	-
Education Level	a. Senior High school	3	6
	b. Junior High school	2	12
	c. Primary School	1	27

Source: Processed Primary Data, 2021

The education level of the respondents varies from primary school to senior high school. The majority of respondents (27) have only finished primary school. Oil palm cultivation practices impact social factors, specifically education (Nursaimatussaddiya, 2017). Based on education level, the social conditions of smallholders can be classified as poor. The level of education also determines the ability of an individual

to digest information and relates to the quality of cultivation activities (Anggreany et al., 2016). Smallholders with a high education level are more capable of handling oil palm cultivation as an agribusiness entity rather than solely fulfilling family needs. The distribution of respondents based on housing can be seen in Table 5.

**Table 5**  
**Distribution of Respondents Based on Housing**

Parameter		Score	Frequency (Persons)
Land and home ownership	a. Owned	3	45
	b. Leased	2	-
	c. Staying at another household	1	-
House type	a. Permanent	3	24
	b. Semi-permanent	2	21
	c. Temporary	1	-
Roof type	a. Tiled	3	34
	b. Iron sheeting	2	11
	c. Thatching	1	-
Floor-type	a. Ceramic	3	13
	b. Cement	2	32
	c. Soil	1	-
Wall type	a. Stone	3	23
	b. Wood	2	22
	c. Plywood	1	-
Sufficient floor area for all family members	a. Yes	3	45
	b. In process	2	-
	c. No	1	-
Lighting source	a. Electric/PLN	3	45
	b. Kerosene lamp	2	-
	c. Oil lamp	1	-
Water source	a. PAM	3	-
	b. Well	2	45
	c. River	1	-
Toilet type	a. Squat toilet	3	45
	b. Pit toilet	2	-

Toilet ownership	c. River	1	-
	a. Yes	3	45
	b. In progress	2	-
	c. No	1	-

Source: Processed Primary Data, 2021

All respondents own their land and house. The average floor area is sufficient for each family member. Respondents receive electricity from the State Electricity Company (PT Perusahaan Listrik Negara/PLN) and utilize wells as a water

source. Based on the housing indicator, the social conditions of respondents can be classified as good. The distribution of respondents based on consumption patterns can be seen in Table 6.

**Table 6**  
**Distribution of Respondents Based on Consumption Pattern**

Parameter		Score	Frequency (Persons)
Respondent consumes breakfast	a. Always	3	45
	b. Sometimes	2	-
	c. Never	1	-
Respondent consumes lunch	a. Always	3	45
	b. Sometimes	2	-
	c. Never	1	-
Respondent consumes dinner	a. Always	3	45
	b. Sometimes	2	-
	c. Never	1	-
Respondent consumes rice as a Staple food	a. Always	3	45
	b. Sometimes	2	-
	c. Never	1	-
Respondent consumes healthy food	a. Always	3	-
	b. Sometimes	2	6
	c. Never	1	39

Source: Processed Primary Data, 2021

The fulfilment of food needs is indicated by the completion of energy and protein needs (Husnul Amaliyah, 2011). Respondents consume rice as a staple food. However, they rarely consume healthy food. Respondents consume food daily, during breakfast, lunch, and dinner. Based on consumption patterns, the social

conditions of respondents can be classified as good. The four indicators are used to measure the social needs of the respondents using the SR method, with the results classified as excellent or poor. The classification of the social conditions of respondents can be seen in Table 7.

**Table 7**  
**Classification of the Social Conditions of Respondents**

Indicator	Score Range (SR)	Classification	Frequency (Persons)
Livelihood	7 – 14	Poor	45
	15 – 21	Good	0
Education Level	2 – 4	Poor	27
	5 – 6	Good	18
Housing	10 – 20	Poor	0
	21 – 30	Good	45
Consumption Pattern	5 – 10	Poor	0
	11 – 15	Good	45

Source: Processed Primary Data, 2021

Table 7 shows that the social conditions of oil palm smallholders in the research location are generally good. However, all respondents belong in the poor category in the livelihood indicator due to the majority having only one source of livelihood. The education level indicator shows that 27 respondents belong to the poor class. It is due to the majority of respondents have only finished primary school. The low level of education among smallholders is due to their low income, which prevents them from pursuing further education (Siradjuddin Irsyadi, 2015).

The score range method used for the four indicators, namely livelihood, education level, housing and consumption patterns of respondent farmers, and the social conditions of oil palm smallholders in the research location, are classified as good. The low socio-economic conditions of oil palm smallholders are due to low palm oil prices, which hinder the maintenance and fertilization of oil palm plants (Ridho, 2018). Smallholders prioritize basic household needs and education costs for their children. The lack of fertilizer use severely decreases yield (Syahza, 2011). Due to such conditions, smallholders face significant difficulties in managing their plantations which causes their economic conditions to be negatively impacted.

## CONCLUSION

The average smallholding size is 3.12 ha/smallholder, the average plant per hectare is 132/ha, the moderate fertilizer use is 920 kg/ha/year, the average pesticide use is 8.02 litres/ha/year, and the average labour use is 64.46 working days/ha. The social conditions of respondents were measured using four indicators, namely livelihood, education level, housing and consumption patterns using specific measurement parameters. Respondents belonged in the poor category for the livelihood and education level indicators, while based on the housing and consumption pattern indicators, they were categorized as good.

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