

## Quality Income: What is in the Mind of the Palm Oil Smallholders?

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### Abstract

This study aims to investigate the concept of quality income from the perspective of the palm oil smallholders in Malaysia. This includes identifying the meaning of quality palm oil income based on the smallholders' perspectives and evaluating the palm oil income quality according to a specific income quality dimension. This study employs a qualitative research design that involves structured-interviews with seven palm oil smallholders. The findings indicate the articulation of quality income concept reflects six themes consisting of the output, cost of living, operational cost plus surplus, personal criteria and commodity price basis. The evaluation of the quality of income, based on a range of criteria, shows that the informants perceived palm oil income as inconsistent, insufficient, unpredictable in its amount and the sustainability is subjected to extra effort taken by the smallholders. Three factors that disrupt the quality of palm oil income: high farm maintenance cost, workers problems, and irrelevant regulations that indirectly affect smallholders' income. This is the first attempt to investigate the issue by presenting fresh insight directly from the smallholders through a qualitative investigation. Based on the analysis we have suggested a conceptual framework on factors affecting the quality of smallholders' farm income which developed directly from the smallholders' perspective.

**Keywords:** Palm Oil, Smallholders, Income, Quality Income, Farm Income, Qualitative, Malaysia

### Introduction

Agricultural is an important sector that provides sustainable livelihoods for people of rural areas in developing countries (Mitchell, 2011; Omar et al., 2013). The agricultural sector is a place where many poor and vulnerable people are trapped especially within the developing and poor countries context (Oxfam, 2018; Sulistyati et al., 2019; Waart et al., 2021). In most developing and poor countries, agricultural activities are usually conducted at an

unproductive scale and are exposed to deficiencies such as lack of awareness on effective agriculture practices and technical skills, lack of knowledge about markets, inability to get quality and certified seeds, and lack of access to financial and credit facilities to support capital expenditures and farm maintenance materials and low productivity (Ali-Olubandwa et al., 2011; Dev, 2012). The interconnected deficiencies led to an endless issue of low income and poverty among the smallholders, especially in rural areas. The income generated by the agricultural activities needs to be improved in order to increase the social and economic wellbeing of smallholders and people in rural areas. In parallel with the Sustainable Development Goals (SDG) aim of reducing all types of poverty, more focus is necessary to explore agriculture income related issue where most vulnerable people are involved. Thus, studies on the behaviors of the income generated by small scale palm oil activities are necessary to understand the concept of quality income and to explore solutions for the betterment of rural people's situations.

A study by Wee & Kuppusamy (2018) found that most smallholders are categorized as the hardcore poor, with household income that falls far below the national poverty line. According to Senawi et al (2019) an uneconomic farm size of less than 3.9 hectares could only generate a net income of RM1,600 per family for the smallholders. Such a level of income falls in the category of poor household income. Therefore, the issue of smallholders' agricultural income is important to be addressed by current research. This study aims to investigate the meaning of a quality palm oil income in the minds of palm oil smallholders. The understanding of quality income concept based on smallholders' perception will shed insight into the criteria that constitute the definition of quality income, as derived from the smallholders' expectations and experience. On top of that, the smallholders' evaluation on the palm oil income based on specific criteria that posited to be the potential dimensions for quality income is examined to provide an overview of the ability of palm oil to form a reliable income source for smallholders within a particular context.

## **Literature Review**

### ***The Issue of Smallholders Farm Income***

Poverty is a challenging issue in most developing countries because many of the smallholder households are in the vulnerable condition due to the low living income that falls below the acceptable standard (Waarts et al., 2019; Oxim, 2018). Low farm income is closely related to the issue of poverty. According to Ogwumike and Akinnibosun (2013) poverty among the agricultural households is contributed by various factors. The poverty factors among small farmers consist of lack of productive assets such as land, equipment, credit access and network support from families and friends; lack of basic necessities such as clean water, education and healthcare; and income deficits that hinder them from getting enough food, cloth, housing and self-empowerment (Ogwumike and Akinnibosun, 2013). Meanwhile Sulistyati et al (2019) study identified the poverty trap among smallholders of dairy farm has consist of lack of capital, low productivity, low savings and investments. The poverty factors may directly lead to another type of poverty and some factors may have indirect influence to another type of poverty through the formation of asymmetry situation such as inequality of rights and opportunities. Therefore, smallholders poverty is assumed as a multi-dimensional problem that relates directly to the quality of income generated from the agricultural sector. Poverty is defined as inability to satisfy basic needs and measured based on income and expense indicators (Wee & Kuppusamy, 2018). Low income jeopardize the person's ability to possess a decent living status. According to Ogwumike and Akinnibosun (2013), poverty

among farmers in Nigeria is associated with factors such as age, household size, income, farm size and differential in geo-political location. Ogwumike and Akinnibosun's (2013) findings show that income from farming activities has a negative relationship with poverty. It means that the more income generated from the farming activities, the lower the probability to be poor. Farm size is also found to have a negative relationship with poverty, in which larger farm size leads to lesser probability of becoming poor. The findings reiterate that income from the farming activities of the smallholders is a significant factor that influences smallholders' poverty level. Wee & Kuppusamy (2018) found most of the smallholders are in the category of hard core poor, due to the reduction of income resulting from commodity price drops. A study by Mat et al (2012) found that non-farm income was able to reduce the severity of poverty level among agriculture households. Nevertheless, non-farm income has also increased the income inequality gaps among households with non-farm income and without non-farm household income (Mat et al., 2012). This leads to an inequality issue within the smallholder population. Some of the smallholders may have obstacle to obtain non-income income, such as lack of capital, lack of capabilities due to individual factors (i.e. age, health condition and lack of knowledge or skills), and unavailability of resources to carry out small business and other non-farm based projects (Ahmad et al., 2020; Ahmad et al., 2015). Reducing all forms of poverty and inequality within each country has become an SDG priority (United Nations<sup>a, b</sup> 2020). Thus, farm based income remains important in line with reducing inequality in the palm oil smallholders context.

In conjunction with poverty eradication and improving the farm based income, studies on income quality of all types of commodities including the palm oil sector is necessary. The reason underlying it is that the smallholders main income is generated from their primary economic activity, which is the palm oil farming. Thus, the farm income from the palm oil commodity is expected to reach a certain level to support a reasonable decent lifestyle for the smallholders. This study falls within the domain of farm income behavior and thoroughly investigates the quality income concept based on the smallholders' opinions.

### ***Study on Smallholders Farm Based Income***

In the context of existing studies there is no specific study that has taken initiative to assess or measure the extent to which the income received by the smallholders is considered quality or vice versa. Current existing studies on palm oil smallholders within the Social Sciences scope has relatively concentrated at describing issues such as the challenges faced by the smallholders along the value chain of producing the fresh fruit bunch (FFB) Rosniza et al (2018); smallholders' sustainable practices through MSPO certification Mcbrown et al (2015); MSPO implications for the environment, economy and society within the context of smallholders Senawi et al (2019); and the practices and benefits of the fertigation activity on the social and economy of the palm oil smallholders (Ramli et al., 2018; dan Ramli et al., 2017). As far as studies on smallholders' income are concerned, Ramli et al (2017) examined the perception of smallholders on the extent to which integration activities increase PKS income. Nevertheless the study does not cover on assessing the quality of palm oil smallholders revenues specifically.

Ramli et al (2017) examined the smallholders income issue by focusing on the smallholders as the relevant unit of analysis and by looking at the smallholders household income generated through various source of income-generating activities (combined income). A study by Asnari and Wahid (2018) also examined a different issue which on the smallholders involvement in business as an alternative to increase the smallholders income. Thus, there is

a gap in the study of smallholders income that focuses on examining the quality of income generated merely from the palm oil farming activities of the smallholders (farm income). In terms of methodology, there is a gap in the unit of analysis in which there must be a specific study to examine the quality of income generated from the palm oil farming activities and not individual smallholders. The gaps lead toward unanswered question on the quality of the palm oil income to become reliable source of livelihood for most of the smallholders that merely rely on the commodity as their income. Such understanding is necessary to promote the economic wellbeing of palm oil smallholders through improvements in the aspects that form the pillar of the quality of income generated from palm oil farming activities.

Waart et al (2021) discussed the concept of living income. Living income is a concept which refers to the net annual income required for a household in a particular place to afford decent standard of living. Perpetually low income levels are one of the key reasons why farmers remain stuck in poverty and under-invest in their farms, and why young people are leaving rural areas (Oxfam, 2018). In order to attain SDG in reducing poverty among all groups, the income issue for smallholders is indeed important to be explored. Thus, addressing farmer income should be the central part of the effort in line with the SDG. Nevertheless, studies that look deeply into the issue according to the smallholders perspectives are relatively scarce.

Referring to the definition on living income, we posit that living income is the quality income that should be obtained by the smallholders. Thus, there are a few basic criteria that need to be fulfilled for an income to be considered as a quality income. The criteria include consistency, sufficiency, predictability and provide long term income security. Consistency refers to the ability to provide stable and reliable income for the smallholders in most situations. Sufficiency refers to the ability of the income to provide reasonable purchase power that lead to descent living conditions. Predictability refers to the ability of smallholders to predict certain patterns of the income amount and timing of received for each harvest cycle. Finally, the ability to provide long term income security refers to the extent to which the income is able to become sustainable livelihood mean for the smallholders.

## **Method**

The study aims to comprehend the meaning and indicators of quality agricultural income among smallholders who are producers of FFB. Qualitative research aims to address questions concerned with developing an understanding of the meaning and experience dimensions of human lives and social world (Atieno, 2009; Fossey et al., 2002). Thus, the study's purpose fits the qualitative research design, which attempts to discover new knowledge based on the subjective perspectives, feelings and experience of the palm oil smallholders. This exploratory and descriptive study has applies structured interviews to acquire relevant information from the informants.

### ***Selection of Informants***

The interviews involved informants from seven palm oil smallholders. The informants were selected through the purposive and snowball sampling techniques. The identifying of the study informants process began with a list of smallholders' contact number obtained from the agency that responsible in overseeing the country's palm oil industry namely the Malaysian Palm Oil Board (MPOB). Next, the researcher contacted each number in the list to seek informants' cooperation to involved with the interview sessions. Based on the list of the contact numbers given by the agency, only a few of the given numbers are valid. Furthermore, only a few of the identified smallholders have agreed to participate in the

interview sessions. Finally, the study managed to conduct interviews with seven informants either through direct arrangement (referred as the purposive technique) or through recommendation by other informants (referred as the snowball technique). Table 1 represents the profiles of the informants. The unit of analysis for this study is the smallholders' income.

Table 1  
*Informant Profiles*

No.	Name	Age	Size of Farms	Involvement as Oil Palm Smallholders	Income from oil palm in 2 recent years (approximately)	Other job
<b>First Stage Interview Sessions:</b>						
1.	Mr. Z	63	3.98 hectares	35 years	+25 ton	Yes
2.	Mr.AH	62	3.98 hectaes	35 years	+25 ton	Yes
3.	Mr. S	73	4 hectares	18 years	+ 28 ton	No
4.	Mr. R	68	3.98 hectares	47 years	+ 29 ton	No
<b>Second Stage Interview Sessions:</b>						
5.	Mr. N	62	3.2 hectares	12 yeras	No data	Yes
6.	Mr. Rj	70	12 hectares	30 years	+15 ton	No
7.	Mr. Sb	34	20 hectares	9 years	No data	Yes

### ***Interview Protocol***

An interview protocol has been developed to ensure consistency of the interview sessions across different informants. The structured questions were as follows

- i. What does quality palm oil income mean, based on your understanding?
- ii. What are the characteristics for an income to be considered as good and able to ensure a sustainable livelihood?
- iii. Does your palm oil income currently meet these criteria (whether yes or no, explain why):
  - (a) Consistent
  - (b) Sufficient to maintain livelihood
  - (c) Predictable
  - (d) Ability to provide long term income security
- iv. What are the problems that affect the quality of palm oil income?

The interview protocol serves as guidance to ensure all informants are presented by similar questions and responding to the same issues. The informants are free to give their opinion without interruption from the researchers. After the informants have finished with their responds, the researchers will summarize/conclude the gist point of the answers and seek approval whether the understanding reflects their opinion or not.

The interview sessions are classified into two phases as shown in Table 1. The first phase interviews sessions took place between 15 November 2021 and 20 December 2021, while the second phase interview sessions conducted in February 2023. The first phase interview sessions involved informants consist of Mr. Z, Mr. AH, Mr. S and Mr. R, while the second phase group consist of Mr. N, Mr. Rj and Mr. Z. The two interview phases are purposely separated by a 13 months gap to examine any different answers obtained from a different set of smallholders. If the answers' pattern remained similar to the first phase interviews responds, it is sufficient to assume that the saturated point has been reached and additional number of

informants is unnecessary since it does not lead to new insights or themes. Contrary, if the responds of the first, second and third informants of the second phase sessions show different or new responds, it would be necessary to add more respondents until their answers reach the saturation criterion. For a qualitative research, the evaluation whether sufficient data have been collected is determined through the saturation point and not by a specific number (Mwita, 2022; Sarfo et al., 2021). According to Sarfo et al (2021), most of the multiple case study researches have involved between 4 to 15 cases. In a multiple case study approach, cases should be added until the theoretical and information becomes saturated. Saturated refers to the situation in which the collected data from the next new informants has not produced any different or additional information (Mwita et al., 2022). If the researcher continues collecting data from additional cases, it would waste the researcher time and energy. Based on the responds in the second phase of interview, the three informants gave answers that similar to each other. Their responds also remain similar to the informants' answers in the first phase session. Thus, seven informants are considered sufficient sample size based on the saturation principle.

Each interview sessions took about one and a half hours per informant and conducted at the informants' premises. The interviews were recorded via voice recorder. The recorded interviews have been transcribed into written transcripts. The process of transcribing involved five (5) steps:

- I. Each of the group members listened to the entire recorded interview.
- II. The group leader transcribed the recorded interview into written transcripts.
- III. The written transcripts were given to each group member to verify the correctness of the transcription.
- IV. All members meet and discuss the transcribed in a workshop.
- V. The members reached consensus and finalized the written transcribe.

### **Data Analysis**

Thematic analysis has been used to identify significant patterns from the interview transcripts. The selection of thematic analysis is parallel with Vaismoradi (2013) and reiterates qualitative approaches such as content and thematic analysis are the most appropriate for studies that aim for a relatively low level of interpretation, in contrast to grounded theory or hermeneutic phenomenology, which aim for a higher level of interpretive complexity. A thematic analysis method has identified sub themes before being clustered into themes that describe the objectives of the research. The process of deriving themes involves sequences of systematic procedures in parallel with Braun & Clarke's (2006) guidelines.

### **Analysis**

The analyses are divided into two sections, including the (1) meaning of quality palm oil income; and (2) evaluation on the current quality of the palm oil income and its problems.

### ***Meaning of Quality Palm Oil Income Concept***

Table 2 summarizes the extracted theme for question related to the smallholders' definition of quality income. Based on Table 2, the smallholders defined the concept of quality palm oil income based on six themes

(a) Output basis (Fresh Fruit Bunches)

The output basis refers to the definitions associated with income quality and the production of fresh fruit bunch (FFB). Within the output basis of definition, quality income depends heavily on the quality of FFB produced by the smallholders. Thus, income quality is directly related to the FFB produced. The smallholders will receive quality income if they gave proper maintenance on the palm oil trees for example using proper technique and material to ensure the best quantity and quality of FFB. The evidence is reflected by two themes, consisting of Td1 and Td2 (Table 2).

(b) Cost of living basis

The cost of living basis refers to the definitions related to the ability of an income to meet current cost of living. The definition based on cost of living emphasizes the reasonable amount need to satisfy basic needs and necessities to allow decent living such as other ordinary people within a particular context. Based on evidence in Table 2, the necessary income to fulfil the current cost of living is not less than RM5,000 per month. Thus, RM5,000 is considered as the quality income for palm oil smallholders based on the criterion of cost of living (Td3).

(c) Operational Cost Plus Surplus Basis

There is also a view that defines quality income in relatively technical terms based on the ability to cover OPEX plus an extra value (surplus) to provide a profit for the smallholder. As reflected under Td3, the smallholder palm oil income must be allocated to cover maintenance cost estimated about 4 months of income, and remaining 8 months of income is considered to belong to the smallholder for their use.

(d) Personal Criteria Basis

Another theme identified is the personal criteria basis shown by theme Td4. The definition reflects a more subjective evaluation of the concept of quality income based on the criteria of the smallholder household (family) size. The size of the family determines how much is needed for basic expenditure to maintaining decent living within the current context.

(e) Farm Management Basis

The management of the palm oil farm (Td5) is also mentioned to define quality income by the smallholders. The management of the palm oil farm determine the ability to getting good income from the FFB production. The production of FFB can be lucrative only if the smallholders are able to conduct proper maintenance on their farms. Nevertheless, these efforts are subject to the voluntary choice of respective smallholders.

(f) Commodity Price Basis

The market price of the commodity represents the quality of income derived from palm oil related activity, as indicated under theme Td6. The market price determines how much income is earned and the income has to cover all expenditures to generate income throughout the relevant period. As a result, if the smallholder able to produce a high amount of FFB with good quality, the price factor will pull down the overall income received from the produce. In order to give a quality income, the basic market price cannot be lower than RM400 at any point of time.

Table 2

*Quality Income Understanding/Interpretation*

Quality Income Criteria	Interpretation/ understanding	Themes Identification	Evidence /Informants transcript:
Output basis - FFB	Smallholders indicated that that quality income is achieved thorough ensuring FFB quantity and quality.	<i>Td1:</i> Depends on FFB produce	<p>“With regards to our income, it is actually the fresh fruit bunch (FFB).... If we get good (FFB) grade and the price is also good, that will be a profit for the smallholders. The income of palm oil depends to the trees. That need for good maintenance, enough fertilizer, then you will get good return” (Mr. Z, Informant 1)</p> <p>“When the fertilizer and maintenance is good, the income will be more. Those who take good care, (they) can get 5 ton, (while) those who are not they will get about 2 ton I guess” (Mr. AH, Informant 2)</p> <p>“... it goes back to how the farm is managed. You cannot get much income if you did not maintain properly. Those who put effort to look after the trees properly they will get much income..” (Mr. S, Informant 3)</p> <p>“if we can produce quality FFB of course we can get good price and our income will be high” (Mr. N, Informant 4).</p> <p>“For me as a smallholders, is to produce good products” (Mr. Sb, Informant 7)</p>
Cost of living basis	Smallholder indicate must at least have a minimum amount of RM5,000 per month/cycle	<i>Td2:</i> RM5,000 is reasonable income in line with current cost of living.	<p>“To ensure good living, must get at least RM5,000. Then only you can pay the bills, use vehicles. If less than RM5,000, its just enough. Not satisfying. (Mr. Z, Informant 1)</p> <p>“RM5,000 is comfortable (amount). Not economically poor. If less that, consider as economically poor” (Mr. AH, Informant 2)</p>



			“(You need to get) RM2500 nett per month after deduct all commitment (liabilities), that can be said as comfortable” (Mr. R, Informant 5)
Operational Cost Plus Surplus basis	Smallholder indicate that the income must able to cover all operational expenditure (OPEX) plus some surplus to cover living expenditure.	<i>Td3:</i> Cover incurred maintenance cost plus extra value.	<p>“There are 2 areas. First, ability to exceed all maintenance cost. If it exceed, then it consider enough. Secondly, of course we want surplus. Theoretically the calculation basis is 8:4. What does that means? It means 8 months of the income is for the owner and another 4 months income is for the farm. At least the income for 4 months you cannot use. That is for the palm oil farm expenditure. Because the farm must be maintain...it has costs..... the cost is really huge. For me I practiced 9:3” (Mr S, Informant 3)</p> <p>“..... the costs has escalated in which the production cost for palm oil is more than RM500 per ton and merely (relying on) palm oil income is insufficient. Must have other secondary income” (Mr. Sb, Informant 7).</p>
Personal criteria basis	Smallholder indicate the value of quality income depends on are the size of the family.	<i>Td4:</i> Family size	<p>“...depends on family size. If you have big family, that will be different” (Mr. S, Informant 3)</p> <p>“...If he has 2 children now, it will be enough. But let say later he has 6 children, if previously the electricity rate is 13 cent but today 30 cent, and the income from palm oil remain the same. If (our) farm size is 10 acres, so maximum of produce you can get is 10 tons in perfect situation. So, how can we say it can be enough. No. It is not enough” (Mr. Z, Informant 1)</p>

<p>Farm Management Basis</p>	<p>Smallholder indicate the value of quality income depends on the palm oil farm management.</p>	<p>Td5: Palm Oil Farm Management</p>	<p>“...Secondly the way the farm is managed. During peak season, suppose you can get more income but happened to be you did not get much income as it should be. Why? Because it goes back to how the farm is managed. You cannot get much income if you did not maintain properly. Those who put effort to look after the trees properly they will get much income. Means that enough fertilizer and so on. But the problem is as I mentioned just now, 12:0 - they use all the income for them and not reserving some enough amount for maintaining the trees....” (Mr. S, Informant 3)</p> <p>“.. the first thing is the seeds. The seeds must be the good one...the good type. Secondly, its fertilizer, thirdly drainage system, must get enough water, after that the herbicides must be take care of, we cannot sprinkle the herbicides frequently...m must follow its consistent schedule” (Mr. N, Informant 4)</p>
<p>Commodity market price basis</p>	<p>Smallholder indicate the quality of income depend closely to the commodity market price because if the price is low (below RM400 per tonne) it lower the total income despite the FFB produce is large in quantity and good in quality.</p>	<p>Td6: Price of FFB</p>	<p>“It all depend on the market price. Good price, the income will be good too. If the market price lower than RM700, definately income is bad. Even though you able to produce plenty of FFB, but if the market price is plunging, you will be in trouble. I have experienced it. In 2018, the price merely RM260 per tonne. Try to multiply 260 with 10 ton, you get only 2600. Net balance is only 5 to 6 hundred... ” (Mr. R, Informant 5)</p> <p>“Other factor is the commodity price. If you see here (showing his record) in 2021 the price is good, but you see here., there are time the price is RM300, RM700, RM320.... If the commodity price falls below RM400, I</p>

			<p>can say you will not get the break even. Because we need to pay the labor wage, transportation cost.....” (Mr.S, Infromant 3)</p> <p>“As for now, the price is RM700 per tonne, so that is consider acceptable. But if the price drop lower to RM300, RM200, that is not affordable. Because the workers wage has increased, previously (the rate) from cutting the FFB until transportation, it cost only RM70, but now its doubled to RM150. Same with the fertilizer, previously the price is only RM50, 60 70 but nowadays it cost up to RM200 for a good one. Of course if we want to get good price, we must choose the best fertilizer, but the price is expensive. (Mr. Rj. Informant 6)</p>
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**Evaluation on quality of the palm oil income**

Table 3 summarizes the extracted theme for question related to the smallholders’ evaluation on the palm oil income performance based on four (4) important criteria of quality income. The responses are given based on their experience as smallholders for many years.

Table 3

*Evaluation of Current Palm Oil Income Understanding/Interpretation*

<b>Achievement Dimension</b>	<b>Interpretation/ understanding</b>	<b>Themes Identification</b>	<b>Evidence /Informants transcript:</b>
Inconsistent	Smallholders indicated that that income is uncertain due to uncontrolled factors that affect the production of the FFB.	Te1: Income from oil palm production is inconsistent due to the natural factor.	<p>“...not consistent. It has its up ad down. Or example, in June the fruits will drop. So there will be no fruits.. During this low season, the produce will drop from 10 ton to only 3 ton. So, that is God will, we can’t do anything” (Mr. Z, Infomant 1)</p> <p>“It’s very uncertain. It depends on the rain situation. Previously during July, August, September, October, November and December is the peak season. But nowadays, the peak season is at</p>

		<p>Te2: The income can be consistent subjected to a few conditions - must have at least 4-5 acres and the farm is under good maintenance &amp; commodity market price not below than RM400 per tonne.</p>	<p>the early year, at year end become less” (Mr. AH, Informant 2)</p> <p>“Inconsistent. Because sometimes we get plenty of fruits and with good prices. Some other time, the fruits is not much and the price run down.....Sometimes the fruit is plenty but we don’t have labour to harvest,so we cannot get it all” (Mr. R)</p> <p>“It depends on the farm size. Must have at least 4-5 acres and with proper maintenance. In that situation you can have consistent income. Another factor is the commodity price. If you see here (showing his record) in 2021 the price is good, but you see here there are time the price is RM300, RM700, RM320.... If the commodity price falls below RM400, I can say you will not get the break even.... ” (Mr. S, Informant 3).</p>
<p>Insufficient</p>	<p>Smallholders indicated that that income is insufficient to hold reasonable living within current context.</p>	<p>Te 3:Income from oil palm production is insufficient to earn reasonable living within current cost of living</p>	<p>“Talking about sufficient, I would say it is insufficient. You need to have other source of income like do other odd job But I think for those age of 68, 69, 72, they rarely can do other job” (Mr. Z, Informant 1).</p> <p>“Taking into consideration the wage need to pay for the foreign labor, you need to earn at least RM3,000” (Mr. AH, Informant 2).</p> <p>“...In 2021 (the price is high) sufficient. In 2020, I can say it is 50-50. But in 2018 &amp; 2019, it is the worst. It is really terrible and insufficient at all. I have to</p>

			<p>withdraw all that I have,even my Tabung Haji saving, all...to cover cost of living..." (Mr. R, Informant 5)</p> <p>"At the moment, it is insufficient, because the operating cost is high. Previously, 10 years ago (the cost is), cheaper. Nowadays, the wage rate is expensive. It is not because the workers simply demand (for the high wage rate), but the reality now is that all things are expensive, so they have to demand for higher wage" (Mr. N, Informant 5)</p> <p>"Previously, it can. But now, since there is no effort to control the price of fertilizer, pesticides, we, as the smallholders need to do part time job work to support the family (expenses)" (Mr. Sb, Informant 7)</p>
<p>Unpredictable due to price fluctuation</p>	<p>Smallholders indicated that that income cannot be predicted</p>	<p>Te 4:Income from oil palm production is unpredictable in its amount.</p>	<p>"We cannot predict it (the income)" (Mr. Z, Informant 1)</p> <p>"As for now, I'm satisfy with the income (the current market price of FFB for these past 2 years). If this situation prevail forever, I am really thankful. (Now) if we get 2 tonne we can get more than RM2,000 (income). Previously, we can only get RM600 for 2 tonne. That definately insufficient. It depends on the market price (of the commodity)". (Mr. AH, Informant 2)</p> <p>"It depends on the farm size. Must have at least 4-5 acres and with proper maintenance. In that situation you can have consistent income. Other factor is the commodity price. If you see here</p>

		<p>Te5: Income from oil palm production is predictable in timing of received.</p>	<p>(showing his record) in 2021 the price is good, but you see here there are time the price is RM300, RM700, RM320....if the price below than RM400 I can say you will not get the break even. Because we need to pay the labor wage, transportation cost, nowadays the pesticide and fertilizer is really expensive ” (Mr. S, Informant 3).</p> <p>“... (we receive) once a month. They pay us once a month but I will pay the labor each time they complete their job” (Mr. S, Informant 3)</p>
<p>Able to be long term income security subjected to a few conditions.</p>		<p>Te6: the ability to provide long term income security is subjected to the availability of other source of income (odd jobs)</p> <p>Te7: the ability to provide long term income security is subjected to good farm maintenance.</p>	<p>“I think we need to find alternative income too. If merely depend on the oil palm income, it won’t enough. Maybe if the income just for him to maintain living before he died, that probably enough. But if that income to be used to support his entire family (wife and children) it is a bit difficult. You need to find other job for additional income”. (Mr. Z, Informant 1)</p> <p>“Yes, it can (provide long term income). The income is there its just that whether it is much or little.....The palm oil can last until 25 years if properly maintained. If not the tree will collapsed” (Mr. S, Infomant 3)</p>

Based on Table 3, the evaluations found that smallholders’ farm based income is basically perceived as inconsistent; insufficient to consistently support reasonable living; unpredictable due to price fluctuations, which are uncontrollable; and unable to prove long-term income security for the smallholders.

In terms of inconsistencies, there are two themes of evaluation derived which are Te1 - inconsistency in the amount generated due to natural factor; and Te2 - consistency depends on the important contributing factors. T1 reflects the inconsistency due to the natural factors beyond the control of the smallholders. The second theme (Te2) refers to inconsistent but relatively slightly manageable factors such as the farm size, farm management and commodity price. Te2 is in better position to be controlled compared to Te1, either by the capacity of the smallholders or the palm oil market authority.

Insufficient evaluation is noted in Te3, which reflects the insufficiency of income to be considered as living income within the current cost of living standard. Additionally, this constraint is also associated with the high farm maintenance costs. In terms of unpredictable evaluation, two themes emerged, consisting of Te4 and Te5. Te4 reflects the unpredictable in the amount due to fluctuation in commodity market price. Te5 represents predictable timing, because the income is received by the smallholders once a month.

For long term income security, two themes emerged, consisting of Te6 and Te7. The themes reflect extra efforts taken by the smallholders. For instance, Te6 represent the ability to provide long term income security depends on doing other alternative job or part time work. Meanwhile, Te7 reflects the ability to provide long-term income security subjected to farm maintenance.

Table 4 summarizes the extracted theme for question related to the problems that affect smallholders to obtain quality of the palm oil income.

Table 4

*Factors Affecting Quality Income Understanding/Interpretation*

<b>Factors Affecting Income</b>	<b>Interpretation/ understanding</b>	<b>Themes Identification</b>	<b>Evidence /Informants transcript:</b>
Expensive Maintenance Costs	Smallholders indicated that the costs spent to ensure good palm oil production form the biggest deduction of their income	<i>Tf1:</i> Maintenance cost of the palm oil trees to ensure good FFB	<p>“The maintenance of the palm oil trees if we examine, it has its percentage. (Almost) 40-50 percent is just for it (maintenance). If we get (income) RM10,000, 40-50% is for the trees (maintenance). (Only) half goes to us” (Mr. Z, Informant 1)</p> <p>“The pesticide and fertilizer are expensive nowadays” (Mr. AH, Informant 2)</p> <p>“The cost is expensive. The pesticide is expensive. Fertilizer must be put frequently but in small amount. Need to make drains....” (Mr. S, Informant 3)</p>

			<p>“the government must to help the smallholders by controlling the market price of fertilizer, pesticides....” (Mr. Sb, Informant 7)</p>
Workers Problem	<p>Smallholders indicated that the foreign workers are becoming more demanding (powerful) and pressing them on the price</p>	<p>Tf2: Rely heavily on foreign workers since most smallholders are ageing</p> <p>Tf3: The foreign workers demand for high price (wage) for their work.</p>	<p>“Currently, this issue is really pressing us. I think most of all palm oil smallholders are facing similar problem. Most of the smallholders are old..... As a result, many of us hire foreign labor to do the work. So this is where the problem starts. These foreign workers are demanding nowadays. When we say demanding here, it means that they are playing with their wage rate. (The foreign workers say) If you want me to do this job, you must pay me this amount. Or else I wont do the job. (Mr. Z, Informant 1)</p> <p>“.....nowadays people compete to get workers..... If they stop, there are many other people who wants to here them. Nowadays there are many farms that has no people to work..... Now the price is expensive, so the FFB must be taken out...so who will do that?..” (Mr. S, Informan 3)</p> <p>“Yes, they pressing us with their wage price. If the FFB price goes up, they will increase their price. I think almost 45% belongs to them. That is the problem. But when the (FFB) price goes down, they won’t reduce their wage rate. (Mr. AH, Informant 2)</p> <p>“Nowadays, the wage rate is expensive. It is not because the workers simply demand (for the</p>



			high wage rate), but the reality now is that all things are expensive, so they have to demand for higher wage” (Mr. N, Informant 5)
Irrelevant and/or stringent regulatory practices	Smallholders indicate unsatisfactory towards certain regulations that have increase the operating expenses (OPEX) in the FFB value chain and loss of FFB value.	Tf4: Some regulations had increased unnecessary OPEX for transportation operators and eventually create losses for the smallholders.	“... this is about the regulations. The vehicles (transportation) regulations. The FFB is moved by the lorry. You see, the lorry used to carry the FFB (from farm to grader location) usually don’t have road tax. Why need road tax?, the lorry just move around within farm (to pick up FFB) to grader location... but the authorities always disturb the lorry because of that (don’t have road tax).... So this is the problem. Suppose the lorry can come for 2 trips to pick up the FFB from smallholders farm, but because of the disturbance, the lorry can only come to the farm 2 trips within 4 days. So who will pick up the FFB? The FFB will be damaged (rotten)...” (Mr. Z, Informant 1)

As shown in Table 4, the quality of palm oil income is affected by the following thematic factors

(a) Expensive maintenance costs

Based on the interviews to produce good quality income from palm oil farming involves high operating costs (Tf1). The palm oil trees need proper maintenance since the beginning stage to ensure good-quality FFB. It is necessary to adopt proper best farming practices from the seed selection stage and costs continue to be incurred at each stage of the trees’ life cycle, such as ensuring enough fertilizer and the quality of input used. The inability to provide proper maintenance will affect the output and the income derived from FFB. Nevertheless, the cost for proper maintenance of the palm oil is relatively high. The significance of good and proper maintenance is reiterated by these responses

“If we want to get a really good FFB produce it is a must (referring of the context: must spend at least 45% of income on maintenance of farm and trees)... it need proper maintenance. Firstly the fertilizer, it need to be frequent but in small quantity each time you put the fertilizer, cannot put a lot at one time. Secondly it need plenty of water. This area is affected by flood so we need to spend on building proper drainage system.....”(Mr. S)

“....The palm oil produce depends (of course) on the palm oil trees. These palm oil trees is also like other living beings. It need to be look after properly, pampered, given full attention, then only it can give luxury income. If you used 3T concept (*tanam* (plant), *tunggu* (wait) & *tuai*

(harvest), that will be problem. (Unless you) Take good care, enough fertilizer, enough proper maintenance, it will give you good income” (Mr. Z)

(b) Workers problem

Based on the interviews, the smallholders' incomes are affected by labor issues. There are two emerging themes found from the workers problems, consisting of Tf2 and Tf3. Tf2 indicates that most smallholders have high reliance on foreign workers due to the smallholders' age factor. Within the context of recent situation, the smallholders face problems getting workers due to the labor shortage. The shortage of labor is becoming critical, because palm oil farming activities need to be performed accordingly. For instance, the FFB need to be harvested and sent to the mill as soon as possible since the commodity is a highly perishable item. The substitution of foreign labor by local labor is infeasible due to lack of interest and personal reasons among the local people. For example, the local people may have better qualifications and be able to get jobs in other sectors more easily. This is reflected by the informant's response:

“ Perhaps people might say why the local people don't want to do the job? Now let me tell you the story about local people. The local people is our children. We have gave them education, so those who are successful (in their studies), will go out. Of course they don't want to work in the palm oil farm..... it is different with the foreign labor. They purposely come here to work in the farm. So we cannot say that local people are lazy (for not working in the palm oil farm)..... No, it not that they are lazy.. but it is not their area of specialization”(Mr. Z)

The second factor relates to the wage price of the foreign labors (Tf3). Due to a strong reliance on foreign labor and foreign labor shortage, the workers put pressure on the smallholders for higher wage rate. According to the informants, workers demand high wage rates to do the activities in the FFB value chain, and the smallholders have limited choices since they rely heavily on their services.

(c) Irrelevant and/or stringent regulatory practices

Based on the interviews, there are informants who mentioned certain irrelevant practices that indirectly incur additional costs and wastage. These factors relate to the transportation rules and regulation requirements imposed on the FFB truck operators, and these problems are later transferred to the smallholders. Due to the additional cost and logistic problems borne by the truck operator because of the irrelevant regulation, the movement of the FFB from smallholders' farm to grader location has been distorted and the FFB may perish at the smallholders' locations. The situation creates losses to the smallholders, as shown in theme Tf4.

**Discussion**

This study contributes to the body of knowledge in the field of agricultural income management. The findings are different from the existing literature because it produced knowledge related to the meanings and the dimensions that constitute the concept of quality palm oil income. Currently, specific studies about the concept of quality agricultural income is relatively scarce and this study had filled the gap by investigating it through a qualitative approach. By executing the qualitative investigation, the study managed to establish the

understanding about agriculture income by incorporating the operators' experience. The thematic analysis on the quality income concept shows that the palm oil smallholders have defined the concept within six major dimensions. The dimensions consist of the output basis, cost of living basis, operational cost plus surplus, personal criteria basis-family size, palm oil farm management and commodity price basis (Figure 1).

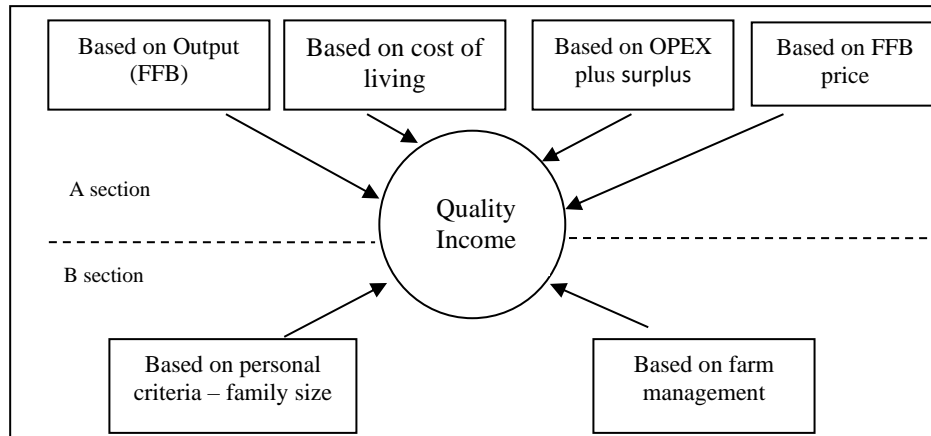


Figure 1 Formation of Quality Income Definition

The output basis definition is directly associated with FFB produce. Higher production with good quality FFB is interpreted as leading to quality income. The second perspective of definition connects quality income to the cost of living. The definition is parallel with the living income concept (Waart et al., 2021), which emphasizes the ability of an income to provide decent living for the farmers. The third definition of quality income is more inclusive in describing the component of quality income by technically decomposed the elements that form living income. The third basis of quality income consists of amount to sustain farm operational expenditure (OPEX) together with some amount of surplus. The ability is important to ensure full coverage of OPEX that affects a farm's break even point while the surplus is necessary to provide rewards for the smallholders. The fourth basis of definition of quality income is determined by the commodity market price. The commodity price per ton relates directly to the income to be generated by the smallholders.

Alternatively, quality income is also defined within the personal criteria, which refers to family size. The size of the family is important to determine sufficiency of an income to promote reasonable decent living (Ogwumike & Akinnibosun, 2013). For instance, an income value of RM3000 for a household of three people is considered more quality compared to same amount of income for a household consist of seven people. Thus, the quality depends on the number of family members of each of the smallholders household. The definition is also associated with the way the farm is managed. The way the farm is managed is assumed to influence quality income, because if the farm is properly maintained, it can give a superior quantity and quality of FFB.

The four basic definitions (output, cost of living, OPEX plus surplus and FFB price- the A section in Figure 1) are considered technical definitions, as they relate directly to the comparison of revenue (cash inflows) and costs (cash outflows). The price of commodity is seen as a leading indicator for the quality of income, because it defines the amount of revenue to be received from each harvest season. It is posited that higher prices lead to more income. The income is considered quality income if it has surplus after deduction of relevant expenditures. Meanwhile the personal and farm management definitions (Section B in Figure 1) relate the

variation of the income quality with the smallholders' voluntary choices. The smallholders might choose to have smaller family size and to manage the farm in a proper and systematic approach. Therefore, the formation of quality income definitions can be classified into two major themes, consisting of: (1) a technically oriented definition, which is objective and calculative in nature; and (2) a by-choice oriented definition, which is slightly subjective depending on the voluntary choice made by the smallholders.

This study reiterates that smallholder palm oil income is inconsistent due to exposure to natural factors which are largely beyond the smallholders' and relevant agencies' control. The smallholders have to bear consequences due to the uncontrollable factors such as the weather and FFB season trends. However, the income can turn to be more consistent if the smallholders possess more economic farm size. A larger farm size allows more revenue to be generated from the palm oil activity. In addition, income can be made more consistent through proper farm maintenance, because more FFB can be produced and with a higher quality grade. The two factors are within the control of smallholders, provided they have the capacity and opportunity to increase the farm size and to spend more on the maintenance of the farm and palm oil trees.

In terms of sufficiency, income may be unable to provide decent living standards if the smallholders merely rely on the palm oil income. The smallholders need to do other jobs in order to earn sufficient income for their livelihood. The predictability of income is unattainable due to the market price fluctuations. Thus, to achieve the SDG agenda of poverty reduction among smallholders of commodity trees, it is necessary to combat problems that lead to inconsistency and long term income insecurity. This inconsistency can be address by increasing farm size and ensuring the commodity price does not reach the minimum acceptable price. Nonetheless, the capacity of the smallholders to improve their farm is limited due to the resources constraint. The ability to preserve the highest market price is also beyond the capacity of the smallholders.

Meanwhile the long terms income security can be achieve by doing other job as additional income and to give proper maintenance on the farm to ensure more FFB productivity. Nevertheless, doing additional job for an extra income is not an option for all smallholders. Most of the smallholders are elderly and their ability to do additional work (non-farm income) has reduced due to age and deteriorating health factors. As a result, working a second job is implausible for many smallholders who are constrained by age, health and limited resources. This inevitably lead to increased income inequality gaps between smallholders who able to generate non-farm income and those who are unable to do so, as mentioned in (Mat et al., 2012).

There is a potential to improve the quality of palm oil based income by examining the factors that affect it. Three important issues raised by the smallholders are high maintenance costs, worker problems, and irrelevant regulations and practices. Effective and productive palm oil maintenance has high OPEX costs. Unless the smallholders invest heavily in the palm oil maintenance at the early stage, they will never get the highest income. Nevertheless, the best farm maintenance will involve high costs and not all smallholders have the capacity to put high investment into their farms. Thus, it is necessary to assist them in terms of getting best farming inputs (pesticides and fertilizer) with more reasonable price.

The second issue relates to the workers. The high reliance on foreign labor has led the workers to put wage pressure on the smallholders. In most circumstances, the smallholders have limited choice and forced to agree with the demand in terms of the wage rate request for each job done. Hence, some mechanism of labor wage standardization is necessary to

manage the issue, since most of the smallholders rely on the foreign labor to do the farming tasks. Finally, some regulations have imposed burdens on the actors in the smallholders' production value chain. These burdens are indirectly transferred to the smallholders in terms of interruption of FFB movement to the graders' locations. This disruption leads to damage of smallholders FFB when the truck operators do not pick up the FFB due to the constraints such as the high renewal of road tax cost for the trucks used to carry the FFB from smallholders' locations to the graders' premises. Therefore, some regulation practices need to be revised to ensure suitability with the context of business operations and not create additional costs for operators and smallholders.

Figure 2 illustrates the relationship between the concept of quality income and the potential factors affecting it. As shown in Figure 2 the quality of income evaluated through consistency, sufficiency, predictability and long term income security criteria show trends of responses, summarized as not being up to the quality expectations of the smallholders. The situation is due to three factors, which are high maintenance costs, worker issues, and disruption of operations due to irrelevant rules practice.

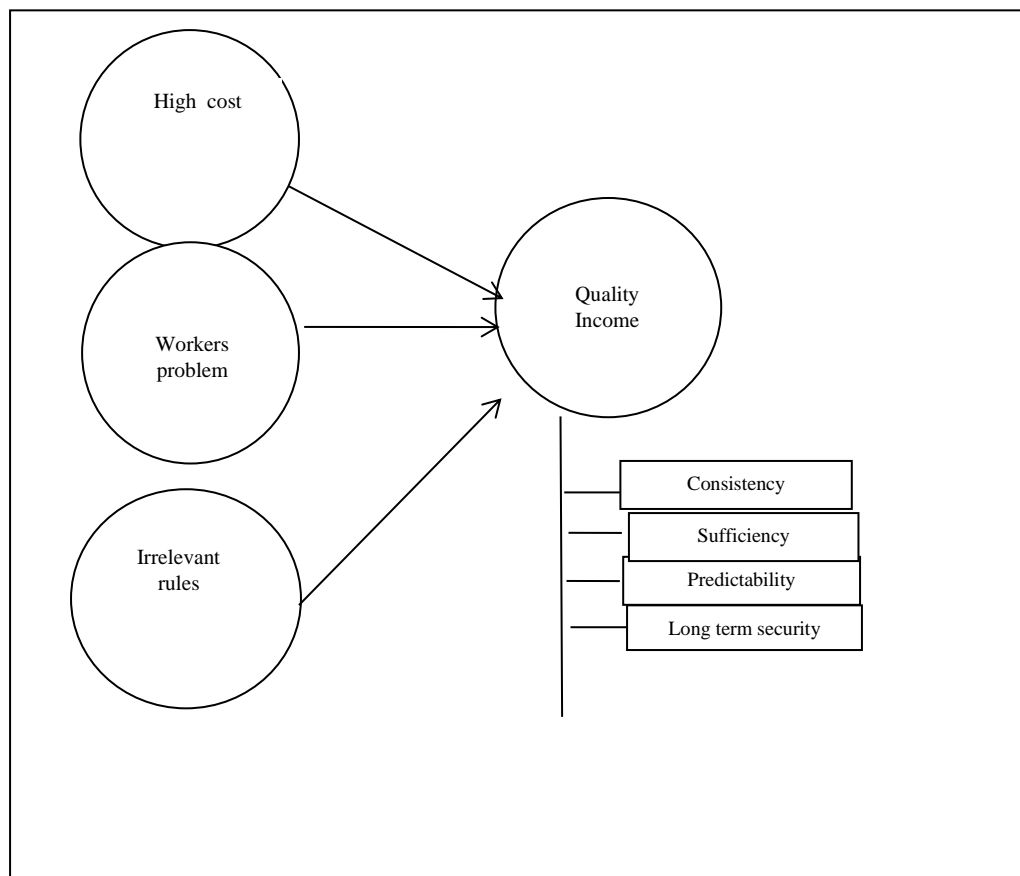


Figure 2 Factors Affecting the Quality of Smallholders Farm Income

### **Implications**

The study provides a framework to understand the definition of quality income within the palm oil smallholders' context, particularly in developing countries. Based on the framework, future studies can develop specific measurement for the concept of quality income that relevant for palm oil smallholders' context. Additionally, future research on a larger scale can be performed to test the quality income concept among the smallholders and to execute

fundamental studies on the factors potentially affected the quality of income. This study explores three factors recognized by smallholders as affecting the quality of their palm oil income. Thus future studies are recommended to test the significant of the relationship through a high end inferential statistics in proving the relationship among the variables, as depicted in Figure 2.

Meanwhile, a pragmatic implication of the study is its insights for relevant authorities into the expectations of the smallholders regarding palm oil based income issues. Among the areas that can be improved are high maintenance costs and worker problems. The smallholders also expect the commodity prices to be control through certain mechanisms so that they will not go below the minimum price level in order to be a source of quality income. Price controls are vital to ensure that the income received from the palm oil produces is able to cover the high operating cost plus some surplus for the smallholders. Besides that, restructuring of wage rate is necessary to ensure reasonable operating expenditure (OPEX) among the smallholders that mostly rely on foreign labors. The ceiling price mechanism may potentially become the best solution, together with other enforcement tools.

### **Conclusion**

This study becomes among the first attempts to investigate the farm income issue by gathering input from the smallholders through a qualitative investigation. Based on the study, there are six pillars that formed the basis for defining quality income among the palm oil smallholders' context. The pillars consist of the FFB output, cost of living, break even plus surplus, commodity price, personal criteria, and farm management basis. In addition, the income received by the smallholders was perceived as inconsistent, insufficient, and unpredictable in amount. The income can provide long-term income security if the smallholders do other secondary jobs and manage the farm in a proper and systematic manner. Three factors were found to affect the smallholders' income, consisting of high maintenance costs, worker problems and certain irrelevant regulations. This study has ultimately contributed to the development of a potential research framework and its operational dimensions for further inquiries, especially through a quantitative method. It offers factors and dimensions to operate the important concept of the quality income with specific reference to the context of palm oil commodity and smallholder operators. The quantitative study complements this exploratory study by examining the significant influence of each potential factor that probably affects the quality of the palm oil smallholders' income. From a managerial perspective, the findings provide insights for the policy makers to investigate the aspect that able to enhance palm oil quality income based on the perspectives of the smallholders.

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