

The Implementation of Accounting Standards for Coffee Plantation

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Abstract. Coffee is one of the most prominent agricultural products In Indonesia, besides other commodities such as palm oil, rubber, cocoa, and tea. The International Accounting Standards Board (IASB) regulates the agriculture business in IAS 4. which was issued in December 2000 and prospectively applied worldwide on the 1st of January 2003. The standard encourages coffee plantations to be recorded at their fair value which leads to many contradictions. In 2014, IASB amended IAS 41 specifically for bearer plants because it is used only for production, and it should be treated similarly to property, plant, and equipment (PPE). The main challenge is versatility. As the growth of the coffee plantation industry in Indonesia increases, accountability has become an important issue to deal with. As there are scarce studies regarding the adoption of accounting standards for coffee plantations in Indonesia, this research is intended to give fresh insights from the business owner's perspective in the implementation of the related agriculture accounting standards. This research employs a qualitative method with a semi-structured interview and triangulation method. Our findings show that coffee farmers already complied with the PSAK 16 and PSAK 69, even though there are still many challenges that the company faced since the coffee plants are high in versatility and uncertainty.

1. Introduction

Agriculture is one of Indonesia's top priority industries. Gross Domestic Product (GDP) for various agricultural products such as palm oil, rubber, cocoa, coffee, and tea are contributing 13.7% to total GDP. According to [1], the production of coffee in Indonesia reached 761,000 metric tons in the year 2020. He also stated that coffee plantation is distributed in the main coffee-growing islands of Sumatra, Java, Flores, and Bali islands. Total production from large estates in 2019 is only 29,000 metric tons, compared to smallholder estates with a total production of 731,600 metric tons. The coffee plant is considered the biological asset of its company since it is expected to generate a future economic benefit by producing coffee cherries and later can be recognized as an inventory. Currently there are 1.24 million hectares of a coffee plantation in Indonesia, of which 933 hectares is Robusta and 307 hectares is Arabica coffee. Moreover, it also stated that more than 90% of the coffee farm is a medium-sized areas. [1] further stated that coffee consumption in Indonesia increased by 92% per year from 2005 to 2019. One possible reason is due to availability of information and education on the coffee quality that has spread widely in Indonesian society. Customers or buyers in the coffee shop will be more likely to question or criticize the quality of their coffee drinks purchased.

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IAS 41 encourages the companies to use the fair value less cost to sell to fulfill the accounting conceptual framework, specifically the qualitative characteristic. Furthermore, it

was also mentioned that the fair value in tropical countries does not reflect the fair value of the commodity. Thus, the stakeholder will not accept the worldwide market value of some plantations such as coffee, tea, banana, and cocoa since it will not fully represent the fair value. Moreover, [2 - 4] show that the implementation of IAS 41 has dealt with a lot of problems in many countries. [5] also surveyed 17 companies that have implemented IAS 41 in France, the UK, and Australia which result in the lack of required qualitative characteristics. Moreover, no company can fully meet the disclosure requirement from IAS 41 [5]. Contrarily, [6] concluded that the historical cost measurement is more relevant compared to the fair value measurement. [7] who also studied the implementation of IAS 41 in the Czech Republic, have stated that the use of fair value measurement is only reliable when the active market exists. Moreover, it is more likely to include subjectivity in the calculation, this statement corresponds to the argument from [4] which stated that IAS does not specify which variables should be used in the calculations. the fair value measurement is also not suitable for the bearer plants. Instead, the bearer plants should be recognized as a plant, property, and equipment (PPE) which has been standardized in IAS 16. In Indonesia, [8], also mention that the IAS 41 failed to improve the comparability since different methods or approaches will lead to a different result. Moreover, many biological assets' market value is not available, especially the plantations that are producing (bearer plants). The market value that is not available will influence the subjective estimations and assumptions in the process of valuation, for example, in the coffee plant, if the active market does not available, the business owner can

calculate the valuation using the method that benefits them more even though it is less reliable.

Despite the discussed contradictions, the most journal still focuses on the criticism and complains about the complexity of getting a reliable value for a biological asset. They focused on comparing the use of IAS 41 and IAS 16, especially for the bearer plants. Thus, the studies that discuss the implementation of the accounting standard for bearer plants asset must be conducted, the perspective of the farmer in this study is also important due to gain valuable insight on the implementation of fair value measurement and approaches. In this study, the authors will be focusing specifically on a coffee producer that already has applied an accounting standard based in Indonesia. Coffee is one of the most consumed beverages in the world and according to [9], 85% of adults consumed coffee. This indicates that the industry is still growing since the data from International Coffee Organization also showed an increase in the number of coffees consumed per year from 2017 to 2020. Moreover, Indonesia as one of the biggest coffee producers has also a massive increase in the consumption rate. Therefore, the accountability and reliability of coffee plantations' financial statements are highly needed in Indonesia.

1.1 Objectives

This research aims to expand the existing literature on agricultural accounting by contributing to at least two things, such as 1) providing the empirical evidence from coffee farm business owners in Indonesia in accounting for bearer plants and 2) assessing the reliable approach of coffee plants accounting measurements as being portrayed by IAS 41 and PSAK 69.

The authors have formulated two research questions as follows:

1. *What are the determinants of coffee farmers' decision-making in recognizing accounting for bearer plants?*
2. *How do the coffee farm business owners in Indonesia implement standards for measurement methods?*

2. Literature Review

2.1. Objective, Recognition, and Measurement of IAS 41

According to [10], the purpose of measuring an asset using fair value measurement is to identify the actual market of the asset at the measurement date. Fair value also represents the value that the entity will be realized if the asset is sold. Recently, the use of the fair value for the asset measurement is more relevant because the investor is more concerned with the market value, not the cost, moreover, the historical cost method also does not consider the time value of money which can lead to an irrelevant counting. [11, 12] also stated there is a three-level fair value hierarchy that reflects the level of judgment in determining the fair value. The first level of input is valuation using quoted market price for the identical asset, this is the highest level of determining the fair value of the asset which is categorized as superior

reliability. The second level of input is using the valuation technique which is based on the observable market. The last level of input is based on the non-observable assumption which also uses the valuation technique but with a lower level of reliability.

A standard that introduces the fair value measurement is IAS 41: Agriculture. IAS 41 is issued in December 2000 and was actively used on the 1st of January 2003. IAS 41's purpose is to prescribe accounting treatment and disclosure on everything related to the agricultural process, it covers the biological assets, agricultural produce, and government grants (IAS 41:1). This standard only covers the agricultural activity until the harvesting process or the process of detachment of the agricultural produce from the biological asset later will be followed by IAS 2: Inventories or other standards. The coffee plantation is the farmer's biological asset that will produce agricultural produce as a coffee cherry, the cherries later will be processed by the processor to convert from the cherries to become green beans that are available to sell to the coffee shops and coffee roaster, IAS 41 does not include the process of converting cherries to green beans. The company should recognize the biological assets only when they have full control of the assets, and it is expected to be beneficial for the company in the future (IAS 41:10). The measurement of the biological assets has to be conducted on its initial acquisition and at the end of the accounting period using fair value less cost to sale, this fair value model should be applied to the measurement except for the one that cannot be measured reliably (IAS 41:12). Should the active market exist for the specific condition of the current biological asset, it should be the basis of determining the reliable value of the biological asset, the company also has to choose the more relevant one if there is more than one active market (IAS 41:17). According to [2], IAS 41 is using the concept of accretion, "In this concept, revenues are recognized along with the growth of assets". Even though it is not realized yet, the value of the company's biological assets can arise during the growth of the asset.

For instance, coffee plants that lived more than two years usually are more productive thus, a fair value may arise. This is also the reason for using fair value less cost to sell in measuring the biological assets, due to its possibility of growing or dead.

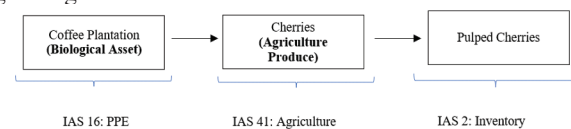


Figure 2.1 IAS 41 Implementation in Coffee Plantation Company

On the other hand, another example of a biological asset is forestry trees in plantation forests in Latvia. [4] in the forestry industry in Latvia recognized the forestry trees as a biological asset and the logs as the agricultural produce, since IAS 41 only covers until the time of harvesting, the processing from the logs into the sawn wood is not covered by the standards. [4] also explained that since forestry is exposed to so many natural risks, the fair value must be adjusted whenever a significant change happened and must be disclosed in the financial statement. IAS 41

also encourage the company to classify their biological asset into ages or species, one of the examples from the analysis by [4] is using age as the classification for their forest trees as the basis of determining the fair value. Wine is also categorized as an agricultural industry, with vines as their biological asset and grapes as their agricultural produce which is stated in the IAS 41. According to [13], the wine-growing sector is one of the industries that does not have an active market that is available for determining a reliable fair value for their biological asset. However, he also stated that they can determine the value by using the value of wines expressed in liters.

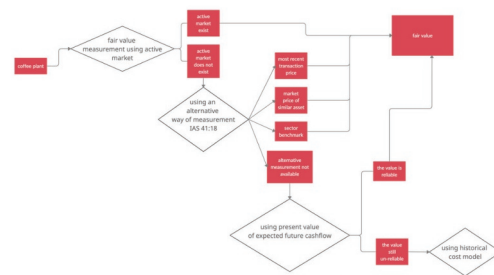


Figure 2.2 the Accepted Measurement Model in IAS 41

2.1.1. Accepted Measurement of IAS 41 (PSAK 69)

According to IFRS 13 which discussed fair value measurement, the approach to valuation of an asset is divided into three; market approach, income approach, and a combination of both. The market approach is when the valuation process is using the information that is generated by the market, for example, is using the most recent transaction price of the same asset that is in the valuation process or comparing the valuation of an asset to the other company that has a similar asset. On the other hand, the income approach is the method that is used by counting the future amount of revenues, income, or expenses to the discounted amount. Discounted cash flow is one of the examples of the method that is using the income approach, it is the method that counts the expected future cash flow that will flow into the company. IAS 41 also mentioned the method of determining the fair value of a biological asset by using the active market. In case of no active markets available, the company shall determine its biological assets' value using the most recent transaction price with no significant change in economic circumstances, the company can also determine using the similar assets' market price or using sector benchmark (IAS 41:18). Should the market values not be available, the company can use the value of expected net cash flow from the asset discounted at a current market-determined in determining fair value (IAS 41:20). In some cases, cost also may represent the fair value of the biological assets IAS 41 paragraph 24 explained that cost may be the fair value when only an immaterial biological transformation happened after the initial recognition and when the biological transformation is not impacting so much. Gain or loss that occurs on the fair value of the biological assets shall be included in profit or loss by the time it occurs (IAS 41:26). Should the entity be unable to measure its biological assets reliably, IAS has an exception and allows the entity to use the historical cost model. The biological assets must be measured using the cost of initial recognition less any accumulated depreciation and impairment.

2.1.2. IAS 41 and its Amendments to IAS 16 (PSAK 16)

In 2014, IASB has decided to develop an amendment for the biological asset that meets the definition of bearer plants, from using the IAS 4: Agriculture to IAS 16: PPE. The reason IASB did this amendment is that the nature of bearer plants is similar to the nature of PPEs, since the bearer plants are the living organism that is used for production only and not held for sale, IAS 16 provides a more suitable measurement method which is giving the company options between the cost model or the revaluation model. According to [14], the bearer plants should be recognized as property, plant, and equipment (PPE), this happened because the nature of the bearer plants is different from biological assets and similar to PPE. The cycle of production of a bearer plant is also similar to the machinery, in which the plant is used for many periods of production and will face a progressive decline which is similar to PPE. Thus, the entity should measure the bearer plants using the historical cost model. There are three cycles of bearer plants, the growth phase, the fertility phase, and the destruction phase. The growth phase happens when the plants are not yet mature, the plants have not fulfilled the criteria for operating and producing. Thus, the plant that is not yet mature can be accounted for as a self-constructed item of PPE [14]. The bearer plants should be capitalized when they meet the optimum yield which should be judged by the management of the company, which may be different from one company to another. The different types of plants will have a different life cycles, this will need the judgment by the management of the company to create the criteria for the plants that have reached maturity. Moreover, the same type of plants can also have a different cycle but the standards do not specify which age should be used as the beginning of the maturity phase and started to be capitalized. This is similar to [7] that argued fair value measurement that can include subjectivity in the calculation of fair value. According to [15] in their research about the implications for accounting for bearer plants, the IASB has not provided a guide for the company to determine the maturity points of the bearer plants. Some the accounting practitioner, according to [15] there are two types of defining the maturity points which are the date of the first harvest of the bearer plants, and the date of the quantities of products produced.

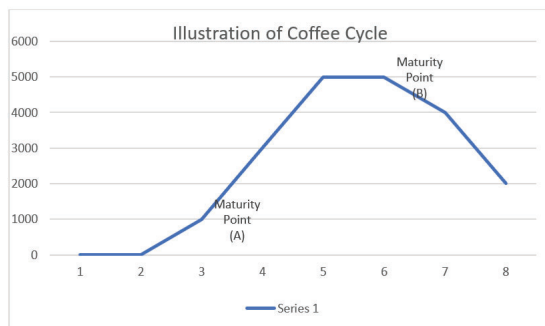


Figure 2.3 Illustration of the Maturity Point

2.1.3. Implementation of IAS 41 and IAS 16 in Different Countries

Many studies from prior research contradict and argue with each other regarding the implementation of IAS 41 and IAS 16 in different regions/ countries. Those who are against the motion of IAS 41, mainly prefer historical costs over fair value measurement. Romanian and French agriculture firms as evidenced by [16] and [5] are more likely to adopt historical costs for their plantations. [6] also add that the cost model is more relevant to smaller firms, as IAS 41 is more suitable for large plantation industries in the secondary market. A study from the Czech Republic by [7] shows that firms in the Czech do not favor fair value measurement due to its complexity and unreliability to obtain its market value, especially due to the absence of active markets. This argument is further supported by [17] and [8] who are also against the revaluation of the company's biological plant assets. On the other hand, [18] and [3] from Romania and Slovakia emphasized the use of IAS 41 as the first step in the transition to IFRS and usage of replacement costs to revalue company's plantations. Another study from Southern Malawi [19] said that 40% of companies in Southern Malawi already complied with IAS 41 and use net cash flow valuation techniques. From Indonesian evidence, [20] and [21] also emphasized compliance to IAS 41 using costs of active trade markets or benchmarking against similar assets' value.

2.2. IAS 41 and 16 Implementation in Coffee Industry in Indonesia

In Indonesia, there is still a limited number of coffee producers reporting using PSAK 69, since it is a challenge for them to find an active market for the coffee trees. If the company already uses fair value less cost to sale towards the measurement of the biological assets, the company must continue using fair value less cost to sale until disposal (IAS 41:31). The coffee farmer shall divide their plant since not all their plant can produce cherries, the non-productive coffee plant shall be recognized separately from the productive one. Some of the coffee companies in Indonesia have tried to fully comply with the PSAK 41 and PSAK 69 which later will be the respondent of this study.

2.3. Business Process of Coffee Plantation Related to IAS 41 & 16

According to [22] in their study about the treatment of the biological asset of the coffee plant in Indonesia, the recognition of the coffee plant is measured by cost, which includes the direct and the indirect cost of planting a coffee seed or planting a coffee plant that is already a half-mature. After the process of planting, the company should recognize the coffee plant as a non-productive plant until the plant has already reached the criteria of a productive plant. This method has already complied with the amendments of bearer plants from using a fair value in IAS 41 to IAS 16 which allows the company to measure the bearer plants using the historical cost method and revaluation method. A company uses the historical cost method by accumulating the cost incurred by the time the company prepares the field for seedling, the recognition of the asset will be as the non-productive asset. By the time the company changes the status of the plant from a non-productive asset to a productive asset, the company shall do the depreciation.

Harvesting is one of the most important key points if we are discussing the biological asset, specifically from a bearer plant. In the coffee industry, the process of harvesting can be done manually or mechanically, manual hand-picking is more time-consuming and higher in cost of the labor but can create a higher grade of coffee quality, whereas the mechanical harvesting will be done by shaking the trees or stripping the branches. [23] stated that the peak of productivity is in the 5 until 7 years of the plant and starts diminishing after 20 years. The trees can live and still produce cherries until 50 years if the farmers handled them properly. According to [24], the price of coffee cherries in Palintang, West Java in 2018 is Rp 8,000 to Rp 9,000/kg with the average production per tree in Palintang being 3 kg/tree.

According to [14], the coffee plant's agricultural produce can be recognized as a picked coffee bean, the volume can be determined by counting the picking records or using the yield of the estates. On the other hand, the fair value can be determined by using the active market if it exists or using the method of reversing the work from the fair value of the raw coffee bean or the green beans, the last method that is acceptable is using the discounted cash flow method with assumptions of the raw coffee beans price, discount rates, coffee fruit yields, and applicable cost.

2.4. Theoretical Framework

The authors use Accounting Conceptual Framework (ACF) as the theory to explain the phenomenon in this study, ACF is a set of accounting fundamentals developed by the IASB. According to [25], there are three purposes of the ACF, the first one is to assist the board to develop the standard. The accounting standard is developed by the IASB; thus, the board needs the framework to help them make the standards with a consistent concept. The second purposes are to help prepares the financial report, since consistent accounting treatment and policies are needed when developing a financial report, the company that

prepared must use the ACF as their fundamental of thinking. The ACF also helps all the users to have the same interpretation of the financial statement that is prepared based on the IFRS.

The qualitative characteristic of the ACF explains what characteristic should be fulfilled to achieve a useful financial statement, this should be the reference for the coffee farm business owner to develop the financial statement when they refer to the standards since the standards have allowed the entity to choose the alternatives way of measurement. Specifically, the authors use faithful representation as the specific theory to explain the phenomenon in this research.

The coffee farm industry, which has several options to choose from for the measurement method must use the one which faithfully represents the real situation on the field. Therefore, the information given in the report must be complete, neutral, and free from errors.

3. Research Methodology

3.1. Research Design

We use the qualitative method, which consists of a descriptive, semi-structured interview, and triangulation techniques for this research.

3.2. Data Collection Method

The authors employ the triangulation technique in this qualitative study to have multiple methods of collecting the data, the triangulation helps the authors by providing various datasets which can help the authors to achieve the objective of this study.

To achieve this research objective, the authors have to get an in-depth discussion with the stakeholders in the coffee industry especially the business owner of the coffee estate, the farmer, the accountant of the coffee estate company, the representative from the association, and lastly from the standard-setter in Indonesia. Using a semi-structured interview, the authors can develop an interview guiding question differently for each interviewee.

3.3. Data Analysis Method

This study uses the NVIVO to transcript discussion results for the thematic analysis. The thematic analysis will help the authors to simplify the data which is the transcript from the focus group discussion by classifying the codes that are related to the data. By making the codes and the classification the authors will find the pattern of the data that can be developed into the summary, this method will also help the authors to find the relationship between the variables and factors to create the evidence and draw the conclusion.

4. Data Collection

4.1. Interviewee Profile

4.1.1. Management of Coffee Estate Company

A is the General Manager of one of the biggest coffee estates in Indonesia which has been operating since 1986. She has already been in the industry for 32 years and operates the 1200-hectare estates located 1500-1700 meters above sea level (masl) specifically in Tanah Toraja. The company is also categorized as one of the biggest coffee exporters in Indonesia, with several certifications like USDA Organics, Japanese Agricultural Standard organics certification, and Agriculture Biologique from France.

B is also a part of the management in the company which is an accountant. B rarely deals with the farmers and usually coordinates with the field teams from Toraja about the situation in the estates. Preparing the financial statement of the company is his main job.

C is the CEO and founder which operates as a coffee producer in West Java. She has been in the industry since 2005. Her company has achieved several awards nationally and internationally and operates a 200 hectares a coffee estate involving 28 groups of small farmers in the local area of Ciwidey, West Java. The customer is also mostly from the international market like Slovakia, Germany, the Czech Republic, Austria, and many more.

D is an auditor who is already experienced in auditing an agricultural company in Indonesia. D a partner of an audit firm has audited several palm oil companies in Indonesia for over 13 years. D also understands the implementation of PSAK 69 and PSAK 16 in the field and experienced the challenge of implementing the standards.

E is one of the members of the Institute of Indonesia Chartered Accountants (Dewan IAI), specifically, she is also an expert in this agriculture area. Indonesia has adopted the IAS 41 and its amendments to PSAK 69 which she has a big role in the process of the amendments and the discussion.

5. Results and Discussion

Most of the interviewees answered that PSAK has a major influence on their accounting treatment for the bearer plants, PSAK 16 & 69 is the specific standard that guides the accounting treatment for bearer plants and agricultural produce. The interviewees followed the guidelines from PSAK since they are also audited and plan to make an expansion, thus the accounting guidelines have a big role to help them prepare the financial statement. Even though in its practice, the company has gone through many challenges, it tried to implement the PSAK with the maximum effort. The interviewees also stated that they also use benchmarking from the most settled agriculture company in Indonesia, which are the palm oil companies. Since the nature of the asset is

similar, they also refer to the accounting treatment from the palm oil companies' reporting.

5.1. Compliance with PSAK 16 & 69

The accountant of the company stated that they have complied with the PSAK 69, which covers the agricultural activity in Indonesia. The company is using the revaluation method as their measurement method for their bearer plants, meaning the company has tried to comply with the IFRS which has amendments to the plants that are used solely for production, not for one period and the plant is not held for sale from the biological asset to bearer plants.

The accountant of the company has stated in his interview after the authors asked about the references that they are using in doing the bookkeeping.

"For now, we are following PSAK 69, the method we use is more about estimating how many cherries are in the tree and how much is the estimated cost that we spend each month."

Respondent, B

"For sure, it must be recorded as an asset, because if we are a legal entity, we must comply with the standards, such as financial accounting standards (PSAK), for current assets, movable assets, etc., we have to be neat, right?"

Respondent, C

The statement above has proved that the company has aware of the accounting standards. Thus, they have tried to apply the treatment to their accounting system as a coffee producer company.

5.2. Benchmarking from Most Established in Agribusiness Area

All of the companies that the authors have interviewed stated that they already comply with the standards, especially PSAK 16 and 69. The authors try to understand what are the determinants that motivate the company to implement the accounting standards, especially the PSAK 16 and 69 for the coffee plants. One of the reasons they treat the bearer plants following PSAK 16 and 69 is they refer to the palm oil companies' treatment based on IAS 41 & 16. The accounting standard has been their guideline when preparing financial statements. B is one of the accountants of the company, stated that they refer to other companies that also use PSAK 69;

C, as the CEO and founder, also added the same statement, which she states that the treatment of the coffee as the bearer plant is similar to the treatment of palm oil companies the palm trees.

"It's just like in a palm oil company, so it's actually the same thing in my opinion".

Respondent, C

The biological asset is defined as the agricultural produce from the bearer plants or the trees, this is referred to as the Fresh Fruit Bunches (FFB) which are valued using fair value less cost to sell, this includes the growing produce and the harvested produce.

"The immature plants will become plants that are ready to be harvested, so later we will move them into mature plants."

Respondent, C

In addition, D as an auditor for palm oil companies also stated that the palm oil companies have to re-classify their palm trees in the third year.

"Yes, the one who has not produced the most dominant one, sir. If according to the tax rules, it's 3 years for migration, yes, fruit or no fruit is not a benchmark, you still have to migrate"

Respondent, D

The tax rules have forced the company to re-classify its non-productive asset into the productive asset in the third year. Even though in the field, the plants still not producing the fruit they still must reclassify according to the tax rule. This will make the process of reporting easier since if the amount of fruit is the criteria to reclassify the asset, then there will be so many variables to handle and each tree will be accounted for differently.

"Yes, 3 years because the tax assumes this is why it is recorded always as immature, so yes it makes sense if there are no rules it will be too biased."

Respondent, D

Having a benchmark for reclassifying the asset will also avoid bias from the company, especially when they are dealing with the tax reporting. The company like the other coffee producer company also did the same treatment by classifying their bearer plants into productive and non-productive. According to [22], "In the financial statements of The company recognizes that the biological assets of coffee plants are grouped into two, namely coffee plants that are producing and those that are not yet mature". The maturity point of the bearer plants is still being debated in several studies since the IAS has not guided specifically when is the maturity point of the bearer plants. Hence, judgment from the company is needed. According to [14], "Determination of point of maturity requires application of judgment. A tea bush may start to yield produce after three years, but reaches optimum yield generally after four years, which is when the bearer plant is capitalized". [15] on its study, stated that their respondent suggested defining the maturity point at "the date of the first harvest of the commercial value" or the date commercial quantities of products are produced".

As for the acquisition value, the companies are using the accumulated cost of land preparation, planting, fertilizing, maintenance, and other indirect cost until the trees are ready to be harvested, the company also stated that the carrying amount of the immature plantation shall not exceed the lower amount of replacement cost or recoverable amount. The period of an immature plant for palm oil is 4 years, then the company shall reclassify their bearer plant's asset into the mature plant which the accumulated cost will be the acquisition value.

"It is correct that the production plants are using PSAK 16, but that does not mean that they can't use fair value, they can use it, it can be revalued if he chooses the revaluation model if he chooses revaluation later the difference will be recognized as other comprehensive income (OCI) for the tree."

Respondent, E

The company conducted the amortization using the straight-line method after the company reclassify its immature plant into a mature plant for 25 years. Whereas the company, according to their accountant, also did a similar treatment by depreciating their bearer plants after it reaches their maturity.

B stated;

“Yes, sir, depreciation depends on management, we are doing it for the 20 years old period after it becomes TM (productive plant).”

Respondent, B

This means the company has complied with the IAS 16 which are the amendments to the treatment for bearer plants, the company uses the historical cost method for the bearer plants in which the agricultural produce stays to be recognized as the biological asset using IAS 41 and the bearer plants are being depreciated when it has reached the criteria made by the company.

This is following the statement from E, one of the accounting standard-setter in Indonesia which stated;

“If they are using historical cost, the costs incurred until the harvest is capitalized into the acquisition cost of the trees and then depreciated over its economic life.”

Respondent, E

5.3. Benefits of the Compliance

Complying with the accounting standards means the company is willing to follow the guidelines which will incur cost and effort from the company, even though the company is not publicly listed. This has created gaps and an interesting perspective on the factors that affect the company is doing an accounting system and complying with the standards. One of the accounting conceptual frameworks, specifically in the qualitative characteristics is that the value shall be relevant and faithfully representative. Thus, the company must make a judgment regarding the accounting treatment when they have to choose the methods that are still optional.

“For that reason, we adjust it to the conditions closest to the conditions in the field, I can't say it is 100% condition, which is accurate because we are not a trading company.”

Respondent, C

According to the founder of the company, the standard helps the company to prepare the accounting report, the accounting report helps the company as the database to ensure the decision-making process is easier, especially when the company when to expand;

“One coffee tree, we estimate how much will be produced in 15 years, we calculate it for the next 15 years, it turns out to produce how much 5 billion Oh, it means that the labor is about 50%, for maintenance 30%, the profit is estimated at 20 % is a financial record, something like that”.

Respondent, C

The accounting report also helps the CEO, C to estimate their cost in the future, this will allow the company to make a financial projection for the future of the company. Thus, they can make strategic planning to compete in the

market. A financial project also can function to attract a new investor to do the expansion. On the other hand, B has an opinion that doing the accounting treatment and complying with the IAS helps them to allocate the costs along with the useful life of the bearer plants. B has stated; *“We can't directly realize for the costs that occur in our asset, like investing in plants, we spend money to invest in plants if we realized it is too much, sir. Generally, for plantations, it is capitalized when the plants can't produce yet. Then, when it's used to produce later, it will live long and depreciated, sir and later it will produce more. So, in my opinion, the value of our assets is like cost-saving, sir.”*

Respondent, B

The depreciation helps the company to allocate the cost of using the bearer plants to produce the harvested product. Since the nature of the bearer plants is similar to a depreciable asset, then depreciating the coffee trees will help the accounting report of the company be more stable.

5.4. The Implementation of Accounting Standards in the Coffee Industry

The company is using the revaluation method as their measurement in accordance with the PSAK 16 which allows them to choose whether to use the revaluation method or the historical cost method for their bearer plants. The company also classifies their bearer plants asset into the production plants and non-productive plants, the plant will be re-classified after the cherries is ready to be harvested and are going to be the agricultural produce of the bearer plants which is coffee trees. Meaning, that before the plant is reaching its maturity the company is using the accumulated cost when measuring the cost of acquisition of a tree, B as an accountant of the company also stated;

“The initial process of recognizing coffee starts from the seed; we capitalize the cost that is incurred on the seedling process then it becomes TBM (immature plant). In the TBM stage, all the costs are still capitalized, sir. then after sometime later the immature plant will become a plant that is ready to be harvested then later, we will re-classify it into a mature plant. So, the accumulated cost will be the cost of acquisition.”

Respondent, B

The cost that is incurred in the process between seedling until it is ready to be harvested shall be accumulated and recognized as the acquisition cost of the bearer plants, this is in accordance to the IAS 16 paragraph 15 which stated that the property, plant, and equipment shall be measured at its cost. IAS 16 also mentioned the elements of cost that is related to the agriculture industry that shall be accounted for as the cost of acquisition such as the cost of site preparation, installation (seeds), cost of employees, professional fees, and many more. This also explains the theory from the ACF in the qualitative characteristics, specifically the prudence as the company uses the accumulated cost. Prudence in the ACF explained that the company shall not do overstatement or understatement in the reporting. After the bearer plants have reached their maturity, IAS 16 forced the entity to choose the

measurement after the recognition which is stated in the IAS 16:29 “An entity shall choose either the cost model in paragraph 30 or the revaluation model in paragraph 31 as its accounting policy and shall apply that policy to an entire class of PPE”, which means the company has to choose only one method. On the other hand, A as the general manager of the company also stated that;

“Yes, so at the end of the year, production is complete, at the beginning of the year we do another revaluation, this is approximately how much this tree can produce the next harvest year. So, from there, by re-calculating the number of coffee trees, with approximate productivity of how many kilos per tree we can attract, we assume that oh next year we can approximately get 100 tons or 150 tons with current natural conditions. Because it can change, we predict it is like 200 tons, but the wind is strong, the rainfall is higher, it will reduce productivity.”

Respondent, A

Meaning that the company did the revaluation of their bearer plants since there will be a lot of changes, especially in the living asset. Coffee, however, is very versatile with the climates and the characteristics of the field as the variables to affect the production's yield which may fluctuate. According to Diego Cobo [26], “The variables that we need to consider for quality are genotype, the place of origin of the seed, and the characteristics of the field”. Since the versatility of the coffee plants is considered high, The company which also being audited has to fulfill the points of faithfully representing the real situation in the field, thus the revaluation method may be used as the method to maintain the values to be realistic and represents the real situation. Moreover, A also stated that;

“Miscalculations are also usually caused by theft, then a lack of picking. Since the terrain is difficult, so there are coffees that are not picked.”

Respondent, A

The high level of uncertainty and versatility forces the company to revalue their asset year after year, the company also struggles to find the most reliable values that represent the company faithfully. Thus, they choose the revaluation method so that they can do the revaluation every year to make the report stays relevant. The farmers usually made a report every year about the number of trees in the current year, to describe the process of the revaluation, B has stated;

“Our method is still manual, every year we ask for data from the garden, how many plants are still left or still exist, usually in my bookkeeping, I follow the data whether there are plants that die or are damaged, and so on, sir.”

Respondent, B

B also stated that they do depreciate their bearer plants or the coffee tree using the straight-line method for 20 years. The depreciation is beginning when the coffee tree is being reclassified from a non-productive plant into a productive plant. They also divided the non-productive plant into two groups to make the classification easier, the second group of non-productive plants is already in the harvesting process, but the cherry is not reached its optimum potential of flavor, thus it is still in the research and development process. B has stated;

“In the field, it took quite a long time, sir, the process from Non-Productive (TBM) 1 to TBM 2 took 2 to 3 years, which I estimate from TBM to productive plant (TM) is about 5 years, sir.”

Respondent, B

Meaning that the coffee tree is being reclassified into a productive plant usually after five years and being depreciated for 20 years. IASB has not given the guidelines for the entity to choose the points of maturity, this will need the judgment of each of the companies. The coffee producers usually have the criteria of the plants that have reached their maturity in terms of the quantity of the agricultural produce, in the company they have stated that the fifth year will be the point of the maturity at which the plant has reached its peak potentials.

The acquisition cost is the accumulated cost for the beginning five years before the tree is considered a productive plant. On the other hand, the company has also a similar treatment to their coffee trees. The 200-hectares land that they developed has been operated since 2005, located in Ciwidey, West Java. C as the founder and the CEO stated that they have a similar treatment for the agricultural asset to the other agricultural companies like palm oil, they are using a historical cost model for their coffee trees subsequent measurement.

C as the CEO also stated;

“At the beginning, we input the coffee plant as capital, how much does one tree cost, let's say 5 thousand rupiahs, how much does it cost to make the tree grow and produce, how old is the tree, assuming that coffee plants are usually 15 years old for the maximum age of the tree in coffee, there is an investment or acquisition cost.”

Respondent, C

The company recognized their coffee trees using the accumulated cost when the coffee is in the non-productive phase, the coffee trees will be depreciated after three years and the coffee is ready for production.

C also added;

“How much is the investment if you buy a machine? let's say 1 billion, how many years of service life? let's say 5 years, for example, how much depreciation can be calculated directly. But not coffee, the investment age is in the first 2 years or 2.5 years.”

Respondent, C

After 2 years, the bearer plant will reach the point of maturity, this point is determined by the company whenever the bearer plants have reached certain criteria for producing coffee, and each the company has a different point of maturity and criteria. The authors also asked how the company accounted for the initial acquisition of their coffee plant at the point of maturity, C answered;

“First of all, how much does it cost until the coffee is ready to be picked, how much does fertilizer and maintenance cost, and so on, like if you have machine assets, there is also something like that. Then, the numbers will come out after 2 years, for example, comes out one coffee tree, it's 500 thousand rupiahs.”

Respondent, C

The cost that is incurred either direct cost or indirect cost should be accumulated since the coffee trees that are still categorized as the non-productive plant is recognized as

the self-constructed items of PPE. On the other hand, the company also treated their bearer plants similar to the other coffee companies. According to [22], The company classifies its coffee into the non-productive and productive plants, and the method of measurement of its non-productive plant is using the accumulated cost that is incurred in the process of seedlings until it is ready to be harvested. The company includes the direct and indirect cost of the non-productive plant as the acquisition cost and it is accounted for as the non-current asset of the company. After the company reclassifies its non-productive plant into a productive plant, the company depreciate its coffee plants for 16 years.

According to [27], the agricultural produce that is growing on the bearer plant should be still recognized using fair value less cost to sell under the IAS 41. Coffee cherries that are growing on the coffee trees shall be recognized under IAS 41 as the agricultural produce of the company, before the amendments the treatment for both bearer plants and their produce accounted under one unit as the biological asset. According to [14], the amendment splits the plant and the produce into two different accounts with two different methods of measurement.

The bearer plants are categorized as non-current assets whereas the agricultural produce will be categorized as a current asset. This is also very similar to the statement from C as one of the standard-setter in Indonesia;

“Because coffee plants are productive plants and have a long life of years (not like corn) it uses IAS 16. But for agricultural produce, coffee cherries stuck to the tree should use PSAK 69. The tree uses PSAK 16, and the red fruit that hasn't been harvested yet uses PSAK 69”

Respondent, E

The authors also asked B about the measurement method for their cherries, and B stated that;

“The method we use is more about estimating how many cherries are on the tree and for cherries we use market prices and other estimates. Also, according to the objective of the PSAK, the cherries that are still in the tree in that year can be recognized as income initially.”

Respondent, B

Similar to the palm oil companies, they have separated the harvested product from the palm trees in their bookkeeping. On the other hand, the company uses the discounted cash flow or the income approach for their coffee cherries or agricultural produce. This is already following the (IAS 41:20) that allows the company to use the present value of the expected net cash flow from the agriculture produce discounted at the current market rate. The company has used several assumptions to make the calculation easier, this method also helps the company to make estimation and to help the decision-making process easier.

“The age of the coffee plant until it can be harvested in 3 years. After that, it will increase from 4 years 1 tree can produce 1-kilo cherries, after that at the age of 5 years 1 tree can produce 2 kilos of cherries until later, say the maximum is at the age of 6 years to 10 years, then in 10 to 15 years the trees will experience a decline, minus the risks but we didn't take into account the extremes, such as natural disasters such as fire, we didn't take them into account, assume that the engine is like insurance.”

Respondent, C

This can show us that compliance with the accounting standards is important for them, it is one of the factors that determine the company's decision-making process, especially those that are related to accounting.

5.5. Challenges in Implementing Accounting Standards

Practicing the accounting treatment according to the standards will face many challenges, due to the scope and the guidance that the standards have stated that should be followed, according to KPMG's global IFRS valuations and impairment leader explained that the fair value measurement of the agriculture produce on the bearer plants will continue as a challenge. C, as the CEO of the company, stated that they find it struggling to generalize all of the plantations since they are a living asset which the seeds may come from many suppliers and the different planting fields may cause different productivity of the plants;

“Let's say we buy seeds in one place. Suppose that in the third year it grows and produces as planned, but it turns out that when we take the seeds to another place, it grows in the fifth year, automatically the depreciation and amortization will be different in terms of economic value and financial value. different.”

Respondent, C

She also added that the obstacle in the field may cause the missed estimation for the agricultural products that they have recognized since the cherries will be dealing with the nature such as climate, molds, theft, and many more factors that can affect the miscalculation of the agriculture produce as a biological asset. C stated;

“The second is the age of the tree, no one knows, so that is one of our obstacles in recording in the field. That's why, even though it's difficult, we still carry out a census of the trees to see their growth. moreover, the human factor”.

For the company to report the relevant information, C, as the CEO of the company always does the revaluation every two years towards the coffee trees as the bearer plants;

“The recording must have a correlation with the condition of the tree in the field, which we usually evaluate for every 2 years.”

Respondent, C

Whereas according to B, the challenge of applying the accounting standards in the company is when they have to do the estimations to the coffee cherries;

“PSAK 69, the challenge is more about calculating the estimate, sir. I must estimate how many unharvested cherries and I recognize it as income in my book for that year, but there is a possibility that the value I have estimated does not match the current year's situation. For me it makes the financial statements look messy”.

Respondent, B

Since the fair value measurement still must be done to the agricultural produce of the bearer plants, the company still must struggle to find the most reliable value that will be

estimated. Even though many journals still criticize the use of fair value since it will include the subjectivity, according to [7] their respondent still unfavored using the fair value measurement due to the subjectivity when determining the fair value when using the alternative way, moreover they also mentioned that there is a possibility of manipulating the data in the financial statement.

Another challenge is because of the climate that affects the production, which is also experienced by the company;

“There is, sir, the plantation is affected nature, especially coffee plantations, for example, yesterday, as there was climate change, it greatly affected coffee production.”

Respondent, B

Miscalculation often happens as the company is using estimation on counting the value of the cherries that will be harvested, A, as the General Manager of the company also stated that;

“Miscalculations are also usually caused by theft, then a lack of picking. Since the terrain is difficult, so there are coffees that are not picked.”

Respondent, A

The challenges faced by the coffee producer company are similar to the palm oil companies' challenge in implementing the accounting standard for their bearer plants or the agricultural produce, D as the auditor of palm oil companies stated that at the beginning of its standard, the implementation is very hard for the palm oil companies.

“Adopting IFRS is very difficult because the company has to change all of the tops for recording and treatment, in the company that I audited, sir, until the 5th year, even then, if you say fully adopt it is not 100% because their infrastructure does not meet the criteria to become more or less perfect.”

Respondent, D

The infrastructure that D stated is the resources of the companies that will handle the valuation, since the asset is a living plant, the indicator is numerous;

“Because implementation at the beginning was difficult because there were many indicators, the weather also affected, fertilizer also affected so everything affected while the company had to be forced to assess the latest assessment for that time. So, it's difficult for us to find a company that can do IAS and it's also difficult because the database for IAS implementation is also difficult.”

Respondent, D

Moreover, due to the tax rules for the palm oil companies, they have to re-classify their non-productive plant into a production plant in the third year, whether the plant already producing or not. This will make the reporting process easier, but it will also indirectly harm the company.

“Fruiting and not bearing fruit is not a benchmark for migration, sometimes there are implementers in one location who learn to bear fruit and others do not depend on the location of the land as well.”

Respondent, D

Since the land that is used to operate the palm oil company is humongous, many soil characteristics will also affect the productivity, D has stated;

“There are various types of land that can be planted, there are peat, sandy, and that is very influential. If it's on peatland, of course, it's submerged, ma'am and the impact is that the palm tree will take longer to bear fruit because it's submerged, and the water must be reduced. While in soil that is not sandy and fertile, 2.5 years can bear fruit and can become sand fruit of about 2 to 3 kg. The peatland was even up to 4 years until 1 kg was yielded, even to the point of being called the fruit of sand. That's not even if it's submerged the longer it's submerged the longer it bears fruit.”

Respondent, D

The challenge that occurs in the company when they apply the accounting standards is mostly because of the nature of the asset, which is the living plant asset. This is also similar to the challenge faced internationally, [3] also mentions that the challenge to determining the fair value of a biological asset is because the biological asset can be affected by many natural factors. The timber markets in Slovakia are affected by hurricanes, tornadoes, forest fires, and any other catastrophes, thus, the company always must take into account the damage that happened to their biological asset.

The versatility of the asset causes many obstacles for the accountant and the company. Thus, it will need more effort and costs to keep the report fulfilled the accounting conceptual framework, the qualitative characteristics especially the faithfully representation.

6. Conclusion

The coffee farmers already complied with the PSAK 16 and PSAK 69, even though there are still many challenges that the company faced since the coffee plants are high in versatility and uncertainty. The second research question in this study is “How do the coffee farm business owners in Indonesia implement standards for measurement methods?”. Based on the interview, the coffee producer companies use PSAK 16 for their coffee trees, which are recognized as bearer plants under the non-current asset. The company uses a historical cost model for its coffee trees. On the other hand, the coffee cherries that are still on the trees are recognized as agricultural produce under the current asset. The company measures its agricultural produce using fair value less cost to sell. Even though the company has implemented the standards, there are still many challenges faced by the company which is also being faced by other agriculture company that even have better infrastructure and resources such as palm oil companies. The versatility forces the company to increase their effort to do revaluation to keep the report accurate and fulfilled the accounting conceptual framework, the qualitative characteristic, specifically the faithfully representation.

6.1. Limitations

Due to the COVID-19 situation, there are many limitations in this research, the interview was held using the ZOOM meeting as all the respondent is not willing to

be interviewed face-to-face. Moreover, the respondent mostly is farmers who spend their time mostly on the estate, which may be harder to conduct the interview face-to-face.

6.2. Future Recommendations

The authors highly recommend expanding this study more into the implementation of other agriculture companies that also have a bearer plant as their asset, this will help the authors to compare from one the other agriculture company to have a deep understanding of the challenge of the implementation. Thus, by understanding deeply the challenges of the implementation, the solution can be defined. The authors also highly recommend enhancing the data by interviewing more farmers and observing them in the field which can increase the quality of the data being collected. Another agricultural business around the world that has a better infrastructure and resources also can be considered as the object for the next research.

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