

# Amendments to the IAS 41 and IAS 16 – implications for accounting of bearer plants

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**Abstract:** Under the IAS-IFRS standards, agricultural activity is accounted for using a fair value model. In 2014, the IASB amended the accounting treatment for bearer plants with the aim to address some concerns that have emerged since the application of the IAS 41. The amendments require that bearer plants be accounted for like property, plant and equipment (IAS 16). In the paper, there are analysed the aspects introduced by these amendments, moving from the IASB project. In particular, the reasons that led to these amendments are explained and it is explored whether all the concerns previously identified by accounting scholars and practitioners have been addressed. Moreover, there are identified some possible obstacles to the practical application of the amendments to the IAS 41.

**Keywords:** agriculture accounting, agriculture produce, biological assets, IAS-IFRS

Agricultural activities are characterized by specific activities that require an appropriate accounting treatment (Sedláček 2010). The IAS 41 is the IFRS accounting standard that deals with the presentation and disclosure in financial statements of agricultural activities. This standard was issued by the IASB (International Accounting Standards Board) in 2001 (being effective in 2003) with the aim to improve the comparability of financial statements in the agricultural sector, because there was no uniformity in the accounting methods applied in this sector (Aryanto 2011). This standard refers to the accounting treatment for biological assets, agricultural produce at the time of harvest, and government grants related to bearer plants.

The importance of this standard has been highlighted in many studies (Argilès and Slof 2001; Penttinen et al. 2004; Herbohn and Herbohn 2006; Lefter and Roman 2007; Svensson et al. 2008; Argilès et al. 2009; Elad and Herbohn 2011; Bohušová et al. 2012; Feleagă et al. 2012) and criticized in others (Elad 2007; Aryanto 2011; Bohušová et al. 2012).

The IASB changed the financial reporting rules for biological assets that meet the definition of bearer plants (e.g. grape vines, rubber trees and oil palms), by publishing on 30 June 2014 *Agriculture: Bearer Plants* (Amendments to IAS 16 and IAS 41). The new

requirements will be effective from 1<sup>st</sup> January 2016, with an earlier application also permitted.

Based on the results of the previous studies that underline why the impact of the IAS 41 has not been as expected, the aim of this paper is to analyse the theoretical aspects introduced by these amendments, moving from the IASB project, explaining the reasons that led to these amendments and exploring whether all the concerns have been addressed. We identify some possible obstacles to the practical application of the amendments to the IAS 41. We believe that this paper contributes to the debate on the accounting treatment for agricultural activities reported in financial statements under the IAS-IFRS accounting standards.

## METHODOLOGY

In order to assess whether the amendments to the IAS 41 address the issues raised since 2003 both by the implementation of the IAS 41 and by accounting scholars, we analyse the results of the IASB activity (the release of the new IAS 41), in particular with reference to the comment letters received and the previous studies conducted.

Our analysis is conducted in four steps. First, we analyse what the IAS 41 (version 2001) prescribes for

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the accounting treatment of biological assets. Second, we analyse the accounting literature highlighting the pros and cons on the content and implications of the IAS 41. Then, we focus on the IASB amendment project. We analyse the Exposure Draft of the IAS 41 issued in 2012 and the comment letters provided to the IASB before the final amendments. In particular, we explain the reasons, the activity, and the process that led the IASB to change the accounting treatment for bearer plants. We analyse this issue from an academic and a standard setters'/practitioners' standpoint.

Finally, we assess the changes in the IAS 41. We consider the main elements highlighted through our analysis of the IAS 41 (version 2001). We examine the concerns raised by the practitioners and accounting scholars that led to the Exposure Draft of the IAS 41 (version 2012) and, subsequently, in the amendment. Finally, we identify issues that might result from the implementation of the new requirements.

#### IAS 41 (2001 VERSION)

The IAS 41 was published in 2001 and has been effective since 2003. IAS 41 requires that all biological assets related to agricultural activity be measured at the fair value less the costs to sale.

Biological assets described in this accounting standard represent living organisms such as animals and plants. The standard classifies agricultural assets into biological assets that are harvested and sold (consumable biological assets), and into the assets other than biological assets that are harvested and sold (bearer biological assets). In particular, the bearer plants are a subset of biological assets that are used solely to grow produce over several periods and at the end of their productive lives, they are usually scrapped. Once a bearer plant is mature, apart from bearing produce, its biological transformation is no longer significant in generating future economic benefits.

Paragraph 43 of the IAS 41 encourages entities to provide a quantified description of each group of biological assets, distinguishing between the consumable and bearer biological assets or between the mature and immature biological assets. However, the measurements for biological assets are the same. In summary, the IAS 41 prescribes that biological assets are measured at the fair value less the costs to sale. The IAS 41 also regulates agricultural products defined as the harvested produce of biological assets.

The measurement for agricultural produce is the fair value less the costs to sale at the point of harvest. According to the IAS 41.12, the measurement of biological assets at their initial recognition and at each reporting date should be made at the fair value less the costs to sale. Paragraph IAS 41.30 states that if the fair value cannot be calculated reliably, the initial measurement is made at the present purchase or production costs. Differently from other accounting standards (i.e. IAS 16 or IAS 40), the recognition at the present purchase or production costs is not an alternative method, but it is an exception that operates when the fair value of a biological asset cannot be determined reliably. In fact, the IAS 16, which provides the accounting treatment for property, plant and equipment, gives the preparers the option to choose between a cost model and a revaluation model. Similarly, the IAS 40, which provides the accounting treatment for the investment property, permits the entities to choose between a fair value model and a cost model for the measurement after recognition.

The accounting treatment of the IAS 41 was based on the principle that the biological transformation of these assets during their lifetime is best reflected by fair value measurement. Under this model, an entity shall measure a biological asset at its fair value less the costs to sale, recognising the fair value gains or losses arising on the initial recognition in profit and loss.

#### CRITICISMS BY ACCOUNTING SCHOLARS

The introduction of the IAS 41 in 2001 has changed the accounting treatment for agricultural activity, from a historical cost model to a fair value model. Since then, accounting scholars have debated the advantages and disadvantages of the fair value accounting versus the historical cost accounting.

In support of the new accounting treatment proposed by the IAS 41, Argilès and Slob (2001) highlighted the fact that the fair value model helped small firms that did not have the resources and skills to determine the costs. In addition, Barlev and Haddad (2003) argued that the fair value accounting provided a complete full disclosure that was fully compatible with the requirement of transparency. Argilès et al. (2009) said that the fair value treatment resulted in a better information as well as a more reliable and comparable source of information.

Other accounting scholars criticize this view. Some studies (Dowling and Godfrey 2001; Penttinen et al. 2004; Herbohn and Herbohn 2006) have highlighted how the adoption of the fair value model increased the volatility, manipulation and subjectivity of the reported earnings.

Lefter and Roman (2007) show how and why the IAS 41 can be considered an important milestone in setting the accounting treatment of agricultural assets as it represents the starting point of a transition from the purchase cost principle towards the fair value accounting. They have highlighted that the recognizing in the income statement of the changes in value due to the transformation process has the advantage of a greater relevance of agricultural financial statements for the decision-making process. They have also underlined that the immediate recognition in the income statement of any change in the fair value would lead to a higher volatility in the annual result and in this way, to a higher prognosis risk for users of the financial statements. Following these considerations, the recognition of unrealized revenue in the income statement would be very prone to be used for the dividend distribution. Svensson et al. (2008), referring to the Swedish forestry industry, argued that the cost of recognising biological assets at the fair value exceeded the gains obtained by this evaluation measurement method. Therefore, the fair value method increases the volatility of earnings, and the determination of the discount rate for the assessment of biological assets is judgmental.

Elad and Herbohn (2011) conducted a survey in France, Australia and the UK. Their evidence shows that the most common measurement model used is the cost model, while the application of the fair value is conducted through different models: the net present value (NPV), the independent and/or external valuation, the net realizable value (NRV), and the market price. This option of using different measurement models has resulted in differences in the earnings quality in the agriculture sector internationally. The respondents note that the IAS 41 has not achieved the qualitative characteristics of comparability and they strongly support the view that the measurement at the fair value, as required by the IAS 41, increases the volatility of earnings. This is due to the fact that gains or losses arising from a change in fair value should be recognized in profit and loss, but may not yet have been realized. In spite of the fact that the measurement at the fair value less costs to sale was aimed at reflecting the value of assets during the

growth period, a revenue should be recognized in profit or loss when it is realized or the event of exchange has occurred or when it is not yet realized but in a condition that the realization is certain and only a matter of time. Finally, in some tropical countries, the fair value determined by the market authorities does not reflect the fair value of commodities. Not all stakeholders accept that the fair value or the world market price of plantation crops is a fair price that fully reflects their value.

Aryanto (2011) has pointed out that overgeneralizing the accounting treatment for all biological assets caused some problems. For example, not all of the biological assets owned by the entity are intended for the capital appreciation or sale. For this type of biological assets (bearer biological assets), a measurement at the fair value less costs to sale with the recognition of difference in the change in profit or loss would lead to a misleading information, because the revenue associated with these assets will never be earned and realized. He has showed that the recognition of differences in the changes of fair value less costs to sale at profit or loss is also based on the assumption that the revenue will surely be realized. However, there are some cases in which plants take many years from planting to be ready for harvest. He finally concluded that the treatment of fixed assets (IAS 16: *Property, Plant and Equipment*) is the most appropriate for the bearer biological assets held for more than one year.

Bohušová et al. (2012) have identified some obstacles to the practical application of the IAS 41 and suggested ways to deal with them. Starting from a comparative analysis of different accounting treatments for biological assets, they have highlighted that the main aim of the standard seems not to have been achieved. They motivate this consideration with the absence of an active market in many cases (e.g. when the agriculture activity is in the stage of biological transformation). The authors have identified as the key problems of the standard: the methods for reporting the costs incurred in connection with biological assets, the measurement of biological assets during the transformation process, and the measurement of agricultural produce. They underlined that the standard does not solve the method of reporting the costs incurred in connection with the transformation of biological assets, and that different treatments used by the entities could lead to a different structure of the incurred loss and influence the financial analysis indicators in the area of the

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enterprise's performance evaluation. According to the authors, a solution could be the harmonization of the biological transformation reporting methods.

### CRITICISMS FROM THE PRACTITIONERS

In the IASB's 2011 Agenda consultation, several respondents regarding the IAS 41 note that the use of the mature bearer biological assets, such as oil palms and rubber trees, is similar to that of manufacturing and thus a cost model should be permitted, consistent with the property, plant and equipment requirements as in the IAS 16.

Many respondents also expressed concerns about the cost, complexity and practical difficulties of the fair value measurement of bearer biological assets when an active market for these assets is not present. Another concern refers to the volatility that arises from recognising changes in the fair value less costs to sale in profit or loss. Finally, it has been pointed out that the investors, analysts and other users of financial statements adjust the reported profit or loss to eliminate the effects of changes in the fair value of these bearer biological assets.

Following this consultative activity, the IASB held some meetings with the Asian-Oceanian Standard-Setters Group (AOSSG) and the feedback was in favour of the proposals to start a project about the accounting treatment for the bearer biological assets. In September 2012, the IASB added a limited-scope project for the bearer biological assets to its agenda, with the aim of considering whether to account some or all of them as property, plant and equipment, permitting the use of a cost model consistent with the IAS 16. The IASB issued an exposure draft (hereafter "ED") in June 2013 that proposed changes to the accounting treatment the requirements for biological assets that are bearer plants. The IASB proposed that bearer plants would be treated as property, plant and equipment within the scope of the IAS 16 and would be subject to all of that standard's requirements. Thus, only those biological assets meeting the definition of bearer plants would be within the scope of the proposed amendments. The new definitions proposed by the IASB in the ED stated that the bearer plants are used in the production or supply of agricultural produce, that they are expected to produce for more than one period and that they are not intended to be sold as living plants or harvested as the agricultural produce, except for the incidental scrap sales. All

other assets that are within the scope of the IAS 41, but that do not meet the above definition, would be unaffected.

The IASB received 72 comment letters on the ED and performed an outreach with the representatives of the users. The vast majority of respondents supported the proposal to account the bearer plants in accordance with the IAS 16, thereby permitting a cost model. However, analysing these comment letters, three other main issues can be identified. First, many respondents suggested extending the scope to livestock. These respondents suggested extending the scope to cover all biological assets predominantly used to produce agricultural products. The IASB has decided not to expand the limited scope of the amendments, because it had received limited information about these issues within the context of other biological assets. It also noted that plants used solely to bear agricultural produce differ from most other biological assets because they are never sold and so the changes in the fair value of the bearer plants do not directly influence the entity's future cash flows. The IASB decided that it should not consider whether the scope of the project should be expanded without understanding whether the IAS 16 were appropriate and could be applied consistently to other biological assets. Second, the respondents suggested only requiring fair value less costs to sale to be measured at the point of harvest, or providing further exemptions from the fair value measurement for the cost-benefit reasons. They also suggested accounting for the produce under the cost model before harvest, like the inventories/work in progress. The IASB acknowledged that measuring the produce growing on bearer plants at the fair value less costs to sale might sometimes be difficult to apply in practice. It said that similar difficulties were encountered when measuring the fair value less costs to sale of the produce growing in the ground, and thus decided that it would be inconsistent to provide any additional relief from the fair value measurement for the produce growing on bearer plants and not also for other biological assets within the scope of the IAS 41.

According to the IASB, the limited-scope project was not intended to address the fair value model in the IAS 41. Consequently, the IASB did not further discuss the exemptions contained in point 30 of the IAS 41 (*Inability to measure fair value reliably*) as part of the project. Third, the respondents requested that the IASB provide guidance on the issue when a bearer plant is in the 'location and condition neces-

sary for it to be capable of operating in the manner intended by management' in accordance with the IAS 16, i.e. when it reaches maturity. For example, an oil palm may start to grow produce after two years, but only reach its maximum yield after seven years. Some respondents suggested either defining the date of maturity to be "the date of the first harvest of the commercial value" or "the date commercial quantities of produce are produced". The IASB argue that without further clarification "first harvest of commercial value" and "commercial quantity" would not assist the entities in applying judgement in this area and would be likely to lead to interpretation requests in the future. In addition, the IASB noted that a similar scenario arises for a factory or retail outlet that is not yet capable of operating at the full capacity and did not think that this was a major issue in practice. So, the IASB decided not to provide guidance in this area.

#### THE AMENDMENTS ON BEARER PLANTS (IAS 16 AND IAS 41)

The IASB issued *Agriculture: Bearer Plants* (Amendments to IAS 16 and IAS 41) on 30 June 2014, which changed the accounting treatment for biological assets that meet the definition of bearer plants. Consistent with the ED 2013, bearer plants will now be within the scope of the IAS 16 and will be subject to all of the requirements therein. This includes the ability to choose between the cost model and the revaluation model for the subsequent measurement. Agricultural produce growing on bearer plants (e.g. fruit growing on a tree) will remain within the scope of the IAS 41 Agriculture. Government grants relating to bearer plants will now be accounted for in accordance with IAS 20 Accounting for the Government Grants and Disclosure of Government Assistance, instead of in accordance with the IAS 41.

The IASB has established that all of the following criteria contained in the definition need to be met for a biological asset to be considered a bearer plant. A bearer plant is defined as "*a living plant that: is used in the production or supply of agricultural produce, that is expected to bear produce for more than one period, and has a remote likelihood of being sold<sup>1</sup> as agricultural produce, except for incidental scrap sales.*"<sup>2</sup>

Under this definition, one should consider as bearer plants grape vines and some plants that may appear to be consumable, such as the root systems of perennial plants (e.g., sugar cane or bamboo). However, annual crops and other plants that are held solely to be harvested as agricultural produce, such as many traditional arable crops (e.g. maize, wheat and soya) as well as the trees grown for lumber, are not expected to meet the definition of a bearer plant. Moreover, the plants that have a dual use, that is, both bearing produce and the plant itself being sold as either a living plant or agricultural produce (beyond the incidental scrap sales), will not meet the definition. This might be the case when an entity holds rubber trees to sell both the rubber milk as the agricultural produce and the trees as lumber.

With reference to bearer animals, like bearer plants, these may be held solely for the produce that they bear. However, bearer animals have been explicitly excluded from the amendments and will continue to be accounted for under the IAS 41 on the basis that the measurement model would become more complex if applied to such assets.

#### DISCUSSION AND CONCLUSIONS

We conclude that one of the main points is still to be determined, whether an asset meets the definition of a bearer plant is not very clear. Thus, a careful assessment will be important. In addition, it seems unclear whether an entity would need to reassess whether a plant meets the definition of a bearer plant after the initial recognition. If a plant meets the definition of a bearer plant and that changes subsequently, would the IAS 41 be applied instead of the IAS 16? For this reason, we believe that the amendments do not fully address this question or specify how to transfer such assets between the IAS 16 and IAS 41.

Under the IAS 41, bearer plants and their agricultural produce are considered to be one asset prior to harvest and presented as either the current or the non-current based on the asset's useful life. So bearer plants and their agricultural produce are considered in a single unit of account. The new IAS 41 splits the plant and the produce into two assets, i.e. two units of accounts, with different measurement models. Consequently, the bearer plants will be presented as

<sup>1</sup>The underlined part is the part that the IASB changed with reference to the definition provided in the ED 2013.

<sup>2</sup>IAS 16.6 and IAS 41.5.

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the non-current assets, while the agricultural produce will usually be a current asset, unless it takes more than a year to mature.

Currently, the bearer plants are measured at the fair value less costs to sale both at the initial recognition and subsequently, unless the measurement exception applies when the fair value cannot be reliably measured. Following the amendments, the bearer plants will be subject to all of the recognition and measurement requirements in the IAS 16. In particular, before maturity, bearer plants will be measured at their accumulated cost, similar to the accounting treatment for a self-constructed item of plant and equipment before it is available for use. After the bearer plants mature, the entities will have a policy choice to measure the bearer plants using either the cost model or the revaluation model. If the revaluation model is selected, the revaluations will need to take place with a sufficient regularity to ensure the carrying amount does not differ materially from the asset's fair value had it been measured at the end of each reporting date, which may be as frequent as currently required by the IAS 41. The entities following either model will need to determine the useful life of the bearer plant in order to depreciate it. The useful life will have to be re-determined every year.

Like the property, plant and equipment, but unlike the biological assets, bearer plants are also within the scope of the IAS 36 *Impairment of Assets*. Thus, the entities will have to assess whether there are indicators that a bearer plant is impaired at the end of each reporting period. In this circumstance, an impairment loss will be recognized if the carrying value is lower than the bearer asset's recoverable amount, being the higher of the asset's fair value less the cost of disposal and its value in use. Therefore, the amendments will reduce the volatility in profit or loss when accounting for the bearer plants, while the entities will continue to recognize any changes in the fair value of agricultural produce growing on the bearer plant. The entities treat a bearer plant and its agricultural produce as a single asset until the point of harvest. The amendments will require an entity to recognize a bearer plant separately from its agricultural produce prior to harvest. Determining a point at which to recognize the agricultural produce separately will require a judgement to be made. Thus, the IASB should improve the amendments by introducing guidance that helps the preparers do so with the aim of ensuring the comparability between different accounting practices.

Agricultural produce will continue to be within the scope of the IAS 41 and will be measured at the fair value less costs to sale, with changes recognised in profit or loss as the produce grows. The IASB thinks that these requirements will ensure that the produce growing in the ground as an annual crop and the produce growing on a bearer biological asset will be accounted for consistently. Thus, changes in the fair value of such agricultural produce will continue to be recognised in profit or loss at the end of each reporting period. The amendments favour only those who believe that an accounting treatment consistent with that of fixed assets (IAS 16: *Property, Plant and Equipment*) would be more appropriate for the bearer plants.

In fact, in spite of the suggestion to extend the scope of the amendments in order to cover all biological assets predominantly used to produce agricultural produce, the IASB limited the scope to bearer plants. The amendments have been developed with the aim of addressing the concerns summarized previously; in particular, with reference to the cost, complexity and reliability of the fair value model in the absence of observable markets. We conclude that the challenges remain about the initial scoping considerations, the identification of the costs that can be capitalised under the IAS 16, and the separated tracking of bearer plants and the un-harvested agricultural produce.

In addition, the requirements will give the entities the option to continue measuring their bearer plants at the fair value by applying a revaluation model under the IAS 16. However, the fair value changes will be recognised in other comprehensive income (OCI), rather than profit or loss.

It should also be noted that the requirements will not entirely remove the need to measure the fair value or to eliminate the volatility in profit or loss, as the agricultural produce will still be measured at the fair value. The entities will need to determine the appropriate fair value measurement methodologies (e.g. discounted cash flow models) to measure the fair value of these assets separately from the bearer plants on which they are growing, which may increase the complexity and subjectivity of the measurement. Therefore, the amendments provided by the IASB seem to address only some of the issues raised since the introduction of the IAS 41, and the IASB is still far from providing a standard that addresses the issues previously summarized, also if we consider the additional potential concerns that the amendments could generate. This is particularly the case with ref-

erence to the assessment of whether an asset meets the definition of a bearer plant, and with reference to the recognition of the bearer plant separately from its agricultural produce prior to harvest. On this point, the request to the IASB to provide additional guidance seems to be appropriate and should be accepted by the IASB in order to avoid the need to involve the IFRIC (International Financial Reporting Interpretation Committee) when the standard becomes effective.

Our analysis has some limitations. The main limitation is strictly linked with the characteristics of the work: we cannot assess the practical implications from a quantitative point of view since the new requirements will be effective from 1<sup>st</sup> January. Therefore, further study should be conducted after the effective application of these amendments in order to assess their impacts and to highlight the additional fresh issues.

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