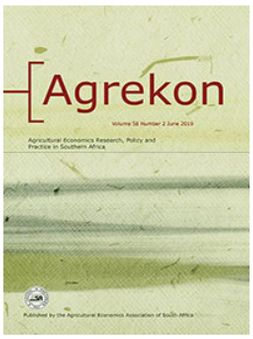

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Agricultural Economics Research, Policy and Practice in Southern Africa

ISSN: 0303-1853 (Print) 2078-0400 (Online) Journal homepage: www.tandfonline.com/journals/ragr20

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To cite this article: Marilene van Biljon & Deon Scott (2019) The importance of biological asset disclosures to the relevant user groups, Agrekon, 58:2, 244-252, DOI: 10.1080/03031853.2019.1570285

To link to this article: https://doi.org/10.1080/03031853.2019.1570285

AGREKON
2019, VOL. 58, NO. 2, 244–252
https://doi.org/10.1080/03031853.2019.1570285

The importance of biological asset disclosures to the relevant user groups

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ABSTRACT

Financial statements are prepared and presented to reflect an organisation's financial position and financial performance and to provide useful information for decision-making (IASB, 2018a). The underlying accounting policies and related notes on biological assets must be presented in such a way that users can understand the transactions and valuation considerations that affect their performance (IASB, 2018a). Financial statement valuations and disclosures are informed by the requirements of the prescribed International Accounting Standards, which presumes that users "have a reasonable knowledge of business and economic activities and accounting and have a willingness to study the information with reasonable diligence" (IASB, 2018a). The accounting standards thus urges reporters to consider the usefulness of the information disclosed in the financial statements, as it may influence the decisions of users (IASB, 2018a). In systematically documenting the decision-enhancing disclosure for biological assets as required by users, the reporters have a comprehensive guideline to ensure that the disclosure is objective and a more accurate presentation of the real value. A consideration of the expectations of reporters may also address the general biological asset valuation challenges experienced in the industry. The detailed disclosures might attract investments, enhance market comparability and assist the users of the related financial information to understand the performance of biological assets.

KEYWORDS

biological asset valuation; fair value accounting; user groups; decision-enhancing disclosures; users of financial statements

JEL Classification

M41

1. INTRODUCTION AND PURPOSE OF THE STUDY

Agricultural activities include the operational processes that comprise the purchasing, transformation, harvesting and the associated sale of produce or offspring. These operational processes are recorded and valued to allow agriculturalists to control budgets, increase production, meet financial obligations and drive profits (Bayboltaeva *et al*., 2015). To allow agriculturalists and other users of information a comparative review and analysis of the financial results, a uniform criterion on how to record and report on the operational activities of biological assets is required. The accounting of activities and transactions are used, *inter alia*, for performance management, cash flows analysis and the identification of potential business risks (Rozentāle & Ore, 2013; Baigrie, 2014; Mates *et al*., 2015). A uniform, standardised reporting guideline also allows for related benchmarking and overall assistance in the users' decision-making process (Mates et al., 2015).

Accounting standards were developed as the criterion to detail the requirements of what, how and when transactions should be recorded – regarded as financial accounting. Deegan and

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Unerman (2011) define financial accounting as a "process involving the collection and processing of financial information to assist in the making of various decisions by many parties internal and external to the organisation". Their definition refers to the investors, suppliers, lenders, employees, government, customers and the community as parties interested in the business operations. Consistency in the financial reporting processes of organisations, supported by a uniform valuation and disclosure technique enforce harmonisation to enhance decision-making by users of financial information as the degree of variation of information is restricted (Deegan & Unerman, 2011; Gonçalves & Lopes, 2015). The International Accounting Standard 41 *Biological Assets* (IAS 41) was developed as the required agricultural reporting criterion for the recording of farming activities and to provide fairly presented results to the users of financial statement. It prescribes the accounting treatment to record the initial purchase of the biological assets, account for the biological transformation, value and report on the biological assets and de-recognise the assets at the point of harvest when the inventory is recognised (IASB, 2018b). Biological assets are defined as "a living plant or animal" produced or held for agricultural processes (IASB, 2018b).

Studies conducted on the reporting of biological assets indicate that different valuation methods are applied across organisations and countries. Elad and Herbohn (2011) demonstrated that organisations that adopted IAS 41 in Australia, France and the United Kingdom applied various techniques to value their biological assets. These included net present value (29%), historic cost (23%), fair value (16%), an independent valuation (13%), market prices for similar assets (13%), recent market prices (5%) and the lower of cost and net realisable value (1%). Baigrie (2014) analysed the application of IAS 41 on the listed South African companies and concluded that only 38 per cent of listed organisations considered the principles of fair value on adjusted market prices or industry data to value biological assets at the point of harvest. Fifty per cent of the listed organisations based their valuations on future cash flows; 6 per cent applied the cost less accumulated depreciation method and 6 per cent did not disclose their valuation methods (Baigrie, 2014). The public-sector valuation of biological assets in South Africa is also inconsistent as it is based on the modified cash basis of accounting (50%), recognition at the point of sale (20%), accounted as held for sale assets (10%), expensed (10%) and fair value (10%) (Van Biljon *et al*., 2013; Scott *et al*., 2016).

Maina (2010) investigated the challenges experienced by small- and medium-sized enterprises (SME) in Kenya to account for biological assets at a fair value. He found that the most significant challenge experienced in the valuing of biological assets is the unavailable market information needed to derive at a fair value. The study by Maina is supported by a study performed by Schutte and Buys (2011) on the International Financial Reporting Standards for SMEs which concluded that specialised activities like agriculture were of moderate importance to organisations as they are involved in alternative activities and do not necessarily apply fair value accounting on biological assets. Accounting for SMEs in Russia remains a challenge according to Burykin *et al*. (2011). Their study found that the information gathered, compiled and disclosed to comply with IAS 41 is of no use to the Russian users of financial statements, as the principles of IAS 41 and the accounting standards applied in the Russian Federation differ. The study further concluded that the adoption of IAS 41 is not attempted as the substantial costs of implementation exceed the expected economic benefits construed to the organisation (Burykin *et al*., 2011; Baigrie, 2014). Consequently, the financial statements of the Russian Federation organisations and those of the European Union cannot be compared, adding to the gap in the theoretical knowledge.

The lack of market information causes management in all economic sectors to create their individual assumptions and basis for calculating the fair value of biological assets, especially as IAS 41 provides no guidance on the valuation methods and factors to be considered to derive at a fair value (Gonçalves & Lopes, 2015). The international adoption of a prescribed accounting standard applied in diverse manners, resulted in the adoption of various valuation models that constitutes incomparable financial results (Van Biljon, 2016).

Prior studies focussed on the implementation of the accounting standard to fair value biological assets, yet neglected to consider whether any additional information might be required by the users

of the financial reports to contextualise the performance of the assets in their decision-making process. This paper therefore contributes to the body of knowledge on the fair valuing of biological assets as the unique user requirements were explored to guide reporters on the users' information needs to enhance their decision-making, despite the industry's adoption of differentiated valuation methods.

2. METHODOLOGY

Qualitative empirical research analysed the unique biological asset financial information needs and expectations of the users of the information, for effective decision making. The sample consisted of 50 organisations from 10 purposively selected countries and the data is based on financial statement information for the period 2012 to 2015 as well as questionnaires and interviews with related institutions during 2014 to 2016. The industry norms adopted per major group of biological assets – fruit, vegetables, livestock, poultry, sugarcane, dairy, forestry, grapevines and maize production – per the researched financial reports were contextualised and redrafted as anonymous financial results. The various users that are or might be affected by the financial results of an organisation, that can be influenced or distorted by the performance of biological assets were identified from prior studies and were grouped based on their information and decision-making needs (Sedláček, 2010; Deegan & Unerman, 2011; Silverman, 2013; Mitropolitski, 2015; Stonciuviene *et al*., 2015). The researched user groups consisted of auditors; accountants and financial statement compilers; academics and researchers; individuals charged with governance serving as directors of companies or audit committee members; the regulatory body informing the public accounting standards; the Provincial Treasury; farm owners; investors and banks.

Questionnaires and interview questions were tailored to ensure that the technical information, accounting jargon and the level of exposure to the financial environment of user groups did not distort the research process. The structured interviews addressed the following research areas the users' understanding of, exposure to, expectation of, and limitations experienced on:

(a) valuation methods applied to report on the fair valued biological assets;
(b) information needs and expectations to enhance decision-making;
(c) the importance of the performance of biological assets in their assessment of the financial performance of the organisation;
(d) the benefit of fair valued assets;
(e) challenges experienced in their assessment of the disclosed financial results;
(f) unique recommendations on how the disclosed information can be tailored or the industry can address their area of risk exposure;
(g) unique documentation required in their decision-making that is currently not availed in the industry;
(h) changes required to the accounting policies that informs the biological asset figures disclosed on the financial statements;
(i) their assessment of the industry norm financial data presented as per the outcome of the contextualised annual reports; and
(j) any guidance or framework that exist or should be developed to aid their decision-making.

The input from the user groups relay their exposure to, and expectation of, the information required to aid and enhance their unique decision-making areas and to address the unique risk each group is exposed to. This paper details additional information to be disclosed in the annual reports and financial results of organisations to address the information needs regarding biological assets by user groups.

3. LITERATURE REVIEW

Chebac and Onica (2009) defines a biological asset assessment (valuation) as a "more simple operation of weighing and measuring; it is a complex process of estimating the value". The valuation

of biological assets can be regarded as an economic evaluation assessment as it establishes the structure of the financial statements via a "set of techniques, processes and methods which determines the value of a group of goods, assets or business" (Chebac & Onica, 2009). Financial statements relay the outcome of economic evaluations to inform the report users of the position of the asset based on the investment therein and the performance thereof. The importance of data for the decision makers or users of financial information is evident.

Users are interested in the actual market values of biological assets as it demonstrates the exchangeable price in a competitive market. Investors and suppliers need information on the organisation's obligations, operational changes, the financial strength and stability, the funding resources, invested funds and the impact of operations on the profit and performance (Landsman, 2006; Azevedo, 2007; Chebac & Onica, 2009; Huffman, 2013; Gonçalves & Lopes, 2015). Relevant and credible information is required by the users in operational decision-making which is currently not comprehensively reported on (Chebac & Onica, 2009).

Olugbenga and Atanda (2014) regard the investors as the primary users of financial statements (Schutte & Buys, 2011; Huffman, 2013). They argue that the value relevance of an accounting standard is directly affected by the correlation amongst the market value of an item and its corresponding accounting number that is derived therefrom. As such they interpret accounting standards to affect the numbers disclosed on the financial statements – influencing the users thereof (Huffman, 2013; Olugbenga & Atanda, 2014).

User groups like creditors, management, suppliers, credit providers, policy makers, owners and government are influenced by financial results and the underlying accounting standards (Athanasios *et al*., 2010; Bayboltaeva *et al*., 2015). The results of the applied valuation method will inform the reported biological asset values affecting the decision-making by the relevant user groups, an evaluation of organisational performance and sectoral performance analysis (Rozentăle & Ore, 2013; Musarat *et al*., 2014; Eksvärd, 2014).

Prior studies on the fair valuing of biological assets concluded that the use of estimates impact the credibility of the reported results while the applied valuation methods impairs the comparability of financial results (Azevedo, 2007; Chebac & Onica, 2009; Macedo, 2012; Bohušová *et al*., 2012; Baigrie, 2014; Gonçalves & Lopes, 2015). In addition, the principles of IAS 41 are more important and decision-enhancing when the value of the biological assets is significant to the users (Rozentăle & Ore, 2013). Significant valued assets reported on in terms of fair value accounting principles will therefore require comprehensive qualitative and quantitative disclosures to assist and guide the relevant user groups in their decision-making.

4. INDUSTRY CHALLENGES EXPERIENCED BY USER GROUPS

4.1 Accountants and financial reporters

Accountants apply the fair value principles of the International Accounting Standard (IAS) 41 to value biological assets, wherein the unique conditions and circumstances per type of biological asset, the growth rate, expected tonnages and selling prices per type are considered. In their valuation of agricultural activities as per IAS 41, challenges are experienced that ought to be contextualised by the users of the financial reports:

(a) The valuation process is lengthy and commence before the actual reporting date to meet deadlines.
(b) Independent expertise is often required in valuations as accountants are not trained agriculturalists. The availability of experts may impact on reporting deadlines.
(c) Valuation experts are costly and limited funding often restricts such use.
(d) Fair value changes continuously due to biological transformation.
(e) The requirements of IAS 12 Inventory, IAS 16 Property, Plant and Equipment and IAS 41 Biological assets impacts on fair valued disclosures.

(f) Organisations can opt to sell the best graded quality produce to enforce profits, impacting on reported values as the use of Last-In-First-Out reporting is not allowed under IAS 12.
(g) The actual results calculated for tax purposes differ from IAS 41 fair valued disclosures.

Accountants and financial reporters do not have the technical expertise and experience of agriculturalists and economists to measure the biological transformation of biological assets; to determine the optimal growth stage thereof; to evaluate the biological assets' condition and to identify the environmental factors impacting on the performance thereof. They are often restricted to perform and disclose decision-enhancing valuations to the relevant user groups.

4.2 Academics and researchers

A theoretical evaluation and a consideration of academic studies performed on the subject, allowed these users to highlight the following industry challenges that can be addressed to enhance the usefulness of fair valued biological asset reports:

(a) Biological assets are not separately disclosed in the statement of financial position;
(b) Valuations are not objective.
(c) A standard does not exist to guide how each type of biological asset should be valued.
(d) A valuation database does not exist to guide valuations.
(e) The purpose of performing valuations is not understood by the users.
(f) There is a lack of qualified valuers.
(g) The definitions applied on biological assets are not well defined by organisations.
(h) Valuations are not based on consistent assessments to provide comparable and consistent fair values.
(i) The presentation of information should be complete and adequate to enhance understanding of the operations.
(j) The benefit of fair valuing should exceed the information collecting costs.
(k) The objective of financial reporting should be prioritised by reporters, i.e., to provide financial information that is needed in decision-making.
(l) The production curve and the related variables that can impact thereon should be considered.

The theoretical recommendations made to the industry can enhance the usefulness of financial reports and aid user's decision-making. The report compilers and the standard setters might need to collaborate forces to action and implement it.

4.3 Accounting standard setters and regulatory bodies

Accounting standard setters develop and prescribe the accounting standards for the industry, whereas the regulatory bodies drive the implementation and compliance thereto. The regulatory body advised organisations to not merely use the disclosure requirements of IAS 41 as a checklist to report on biological assets, but to disclose sufficient and detailed information to produce financial reports that satisfies the needs of the users thereof. Elaborated information can be disclosed to enhance users' understanding and allow for an independent audit. The following disclosures are recommended to ensure that useful financial reports are compiled:

(a) *Historical information:* Information on the actual sales prices, the conditions that existed on the prior year valuation compared to the current year valuation, changes in the conditions (the expectation is that the conditions would not change more than inflation, except in severe instances like the recent drought in South Africa).
(b) *Valuation information:* Market conditions and values applied as close as possible to the valuation date and explanations if not applied in the current valuation.

(c) *Industry information:* Information from independent organisations/regulatory bodies on the market prices of the relevant biological asset, i.e., farmer's association.
(d) *Reconciliations on movements:* Detailed descriptions, narrative information and values on the opening balance of biological asset, each movement thereon; including, but not limited to, planted, purchased, harvested, transferred, destroyed, scrapped, sales, losses and the closing balance. The narrated descriptions should include information on quantities and/or hectares as well as the calculations and the detailed valuation method applied as well as the circumstances that warranted the chosen valuation method.
(e) *Biological asset information:* To be disclosed and detailed in the financial statements even if an active market does not exist. This includes but is not limited to information on the custodianship, the nature and type of biological assets, the quantities, movements in quantities, descriptions, the mandated function of the organisation and detailed information on why the assets have not been valued.

5. FINDINGS REGARDING DECISION-ENHANCING DISCLOSURES

5.1 External auditors

Auditors assess information presented in financial reports to express an audit opinion on the fair presentation thereof. Their exposure to biological assets focus on an independent overview of the calculations, methods, assumptions and disclosures presented thereon. Fair valued biological assets' disclosure is decision-enhancing when the external auditors can assess the reported information, which as a minimum need to relay:

(a) The assumptions used and how it compares to market data.
(b) The financial models applied in the calculation of the fair values.
(c) The industry norms and standards against which the organisation can be compared.
(d) The actual transaction information, information on the physical assets and other base data documents.
(e) A retrospective review on the prior valuations compared to the actual results to justify the assumptions applied.
(f) Documentation to proof the qualifications and experience of any experts that may have been consulted.
(g) The present value of the future cash flows to be generated from the biological asset.

An assessment of financial statements reiterated that the industry opts to relay a replica of the IAS 41 prescripts as the organisation's 'unique' accounting policy. The auditors advise that these accounting policies be tailored to outline the actual operational activities, valuation considerations and assumptions applied. The policies can further be aligned to the International Financial Reporting Standard (IFRS) 13, Fair Value, to detail the specific financial reporting procedures applied in the organisation. The users need specific information detailed in the accounting policy to enhance decision-making on how and where the income generated per type of biological asset is disclosed; with added disclosures on where the gains and losses arising from these assets are reported and how subsequent expenses on agricultural activities are reported.

With enhanced accounting policies, detailed disclosures in the financial statements and an insight into the underlying documentation of the biological asset valuations, the organisations will save on audit fees and ensure sound financial reporting to the users.

5.2 Individuals charged with governance

Individuals charged with governance include, but are not limited to, Chief Executive Officers, Chief Financial Officers, the board and audit committee, risk managers and other shareholders. This user group is

responsible to drive compliance and for good corporate governance, as directed in King IV. Their interest is directed at risk management and compliance that are to be substantiated by the disclosure of:

(a) The age and life expectancy and where the assets are in their life cycles.
(b) The type and nature of the biological assets.
(c) Material biological asset values that are not based on market data should be subject to an internal audit to ensure the validity and accuracy of the assumptions applied.
(d) Express an assessment of compliance with King IV and any impact thereof on the operations.
(e) An assessment of the sustainability of the farmland.
(f) An evaluation of the sustainability of the operations in relation to the risk tolerance of the organisation.
(g) Detail the comprehensive risks that impacts on the organisation and the controls established thereon, like natural disasters, industry specific risks, market risks, financial risks, the risk of revenue loss due to poor biological asset performance and any legal risks associated with court cases or other legal proceedings.
(h) Tables with detailed explanations on the financial status of the organisation can be included in a financial report, detailing as a minimum the following ratios: return on assets, return on equity, liquidity.
(i) Comparative information should consider the historical performance of the organisation as well as industry performance and trends.
(j) An indication of whether the hectares farmed changed from the prior year; whether the operations expanded; and any other factors that resulted in capacity change.
(k) Detailed information on the total hectares owned, the hectares planted and the actual bearing hectares to allow an assessment of the effectiveness of the bearing land.
(l) A split of the farmed and bearing hectares to clarify the quantities that relates to old/existing biological assets versus the newly acquired/planted hectares. Include information on whether farmland is stable or whether replanting is required.
(m) Estimates applied in the valuation should be substantiated to allow an assessment of the variables.

The fair value derived on biological assets is important for individuals charged with governance as it gives an oversight of the capacity to be correlated to the revenue generated therefrom. To allow such assessment, detailed information is required to allow the users to contextualise the valuation model and method applied; the type of asset, the quantities, the geographical spread thereof, the ages and information on the lifecycle of each type of asset, as well as the condition of the assets. The capacity of the assets, the input costs invested by the organisation, the production and the related output that generates revenue are also required.

The lifecycle values of the various types of biological assets, especially where the reporting date is not in line with the maturity date thereof, will assist with an assessment of the operations to identify if strategic changes are required; whether the assets can serve as collateral to financing and whether environmental factors impact on the performance of the biological assets.

The users require fair valued biological assets to be realistic. Where farmers and/or organisations do not have access to open markets (considering rural areas), and the sale of these assets is not made in the open market, a reconciliation should be disclosed to demonstrate the expected fair value of the assets versus the realisable sale thereof.

5.3 Owners, other users and investors

The owners of organisations reporting on biological assets (mostly farmers), investors like commercial banks and other users (customers, the community, suppliers, lenders, employees and project implementers) are considered. Farmers require information on the environmental changes and impacting

factors like rainfall to inform decisions while the actual financial results and valuations are not applied in their decision-making procedures.

Investors are interested in detailed information. The quantities per type of biological asset, the ages thereof, the species, gender and detailed descriptions are required as they will re-value the assets based on market information to assess the reasonableness of the values reported. The narrated valuation method should allow investors to assess the affordability and the assumptions applied.

The underlying factors to valuations are more important to owners than a value derived at by accountants and as such the valuation method applied to report biological assets is of no use to the owner. Other users assess the revenue generating capacity of the biological assets in relation to the input costs, the quantities per type and the expected output. The applied valuation method is of little use to these users as their interest focussed more on the actual cost thereof and the risks that can impact on the expected output like theft, losses due to natural disasters, environmental changes, etc. Input costs are the primary consideration by these users as in-house valuations are subject to manipulation. To assess the identified risks, other users require more frequent valuations which are to be done (for crop) at least at emerging, after flowering and at maturity. Other relevant cycles should be applied for animals.

As investors will revalue the biological assets according to their approved market rates, it is more important to disclose the biological assets' performance to the organisation's ability to generate income. For this purpose, information on the published rates, spot prices and long-term average biological asset prices are required.

Farmers apply the operational curve expectancy when making operational decisions. It may be useful to provide detail thereon to indicate where in the curve the business is.

6. SUMMARY AND CONCLUSION

A consideration of the additional information needs of the relevant users of biological asset financial information will assist the reporters to provide useful information for decision making, especially as their information needs are not addressed by the standard disclosure requirements of IAS 41. Users considered the biological asset values disclosed on the financial reports to be meaningless without detailed information to allow them to re-assess the valuations. The detailed information should allow the users to grasp the operational requirements of the biological assets, the capacity of the assets and the related revenue derived therefrom to guide their decisions.

The users' additional disclosure needs require detailed disclosure of the input costs, output, changes and other factors on biological assets over the lifecycle of the asset to allow an understanding of the life expectancy of the asset and its overall performance – especially if the programmes cover multiple financial years and the lifecycle/maturity date does not align to the reporting date. Detailed life performance reconciliations will allow users to assess the various valuations performed throughout the biological transformation process.

Reconciliations to explain movements which correlates the quantities to the value of biological assets should be included in the notes to the financial statements, detailing the purchased assets, the progeny, the deaths, the environmental losses, theft, growth, disasters, and other changes to enhance decisions. Environmental changes and the impact thereof should be detailed and correlated to the quantities and value of the biological assets to enhance related decisions.

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