Institute of Certified Public Accountants of Kenya

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Guidance on Assessment of Appropriate Discount Rates for use in Market-Based Discounted Cash flow Valuation of Biological Assets Under IAS 41

1. Background

IAS 41 requires biological assets to be measured at initial recognition and at each subsequent balance sheet date at fair value less estimated point-of-sale costs. The Standard prescribes that, where an active market for biological assets exists, the quoted price in that market is the appropriate basis for determining the fair value of that asset. An active market is one where the items traded are homogeneous, willing buyers and sellers can be found at any time and prices are available to the public.

The Standard goes on to state that if an active market does not exist, then the enterprise should use one or more of the following methods in determining fair value of its biological assets:

(a) the most recent market transaction price, provided that there has not been a significant change in economic circumstances between the date of that transaction and the balance sheet date;

(b) market prices for similar assets with adjustment to reflect differences; and

(c) sector benchmarks such as the value of an orchard expressed per export tray, bushel, or hectare, and the value of cattle expressed per kilogram of meat.

However, in common with other emerging markets, in Kenya active markets often do not exist for the type of biological assets that agricultural enterprises own (e.g. coffee and tea bushes, cashew nut trees, sisal plants). Further, market-determined prices or values are not readily available for the prescribed alternatives that would allow the enterprise to value the biological assets in their present condition and location. In these circumstances, enterprises are required to use the present value of expected net cash flows from the biological asset discounted at a current market-determined pre-tax rate in determining fair value as set out in paragraph 20 of IAS 41.

2. Issue

Where the present value of expected net cash flows is to be used, the issue of the appropriate discount rate has arisen with particular interest on whether it is possible to have a single rate for the entire agricultural sector.

In addressing the issue, it has been observed he use of discounted cash flow method of valuation suffers from inherent complexities as described below:

i. the need to project appropriate expected net cash flows that reflect:

- the requirement to value the biological assets in their present condition and location while excluding increases in value attributable to additional biological transformation and future activities of the enterprise, such as those related to enhancing the future biological transformation, harvesting, and selling, and;
- the fact that actual cash flows arising from agricultural activity are inherently uncertain and that actual cash flows will vary from one period to the next and, in any given period, will almost certainly differ from the ex-ante expected cash flows for the period

ii. the need to estimate an appropriate market-determined pre-tax discount rate that reflects the characteristics of the underlying cash flows and deals properly with uncertainty.

As set out above, cash flows arising from agricultural activity are inherently uncertain and variable. This is because of a variety of factors including the impact of changing weather patterns, changes in the world-market prices for agricultural produce (which is often a commodity product where prices reflect world supply and demand conditions), the impact of exchange rate changes on cash flows arising from exported produce and from imported inputs such as fertilizer.

IAS 41 recognises that cash flows from agricultural activity are inherently variable. The standard states, *"In agreeing an arm's length transaction price, knowledgeable, willing buyers and sellers consider the possibility of variations in cash flows. It follows that fair value reflects the possibility of such variations. Accordingly, an enterprise incorporates expectations about possible variations in cash flows into either the expected cash flows, or the discount rate, or some combination of the two. In determining a discount rate, an enterprise uses assumptions consistent with those used in estimating the expected cash flows, to avoid the effect of some assumptions being double-counted or ignored."* (IAS 41 paragraph 23).

Further, as set out in paragraph 5.1.3 of International Valuation Guidance Note number 9 (Discounted Cash Flow Analysis for Market and Non-market-based Valuations) – International Valuation Standards, Sixth Edition – discounted cash flow model, cash flow can be developed on a variety of bases including before-tax, after-tax, nominal or real (adjusted for inflation) bases. Cash flows can also be expressed in a variety of currencies e.g. US dollars where agricultural produce from the biological assets is primarily exported and subjected to world-market prices denominated in dollars or Kenya shillings where most of the inputs and proceeds are denominated in that currency.

It is a fundamental principle of discounted cash flow analysis that the discount rate used to discount cash flows should be consistent with the nature of the projected cash flows. As set out in paragraphs 5.14.2.2.5 and 5.14.2.2.5 of International Valuation Guidance Note number 6 (business valuations):

(a) The capitalization rate or discount rate should be consistent with the type of anticipated benefits used (e.g. pre-tax rates should be used with pre-tax benefits);

(b) Where the forecast income is expressed in nominal terms (current prices), nominal rates must be used and where the forecast income is expressed in real terms (level prices), real rates must be used.

Discount rates need to reflect the nature of the underlying cash flows – hence there is no single common appropriate discount rate to value biological assets. In summary, therefore, it is not possible to arrive at a single common market-determined discount rate that would be appropriate to use in discounted cash flow analysis to value biological assets in Kenya (or indeed elsewhere).

The appropriate discount rate will depend on three key factors:

i. How expectations of variations in cash flows have been incorporated into the cash flows and what the relative level of variation from the baseline expected cash flows is likely to be in the future

ii. The basis on which the cash flows have been prepared (e.g. in real terms or in nominal terms) and the level of general inflation estimates implicitly or explicitly assumed in preparing the cash flows[1]

iii. The currency in which the cash flows are expressed (e.g. in US dollars or in Kenya shillings).

3. Recommendation

Valuations should be completed or reviewed by professional valuers

Clearly, given these complications, preparing reasonable and realistic estimates of the fair value of biological assets using discounted cash flow techniques requires the exercise of specific skills and expertise in the application of such techniques (particularly in emerging market requirement) and the exercise of professional judgement within internationally accepted frameworks.

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[1] Note – IAS 41 requires cash flows to be stated on a pre-tax, pre-financing basis hence discount rates also have to be stated on this basis

Consequently, ICPAK recommends that valuation of biological assets should be completed by or reviewed by professional valuers, as is common with other assets such as land, fixed assets and shares as well as the valuation of post-employment benefit obligations under IAS 19.

The professional valuers must have the knowledge, skills and experience to complete the assignment efficiently in relation to an acceptable professional standard. In particular, the valuer should be skilled in the application of discounted cash flow techniques in emerging markets and should be familiar with relevant International Valuation Standards and guidance notes.