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Biological assets

A transformation

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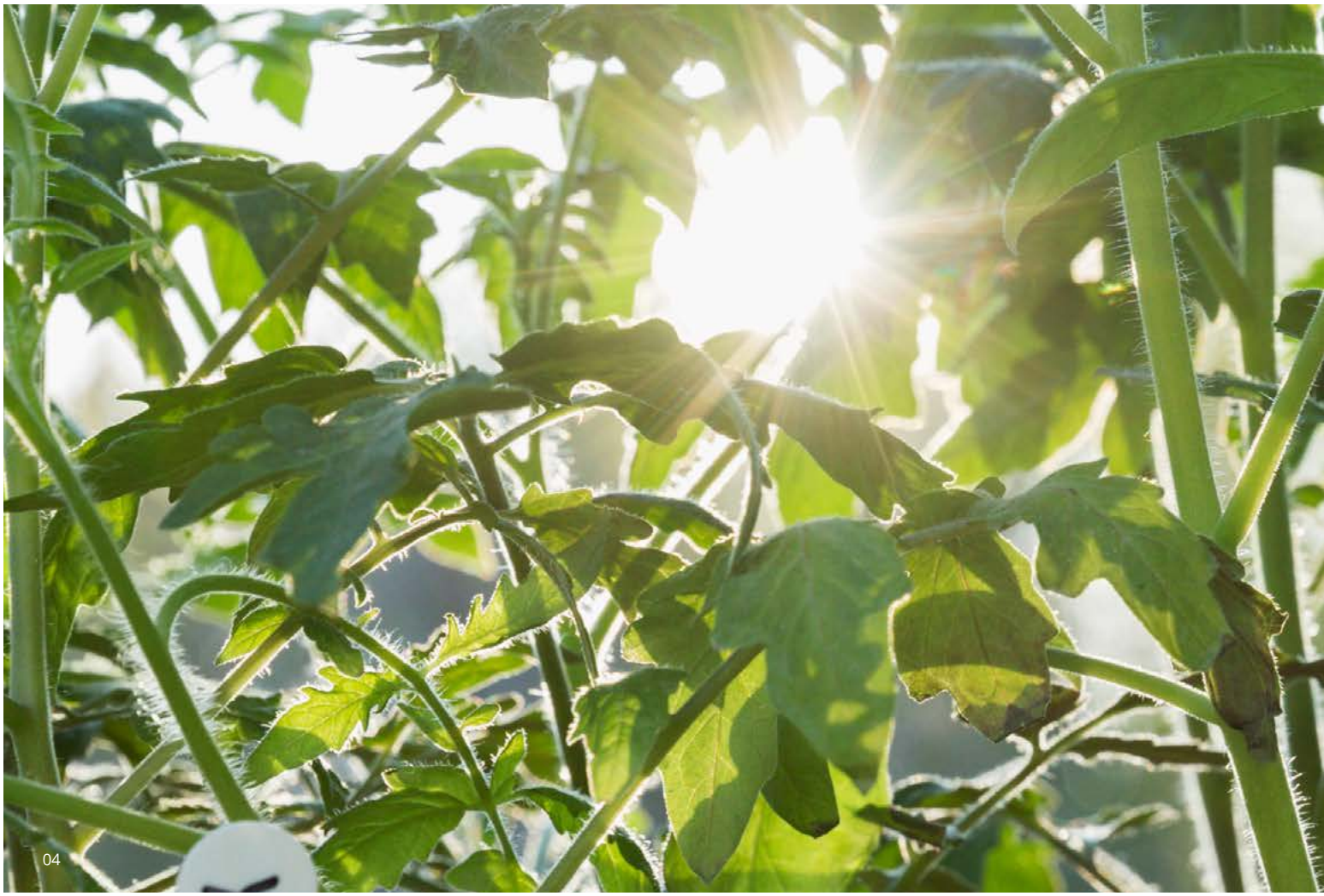
Backdrop

In our previous publication, we covered accounting for bearer plants under Ind AS. In this publication, we would be discussing the concept of biological assets and the related accounting requirements, including fair valuation.

The Era before Ind AS

Biological assets, as a concept, has been introduced by Ind AS. Since there was no specific accounting literature in India (previous GAAP) that required recognition of biological assets in the past, no accounting for such items was made in the financial statements.



Concepts brought in by Ind AS

Indian Accounting Standard 41 – Agriculture [Ind AS 41] that deals with agriculture has introduced the concept of biological asset, wherein biological asset is defined to be a living animal or plant and includes produce growing on bearer plants. It also defines agricultural activity as management of biological transformation and harvest[1] of biological assets; and biological transformation comprises various processes that cause qualitative and quantitative changes in the biological asset.

[1] Harvest is the detachment of produce from a biological asset or the cessation of a biological asset's life processes [Ind AS 41.5]

Examples of biological assets

Living plant – annual crops such as rice, maize, wheat
Living animal – pigs, poultry, horses, cattle
Produce growing on a plant that is yet to be harvested is known as a biological asset. For example, mature two leaves and a bud on a tea bush that are yet to be plucked (harvested) are identified as biological asset. Once they are harvested, such leaves are identified as agricultural produce[2].

Bearer biological assets are covered under Indian Accounting Standard 16 – Property, Plant and Equipment [Ind AS 16] (covered in our earlier publication) and consumable biological assets are covered under Ind AS 41. In the case of a plant, judgement would be required to ascertain whether it is a bearer biological asset or a consumable biological asset. Accounting is determined by the nature of such classification. However, biological asset which is a living animal will only be scoped into Ind AS 41. Livestock held for breeding purposes only, with a remote likelihood that it will ever be sold, also requires accounting under Ind AS 41 only and these are not to be considered as bearer plant under Ind AS 16. This is because the International Accounting Standards Board (IASB) decided that unlike plants, livestock is not attached to land and there is usually an active market for livestock, meaning that fair value information is more likely to be readily available and easier to apply than cost measurement[3].

Similarly, plants with more than one potential use (example, trees cultivated both for their lumber and their fruit) are required to be accounted under Ind AS 41, since bearer plants, within the scope of Ind AS 16 are those that are solely used in the production or supply of agricultural produce (based on IASB clarification for IAS 16 and IAS 41[4]). Also, produce growing on a bearer plant is a biological asset, such as tea leaves, and coffee seeds.

[2] Agricultural produce is the harvested product of the entity's biological assets [Ind AS 41.5].

[3] Guidance drawn from IAS16:BC52

[4] Guidance drawn from IAS16:BC48 to BC50 and IAS41:5A(b)


Oil palm fruit on oil palms
Coffee cherry on coffee plants
Sugarcane on sugarcane roots
Tea leaves on tea bushes

Recognition of biological assets

For a biological asset to be recognized, the entity should control the asset as a result of past events, it should be probable that future economic benefits associated with the asset will flow to the entity and the fair value or cost of the asset can be measured reliably. On initial recognition, the biological asset (including growing produce on a bearer plant) is required to be measured at its fair value less costs to sell, since it is presumed that the fair value can be measured reliably. It is pertinent to note that the cost - benefit exemption cannot be invoked and any claim that fair value measurement would be 'clearly unreliable' would need to be supported by strong evidence, such as, including the outcome of an actual valuation exercise.

Further, such presumption can be rebutted only on initial recognition when quoted market prices are not available, and for which alternative fair value measurements are determined to be clearly unreliable. If such presumption is rebutted, the biological asset is measured at its cost less any accumulated depreciation and any accumulated impairment losses.

Ind AS 41 also recognizes circumstances wherein the cost may approximate the fair value, such as, little transformation has taken place (example, newly acquired livestock) or when the impact of the transformation on the price is not expected to be material (example, initial growth in a 30 year pine plantation production cycle).

Barring when Ind AS 41 provides for situations when the cost may approximate fair value, in all other circumstances it is expected to be very rare for entities to be able to rebut the presumption that fair value can be measured reliably. In this regard, the IASB had also observed that the produce will ultimately be detached from the bearer plants and is normally sold separately, thereby having a market value of its own[5].

For example, in a tea plantation, the plucking cycle may range from 7 days to 15 days, depending on the location of the fields. The tea leaves on the tea bush, being the biological asset, would pertain to those leaves that are yet to be plucked as of a reporting date. On plucking (harvesting), the green leaves would be the agricultural produce that is further processed to produce black tea. Entities, apart from the use of their 'own leaf', may also purchase green leaf from smaller growers, referred to as 'bought leaf', for use in the production of black tea. Given that there is a ready market that is available for green leaf, we believe that entities may not be able to rebut the presumption that fair value can be measured reliably. In certain parts of India, depending on climatic conditions, there may even not be any biological asset as of a reporting date.

Similarly, there is usually an active market for livestock.

A gain or loss arising on initial recognition of a biological asset at fair value less costs to sell is to be recognized in the profit or loss for the period in which it arises.

IASB in its basis for conclusion in IAS 41 addresses 'costs to sell'. Costs that are necessary for a sale to occur but that otherwise would not arise, such as commissions to brokers and dealers, levies by regulatory agencies and commodity exchanges, and transfer taxes and duties. Costs that are incurred to get the assets to the market, such as transport and other costs are excluded from 'costs to sell' since they are deducted in determining the fair value[6].

[5] Guidance drawn from IAS41:BC4B

[6] Guidance drawn from IAS 41:BC22

Subsequent measurement of biological assets

Biological asset is required to be measured at the end of every reporting period at its fair value less costs to sell. Gain or loss arising from a change in the fair value less costs to sell is to be recognized in the profit or loss for the period in which it arises.

Fair value

Ind AS 113 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This is also referred to as the 'exit price'. Ind AS 113 addresses three widely used valuation techniques: market approach, cost approach and the income approach. Valuation can be of the standalone asset or liability or a group of assets or a group of liabilities. Biological asset is a non-financial asset and hence the fair value measurement takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use. Selection of a valuation technique to best represent the value of the item under consideration is a matter of significant judgement and there is no preferred approach per se. A valuation technique must be selected and consistently applied, to maximize the use of relevant observable inputs (and minimize unobservable inputs).

Approach	Brief description	Whether suitable for biological asset
The market approach	An entity uses prices and other relevant information generated by market transactions involving identical or comparable (i.e., similar) assets, liabilities or a group of assets and liabilities.	Yes, in most likelihood an active market[7] would exist. Livestock is an example where an active market would exist. Similarly if an active market exists for an agricultural produce, then the logic could be extended to include the related biological asset. For e.g., existence of active market for green leaves could determine the potential fair value of the underlying biological asset of the leaves on the tea bush. Similarly an active market for rubber tree timber would determine its fair value. This is likely to be a Level 2 fair value measure.
The income approach	An entity converts future amounts (e.g., cash flows or income and expenses) to a single current (i.e., discounted) amount.	Yes. Where an active market cannot be established, the income approach would be more suitable. Given the nature of valuing growing produce on bearer plants, it is likely that use of a large number of unobservable inputs would be necessary. Amongst the various techniques, discounted cash flow method (DCF) would be the most relevant. Cash inflows would typically include a forecast of the volume of produce expected to be harvested, the market price of the produce at the time of harvest etc. The cash outflows would include costs incurred in raising and growing the asset and excludes costs of re-planting. This would be a Level 3 fair value measure[8].
The cost approach	An entity determines a value which reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost).	This method does not appear suitable to value biological assets.

[7] Active market is a market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis.

[8] Some entities may apply a reverse working from the value of inventories to arrive at the fair value of the biological asset

As in any valuation, consideration to be given to using multiple valuation techniques in order to form a reasoned view.

In the case of valuation of growing produce on bearer plants, an estimate must be made for the underlying volume of such produce while applying the market approach or the income approach. Such estimate could require a reverse working from the final manufactured product, which would in turn be dependent on the yield per hectare / any other unit of measure.

Ind AS 41 states that biological assets are often physically attached to land (for e.g., trees in a plantation forest) and that there may not be a separate market for such biological assets, but an active market may exist for the combined assets, i.e., the biological assets, raw land, and land improvements, as a package. Under such circumstance the fair value of the raw land and land improvements may be deducted from the fair value of the combined assets to arrive at the fair value of the biological assets.

In the IFRS Staff Paper 7 of September 2012, the IFRS Interpretations Committee has discussed the matter of valuation of biological assets using a residual method. They have stated that if the highest and best use of the land is not the current use and the use of the residual method could lead to a minimal or nil fair value for the biological assets, the residual method is not an appropriate valuation technique. Therefore, judgement must be applied to select an appropriate valuation method that not only meets the requirements of Ind AS 113 but also achieves the measurement objectives of Ind AS 41 for determination of the fair value of the biological assets.

On transition to Ind AS

Ind AS requires entities to recognize all assets and liabilities whose recognition is required by Ind AS. No specific first time adoption exemption has been provided in Ind AS 41. Since biological assets were generally not recognized in the previous GAAP, these will have to be identified and recognized in the opening Ind AS balance sheet, i.e., on the date of transition. Corresponding effect would need to be given in retained earnings. Ind AS 101 – First Time Adoption of Ind AS recognizes that an entity may need to make estimates in accordance with Ind ASs at the date of transition to Ind AS that were not required at that date under previous GAAP. Hence, such estimates (e.g., market prices, interest rates etc.) in accordance with Ind ASs must reflect conditions that existed at the date of transition to Ind ASs.

Impact of Ind AS 12 – Income taxes on biological assets accounting

Ind AS 12 is based on the balance sheet liability method, as against the income statement liability method under AS 22 – Accounting for taxes on income. Concept of timing and permanent differences has been replaced with temporary differences. Therefore, when a company recognizes a biological asset and measures the same using fair value, there would be a significant impact on deferred taxes. Income Computation and Disclosure Standards (ICDS) does not recognize biological assets.

Our insights

Companies would now be required to recognize and measure biological assets that were hitherto not necessary in previous GAAP. There will be challenges both from determination of volume (e.g., produce on bearer plants) and from a fair valuation perspective. Companies would be required to exercise judgement in determining the best fit valuation technique that would best represent their biological assets, in consultation with external valuation experts. Given that the entire exercise would be based on estimation, companies would be required to make extensive disclosures in their financial statements. Companies would also be required to develop appropriate risk control matrices that address biological assets and maintain robust documentation to support the development and review of estimates.

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