



IAS 16: PROPERTY, PLANT & EQUIPMENT

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OBJECTIVE OF IAS 16



Prescribe the accounting treatment for property, plant and equipment



Recognition of the assets

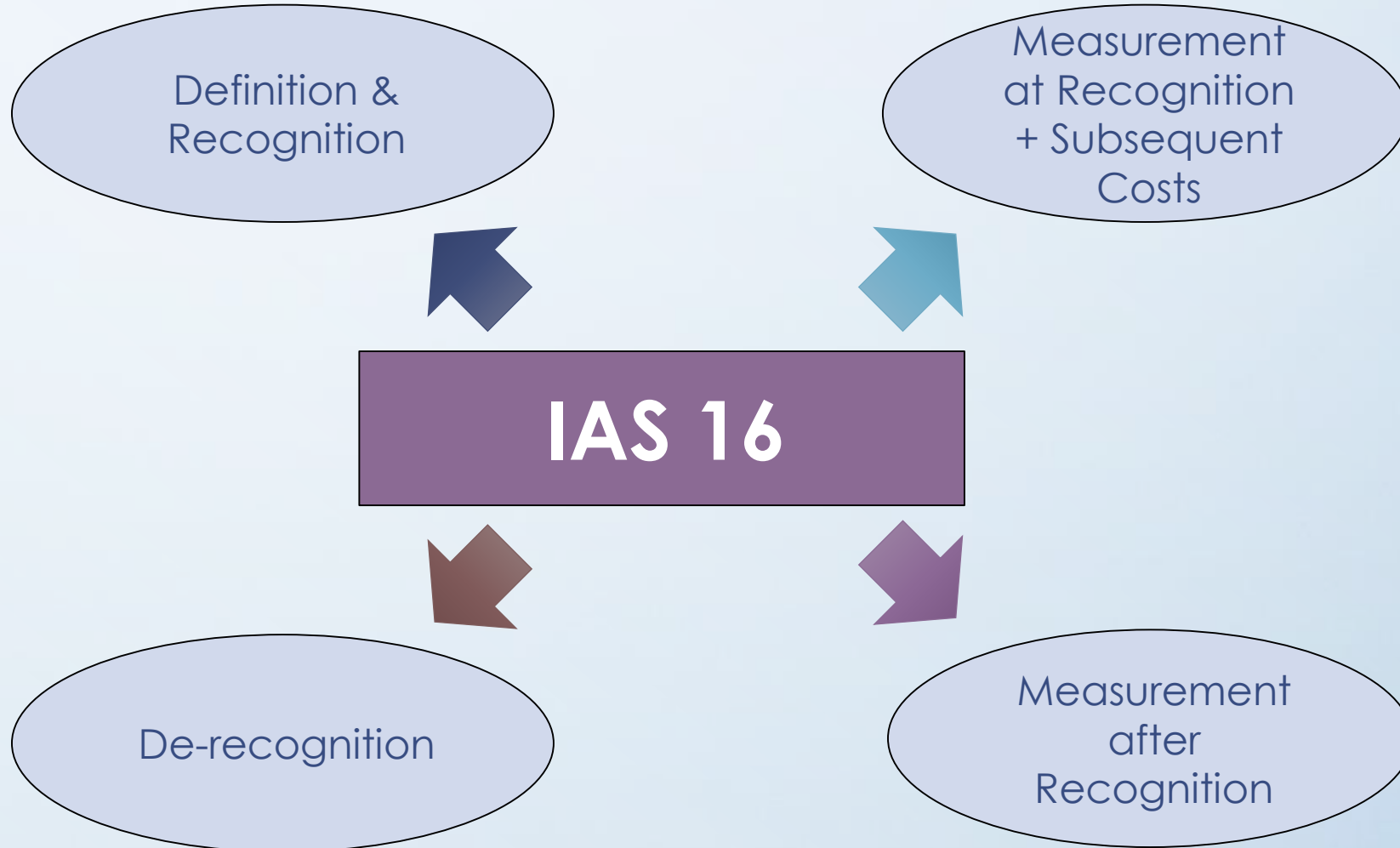


Determination of their carrying amounts



The depreciation charges and impairment losses





SCOPE

IAS 16 deals with accounting for elements of tangible fixed assets except the following:



- Biological Assets(IAS41)
- Assets held for sale (IFRS5)
- Exploration and Evaluation Assets (IFRS 6)
- Mineral Rights and mineral reserves

DEFINITIONS

- **Property Plant and Equipment** are tangible assets that-
 - are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and
 - are expected to be utilized in more than one period.
- **Recoverable amount** is the higher of an asset's fair value less costs to sell and its value in use.
- **Cost** is the amount of cash or cash equivalent paid to acquire an asset at the time of its acquisition and construction.
- **Fair value** is 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.



DEFINITIONS

- **A bearer plant** is a living plant that:
- is used in the production or supply of agricultural produce;
 - is expected to bear produce for more than one period; and
 - has a remote likelihood of being sold as agricultural produce, except for incidental scrap sales.

- **Carrying amount** is the amount at which an asset is recognized after deducting any accumulated depreciation or losses.

Formula:

$$\text{Carrying amount} = \text{Acquisition cost} - \text{Accumulated depreciation} - \text{Accumulated impairment loss}$$

- **Depreciable amount** is the cost of an asset, or other amount substituted for cost, less its residual value



DEFINITIONS

- **Useful life is:**
 - (a) the period over which an asset is expected to be available for use by an entity; or
 - (b) the number of production or similar units expected to be obtained from the asset by an entity.

- **Depreciation** is the systematic allocation of the depreciable amount of an asset over its useful life.

- **Residual Value** of an asset is the estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated cost of disposal.



ASSET OR EXPENSE?

Resource controlled by the company?

No



Yes

Future economic benefits are expected?

No



Yes

EXPENSE



ASSET



PPE - Meaning

TANGIBLE ASSETS held by an entity –

- 1 For use in production process
- 2 For supply of goods and services
- 3 For rental to others
- 4 For administrative purpose
- 5 Asset held by a Lessee under a Finance Lease

But subject to a condition



Asset is to be used for more than a year or period of 12 months



Recognition of PPE

CONDITION 1

Future economic benefits
(Cash Inflow)



CONDITION 2

Cost reliably measurable



Spare parts & Servicing Equipment



Inventory

Property



Measurement at Recognition

$$\text{COST} = \text{Purchase price} + \text{Directly attributable costs} + \text{Removal costs}$$



1. employee costs arising directly from the installation or construction of the asset;
2. the cost of site preparation;
3. initial delivery and handing costs that is carriage inwards;
4. installation and assembly costs;
5. testing costs to assess whether the asset is functioning properly (net of sale proceeds of items produced during the testing phase).
6. professional fees

Payment is deferred



Total payment
Less: Cash price equivalent



Recognized as interest

Illustration

A company buys a machine on 1 January 2017.
The terms of the purchase are that the company will pay \$ 5 million for the machine on 31 December 2017 (1 year later).
An appropriate discount rate is 6%

1 January 2017 – Initial recognition

Initial measurement of the purchase price [\$ 5m x 1/(1+0.06)]		\$ 4,716,981
	Debit	Credit
Property, plant and equipment	4,716,981	
Liability		4,716,981

31 December 2017– Date of payment

	Debit	Credit
Profit and Loss A/C (Recognition of interest expense 4, \$ 4,716,981 @ 6%)	283,019	
Liability		283,019

Not part of cost



Costs of opening a new facility



Costs of advertising



Costs of staff training



Administration and other general overhead costs



Subsequent Expenditure

Improves the asset

**For a
replacement part**



Repairs and maintenance expenditure is revenue expenditure. It is recognized as an expense as it is incurred, because no additional future economic benefits will arise from the expenditure.

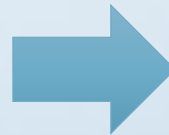
Exchange transactions

Fair Value

unless:

1. the exchange transaction lacks commercial substance; or
2. the fair value of neither the asset received nor the asset given up is reliably measurable.

If the new asset is not measured at fair value



carrying amount of the asset given in exchange for it

Lack of Commercial Substance

Depends on



extent to which future cash flows are expected to change

Subsequent Measurement

Cost model

Cost
Less: any accumulated depreciation
Less: any accumulated impairment losses

Revaluation Model

Fair Value at the date of the revaluation
Less: any subsequent accumulated depreciation
Less: any accumulated impairment losses

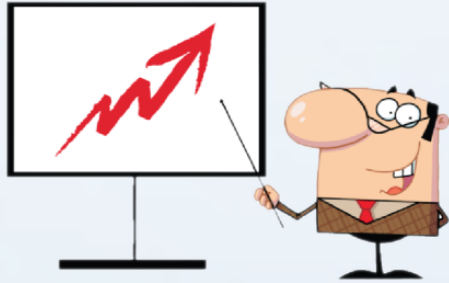
Points to be noted

1. The above choice must be applied consistently.
2. A business cannot carry one item of property, plant & equipment at cost and revalue a similar item.
3. However, a business can use different models for different classes of property, plant & equipment.

For example, companies might use the cost model for plant and equipment but use the revaluation model for property.

Revaluation Model

Upward revaluation



Credit to Equity(OCI) as (Revaluation Surplus)

OR

Credit to Income(SOCI) (Increase of previous impairment reversal)

Downward Revaluation



Debit to Expenses(Profit/Loss, SOCI)

OR

Debit to Equity(OCI) (Increase of reversal of previous increase in revaluation surplus)

Example: Upward revaluation

Land was purchased for Rs. 100 on the first day of the 2017 accounting period.
The business revalues land as permitted by the IAS 16.
The land was revalued to Rs. 130 at the end of the first year of ownership.

Double entry:

	Debit	Credit
Land	30	
Other comprehensive income (an accumulation in a revaluation surplus).		30

Extract from the statement of financial position as at 31/12/15

Property, plant and equipment	Rs. 130
Equity (revaluation surplus)	30

Example: Upward revaluation with previously accumulated impairment loss

Land was purchased for Rs. 150 on the first day of the 2017 accounting period. The business revalues land as permitted by the IAS 16. At the year end of 2017, Land was impaired by Rs 50. There fore carrying value at was then be (Rs.150-Rs 50.) Rs.100. At year end 2018, the land is revalued to Rs. 170.

Double entry:

	Debit	Credit
Land	70	
Impairment Loss (Profit and loss account)		50
Other comprehensive income (an accumulation in a revaluation surplus).		20

Extract from the statement of financial position as at 31/12/15

Property, plant and equipment	Rs. 170
Equity (revaluation surplus)	20

Example: Downward revaluation

Land was purchased for Rs.100 on the first day of the 2017 accounting period.
The business revalues land as permitted by the IAS 16.
The land was revalued to Rs. 90 at the end of the first year of ownership.

Double entry:

	Debit	Credit
Statement of profit or loss	10	
Land		10

Example: Downward revaluation with revaluation reserve

Land was purchased for Rs.100 on the first day of the 2017 accounting period. The business revalues land as permitted by the IAS 16. At year end of 2017, Land was revalued to Rs. 150 resulting in a revaluation surplus of RS 50. in reserves. At year end of 2018, the land was revalued to Rs. 90.

Double entry:

	Debit	Credit
Statement of profit or loss (Revaluation Loss)	10	
Statement of OCI (Reversal Of Revaluation Surplus)	50	
Land		60

Realization of Revaluation Surplus



fully depreciated



Sale

Revaluation surplus on the face of the statement of financial position

IAS 16 allows

but does not require



Transfer of a revaluation surplus to retained earnings

Revalued assets being depreciated

Increase in the annual depreciation charge



Excess Depreciation



The depreciation charge on the re-valued amount of the asset	X
Less: depreciation that would have been charged on historical cost	<u>(X)</u>
	X

Transfer from the revaluation surplus to the retained profits equal to the amount of the excess depreciation

Depreciation

Allocation of Depreciable Amount over its Useful Life on Systematic Basis

How Much

How Long

What Manner

Depreciable Amount

Useful Life
(Estimated Productive Life)

METHOD

Total Cost

Less: Residual Value

PERIOD
(Years)

OUTPUT

the period over which an
asset may be available

the number of production
expected to be obtained

Depreciation



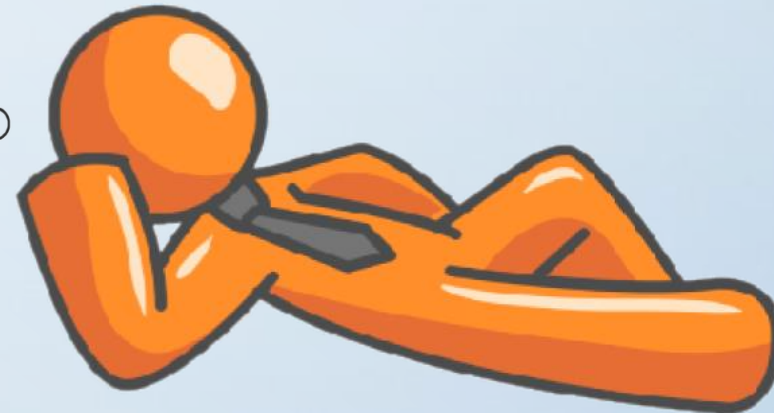
Useful Life



Economic Life

Useful Life = Judgment

1. Expected usage
2. Expected wear & tear
3. Obsolescence
4. Legal or other limits



METHOD

**Straight-line
method**

**Diminishing
balance
method**

**Units of
production
method**



constant
charge over
the useful life



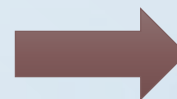
decreasing
charge over
the useful life



charge based
on the
expected use
or output

Most closely reflects the expected pattern

Method is applied consistently



Unless there is a
change in the
expected pattern

Straight line depreciation method

Assumes uniform consumption pattern of economic benefits

The depreciation expense:



Depreciation Expense =

Depreciable amount (cost –
Residual Value)

Estimated useful life

Diminishing balance method

Where the annual depreciation charge is a fixed percentage of the carrying amount of the asset at the start of the period.

Formula:
Diminishing balance method



Depreciation charge for the year = Carrying amount at the start of the year X Fixed %

$$x = \sqrt[n]{\frac{\text{Residual value}}{\text{Cost}}} - 1$$

Where:

x = The reducing balance percentage

n = Expected useful life.

Units of Production Method

Units of production method measures the amount of depreciation dividing the total estimated units by total estimated hours.

Here the total estimated hours is identified by subtracting salvage value from cost multiplying specific working hours.



Depreciation Charge =

(Cost – Salvage value) X Hours
this year

Total estimated hours

IMPAIRMENT

An impairment is the amount by which the carrying amount of an asset exceeds its recoverable amount. Recoverable amount is the higher of an asset's net selling price and its value in use.



Indicators of the impairment:-

1. Significant decrease in the market value of an asset
2. Significant changes in the usage of an asset
3. The significant adverse effects of climate change in the value of an asset

DERECOGNITION of PPE



On Disposal



No future economic benefits expected



Gain/Loss

Net Disposal Proceeds
Less: Carrying Amount

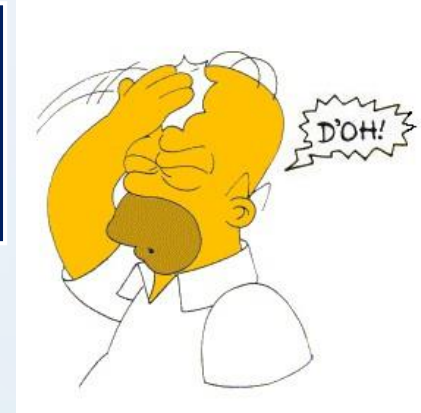
Gain or loss is included in
Profit or Loss, but not as
Revenue

Memory Tips



- IAS 16 makes it clear that an item of property, plant and equipment should be recognized as an asset if and only if it is probable that future economic benefits associated with the asset will flow to the entity and the cost of the asset can be measured reliably. Also, purchase of an asset would involve huge amount of cash. Showing it as an expense in the year of purchase would not give the correct picture of an entity.

Common Mistakes



Do not confuse the accumulated depreciation account with the current year depreciation expense. The accumulated Depreciation should NOT appear in the income statement!! It is the accumulated depreciation to date which is shown netted against cost in the balance sheet. The income statement should just show the current (one year) effect of depreciation.

A common pitfall is to forget to transfer revaluation reserve to retained earnings over the useful economic life of an asset ie, when the asset is fully depreciated the revaluation reserve should be written down to zero too. Incase of sale of revalued asset, the revaluation reserve should be transferred to retained earnings on the date of sale.