



GOVERNMENT OF MALAYSIA

# Malaysian Public Sector Accounting Standards

## MPSAS 12

### Inventories

March 2013

**MPSAS 12 - INVENTORIES**

**Acknowledgment**

The Malaysian Public Sector Accounting Standard (MPSAS) 12 is based on International Public Sector Accounting Standard (IPSAS) 12, *Inventories* from the *Handbook of International Public Sector Accounting Pronouncements* of the International Public Sector Accounting Standards Board, published by the International Federation of Accountants (IFAC) in April 2011 and is used with permission of IFAC.

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**MPSAS 12 – INVENTORIES**

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## MPSAS 12 - Inventories

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Malaysian Public Sector Accounting Standard (MPSAS) 12, *Inventories*, is set out in paragraphs 1-53. All the paragraphs have equal authority. MPSAS 12 should be read in the context of its objective and the *Preface to the Malaysian Public Sector Accounting Standards*. MPSAS 3 provides a basis for selecting and applying accounting policies in the absence of explicit guidance.

## Objective

1. The objective of this Standard is to prescribe the accounting treatment for inventories. A primary issue in accounting for inventories is the amount of cost to be recognized as an asset and carried forward until the related revenues are recognized. This Standard provides guidance on the determination of cost and its subsequent recognition as an expense, including any write-down to net realizable value. It also provides guidance on the cost formulas that are used to assign costs to inventories.

## Scope

2. **An entity that prepares and presents financial statements under the accrual basis of accounting shall apply this Standard in accounting for all inventories except:**
  - (a) **Work-in-progress arising under construction contracts, including directly related service contracts (see MPSAS 11, *Construction Contracts*);**
  - (b) **Financial instruments (see MPSAS 28, *Financial Instruments: Presentation* and MPSAS 29, *Financial Instruments: Recognition and Measurement*);**
  - (c) **Biological assets related to agricultural activity and agricultural produce at the point of harvest (see MPSAS 27, *Agriculture*); and**
  - (d) **Work-in-progress of services to be provided for no or nominal consideration directly in return from the recipients.**
3. **This Standard does not apply to the measurement of inventories held by:**
  - (a) **Producers of agricultural and forest products, agricultural produce after harvest, and minerals and mineral products, to the extent that they are measured at net realizable value in accordance with well-established practices in those industries. When such inventories are measured at net realizable value, changes in that value are recognized in surplus or deficit in the period of the change; and**
  - (b) **Commodity broker-traders who measure their inventories at fair value less costs to sell. When such inventories are measured at fair value less costs to sell, changes in fair value less costs to sell are recognized in surplus or deficit in the period of the change.**
4. **This Standard applies to all public sector entities other than Government Business Enterprises (GBEs).**
5. The Preface to Malaysian Public Sector Accounting Standards issued by the Accountant General's Department explains that GBEs apply approved accounting standards issued by the Malaysian Accounting Standards Board (MASB). GBEs are defined in MPSAS 1, *Presentation of Financial Statements*.
6. The inventories referred to in paragraph 2(d) are not encompassed by MPSAS 12, Inventories, and are excluded from the scope of this Standard because they involve specific public sector issues that require further consideration.

7. The inventories referred to in paragraph 3 (a) are measured at net realizable value at certain stages of production. This occurs, for example:

- (a) When agricultural crops have been harvested or minerals have been extracted and sale is assured under a forward contract or a government guarantee; or
- (b) When an active market exists and there is a negligible risk of failure to sell.

These inventories are excluded only from the measurement requirements of this Standard.

8. Broker-traders are those who buy or sell commodities for others or on their own account. The inventories referred to in paragraph 3(b) are principally acquired with the purpose of selling in the near future and generating a surplus from fluctuations in price or broker-traders' margin. When these inventories are measured at fair value less costs to sell, they are excluded only from the measurement requirements of this Standard.

## Definitions

9. **The following terms are used in this Standard with the meanings specified:**

**Current replacement cost is the cost the entity would incur to acquire the asset on the reporting date.**

**Inventories are assets:**

- (a) **In the form of materials or supplies to be consumed in the production process;**
- (b) **In the form of materials or supplies to be consumed or distributed in the rendering of services;**
- (c) **Held for sale or distribution in the ordinary course of operations; or**
- (d) **In the process of production for sale or distribution.**

**Net realizable value is the estimated selling price in the ordinary course of operations, less the estimated costs of completion and the estimated costs necessary to make the sale, exchange, or distribution.**

**Terms defined in other MPSASs are used in this Standard with the same meaning as in those Standards, and are reproduced in the Glossary of Defined Terms published separately.**

## Net Realizable Value

10. Net realizable value refers to the net amount that an entity expects to realize from the sale of inventory in the ordinary course of operations. Fair value reflects the amount for which the same inventory could be exchanged between knowledgeable and willing buyers and sellers in the marketplace. The former is an entity-specific value; the latter is not. Net realizable value for inventories may not equal fair value less costs to sell.

## Inventories

11. Inventories encompass goods purchased and held for resale including, for example, merchandise purchased by an entity and held for resale, or land and other property held for

sale. Inventories also encompass finished goods produced, or work-in-progress being produced, by the entity. Inventories also include:

- (a) Materials and supplies awaiting use in the production process; and
- (b) Goods purchased or produced by an entity; which are for distribution to other parties for no charge or for a nominal charge, for example, educational books produced by a health authority for donation to schools.

In many public sector entities, inventories will relate to the provision of services rather than goods purchased and held for resale or goods manufactured for sale. In the case of a service provider, inventories include the costs of the service, as described in paragraph 28, for which the entity has not yet recognized the related revenue (guidance on recognition of revenue can be found in MPSAS 9, *Revenue from Exchange Transactions*.)

12. Inventories in the public sector may include:

- (a) Ammunition;
- (b) Consumable stores;
- (c) Maintenance materials;
- (d) Spare parts for plant and equipment, other than those dealt with in standards on Property, Plant and Equipment;
- (e) Strategic stockpiles (for example, energy reserves);
- (f) Stocks of unissued currency;
- (g) Postal service supplies held for sale (for example, stamps);
- (h) Work-in-progress, including:
  - (i) Educational/training course materials; and
  - (ii) Client services (for example, auditing services), where those services are sold at arm's length prices; and
- (i) Land/property held for sale.

13. Where the government controls the rights to create and issue various assets, including postal stamps and currency, these items of inventory are recognized as inventories for the purposes of this Standard. They are not reported at face value, but measured in accordance with paragraph 15, that is, at their printing or minting cost.

14. When a government maintains strategic stockpiles of various reserves, such as energy reserves (for example, oil), for use in emergency or other situations (for example, natural disasters or other civil defense emergencies), these stockpiles are recognized as inventories for the purposes of this Standard and treated accordingly.

### Measurement of Inventories

15. **Inventories shall be measured at the lower of cost and net realizable value, except where paragraph 16 or paragraph 17 applies.**

16. **Where inventories are acquired through a non-exchange transaction, their cost shall be measured at their fair value as at the date of acquisition.**
17. **Inventories shall be measured at the lower of cost and current replacement cost where they are held for:**
  - (a) **Distribution at no charge or for a nominal charge; or**
  - (b) **Consumption in the production process of goods to be distributed at no charge or for a nominal charge.**

### **Cost of Inventories**

18. The cost of inventories shall comprise all costs of purchase, costs of conversion, and other costs incurred in bringing the inventories to their present location and condition.

#### *Costs of Purchase*

19. The costs of purchase of inventories comprise:
  - (a) The purchase price,
  - (b) Import duties and other taxes (other than those subsequently recoverable by the entity from the taxing authorities), and
  - (c) Transport, handling, and other costs directly attributable to the acquisition of finished goods, materials, and supplies.

Trade discounts, rebates, and other similar items are deducted in determining the costs of purchase.

#### *Costs of Conversion*

20. The costs of converting work-in-progress inventories into finished goods inventories are incurred primarily in a manufacturing environment. The costs of conversion of inventories include costs directly related to the units of production, such as direct labor. They also include a systematic allocation of fixed and variable production overheads that are incurred in converting materials into finished goods. Fixed production overheads are those indirect costs of production that remain relatively constant regardless of:
  - (a) The volume of production, such as depreciation and maintenance of factory buildings and equipment; and
  - (b) The cost of factory management and administration.

Variable production overheads are those indirect costs of production that vary directly, or nearly directly, with the volume of production, such as indirect materials and indirect labor.

21. The allocation of fixed production overheads to the costs of conversion is based on the normal capacity of the production facilities. Normal capacity is the production expected to be achieved on average over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance. The actual level of production may be used if it approximates normal capacity. The amount of fixed overhead allocated to each unit of production is not increased as a consequence of low production or idle plant. Unallocated overheads are recognized as an expense in the period in which they are

incurred. In periods of abnormally high production, the amount of fixed overhead allocated to each unit of production is decreased, so that inventories are not measured above cost. Variable production overheads are allocated to each unit of production on the basis of the actual use of the production facilities.

22. For example, the allocation of costs, both fixed and variable, incurred in the development of undeveloped land held for sale into residential or commercial landholdings could include costs relating to landscaping, drainage, pipe laying for utility connection, etc.
23. A production process may result in more than one product being produced simultaneously. This is the case, for example, when joint products are produced or when there is a main product and a by-product. When the costs of conversion of each product are not separately identifiable, they are allocated between the products on a rational and consistent basis. The allocation may be based, for example, on the relative sales value of each product either at the stage in the production process when the products become separately identifiable, or at the completion of production. Most by-products, by their nature, are immaterial. When this is the case, they are often measured at net realizable value, and this value is deducted from the cost of the main product. As a result, the carrying amount of the main product is not materially different from its cost.

### *Other Costs*

24. Other costs are included in the cost of inventories only to the extent that they are incurred in bringing the inventories to their present location and condition. For example, it may be appropriate to include non-production overheads or the costs of designing products for specific customers in the cost of inventories.
25. Examples of costs excluded from the cost of inventories and recognized as expenses in the period in which they are incurred are:
  - (a) Abnormal amounts of wasted materials, labor, or other production costs;
  - (b) Storage costs, unless those costs are necessary in the production process before a further production stage;
  - (c) Administrative overheads that do not contribute to bringing inventories to their present location and condition; and
  - (d) Selling costs.
26. MPSAS 5, *Borrowing Costs*, identifies limited circumstances where borrowing costs are included in the cost of inventories.
27. An entity may purchase inventories on deferred settlement terms. When the arrangement effectively contains a financing element, that element, for example a difference between the purchase price for normal credit terms and the amount paid, is recognized as interest expense over the period of the financing.

### *Cost of Inventories of a Service Provider*

28. To the extent that service providers have inventories (except those referred to in paragraph 2(d)), they measure them at the costs of their production. These costs consist primarily of the

labor and other costs of personnel directly engaged in providing the service, including supervisory personnel and attributable overheads. The costs of labor not engaged in providing the service are not included. Labor and other costs relating to sales and general administrative personnel are not included, but are recognized as expenses in the period in which they are incurred. The cost of inventories of a service provider does not include surplus margins or non-attributable overheads that are often factored into prices charged by service providers.

### *Cost of Agricultural Produce Harvested from Biological Assets*

29. In accordance with MPSAS 27, *inventories* comprising agricultural produce that an entity has harvested from its biological assets shall be measured on initial recognition at their fair value less costs to sell at the point of harvest.

This is the cost of the inventories at that date for application of this Standard.

### *Techniques for the Measurement of Cost*

30. Techniques for the measurement of the cost of inventories, such as the standard cost method or the retail method, may be used for convenience if the results approximate cost. Standard costs take into account normal levels of materials and supplies, labor, efficiency, and capacity utilization. They are regularly reviewed and, if necessary, revised in the light of current conditions.
31. Inventories may be transferred to the entity by means of a non-exchange transaction. For example, an international aid agency may donate medical supplies to a public hospital in the aftermath of a natural disaster. Under such circumstances, the cost of inventory is its fair value as at the date it is acquired.

### **Cost Formulas**

32. **The cost of inventories of items that are not ordinarily interchangeable, and goods or services produced and segregated for specific projects, shall be assigned by using specific identification of their individual costs.**
33. Specific identification of costs means that specific costs are attributed to identified items of inventory. This is an appropriate treatment for items that are segregated for a specific project, regardless of whether they have been bought or produced. However, specific identification of costs is inappropriate when there are large numbers of items of inventory that are ordinarily interchangeable. In such circumstances, the method of selecting those items that remain in inventories could be used to obtain predetermined effects on the surplus or deficit for the period.
34. **When applying paragraph 33 an entity shall use the same cost formula for all inventories having similar nature and use to the entity. For inventories with different nature or use (for example, certain commodities used in one segment and the same type of commodities used in another segment), different cost formulas may be justified. A difference in geographical location of inventories (and in the respective tax rules), by itself, is not sufficient to justify the use of different cost formulas.**
35. **The cost of inventories, other than those dealt with in paragraph 32, shall be assigned by using the first-in, first-out (FIFO) or weighted average cost formulas. An entity shall use**

**the same cost formula for all inventories having a similar nature and use to the entity. For inventories with a different nature or use, different cost formulas may be justified.**

36. For example, inventories used in one segment may have a use to the entity different from the same type of inventories used in another segment. However, a difference in geographical location of inventories, by itself, is not sufficient to justify the use of different cost formulas.
37. The FIFO formula assumes that the items of inventory that were purchased first are sold first, and consequently the items remaining in inventory at the end of the period are those most recently purchased or produced. Under the weighted average cost formula, the cost of each item is determined from the weighted average of the cost of similar items at the beginning of a period, and the cost of similar items purchased or produced during the period. The average may be calculated on a periodic basis, or as each additional shipment is received, depending upon the circumstances of the entity.

### **Net Realizable Value**

38. The cost of inventories may not be recoverable if those inventories are damaged, if they have become wholly or partially obsolete, or if their selling prices have declined. The cost of inventories may also not be recoverable if the estimated costs of completion or the estimated costs to be incurred to make the sale, exchange, or distribution have increased. The practice of writing inventories down below cost to net realizable value is consistent with the view that assets are not to be carried in excess of the future economic benefits or service potential expected to be realized from their sale, exchange, distribution, or use.
39. Inventories are usually written down to net realizable value on an item by item basis. In some circumstances, however, it may be appropriate to group similar or related items. This may be the case with items of inventory that have similar purposes or end uses, and cannot practicably be evaluated separately from other items in that product line. It is not appropriate to write down inventories based on a classification of inventory, for example, finished goods, or all the inventories in a particular operation or geographical segment. Service providers generally accumulate costs in respect of each service for which a separate selling price is charged. Therefore, each such service is treated as a separate item.
40. Estimates of net realizable value also take into consideration the purpose for which the inventory is held. For example, the net realizable value of the quantity of inventory held to satisfy firm sales or service contracts is based on the contract price. If the sales contracts are for less than the inventory quantities held, the net realizable value of the excess is based on general selling prices. Guidance on the treatment of provisions or contingent liabilities, such as those arising from firm sales contracts in excess of inventory quantities held, and on firm purchase contracts can be found in MPSAS 19, *Provisions, Contingent Liabilities and Contingent Assets*.
41. Materials and other supplies held for use in the production of inventories are not written down below cost if the finished products in which they will be incorporated are expected to be sold, exchanged, or distributed at or above cost. However, when a decline in the price of materials indicates that the cost of the finished products exceeds net realizable value, the materials are written down to net realizable value. In such circumstances, the replacement cost of the materials may be the best available measure of their net realizable value.

42. A new assessment is made of net realizable value in each subsequent period. When the circumstances that previously caused inventories to be written down below cost no longer exist, or when there is clear evidence of an increase in net realizable value because of changed economic circumstances, the amount of the write-down is reversed (i.e., the reversal is limited to the amount of the original write-down) so that the new carrying amount is the lower of the cost and the revised net realizable value. This occurs, for example, when an item of inventory that is carried at net realizable value because its selling price has declined is still on hand in a subsequent period and its selling price has increased.

### **Distributing Goods at No Charge or for a Nominal Charge**

43. A public sector entity may hold inventories whose future economic benefits or service potential are not directly related to their ability to generate net cash inflows. These types of inventories may arise when a government has determined to distribute certain goods at no charge or for a nominal amount. In these cases, the future economic benefits or service potential of the inventory for financial reporting purposes is reflected by the amount the entity would need to pay to acquire the economic benefits or service potential if this was necessary to achieve the objectives of the entity. Where the economic benefits or service potential cannot be acquired in the market, an estimate of replacement cost will need to be made. If the purpose for which the inventory is held changes, then the inventory is valued using the provisions of paragraph 15.

### **Recognition as an Expense**

44. **When inventories are sold, exchanged, or distributed, the carrying amount of those inventories shall be recognized as an expense in the period in which the related revenue is recognized. If there is no related revenue, the expense is recognized when the goods are distributed or the related service is rendered. The amount of any write-down of inventories and all losses of inventories shall be recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories shall be recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.**
45. For a service provider, the point when inventories are recognized as expenses normally occurs when services are rendered, or upon billing for chargeable services.
46. Some inventories may be allocated to other asset accounts, for example, inventory used as a component of self-constructed property, plant, or equipment. Inventories allocated to another asset in this way are recognized as an expense during the useful life of that asset.

### **Disclosure**

47. **The financial statements shall disclose:**
- (a) **The accounting policies adopted in measuring inventories, including the cost formula used;**
  - (b) **The total carrying amount of inventories and the carrying amount in classifications appropriate to the entity;**
  - (c) **The carrying amount of inventories carried at fair value less costs to sell;**

- (d) **The amount of inventories recognized as an expense during the period;**
  - (e) **The amount of any write-down of inventories recognized as an expense in the period in accordance with paragraph 42;**
  - (f) **The amount of any reversal of any write-down that is recognized in the statement of financial performance in the period in accordance with paragraph 42;**
  - (g) **The circumstances or events that led to the reversal of a write-down of inventories in accordance with paragraph 42; and**
  - (h) **The carrying amount of inventories pledged as security for liabilities.**
48. Information about the carrying amounts held in different classifications of inventories and the extent of the changes in these assets is useful to financial statement users. Common classifications of inventories are merchandise, production supplies, materials, work-in-progress, and finished goods. The inventories of a service provider may be described as work-in-progress.
49. The amount of inventories recognized as an expense during the period consists of:
- (a) Those costs previously included in the measurement of inventory that has now been sold, exchanged, or distributed; and
  - (b) Unallocated production overheads and abnormal amounts of production costs of inventories.
- The circumstances of the entity may also warrant the inclusion of other costs, such as distribution costs.
50. Some entities adopt a format for surplus or deficit that results in amounts being disclosed other than the cost of inventories recognized as an expense during the period. Under this format, an entity presents an analysis of expenses using a classification based on the nature of expenses. In this case, the entity discloses the costs recognized as an expense for:
- (a) Raw materials and consumables;
  - (b) Labor costs; and
  - (c) Other costs;
- together with the amount of the net change in inventories for the period.

### **Effective Date**

51. **An entity shall apply this Standard for annual financial statements covering periods beginning on or after January 1, 2017. Earlier application is encouraged. If an entity applies this Standard for a period beginning before January 1, 2017, it shall disclose that fact.**
- 51A. *(Deleted).*

52. When an entity adopts the accrual basis of accounting as defined by MPSASs for financial reporting purposes subsequent to this effective date, this Standard applies to the entity's annual financial statements covering periods beginning on or after the date of adoption.

**Withdrawal of IPSAS 12 (2001)**

53. *(Deleted).*

**Comparison with IPSAS 12**

MPSAS 12 *Inventories* is drawn primarily from IPSAS 12(2011). Main difference between MPSAS 12 and IPSAS 12 is as follow:

- In paragraph 5, MPSAS 12 explains that GBEs apply approved accounting standards issued by the MASB whereas IPSAS 12 explains that GBEs apply IFRS issued by IASB.