

32nd WEDC International Conference, Colombo, Sri Lanka, 2006

SUSTAINABLE DEVELOPMENT OF WATER RESOURCES, WATER SUPPLY AND ENVIRONMENTAL SANITATION

**Fixed Assets Management with IT Enablement at the National Water Supply & Drainage Board**

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*The National Water Supply & Drainage Board (NWSDB) has a Fixed Assets base of about 20,000 fixed assets items. The total value of fixed assets of the NWSDB is approximately Rs. 40 billion. It is very important that the fixed assets belonging to the NWSDB are properly managed. It is essential that the fixed assets register is developed and maintained in order to fulfil the requirements of the accounting policy of the organization.*

*The fixed assets consists of property, plant and equipment. Property includes land and any improvements done for them. Plant includes the origin of manufacturing process used to house the production equipment. Equipment includes the machinery and other items that are that are necessary for the operation of the business.*

*The fixed assets register is a very important document for every organization. The information such as asset identification number (asset id), asset description, date of acquisition, depreciation rate, location, present use etc. should be maintained in a database to fulfil the accounting policy of the organization. Revaluation of fixed assets is also a vital task to be undertaken.*

*In order to satisfactorily perform asset management processes there are three parameters to be identified. They are current replacement cost, remaining useful life, and urgency of replacement. Annual asset replacement plans should be drawn using these parameters and budgetary allocations should be made available for timely replacement of the fixed assets This process will ensure organizational efficiency with respect to utilization of fixed assets.*

*The writer of this paper expects to review the importance of applying assets management principles along with information technology strategies for improving organizational efficiency and effectiveness.*

## **Introduction**

THE National Water Supply & Drainage Board (NWSDB) is a Semi-Government utility agency established under an Act of the Parliament of Sri Lanka in 1974. The NWSDB is responsible for Planning, Design, Construction and Maintenance of Major and Medium scale water supply schemes throughout the Island including facilitation for sewerage and sanitation.

The NWSDB is responsible for developing and maintaining the Fixed Assets Register of the Board in accordance with the accounting principles of the Organization.

The term Fixed Assets has been defined as any owned physical object having economic value to its owners; an item or source of wealth with continuing benefits for future periods, expressed for accounting purposes in terms of its cost, or other value such as current replacement cost. A fixed asset is any thing that will probably bring future economic benefit.

The Fixed Assets Register is an important document that has to be maintained by any organization. The development and maintenance of the Fixed Assets Register is a requirement by the accounting policy of the organization. It indicates the wealth of the organization.

It is essential that the Organization should ensure that

- Continuous improvement to the property, plant and equipment are carried out.
- A process is in place that allows the Management to monitor the status of property, plant and equipment.
- A plan is available for replacement of production equipment.
- There are no quality problems in service delivery system, caused by property, plant and equipment failures.
- The utilization percentage of the property, plant and equipment is determined.
- There are no problems attributable to equipment not being available at the place needed.
- All property, plant and equipment are utilized to their

maximum level.

- There is a process that monitors the condition of the fixed assets and evaluates the future need for replacement.

**Fixed Assets**

The term Property, Plant and Equipment is used for fixed assets during the recent past. It has been found necessary to provide additional information about property, plant and equipment.

**Property**

Property includes lands and improvements thereon. Land is not depreciated and its cost lasts forever. The cost of land includes its acquisition cost, - cost of appraising, recording, and obtaining title. It also includes the initial cost of making changes to it so that it could be used for the purpose intended. This cost includes removing old buildings, leveling, and perhaps cleaning. When land is acquired together with buildings, the cost should be apportioned between the land and buildings in proportion to their appraised value. If the acquisition process contemplates the removal of buildings, then the total cost including removal of buildings is accounted for as cost of land. Any salvage value of the removed buildings which can be sold, should be deducted from the cost of land.

**Plant**

The term plant has its origin in manufacturing, where the plant is used to house the production equipment.

**Equipment**

Equipment includes the machinery and other long lived items necessary for the operation of the business. These items require more managerial control because of their general usefulness.

**Coding System**

It is essential that a coding system be developed for identification of fixed assets of the organization. Fixed Assets of the National Water Supply & Drainage Board have been categorized as follows for accounting purposes: In developing this coding system the fixed assets have been broadly categorized into lands, buildings, structures, plant and equipment, office equipment, motor vehicles etc.

This coding system has been incorporated in to the accounting system of the NWSDB.

| <u>ACCT CODE</u> | <u>DESCRIPTION</u>                         |
|------------------|--|
| 101              | Land freehold                              |
| 102              | Land Leasehold                             |
| 105              | Infrastructure                             |
| 106              | Building freehold                          |
| 108              | Structures                                 |
| 111              | Plant & Equipment –<br>Pumping & Treatment |
| 114              | Bulk Water Meters                          |

|     |  |
|-----|--|
| 115 | Plant & Equipment –<br>Transmission Distribution |
| 116 | Mobile Equipment                                 |
| 117 | Survey Equipment                                 |
| 118 | Laboratory Equipment                             |
| 119 | Other Equipment                                  |
| 131 | Furniture Fittings and Office Equipment          |
| 132 | Not used   |
| 133 | Computers and Computer Peripherals               |
| 141 | Motor Vehicles – Cars                            |
| 142 | Vans, Buses & Jeeps                              |
| 143 | Lorries, Trucks and Pick-ups                     |
| 145 | Tractors and Trailers                            |
| 146 | Water Bowsers                                    |
| 147 | Motor Cycles                                     |
| 148 | Drilling Rigs, Excavators and<br>Prime Movers    |

**Capitalization policy**

All property, plant & equipment and other facilities that have an alternative future use shall be capitalized as fixed assets when acquired or constructed.

A minimum level of capitalization should be identified.

All costs in addition to the Invoice Price, to make an item of property, plant and equipment, ready for use should be capitalized in its historical cost.

Normal repairs are charged to expense account when incurred; however extraordinary repairs that extend the life, increase the capability or increase the efficiency of the item should be capitalized during its life, the historical cost increased, and depreciation recalculated accordingly.

**Life greater than one year**

Items with a life time restricted to one year should not be considered as fixed assets.

**Computerized System**

At the National Water Supply & Drainage Board, a computerized system has been developed to maintain information of fixed assets. This system provides facility to record the details of fixed assets at the time they are acquired. The basic fields are Asset type, Cost Centre, Item No, Asset Identification Number (Asset ID), Asset Description, Acquisition Cost, Date of Acquisition, Current Market Value, Location, Present Use, General Ledger Account, Ledger Balance, Current Replacement Cost, Remaining Useful Life, Urgency of Replacement etc.

The system has been developed using Oracle 9i, and Developer 6i. The system has been installed in all computers of Regional Offices. The Cost Accountants are in charge of the system. They are using the system under the supervision of the Chief Accountants attached to the Regional Support Centres. There are six Regional Support Centres throughout the island. The system has facility to add new fixed assets, edit existing fixed assets, view information and to print reports. The systems available in the Regions can be accessed by

the Server at the Head Office using dialup connectivity and Citrix Software. Virtual Private Network (VPN) covering all Regional Offices will be installed in the future to handle fixed assets online.

### Acquisition of new fixed assets

When new fixed assets are acquired, the user department should fill in the necessary form as specified indicating all the details of the Fixed Asset.

This information will be entered into the Fixed Assets Database by the relevant Cost Accountant. Once an entry is made in the Fixed Assets Database, a print out or detail report corresponding to that entry should be sent to the corresponding Chief Accountant. The Chief Accountant in turn shall check the accuracy of the information. In case the forms are found to be incomplete, such forms should be returned to the user department for correction.

### Life of Fixed Assets

Similar to any other object, fixed assets too have a life cycle. There are events occurred to fixed assets during their life cycle. Some of events occur to fixed assets during the life cycle are acquisition, transfer from one location to other, replacement, value addition, disposal or lost.

### Transfer of Fixed Assets

When there is a necessity to transfer fixed assets, the specified form should be filled and approved by the relevant authority. An entry should be made in the fixed assets database accordingly.

### Disposal of Fixed Assets

At the time of fixed assets are disposed off, the specified Form should be filled and approved by the relevant authority. An entry should be made in the Fixed Assets Database accordingly.

### Maintenance of Fixed Assets Database

It is essential that details of fixed assets are entered in a fixed assets database and periodically updated. Reporting documents for cost accounting systems should be used to include the Asset ID on the invoices. When outside agencies perform maintenance on equipment, Asset ID should be included in the Invoice while making payment for work done.

### Responsibilities of the User Department

Each Manager should have assigned a custodian for the property, plant and equipment used by the Board. In case of Regional Support Centres, the Cost Accountant should be appointed as the asset custodian. He should be responsible for the maintenance of Fixed Assets Database. The Chief Accountant shall manage the overall system

The Cost Accountant shall be responsible for carrying out the following tasks:

- a. Reporting on purchase of new assets and transfer of assets.

- b. Planning and obtaining proper maintenance
- c. Ensuring that a plan exists for replacement of worn equipment

The asset custodian shall receive a monthly report of new property, plant and equipment acquired for his division. He shall verify the accuracy of the information and ensure that the item has been placed in use. The asset custodian is also responsible to complete the forms to update the records in the Fixed Assets Database.

### Responsibilities of Asset Manager / Chief Accountant

It is necessary to have an Asset Manager or a Chief Accountant who is responsible for ensuring that the Fixed Assets Database is maintained. This responsibility in the NWSDB should be assigned to the relevant Chief Accountant.

Responsibilities of an Asset Manager are as follows:

- Maintain the Asset Accounting manual.
- Assigning Fixed Asset Identification Numbers
- Assisting others in coding the assets documents
- Reviewing reports on asset database
- Ensuring that periodic physical verification is done
- Making recommendations for replacement of fixed assets

### Verification of Physical Existence

It is essential that verification of physical existence of fixed assets is carried out. In order that the reconciliation of the fixed assets is accomplished at the verification, unique identification number should be displayed in each asset. Using bar coding and visual number affixed to each fixed asset can reduce efforts in verification. A bar code reader should be used to allow an entry of location code (Cost Centre), Asset Identification Number (Asset ID) etc.

### Fully Depreciated assets

Accounting principles do not require that records of fixed assets that have no value be represented on the balance sheet. However equipment which has been used longer than its estimated lifetime may be maintained on the fixed assets database.

### Reports from the Fixed Assets Management System

The information that has been recorded in the fixed assets database shall be used to generate reports required for efficient management. The following are reports to be created on a monthly, quarterly and annual basis.

- (a). Forecast reports:
  - Asset Maintenance Reports
  - Asset Replacement Reports
  - Asset Registration Reports
  - Asset Valuation Reports

**( b ). Management Reports**

- Maintenance cost per hour of use
- Hours of Maintenance report
- Unscheduled downtime due to maintenance problems
- Planned scheduled maintenance
- Production rate (Units per hour)
- Location of Asset and Responsibility for Maintenance

**( c ). Financial Reports****Reconciliation with the General Ledger**

The fixed assets register shall be reconciled with the General Ledger. Revaluation of fixed assets shall be carried out time to time as per requirements of the accounting policy of the organization.

**Revaluation of Fixed Assets**

The fixed assets belonging to the NWSDB have to be revalued as such a process has not been done during recent past. This process is in progress with the assistance of the Govt. Valuation Department. In 1986 valuation of fixed assets of the NWSDB had been done with the assistance of the Fixed Assets of the Govt. Valuation Department.

**Future of Fixed Assets at the NWSDB**

An Enterprise-wide IT Solution is being implemented at the NWSDB with the financial assistance from the Indian Line of Credit. Fixed Assets Management is one module under this project. The Consultant has already studied the current system and proposed the new system in the form of prototype. The design of software is in progress. Suggested work flow of the new system has already been established. In this system all the processes including transfer of work in progress into fixed assets etc. have been identified. The fixed assets acquired at different locations will be captured in to the system using Client Server Technology. The database will be centrally located with facility for online updating. Most of the functions have been automated.

**Conclusion**

The fixed assets management process is very important for improving the organizational efficiency and effectiveness. Timely replacement of fixed assets based on remaining useful life and urgency of replacement is very vital. For example the NWSDB is experiencing the difficulties of having fixed assets such as old Cast Iron pipe lines, old Asbestos Cement pipe line etc. which have to be replaced as early as possible. Asset replacement plans have to be developed meeting the budgetary constraints identifying the priority areas. Annual asset replacement plans could be drawn using the said parameters in order to avoid budgetary constraints.

The NWSDB has over 300 water supply schemes. Timely replacement of plant and equipment will ensure optimum power utilization which will bring tremendous amount of cost saving for the organization.

In addition the fixed assets register has to be maintained in order to fulfil the accounting principles of the organization.

**References**

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