CHAPTER V
COST SYSTEMS OF MUMBAI PORT

5.1 INTRODUCTION

Mumbai Port Trust is one of the pioneers Port in the country. It was established in 1873. It was the principal gateway to the country. Most of the EXIM trade take place through the port of Mumbai. Earlier there were no other major ports on the western coast and all the trade went through the Port of Mumbai. Mumbai Port trust enjoyed a monopolistic position till early 1990s. There was no regulatory authority to regulate the tariff fixed by the port. Further there was hardly any competition among the major ports. Most of the ports were handling single commodity. Port sector was not open for private sector participation. All ports then set up were under the central government and Mumbai port enjoyed a monopoly over long years being multi-commodity port. Till early 1990s Mumbai port enjoyed a unique and number one position. However, with the induction of ultra modern and state of art technology Jawaharlal Nehru Port trust on the western coast, Mumbai port trust started losing its importance as a principle gateway.

With stiff competition from JNPT and introduction of a regulatory body i.e. Tariff Authority for Major Ports (TAMP) pricing of services rendered by Mumbai Port trust became very relevant and crucial. Till such time, Mumbai Port Trust being the principle gateway did not find a necessity to concentrate on cost or pricing policies. Services were charged based on “What Traffic can bear” principle. All pricing principles are explained in the next chapter.

In this changed economic and competitive background cost and cost ascertainment has gained increased focus. Accordingly, Mumbai port trust’s financial and management accounting system needs to be studied in detail to understand the
components of income and expenditure and more importantly ascertainment, allocation and absorption of overheads.

This chapter studies in detail the existing financial and management accounting systems of Mumbai Port Trust.

5.2 TOTAL FINANCIAL SYSTEM OF MUMBAI PORT

In early 1960s a need was felt at Mumbai port trust to develop a modern financial accounting system. With this in view, financial consultants M/s. Price Water House, Peat & Co. were appointed in 1965. Financial systems were designed by the Consulting Accountants, M/s. Price Water House, Peat & Co. in 1966. This system was designed at a time when tariff fixation was not governed by competition or customer satisfaction or customer retention. The Importers and exporters had no alternative available and they were completely dependent on Mumbai port for transporting their cargo. Since all the traffic was handled by Mumbai port, cost was not at all a consideration for fixing tariff.

The present financial system and management accounting system prevalent in Mumbai port is elaborated here.

Financial Accounting of Mumbai Port Trust involves maintenance of financial ledgers and compilation of Annual Accounts and Annual Administration Report. Management Accounting forms an integral part of financial system of Mumbai Port Trust. This involves Budgeting, Budgetary Control, Management Information Reports and Cost Statements. Another integral function of financial system of Mumbai Port Trust is to give financial Advice involving financial scrutiny of capital works and other expenditure proposal. The Annual Accounts are subject to audit by the Principal Director of Audit. Financial Accounting of Mumbai Port also involves
matters concerning general policy matters having financial implications or which have a direct bearing on financial accounts.

5.3 **OBJECTIVE OF THE FINANCIAL SYSTEM**

Section 107 of The Major Port Trust Act, 1963 states as follows:

"Submission of statements of income and expenditure to Central Government--
(1) Every Board shall annually, or oftener if directed by the Central Government so to do, submit statements of its income and expenditure in such form and at such time as that Government may direct.

(2) A copy of all such statements shall be open to the inspection of the public at the office of the Board during office hours on payment of such fee for each inspection as may from time to time be fixed by the Board."

Hence in terms of Section 107 of the Major Port Trust Act, 1963 financial system of Mumbai port Trust involves the compilation and presentation of the Annual Accounts indicating the Financial Performance and State of Affairs of the Port for information of the Parliament every year before 30th November. The annual accounts along with all the mandatory statements are approved by the Board Of trustees of The Port of Mumbai every year in its Board meeting held during May. Thereafter the same is forwarded to Comptroller and Auditor general for auditing and verification. The annual accounts after verification with audit observations are sent back to the Port. Thereafter annual accounts with replies to the audit observations are forwarded to the Ministry of shipping for placing before the Parliament for approval.

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1 The Major Port Trusts Act, 1963-Section 107, Pg 44
From Assessment Year 2002-03, Port sector has come under the ambit of Income tax Act, 1961. This necessitates ports to maintain accounts as per the form recommended in Income Tax rules. Further Accounting Concepts and practices have to be strictly adhered to in order to ensure compliance with Accounting Standards.

5.4 PORT ACCOUNTING POLICIES

The Accounting System followed is that recommended by the Consulting Accountants, M/s. Price Water House, Peat & Co. appointed in this behalf by a resolution by the Board of Trustees of the Port of Mumbai in 1966. An Officer on Special Duty had been appointed by the Comptroller and Auditor General of India (CAG) to examine and clear from audit angle the accounting system before its implementation. After clearance by the CAG, the Accounting System was adopted with effect from 1.4.1968 with Board's and Government's approval.

The unique feature of this financial accounting system was for the first time Mumbai port identified five principal services being rendered followed by ascertainment of expenditure budget-centre, cost-centre and expenditure type.

For the purpose of preparing the financial accounts of the Port, the activities of the Port are broadly divided into five principal activities on functional basis. These five principal activities and the services falling under each are enumerated below.

1) Cargo Handling and Storage:

Under this activity all the services rendered for cargo operations in the docks right from the hook point to the point of delivery are classified. Import cargo is

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unloaded from vessels and placed on wharves. They removed either to storage location or out of docks with custom clearance. Oil cargo is directly transported to refineries through sub-marine pipelines.

(2) Port & Dock Facilities for Shipping:

This activity comprises all the services rendered to vessels from the point of entry into the harbour till a vessel is berthed in the docks and leaves the Port after cargo operations. The vessels have to be piloted into the docks with help of tugs. Mumbai Port trust maintains the main channel by regularly dredging it. This ensures smooth navigation to the vessels.

(3) Railway Working

This activity comprises the services of the Port Trust Railway Network for transfer of cargo to/from the Docks and the trunk railway system. Railway is one of the important mode used for evacuation of cargo. Both Central as well as western railways operate in Mumbai Port trust.

(4) Rentable Lands and Buildings:

The maintenance of the Port Trust estates and sheds and godowns outside the dock limits which are let out on leases / tenancies fall under the purview of this activity. Mumbai Port trust is a landlord port owning a vast land area of 7500 hectares along the east coast of Mumbai.

(5) Management and General Administration:

This activity comprises the services of the administrative departments which are not directly involved in the Port operations but render supporting services for the functioning of the operating departments the services of which constitute the four activities mentioned above. This includes Finance, Human resources management, legal services, Welfare activities, etc.
The expenditure incurred on the five activities mentioned above together constitutes the operating expenditure of the Port. For all services rendered as mentioned above, charges are recovered from the Port users towards cost of services. The following table gives the income so derived for rendering services which is grouped in the same order in which the activities are listed above.

**TABLE NO.5.1**

**TYPE OF INCOME DERIVED FROM RENDERING SERVICES**

**IN MUMBAI PORT TRUST**

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>TYPE OF INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo Handling &amp; Storage</td>
<td>Charges recovered for cargo operations in the docks</td>
</tr>
<tr>
<td>Port and Dock Charges</td>
<td>Charges for services rendered to the vessels</td>
</tr>
<tr>
<td>Railway Earnings</td>
<td>Charges recovered for the working of Port Trust railway system</td>
</tr>
<tr>
<td>Estate Rentals</td>
<td>Charges on letting out of lands, godowns and sheds outside Dock limits on tenancy/leases.</td>
</tr>
</tbody>
</table>

SOURCE: FINANCIAL ACCOUNTING SYSTEM MANUAL, MUMBAI PORT TRUST.

The four major types of income referred to above are called Operating Income, since it is generated by Port operations. It may be noted that the fifth Principal Activity, viz. Management and General Administration mentioned above does not generate any income by itself. However, the cost of this activity is covered in the Operating Income.

In addition to the operating income and expenditure as indicated above, there is another class of income and expenditure known as Finance & Miscellaneous (F&M) Income and Finance and Miscellaneous Expenditure. The F & M Income
comprises mainly of interest on investments of surplus funds and various miscellaneous income realized by way of sale of unserviceable/ obsolete items, etc. The F & M Expenditure comprises mainly general types of expenditure such as interest payment, pension, Productivity Linked Bonus/Performance Reward, which cannot be directly identified with the five activities mentioned above.

Income from each of the principal activities referred to above has further been divided into sub-activities or services. Nature of income and components of cost for each of these sub-services has been elaborated and discussed in detail in the next chapter i.e. Cost considerations and determinants.

The following table gives types of income generated by principal activities.

**TABLE NO.5.2**

**TYPES OF INCOME GENERATED BY PRINCIPAL ACTIVITIES**

<table>
<thead>
<tr>
<th>PRINCIPAL ACTIVITIES</th>
<th>TYPE OF INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo Handling and Storage Charges</td>
<td>Handling and Storage Charges of General Cargo,</td>
</tr>
<tr>
<td></td>
<td>Storage of goods in warehouse,</td>
</tr>
<tr>
<td></td>
<td>Charges for Container Handling Cranes and Other Cranes,</td>
</tr>
<tr>
<td></td>
<td>Petroleum, Oils and Lubricants Handling Charges,</td>
</tr>
<tr>
<td></td>
<td>Demurrage fees on General Cargo,</td>
</tr>
<tr>
<td></td>
<td>Miscellaneous Charges</td>
</tr>
<tr>
<td>Port and Dock Charges</td>
<td>Charges for Towage, Pilotage, etc;</td>
</tr>
<tr>
<td></td>
<td>Berth Charges, Basin Rents, etc.</td>
</tr>
<tr>
<td></td>
<td>Port dues,</td>
</tr>
<tr>
<td></td>
<td>Dry Docking Charges,</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railway Earnings</td>
<td>Freight and Haulage Charges,</td>
</tr>
<tr>
<td></td>
<td>Siding Charges,</td>
</tr>
<tr>
<td></td>
<td>Terminal Charges,</td>
</tr>
<tr>
<td></td>
<td>Wharfage and Demurrage,</td>
</tr>
<tr>
<td></td>
<td>Miscellaneous Charges</td>
</tr>
<tr>
<td>Estate Rentals</td>
<td>Rent from lands,</td>
</tr>
<tr>
<td></td>
<td>Rent from Buildings, Sheds and Godowns,</td>
</tr>
<tr>
<td></td>
<td>Recoverable Property Taxes, etc.,</td>
</tr>
<tr>
<td></td>
<td>Miscellaneous Income</td>
</tr>
<tr>
<td>Finance and Miscellaneous Income</td>
<td>Interest on investments of General Reserve Fund and</td>
</tr>
<tr>
<td></td>
<td>Balances at Banks, Advances, Deposits, etc.</td>
</tr>
<tr>
<td></td>
<td>Profit on sale/redemption of investments</td>
</tr>
<tr>
<td></td>
<td>Profit on disposal of capital and other assets Sale of</td>
</tr>
<tr>
<td></td>
<td>unserviceable materials</td>
</tr>
<tr>
<td></td>
<td>Special credits</td>
</tr>
<tr>
<td></td>
<td>Sundry receipts</td>
</tr>
<tr>
<td></td>
<td>Items relating to previous years</td>
</tr>
</tbody>
</table>

**SOURCE:** FINANCIAL ACCOUNTING SYSTEM MANUAL, MUMBAI PORT TRUST.

During 2008-09, Income generated by Mumbai Port Trust was Rs.818.49 crores.\(^5\) The following graph depicts the composition of total income from the principal activities during 2008-09.

\(^5\) Schedule of Income, Annual Accounts 2008-09, Mumbai Port trust.
GRAPH NO. 5.1G

COMPOSITION OF TOTAL INCOME FROM
THE PRINCIPAL ACTIVITIES DURING 2008-09

(Rs. in crores)

- Cargo handling and storage: 275.08
- Port and Dock facilities for shipping: 10.36
- Railway Working: 72.45
- Rentable Lands and Buildings: 460.60

SOURCE: SCHEDULE OF INCOME, ANNUAL ACCOUNTS 2008-09, MUMBAI PORT TRUST.

The following table gives expenditure incurred by principal activities. Management and general Administration is considered as a principal activity only for expenditure as this activity is non-revenue earning.
### TABLE NO.5.3

**EXPENDITURE INCURRED BY PRINCIPAL ACTIVITIES**

<table>
<thead>
<tr>
<th>PRINCIPAL ACTIVITIES</th>
<th>TYPE OF EXPENDITURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo Handling and Storage Charges</td>
<td>Handling and Storage of General Cargo at Sheds and Wharves, Warehousing, Operation and maintenance of Container Handling Cranes and other Cranes, Handling of Petroleum, Oil and Lubricants, Expenditure on general facilities at Docks and Bunders, Administration and General Expenses, New Minor Works, Depreciation.</td>
</tr>
<tr>
<td>Port and Dock Charges</td>
<td>Towing, Berthing and Mooring, Pollution Control, Pilotage, Dry Docking Charges, Water supply to shipping, Fire fighting, Dredging and Marine Survey, Harbour patrol, Operation and maintenance of navigational aids, Salvage and underwater repairs,</td>
</tr>
<tr>
<td><strong>Maintenance of dock, and harbour walls and marine structures, etc.,</strong></td>
<td></td>
</tr>
<tr>
<td>Administration and General Expenses,</td>
<td></td>
</tr>
<tr>
<td>New Minor Works,</td>
<td></td>
</tr>
<tr>
<td>Depreciation.</td>
<td></td>
</tr>
<tr>
<td><strong>Railway Earnings</strong></td>
<td>Operation and maintenance of locomotives, wagons, <em>etc.</em></td>
</tr>
<tr>
<td>Maintenance of permanent way and signal and interlocking</td>
<td></td>
</tr>
<tr>
<td>Operation, maintenance and administration expenses of stations, yards &amp; sidings</td>
<td></td>
</tr>
<tr>
<td>Administration and general expenses</td>
<td></td>
</tr>
<tr>
<td>New Minor Works</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td></td>
</tr>
<tr>
<td><strong>Estate Rentals</strong></td>
<td>Administration and General Expenses,</td>
</tr>
<tr>
<td>New Minor Works,</td>
<td></td>
</tr>
<tr>
<td>Depreciation.</td>
<td></td>
</tr>
<tr>
<td><strong>Finance and Miscellaneous Income</strong></td>
<td>Retirement Gratuities, Ex-gratia payments and other benefits,</td>
</tr>
<tr>
<td>Contribution to Pension Fund</td>
<td></td>
</tr>
<tr>
<td>(i) Pension and Death-cum-Retirement Gratuities,</td>
<td></td>
</tr>
<tr>
<td>(ii) Special contribution to Provident Fund,</td>
<td></td>
</tr>
<tr>
<td>Productivity Linked Bonus/Performance Reward,</td>
<td></td>
</tr>
<tr>
<td>Bank charges,</td>
<td></td>
</tr>
<tr>
<td>Loss on disposal of capital and other assets,</td>
<td></td>
</tr>
<tr>
<td>Bad debts and Stores adjustments,</td>
<td></td>
</tr>
<tr>
<td>Items relating to previous years.</td>
<td></td>
</tr>
<tr>
<td><strong>Management and General</strong></td>
<td>Management and Secretarial expenses,</td>
</tr>
<tr>
<td>Accounting and Auditing,</td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>Legal expenses,</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Labour and Welfare expenses,</td>
</tr>
<tr>
<td></td>
<td>Medical expenses,</td>
</tr>
<tr>
<td></td>
<td>Store-keeping,</td>
</tr>
<tr>
<td></td>
<td>Expenditure on Head Office building,</td>
</tr>
<tr>
<td></td>
<td>Telephones,</td>
</tr>
<tr>
<td></td>
<td>Engineering and Workshop administration</td>
</tr>
<tr>
<td></td>
<td>and overheads</td>
</tr>
<tr>
<td></td>
<td>Sundry expenses,</td>
</tr>
<tr>
<td></td>
<td>New Minor Works,</td>
</tr>
<tr>
<td></td>
<td>Depreciation.</td>
</tr>
</tbody>
</table>

**SOURCE:** FINANCIAL ACCOUNTING SYSTEM MANUAL, MUMBAI PORT TRUST.

During 2008-09, expenditure incurred by Mumbai port trust was Rs.899.54 crores. The following graph depicts the composition of total expenditure incurred by the principal activities during 2008-09.

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\[ A statement showing service-wise cost as per cost statements for the year 2008-09, Mumbai Port Trust. \]
5.5 CLASSIFICATION AND CODING OF INCOME, EXPENDITURE, ASSETS AND LIABILITIES

The accounting system has been devised with a view to enable presentation of financial accounts, in terms of the principal activities. Port Operation is a combination of multifarious activities and involves different facets of Port management. Hence the accounting system devised, apart from enabling presentation of financial accounts, facilitates compilation of Budget, Budgetary control and generation of MIS Reports.

The two fold objectives as referred to above are met by providing in the system means for classification and coding of income, expenditure, assets and liabilities. To enable compilation of Annual Accounts, income and expenditure have been classified in terms of the principal activities, and as Finance & Miscellaneous Income and Finance & Miscellaneous Expenditure. To facilitate compilation of Budget and Budgetary control, expenditure has further been classified in terms of
responsibility, type and object/activity. The classification of expenditure in terms of responsibility, type and object enables -

- Identification of responsibility, that is as to who has incurred the expenditure.
- Identification of type of expenses, that is as to what is the type of expense.
- Identification of object/activity, that is as to the service for which the expense was incurred.

The above three distinct classification of expenditure is represented in terms of Budget centre, type of expenditure and cost centre, respectively.

The assets of the Port are classified as Capital Assets, Investments and Current Assets. The liabilities are classified as Reserves, Funds, Long Term Liabilities and Current Liabilities. To facilitate accounting work involved in recording, transferring and summarizing of data, numerical account codes are in use. The codes are grouped in terms of the classification of income & expenditure and assets & liabilities. A detailed list of codes is given in the Consulting Accountant's Final Report regarding classification and coding of income and expenditure and assets and liabilities.

5.6 **OPERATION OF ACCOUNTING SYSTEM**

Mumbai Port follows a decentralized system of accounting. The day to day transactions are recorded in the subsidiary journals maintained in different departments and branches of Accounts Department and the Accounts Branch maintains the control accounts. The Departments and Branches of the Accounts Department where the subsidiary journals are maintained prepare a monthly summary
of the day today transactions effected through the subsidiary Journals indicating income/expenditure accounts code wise and forward the monthly summary (accounting return) to Accounts Branch for posting in the Control Accounts in the Ledger. The accounting returns are broadly of two types

(i) Those pertaining to cash transactions and

(ii) Those pertaining to non-cash transactions.

The return in respect of cash transactions indicates cash receipts and payments, whereas those in respect of non-cash transactions give allocation of income/ expenditure account code wise. Thus cash book is the only return in respect of cash transactions and all others are in respect of non-cash transactions. After posting in the respective ledger accounts, a monthly trial balance is prepared. At the end of the year, from the trial balances, Annual Accounts are prepared. Management Accounting statements for Budgetary control purpose are also prepared six monthly and annually. The following chart illustrates the accounting cycle adopted at Mumbai Port trust.
CHART NO.5.1C
ACCOUNTING CYCLE ADOPTED AT MUMBAI PORT TRUST

Source: Procedure Manual, Accounts Section, Finance department, Mumbai Port Trust

Maintenance of Ledger Accounts

Financial accounting system of Mumbai Port Trust involves maintenance of ledger accounts. Huge ledger leaves were maintained in a bound book. All entries pertaining to that account would be entered and at end of every year all ledger accounts were closed and balances carried forward or booked in Income and Expenditure account.

Three types of ledger are maintained at the Accounts Section of Finance department of Mumbai Port trust. The following table gives the type of transactions posted in various ledgers.
TABLE NO.5.4

TYPE OF TRANSACTIONS POSTED IN LEDGERS.

<table>
<thead>
<tr>
<th>LEDGER</th>
<th>TYPE OF TRANSACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Ledger,</td>
<td>(i) Budget Centres,</td>
</tr>
<tr>
<td></td>
<td>(ii) Finance &amp; Misc. Income and Expenditure,</td>
</tr>
<tr>
<td></td>
<td>Clearing accounts, i.e. temporary accounts for certain</td>
</tr>
<tr>
<td></td>
<td>type of expenditure pending distribution over proper</td>
</tr>
<tr>
<td></td>
<td>account heads,</td>
</tr>
<tr>
<td></td>
<td>(iii) income and</td>
</tr>
<tr>
<td></td>
<td>(iv) assets and liabilities.</td>
</tr>
<tr>
<td>Cost Ledger</td>
<td>Cost centre-wise transactions.</td>
</tr>
<tr>
<td>Proforma Ledger</td>
<td>(i) works</td>
</tr>
<tr>
<td></td>
<td>(ii) items of expenditure from Employees Welfare Fund and Fire and Motor Insurance Fund.</td>
</tr>
</tbody>
</table>

Source: Procedure Manual, Accounts Section, Finance department, Mumbai Port Trust

Under the above three broad types, in all eight ledgers are maintained. These are as follows:

(1) **General Ledger**

(i) Asset ledger

(ii) Funds and Liabilities Ledger

(iii) Budget Centre Ledger

(iv) Income Ledger

(2) **Proforma Ledger**

(i) Capital Works in progress Accounts Ledger

(ii) New Minor Works in progress Accounts Ledger
(iii) Renewals and Replacement, Employees Welfare Fund and Fire & Motor insurance Fund Ledger.

(3) Cost (Principal Activities) Ledger

Presently, the financial accounting system of Mumbai Port is completely computerized under The Financial Management System (FMS). All data regarding income and expenditure are collected from various sub systems which are interfaced with the main FMS. Income is managed by (IPOS), in ORION environment.

5.7 MANAGEMENT ACCOUNTING SYSTEM IN MUMBAI PORT

The accounting system was switched over to the commercial accounting from 1st April 1968, as per the recommendations made by M/s. Price, Waterhouse, Peat & Co., Consulting Accountants. One of the objectives was that it should be possible to ascertain costs of various services easily. A full fledged costing system was considered as an expensive proposition. The basis of allocating common costs to the various services was decided in consultation with the Chief Cost Accounts Officer of the Government of India. By a resolution of the Board of Trustees of the port of Mumbai it was decided to establish and operate a Costing Section under the Chief Accountant’s establishment. The Costing Cell started functioning from June 1969.

A Junior/Senior Accounts Officer is in-charge of the cell and he is assisted by Cost Analyst/ Cost Assistant and Audit Inspector numbering in all three.

The main functions of the Costing Cell are briefly enumerated below:

(i) To prepare periodical cost statements for the principal services (for review/revision of Tariffs).

(ii) To prepare Handling Cost Statement for the principal items of cargo.
(iii) To carry out special cost analysis and exercises as per the needs of the Management.

(iv) To prepare service-wise Annual Statement of Gross Block, Accumulated Depreciation, Net Block and Working Capital.

Detailed Cost Statements for principal services are prepared annually and submitted to the Deputy Chairman / Chairman for sanction. The procedure for preparing cost statements has been detailed later in the chapter.

The working results of various services disclosed in summarized cost statement are monitored to assess the remunerative ness of the services. With a view to making unremunerative services self-supporting, the proposal for revision is formulated. While formulating the proposal for revision of rates details regarding the historical background, cost data, comparative rates, financial impact, etc. have to be collected before formulating the proposal. After obtaining the Board’s approval to the proposal of revision of rates, the same is required to be sanctioned by the Tariff Authority for Major Ports as per MPT Act, 1963 (Amended). The rates come into effect after a Notification is published in the Government Gazette.

However, Tariff Authority for Major Ports (TAMP) have made it mandatory for the ports to carry out comprehensive tariff revision every three years. TAMP has issued guidelines to the major ports which need to be strictly adhered to while fixing tariffs of the ports. These guidelines will inter-alia apply in respect of the following:

(i) Regulation of tariff levied by the port for services rendered or facilities provided.

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7 The Major Port Trusts Act, 1963-Section47-A, Pg 23
8 Tariff Authority For Major Ports,(2005); Revised Guidelines :31st March,2005.
(ii) Fixation of charges for the use of properties belonging to, or in the possession or occupation of, the port or any place within the limits of the port or port approaches.

(iii) Fixation of fees for pilotage, hauling, mooring, re-mooring, hooking and measuring and other services rendered to the vessels and port dues on vessels entering the port.

(iv) Fixation of consolidated Scale of rates for combination of services.

While fixing the tariff, TAMP will be guided by the following:

(i) Safeguarding the interests of shippers, consignees and other port users.

(ii) Ensuring just and fair return to the ports.

(iii) The factors which will encourage competition, economical use of resources, efficiency in performance and optimum investment.

(iv) The established costing methodologies (including cost plus approach) and pricing principles.

(v) The policy directions issued by the Central government/

(vi) Tariff leverage will be used to improve operational efficiency.

(vii) Overall long term objective will be to move to competitive pricing and to push performance of Indian ports to internationally competitive levels.

Other areas where the costing cell carries out management accounting functions are

1. Computation of man-hour rates and out-of-pocket expenses are some periodical costing exercises undertaken by the Costing Section.

2. Besides special cost analysis and exercises are carried out as per the specific requirements of the management.
5.8 **ORGANISATIONAL STRUCTURE OF FINANCE DEPARTMENT**

Finance functions of Mumbai Port are under the direct control of the Financial Advisor and Chief Accounts Officer. The main functions of the Financial Advisor and Chief Accounts Officer includes finalization of Accounts, suitable replies to the audit queries of the Principal audit officer., Administration report, finalization of Budgets, submission of service cost statements and fixation of tariff.

To discharge these functions he is ably assisted by the two important sections of the finance department namely the Accounts section and the costing and rate revision cell.

**CHART NO.5.2C**

**ORGANISATIONAL CHART – ACCOUNTS SECTION**

**FINANCE DEPARTMENT**

- **FINANCIAL ADVISOR AND CHIEF ACCOUNTS OFFICER**
  - **DEPUTY CHIEF ACCOUNTS OFFICER**
    - **SENIOR ACCOUNTS OFFICER**
      - **JUNIOR ACCOUNTS OFFICER**
        - **OFFICE SUPERINTENDENT**
          - Ledger
          - Budget
          - General
        - **AUDIT INSPECTOR**

Source: Procedure Manual, Accounts Section, Finance department, Mumbai Port Trust

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The main functions of accounts section of Finance department namely preparation of annual accounts and allied activities is under the direct control and supervision of Financial Advisor and Chief Accounts Officer. He is at the helm of Finance function managing the revenue and expenditure, investment, tax planning, budgeting and tendering of Mumbai Port trust. He is ably assisted in this function by a Deputy Chief Accounts Officer who monitors and supervises the day to day functioning. Routine functions are managed by a Junior/senior officer. Various functions are managed by Office Superintendents and audit Inspectors.

A separate costing cell has been constituted to work as a part of accounts function. A need was felt at Mumbai Port trust to ascertain cost of services rendered by the port. Earlier tariff was revised only for those activities which were in deficit. Tariff revision proposal had to be supported with service cost statements. This cell is headed by a Deputy Chief accounts Officer whose main function is to supervise preparation of service cost statement every year after finalization of annual accounts. Thereafter, he has to prepare a revision proposal for services which are in deficit. However after introduction of TAMP, a comprehensive revision proposal once in three years is proposed. In this endeavor, Deputy Chief Accounts Officer is ably assisted by a Junior Officer and cost analyst. Data collection and analysis of data is carried out by cost assistant and junior assistant. Audit Inspector carries out the functions of cost benefit analysis and proposals for tariff concessions.
5.9 **ACTIVITIES / FUNCTIONS OF DIFFERENT SECTIONS / DEPARTMENTS ASSOCIATED WITH FINANCE.**

The activities/functions of Mumbai Port can be broadly classified into two:

A. Revenue earning activities.
B. Non-revenue earning activities.

**A. Revenue earning activities**

The principal revenue generating activities are classified into principal activities on functional basis. These activities include those functions of the Port which
generate revenue to the port. The Scale of rates of Mumbai port gives all charges levied by the port. The activities included in the scale of rates generate revenue. These activities and various charges associated for rendering the services in connection with these activities are broadly classified as follows:

**BOX NO.5.1**

<table>
<thead>
<tr>
<th>Revenue earning activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• VESSEL RELATED CHARGES</td>
</tr>
<tr>
<td>Composite Pilotage and Towage</td>
</tr>
<tr>
<td>Lighterage dues</td>
</tr>
<tr>
<td>Anchorage fees</td>
</tr>
<tr>
<td>Port dues</td>
</tr>
<tr>
<td>Other charges</td>
</tr>
<tr>
<td>• CARGO RELATED CHARGES</td>
</tr>
<tr>
<td>Wharfage on goods</td>
</tr>
<tr>
<td>Demurrage</td>
</tr>
<tr>
<td>License(storage) fees and warehousing charges.</td>
</tr>
<tr>
<td>Container Related Charges</td>
</tr>
<tr>
<td>Charges leviable at Bunders</td>
</tr>
<tr>
<td>Charges for breaking, construction and repair of vessels at Bunders</td>
</tr>
<tr>
<td>Cranage</td>
</tr>
<tr>
<td>Stevedoring Charges</td>
</tr>
<tr>
<td>Charges leviable for operation of catamarans, Hovercrafts, Speed boats, etc.</td>
</tr>
<tr>
<td>Miscellaneous Charges</td>
</tr>
</tbody>
</table>

I VESSEL RELATED CHARGES

This activity includes all operations carried out in the port for bringing the vessel from outside the port limit to the anchorage and thereafter to berth the vessel in the port. Various activities are involved in the process. All services involved in this
service process are charged and billed to the vessel agents. The services to be rendered for bringing a vessel to the port and berthing are as follows:

Composite Pilotage and Towage

Vessels which want to enter the port for loading/unloading of cargo need to be maneuvered from outside the port limits by the pilots of Mumbai port. The vessels need to be guided by switching off the engines with the help of tugs. The vessels are berthed taking into the tidal conditions and the draft required for the vessel. As discussed in the previous chapter, Mumbai port comprises of docks at various locations with different depths and facilities. Thus charges leviable also differ with respect to Docks or stream or Jawahar dweep/PirPau. Also separate charges are levied for shifting the vessels from one berth to another or from one dock to another. Further, charges are higher for vessels having higher Gross Registered Tonnage (GRT). Separate charges are prescribed for smaller vessels like off shore supply vessels, survey vessels, Passenger boats, fishing trawlers, dumb barges, etc.

(i) Lighterage dues

Bigger vessels which cannot be berthed in the docks are kept in anchorage in the deep sea and cargo is unloaded on to the barges. These vessels cannot enter the port due to deeper drafts. Mother vessels are charged lighterage dues for discharging/receiving cargo.

(ii) Anchorage fees

If any vessel or self propelled barge remains at any of the specified anchorage points, anchorage fees are levied. The anchorage fees are chargeable from the time a vessel drops the anchor till the time it leaves the anchorage.
(iii) Port dues

Port dues are levied on every vessel which enters the port limit for whatsoever reasons. Port dues are assessed on the total GRT of the vessel. The dues is payable for every entry into the port. Port dues are leviable on vessels which go to Jawaharlal Nehru port as they utilize the main channel of Mumbai port.

(iv) Other charges

This includes charges for attendance, cancellation and detention of harbour tugs, attendance and detention fees for master pilots and pilots, Charges for hire of Launches and Tank barges, Diver's fees, etc.

II CARGO RELATED CHARGES

(i) Wharfage on goods.

Ports play a crucial role in the EXIM trade of the country. Various types of goods are imported and exported. Vessels are berthed in the docks and the goods are unloaded on to the wharf. Thereafter they are moved out of the docks to the hinterland or moved to storage areas in the docks. Wharfage is levied depending upon the type of cargo and the charges are fixed for per tonne of cargo. Cargo handled in the port includes wood, timber, cement, oil-cakes, sulphur, sugar and other foodgrains, crude oil and POL products, iron and steel materials, Motor vehicles and cars, etc.

(ii) Demurrage

Cargo unloaded on the wharf are allowed to retained in the designated storage areas for specified free days. On expiration of free days demurrage is charged for the period of storage till the cargo is removed by the consignee.

(iii) License(storage) fees and warehousing charges.
Various storage areas are available within the dock area for storing import and export goods. Some storage areas are covered and others are open sheds. Charges are fixed depending upon the duration of cargo stored.

(iv) Container Related Charges

Composite charges are fixed for handling various types of containers. The types of containers are general, hazardous, Transhipment, Same bottom, etc. Their sizes include containers up to 20’, containers above 20’ but up to 40’ and containers above 40’.

(v) Charges leviable at Bunders

Bunders are areas outside the dock limit which enable smaller boats to berth and load/unload cargo. No major facilities are provided at bunders and certain specific cargo is handled there. Coal is one of the most important cargo which was handled at bunders in recent times. Coal being highly polluted cargo needs handling away from the main areas of port. All charges like wharfage, demurrage is applicable to cargo handled at bunders.

(vi) Charges for breaking, construction and repair of vessels at Bunders.

Ship breaking activity is allowed to be carried out in the designated docks area of the port. Charges are prescribed in respect of vessels which are broken up on the port trust hards. Charges are levied on vessels constructed on port trust hards such as bosts, hodies, rafts, pontoons, tank barges, crfts, etc.

(vii) Cranage

Mumbai port has floating cranes which are docked in the Indira dock basin. These cranes are used to lift heavy cargo and load on to the barges. Charges are levied per tonne of the cargo lifted by these cranes. Other cranes like mobile crane, Tower type crane, tractor, Forklift, platform truck are used on the wharf for movement of cargo.
(viii) Stevedoring Charges

Stevedoring services have been taken over by Mumbai port. These are facilities provided on board the vessel. Labour services are provided on board the vessel both for loading as well as unloading of cargo. Charges are levied per tonne of cargo for various types of cargo.

(ix) Charges leviable for operation of catamarans, Hovercrafts, Speed boats, etc.

License fee, port dues and passenger fees are leviable for allowing the operation of catamarans, hovercrafts, speed boats, etc. These vessels carry passengers and only facility for embarkation and dis-emabarkation of passengers is provided by the port. Further during rough weather of monsoon season these small boats take shelter in the designated area in the port waters.

(x) Miscellaneous Charges.

These charges are levied for supplying fresh water to the vessels berthed at the docks, Permits to lorries, mobile cranes etc to ply in the port, embarkation and disembarkation of passengers from passenger/cruise vessels which visit India, etc.

B. Non Revenue earning activities.

The activities included in non revenue earning are those activities which provide the support services to the main activities. Some of these services are statutory and others are essential for the smooth running of the organisation. This includes Finance, legal, secretarial, Industrial relations, Public relations, Business development, Statistical, computer systems and Port security.
5.10 FUNCTIONS OF COSTING CELL IN THE FINANCE DEPARTMENT OF MUMBAI PORT

One of the main functions of the costing cell is preparation of Cost Statements for principal services. This is done annually within two months of finalization of Annual Accounts. Information is drawn from the financial statements i.e. Income and Expenditure statement and the Balance Sheet. Cost is accumulated cost center wise and the cost accumulation is done service wise. Cost centers which have a direct bearing with a particular service are directly apportioned to that service and the overhead is allocated.

A detailed analysis of nature of income and components of cost for each sub-services under the five principal services are elaborated in detail in the next chapter. In this chapter, overheads allocation and apportionment are discussed in detail in the following paragraphs

Preparation of Cost Statements for principal services

Detailed Cost Statement for principal services is prepared along with summarized working results for all services. Copies of summary cost statement are submitted to the Deputy Chairman/Chairman and to Government and other major ports when called for. Copies of summary cost statement along with detailed cost statements are to be forwarded to the various operating departments.

Mumbai port is service oriented sector and most of its activities are labour intensive. There are various costs incurred for rendering the services. Direct costs are directly allocated to the respective sub-services. The most complex operation involved is while apportionment and absorption of overheads. Treatment of each type of expenditure in the service cost statements are detailed below:

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Analysis of Stores Value, Repairs & Maintenance and Salaries & Wages – Service-wise.

From the Cost Ledger maintained in the Accounts Branch, the value of Stores (Repairs and Maintenance) and Salaries and Wages booked under each cost code is first collected according to the various services/sub services. The distinction between a service and a sub-service is that a cost statement is prepared for each service separately; whereas the total cost collected under a sub-service is allocated to the services on a predetermined basis. The total of above three types of expenditure are collected under the various services/sub-services and tallied with the type-wise summary statement exhibited in Financial Management System.

Labour Cost

The service-wise analysis of the number of employees is required for apportioning labour, welfare and medical expenses. For this purpose, the total number of employees as on 31st March every year is taken from the payroll system for apportioning the Salaries and Wages to each service.

Expenditure on outdoor staff (Docks & Bunders) and Sheds & Wharves:

An adjustment is carried out in the cost statement of the joint cost items on the basis of the number of packages lying unclear within the docks area during each quarter. The Docks Department forwards a quarterly statement showing the break-up of the total number of packages in the docks area into those lying within the free period and those lying beyond the free period. An adjustment in regard to the total expenditure on (i) outdoor staff and (ii) sheds is carried out on the basis of the basic data so furnished by the Docks Department. The expenditure incurred for storage of packages lying in the custody of the Port Trust beyond the free period is treated as the
cost of earning demurrage fees, whereas the expenditure incurred during the free period including the cost of loading and unloading of cargo to/from the ships is treated as the cost of earning wharfage.

Expenditure on Dock Master's Establishment

The work of the time-keeping and paysheet section of the Dock Master's Establishment, Indira Dock and P. & V. Docks relates to those employees who attend to both towage service and berthing and mooring service. Therefore, an ad hoc apportionment (50%:50%) to these two services is made on the basis of salaries and wages of the officers and office staff belonging to these two sections. The remaining expenditure booked on these two establishments is shown under the service 'Berthing and Mooring at the Docks'.

Dredging and Marine Survey cost

Maintenance dredging is carried out to ensure that the depths at various locations are maintained at the required level for smooth and uninterrupted movements of vessels. There are separate cost codes for each dredger in the financial accounts. The total cost in respect of each dredger is required to be allocated to the three service viz.

(i) Berthing and Mooring at the docks;
(ii) Berthing and Mooring at the bunders and
(iii) Port services.

This allocation is done on the basis of number of days in each month for which the dredgers work for each service. This data regarding number of days is furnished by the Deputy Conservator. While making this allocation, it is necessary to take into account periods during which each dredger is laid up. The cost pertaining to
the laid-up period is spread over the three services in the proportion of the cost allocated to each service on the basis of the cost of the actual working days as indicated above. Similarly, Marine Survey cost is allocated in the same proportion in which the cost of laid-up period is allocated.

Of late, it is observed that the dredging requirements of the port, especially suction dredging are not met by the fleet of available dredgers with the port. Therefore, it becomes necessary to avail of the services of outside agencies. The payments made to these agencies have to be suitably allocated to the relative service depending upon the location of dredging. When the main entrance channel is dredged to restore the depth of availability to original level after every two – three years, the dredging cost is treated as deferred revenue expenditure in the cost statement.

**Salvage and Underwater repairs cost**

Salvage Section forwards a statement every month indicating the analysis of salaries and wages paid for the work done at various locations. The data pertaining to regular salvage works i.e. swing gates and Dry Docking is used for allocating the salaries and wages of the Salvage Section to these services. The cost ledger shows the aggregate costs in respect of salvage vessels, plant and salvage establishment. The difference between the aggregate cost appearing in the cost ledger and the wages allocated as indicated above is again allocated to the services Berthing and Mooring at Docks and dry docking in proportion of the salaries and wages allocated to the user services.

The total cost booked against each detailed cost head including the adjustments explained above is reproduced from the reports generated from Financial Management System prepared / Cost Ledgers maintained by the Accounts Branch.
The total of all such detailed cost heads will represent the direct cost for the relative principal service.

**General facilities including Port Security**

The Salaries and Wages of the Watchmen are booked to ‘Port Security’ which is treated as an element of Secondary Overheads. Since many watchmen are deployed at the docks, bunders and hospital, an adjustment on this account is necessary. Therefore, a statement is forwarded by the Security Office showing the deployment of staff at the various locations. Based on this statement, the Salaries and Wages of the Watchmen at the various locations are added to the total cost of the General facilities shown under the services i.e. cargo handled at the Docks and cargo handled at the Bunders and to other services separately under the heading ‘Port Security’ and the total of all these services is deducted from the sub-service, ‘Residual administration and General’ from the Secondary Overheads.

**New Minor Works**

Proforma accounts of all the works charged to the revenue account as New Minor Works is maintained in the Accounts Branch. Each work is analysed service-wise and expenditure booked on those works are considered for the cost statements. Previously, the expenditure on new minor work was being booked under work-in-progress and only on completion of work the expenditure was being transferred from the work-in-progress account to revenue account. In view of this, the expenditure was analysed only after completion of the work. From 1st April, 1983, the expenditure booked to the various new minor works are debited to the concerned cost centre codes under the relative Principal Activity and not to the work-in-progress account. The
practice of analyzing each work and then debiting the expenses to the relative service still continues.

**Depreciation**

An analysis of depreciation working sheets of the year is made to identify each work with the principal service/sub-service. Any deletion on account of ceasing of depreciation or extinction or demolition of asset is also considered. Depreciation in respect of principal services is separately shown in the cost statement for the relative services whereas those for sub-services are included in the total cost which in turn is apportioned to the principal services on some predetermined basis. Depreciation calculated on the basis is shown in the cost statement.

**Departmental Overheads**

(I) Administration and General Expenses (Office Establishment and General): The Departmental overheads representing the Administration and General Expenses for each activity is first ascertained by adding to the total expenditure on that published accounts head the share of

(i) New Minor Works,

(ii) Depreciation,

(iii) Stores Keeping expenses,

(iv) Labour Welfare and Medical expenses and

(v) Engineering and Workshops Overheads: 25% of the total cost of the activity,

‘Cargo Handling Storage’ is apportioned on an ad hoc basis to the relative services in the second activity—Port and Dock facilities for shipping on the basis of direct cost of those relative services. This transfer is made with a view to taking into account the cost of the Docks Department for activities covered under Port and Dock
facilities for shipping. The remaining 75% of the departmental overheads is first collected into two sub-groups viz. (i) Docks Manager’s Establishment and (ii) Dy. Docks Manager’s Establishment and thereafter apportioned to all the services in the activity of cargo handling (including the service of handling of POL and excluding that service, respectively for the two sub-groups) on the basis of direct cost booked for each service. The transfer of 25% of the amount as explained above along with the departmental overheads for that activity is apportioned to the principal services of that activity on the basis of direct cost. The departmental overheads for the principal activity ‘Railway Workings’ and ‘Rentable Lands and Buildings’ are shown as such (without apportionment), since consolidated cost statement for this activity is being prepared periodically.

(II) Management and General Administration Expenses

The total expenditure on the main head ‘Management and General Administration’ is collected under the following sub-services and apportioned on the basis explained below:

Store-keeping Expenses

The total cost of Store-keeping is ascertained by adding the share of new minor works and depreciation to the total expenditure collected under the published accounts head store-keeping expenses. Any miscellaneous income relating to this sub-service is shown as expenditure credit and the net expenditure is apportioned to the main services and sub-services on the basis of value of stores issued for the relative group;
Labour Welfare and Medical Expenses

The total expenditure on Labour Welfare and Medical Expenses is collected after adding the share of expenses on (i) Port Security at hospital; (ii) New Minor Works; (iii) Depreciation and (iv) Store-keeping expenses to the total cost collected under the Published Accounts heads, 'Labour and Welfare Expenses' and 'Medical Expenses'. This total is reduced by the income booked under Finance and Miscellaneous Income which can be related to these two published accounts heads. The net total so ascertained is apportioned to the principal services and sub-services on the basis of number of employees.

Engineering and Workshops Overheads

The expenditure on Engineering and Workshops Overheads is ascertained by deducting any expenditure which is considered as an item of direct cost and adding the share of (I) New Minor Works (ii) Depreciation (iii) Stores keeping Expenses (iv) Labour, Welfare and Medical Expenses and (v) Residual Administration and General to the figure collected under the published accounts head; Engineering & Workshops Administration and Overheads. Those items of Finance and Miscellaneous Income which can be identified to the above published accounts head should be shown as expenditure credits for this sub-service. The net cost is thereafter apportioned on the basis of repairs and maintenance cost booked for each principal service.

Residual Administration and General

The expenditure on Residual Administration and General is ascertained by adding the share of (i) New Minor Works, (ii) Depreciation (iii) Store-keeping expenses and (iv) Labour Welfare and Medical Expenses to the total expenditure.
collected under the published Accounts heads (1) Port Management; (2) Finance Establishment, (3) Legal Establishment; (4) Administrative Offices Building and Telephones and (5) Sundry Expenses. Adjustments to this figure on account of Port Security as explained above and the receipts booked under Finance & Miscellaneous Income which can be related to any of the published accounts heads mentioned above are carried out to ascertain the net cost of the sub-service which is apportioned to the main services on the basis of direct cost booked for every service.

(III) **Finance and Miscellaneous Expenditure**

For the purpose of preparation of cost statements, only two items of expenditure are considered for the purpose of apportionment to the principal services. These are (1) Retirement Gratuities, (2) Ex-gratia payments, PLB and other benefits. This expenditure is apportioned to the various services on the basis of Salaries and Wages booked for each service. Items relating to previous years pertaining to both Finance and Miscellaneous Income and Finance and Miscellaneous Expenditure are not considered for the preparation of the Cost Statements because of the imperative need to reflect the current period's working in the cost statement. These items, if included, will definitely vitiate the picture of the current working.

5.11 **ANALYSIS OF INCOME**

Many income codes can be allocated straightaway to the particular service. In respect of those heads of income which cannot be so allocated, a break-up of the actual accruals into different services is either obtained from the concerned departments or made by referring to the actual bills rendered during the period. Some of the items of Finance and Miscellaneous Income are also considered as expenditure credits for the relative groups of the secondary overheads. A statement is prepared
showing the total receipts of the principal services and that shown in the Financial Management System.

5.12 QUANTITATIVE DATA

The quantitative statistics for the individual service becomes necessary to ascertain the variation in the receipts of a service. Certain quantitative data for the services like warehousing (bonded), crane vessel & heavy lift is collected by Costing Cell from the original recording of such transactions. Some other data is obtained from Accounts Branch which receives it from the concerned departments. The quantitative statistics for the services is useful to ascertain the figures of unit costs/unit receipts for each service.

5.13 COMPUTERISED SUMMARY OF COST STATEMENT

Commencing from the year 1989-90 the working results of the various services are exhibited in a computerised statement. These working results are based on actual figures of the relative year. The service cost statement shows the receipts, direct cost of the service comprising all other remaining element of expenditure, departmental overheads, Depreciation on historical cost basis and Residual Administration - General Expenses. The total of all these elements of expenditure is shown as Total Cost (with depreciation on historical basis) for the service. The next column of the statement shows the total cost (Hist. Depreciation) with apportioned contribution @ 3% of the capital employed to two reserves and return @ 16% on capital employed
5.14 SUMMARY

Mumbai port costing system has been designed in a non competitive business scenario. Total cost or full absorption costing system is being followed. The costing system used is pure historical costing. Data is collected from the financial statements prepared at the end of the financial year. All costs which have incurred are analysed service wise. Mumbai port follows Traditional costing system. Systematic costing methods did prevail before the rise of Activity based costing in the 1990s. As these systems relied on an essentially arbitrary allocation of indirect costs, such systems did not give management accurate service cost information. This led to inaccurate calculation of service profitability. The overhead rate in a traditional costing system is typically calculated using direct labour hours, machine hours, or units. In Mumbai port also overheads are apportioned arbitrarily using number employees. This led to accurate service costs when direct costs were high and indirect costs were low, as was usually the case 50 years ago; however, modern organizations typically have low direct costs and higher indirect costs.

The strengths of the traditional costing systems of Mumbai port are

(i) Simplicity – the calculation of overhead rates is relatively straightforward;

(ii) These systems are widely understood in the business by the users and management

(iii) These systems are not expensive to operate; as the data is collected from the financial statements

(iv) Until the late 1980s these systems were seen as fairly accurate

(v) These systems are still being used in the port for many decades.
The weaknesses of traditional costing systems of Mumbai port are:

(i) The reliance of the costing system on arbitrary rather than cause and effect allocation of overheads;

(ii) The inability of the costing systems to give accurate service costs in multi-service ports;

(iii) The failure of the costing system to analyze non-service rendering costs.

In a pure historical costing system of Mumbai port, only historical costs flow through all services. Historical costs refer to the costs that have been recorded. Though this may be referred to as actual costs, but the term "actual" seems to imply that there is one true cost associated with a particular service. But determining the cost of a service requires many cost allocations, e.g., allocating the cost of fixed assets to time periods, and allocating indirect services costs, or overhead to various services. Since there are many alternative allocation methods, (e.g., straight line or accelerated depreciation) the cost calculated for a unit of service rendered simply represents an attempt to approximate the true cost.