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**ACCOUNTING CASE STUDIES OF
BARODA MUNICIPAL CORPORATION AND THE
WATER SUPPLY AND SEWERAGE DIVISION OF
MUMBAI MUNICIPAL CORPORATION**

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Baroda Municipal Corporation Accounting Case Study¹

In the Baroda Municipal Corporation, Chief Accountant Ravikant Joshi initiated the computerization of the corporation's accounts in early 1994. At the time, no governmental accounting software was available, and he instead purchased a corporate package called "Tally" from a leading manufacturer. Joshi reasoned that a municipal corporation and its divisions was akin to a private-sector corporation with its subsidiaries and began to implement this software with this assumption.

As in many other municipal governments, all of the BMC's accounting functions are centralized in a single department. Other departments, on their own, have no authority or ability to make the smallest of purchases or outlays. The accounting office, therefore, is responsible to maintain the budgets and accounts of 100% of the BMC's finances.

Prior to choosing the Tally package, Joshi explored other available software. Each had weaknesses, such as a predefined Chart of Accounts that was not sufficiently relevant to account for governmental transactions, or the pre-designation of cost centers without flexibility to add others needed.

Resulting from earlier World Bank accounting assistance, the BMC had an established chart of accounts, along with party codes, that were able to be loaded into the new system. The single, consolidate municipal account still common in most municipal corporations was broken into funds by Joshi in order to manage the BMC's resources more effectively. Funds included the following:

- A municipal fund, with revenue income from both taxes and non-tax sources. Most ordinary operating expenditures are also recorded in this fund. Funds held in trust on behalf of municipal employees, such as pension resources and housing finance contributions, are also recorded in this fund but under designated cost centers and account heads. The decision to lodge these resources in the municipal fund is the nature of their direct link with salaries. As a result, the deduction from an employee's pay for a housing loan issued by the BMC does not necessitate an interfund transfer.
- A capital fund, which includes revenue capital as well as loan capital accounts. Revenue capital is defined as one-time income, such as the charge to hook up a residence to the water system or the proceeds from the sale of a piece of city-owned land.
- A loan capital fund, for the management of funds borrowed from HUDCO or other sources.
- A deposit fund, to which customer service deposits are made. These are recorded as liabilities to the municipal corporation.
- A capital grants fund to account for designated capital works projects.

¹Material for this case study was obtained from extensive meetings with Dr. Ravikant D. Joshi, Chief Accountant for the Baroda Municipal Corporation on April 16--19, 1997.

Interfund transfers are possible and necessary, and the computer system will accommodate them and record the transfer properly. For example, the difference between revenue income and revenue expenditure may yield a surplus, which is transferred to the revenue capital account.

This internal generation of resources in the revenue capital account permits Baroda to cover 30% of the cost of its projects from internal resources. The BMC also undertakes small capital improvement efforts through the creation of special accounts, which are also set up and maintained to cover the costs of improvements and maintenance, such as pump repair.

The budget is also divided in accordance with the five fund types, each having its own budget, budget codes, and chart of accounts.

The actual financing vehicles which issue housing and vehicle loans to BMC employees are set up as wholly-owned subsidiaries to the BMC in the corporation's accounts.

The computer system generates journals and ledgers for each fund, a trial balance by account code and by fund, and has the facility to account for both contra entries and journal vouchers. The software package is further equipped with budgetary controls, which permits the input of funding limits, though Joshi admits that this is a voluminous task. It permits a two-stage budget control process: First, prior to the outlay of funds, the accountant must verify the availability of funds and assigns a temporary "booking" or encumbrance of funds. Second, a number must be assigned to a bill for payment which corresponds with the initial file number from the first step. Thus, the package shows all movement of funds until the check is drawn, providing an important measure of internal control.

The system handles up to one lakh fifty thousand (150,000) entries per year. An important strength of the system is that it does not permit less-skilled staff members to make mistakes through erroneous designation of transactions. On the other hand, it is inadequate in its handling of fixed assets, as it does not account for depreciation, nor is it designed to accommodate the management of assets on a regular basis. It is effective in accounting for current assets, liabilities, revenues, and expenditures.

The Process of Introducing Change

In 1989, when Ravikant Joshi assumed the position of Chief Accountant, he began his efforts out of the recognition that staffing and work were not optimally allocated. Staff just kept up with the daily flow of work, including the entry of all transactions into journals; however, a seven-year backlog had built up in posting information to the ledgers, making current financial reports and statements impossible. Joshi did a volume study of all of the accounting entries along with a flow chart analysis and determined that certain staff could be freed from the recording of daily entries to address the backlog. He also identified all of the work requirements of the accounting department.

There were no additional resources to be utilized for the hiring of new staff or provision of monetary incentives to the existing one; therefore, the opportunity to perform different tasks and to accomplish the closing out of past years' ledgers, and its resulting satisfaction, was the only reward which could be offered. Nonetheless, this was sufficient; and the backlog was cleaned up after two years of work.

In addition to this backlog, other problems existed. There was replication among various journals and ledgers in an incoherent system which had grown incrementally around a weak core municipal fund. Peripheral systems, with their respective documents, had grown in response to the addition of new financial activities over the years, such as the development of an employee pension program. As the nucleus was never upgraded, a distorted picture of the BMC's finances emerged. This was addressed by eliminating redundancies and redistributing the remaining work after selecting the best employees to work on new tasks, such as clearing the backlog.

Efforts included the creation of greater clarity about the functions of each of the more than one hundred staff in the accounting department so that each subordinate would understand his responsibilities. In this clearer work breakdown structure, the reduced number of errors which do occur are easier to identify and to correct. Regular rotations of staff members for one-year periods contributes to the variety of work experienced, to the development of broader staff skills and flexibility, and to the reduction of problems.

Meetings were held with all of the BMC's department heads, who readily recognized internal duplication and inefficiency, and who endorsed Joshi's objectives of improving productivity and resource use. Of course, these heads had no accounting responsibilities; but they were sold on new ideas of proactive management and performance budgeting. Many felt manipulated by local politicians who directed them to give priority to certain projects and activities over others which they knew to be more important. They looked to Joshi's program of internal financial reforms as a means of escape from the over-politicization of local expenditure decisions and recognized, at least over time, that their control and decision-making capacity increased in the new environment.

By 1992, budgetary reforms were initiated. Again, the emphasis was on the reduction or elimination of redundant items, along with the more useful classification of budget components. A few commissioners responded favorably to the innovations introduced and to the timeliness of information, including the amounts of funds available in various expenditure categories.

Budget reforms included the development of a coding structure which designated budgetary resources to each set of activities. For public works, rules of thumb were applied to budget formulation, for example, for road repair, and department engineers were involved in the identification of works to be accomplished and the budgetary resources required. While internal changes are permitted, engineers were encouraged to quantify the works to be accomplished during the year ahead and to justify the resources needed. This fed naturally into a performance budgeting or performance monitoring system, in which such measures as kilometers of road surfaced or repaired could be provided along with an accounting of resources, both overall and per unit of output.

Again, this process enhances the control of department heads and engineers as well as their status within the municipal corporation. They have responded by planning actively for each year, designing a set of works or projects to be accomplished. While political leaders may have input into this process, they can no longer call upon the municipal staff to respond to the needs of their own constituents or to undertake pet projects. Engineers have demonstrated their understanding and value of the planning process by using departmental resources more effectively and by organizing work on a work-order basis. In the long run, a work order system can maximize efficiency as well

as permit accounting for each task.

As yet, there is no cost accounting system in place in Baroda. Work orders may generate a base of data for the development of unit costs and a cost accounting system over time. Neither are there efficiency audits undertaken for internal purposes. The employment of these methods may help to reduce the delays and cost overruns which still occur. Two other features of work management, however, merit discussion as well.

First, a computerized project evaluation system has been put into place, with review of the status and outlays of each activity every fifteen days. This regular monitoring is likely to reveal, at least, major problems in the accomplishment of approved undertakings on a timely basis and to identify cost overruns before they become too serious. Second, another problem had existed in terms of earlier budgetary operations. Previously, resources allocated to a department and not used by the end of the fiscal year were returned to the municipal fund. This led to behavior common in local government of rushing to spend money in the budget before the year ended, regardless of the need for the expenditure, the efficiency of resource use, or the priority of the activity (or lack thereof). This was addressed effectively by introducing changes which permit the carryover of budgetary authority into the next fiscal year. Therefore, all funds are allocated as part of budget approval, and unexpected slowdowns beyond the control of the supervising department do not result in the loss of resources.

Contributing to this ability to carry over funds from one fiscal year to the next is a system of three-year planning, with revisions on an annual basis to ensure a rolling and flexible process. This clearly shows the contribution of revenue capital to the projects proposed, delineating the amount of resources which must be borrowed. It is expected, during the period 1997/98 to 1999/2000 that 15 crores will be spared for new revenue capital projects. Plans include the leveraging of these resources with loan funds or capital market issues, with BMC's own resources providing a 30% equity share. A list of projects proposed by the BMC will be published for the information and comment of the public, further enhancing the transparency of the budget process.

Joshi estimates that between 30 and 40 million rupees has been saved in the past few years by improvements to the budget and expenditure process. Budgetary controls have been put into place to restrain spending in addition to the reduction in unnecessary and politically-motivated activities. With the introduction of codes for all budget items, expenditures cannot exceed approved allocations, resulting in the reduction of resource misuse and budget overruns. 25 crores of developmental works are expected to be financed during the 1997/98 fiscal year.

Strategies for Success

Joshi emphasizes the role of a good communications strategy in implementing reforms. The proposed reforms had to be shared with operating personnel, particularly managers, in order to show them that their authority would not be diminished in the process. In fact, the role of managers and their ability to exert greater control has been emphasized throughout this effort. Managers now take greater responsibility and act to circumvent unnecessary political influence. The role of the chief accountant explicitly was not increased in order to make it clear that he was not in competition with the respective division managers. For example, the chief accountant does not participate in the selection of projects, but has assisted other chiefs to develop criteria for their use in selection.

Policies implemented and changes made have been done in a manner which does not conflict with the requirements of the Gujarat State Finance Board. While features of a double-entry accounting system have been adopted, records--notably journals--still reflect the single-entry requirements of the state. As found elsewhere, end-of-year values can be adjusted to reflect accrual methods for purposes of preparing standard financial statements. It should be noted that the Tally software package does not assist in this accrual process.

While Baroda's reforms have been undertaken within the existing state framework, it has, nevertheless, revealed some changes which are needed but which require state policies to introduce. These policies should address local government treatment, in accounting records, of fixed assets, including their valuation and their depreciation. Optimally, an accrual or modified accrual basis of accounting should be adopted, along with treatment policies to ensure compatibility of accounts when comparing various local government units who report to the same state. Of course, it is further recommended that a double-entry system of accounting be adopted over the long term.

Much of this agenda for change might best be addressed by the Institute of Chartered Accountants of India.

In terms of introducing the process of accounting reforms and changes in practice among urban local bodies in India, the following steps are suggested by the experience to date in Baroda:

1. An initial fact-finding visit to determine needs and priorities as well as the level of commitment to change and the desired pace of reforms. At this stage, communication should be established which is open and based on learning and listening by the consultant.
2. Computerization with minimal disruption to current, ongoing operations--even at the price of short-term duplication of efforts.
3. Set up a municipal fund with a range of different accounts; and follow by creating a range of funds.
4. Create an opening balance sheet. First, report revenues and expenditures on a cash basis; then accrue these values.
5. Adoption of new budget planning and control procedures.
6. Set up and maintain ledgers needed to maintain a double-entry system.

**Mumbai Municipal Corporation
Water Supply and Sewerage Division
Accounting Case Study¹**

The Mumbai Municipal Corporation (MMC) had operated with a single municipal fund managed on a cash-based single-entry system until 1974. During the late 1960s, urban growth and population pressures resulted in increased demand for water and sewerage; and the MMC approached the World Bank for assistance in the expansion of its water system. The World Bank imposed conditions on the MMC which included the segregation of water and sewerage accounts and their maintenance on an accrual basis, through the setting up of a separate water and sewerage division. Of course, this division was expected to have its own budget, as well. The MMC responded by employing Tata Consulting Services to design a suitable accounting system for them.

Emphasis of the World Bank funding has been on water supply, with fewer resources for sewerage or drainage. The division accountants estimate that 50 to 60% of water is wasted or lost. The Bombay I project, initiated in 1974, allocated about 70% of project funds to water supply. While Bombay II placed more emphasis on sewerage, Bombay III again stressed water supply and distribution to the city's burgeoning population. In addition to Mumbai's own plans, Maharashtra State plans to build a dam with a capacity of 400 mgd and which would supply 300 mgd of water to Mumbai. The remaining 100 mgd is to be provided for irrigation requirements and hydroelectric power generation. Clearly, this requires a large capital investment; however, the accounting division was unaware of the sources of funds.

An earlier dam was built by the state beginning in 1967, with a total capacity of 1200 mgd, of which 300 mgd was provided to Mumbai as part of Bombay III. The state government is permitting another 100 mgd for Bombay IIIA during the period 1998-2001.

Prior to 1974, there was no clear picture of costs, as all outlays came from the same municipal fund. Following the establishment of the water and sewerage division, there has been a clear accounting of all capital investment in this sector. The following loans have been provided by the World Bank:

- \$55 m for Bombay I, completed in 1980/81
- \$196 m for Bombay II, completed in 1987/88
- \$185 m for Bombay III, begun 1988/89 and completed in June 1996
- \$192 m for Bombay IIIA, begun in 1995 and expected to be completed in 2001/2002.

At present, both the water supply and sewerage division and the electric supply company have separate budgets and commercial accounting systems. Municipal property and management also has a separate budget from the general municipal budget, which provides for administration, roads, traffic, hospitals, and other purposes for which there is not a special or separate fund.

¹Material in this case study was obtained from meetings with Water Supply and Sewerage Division Chief Accountant P.V. Kulkani and deputy J.I.K. Patel on April 22 and 23, 1997 in the MMC offices, and from budget documents provided by these individuals.

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This brief case study addresses several topics of importance to municipal government in India. These include budgeting and financial management systems, tariff determination, the political context of system management, and an informal assessment of the system's utility and replicability. Each of these will be discussed in turn.

Budgeting and Financial Management

The new accounting system was implemented slowly, with gradual computerization of the water supply and sewerage accounts and increases in workload of existing staff, who number 17,000 (80% of them laborers). The MMC did not have the infrastructure necessary for development and implementation of an accrual-based system. Tata Consulting Services developed policies for the MMC to follow. As the MMC lacked personnel with adequate backgrounds to perform the tasks required, new personnel with commercial accounting training were recruited from outside the MMC. TCS also provided some training for new and existing employees in the accounting office, with most training taking place during a very condensed period of time.

The MMC also set up a separate institute and research center to build training capacity within the water and sewerage division. This institute is located in the Mumbai suburb of Barodi, where the division's chief engineer is in charge of developing and running regular courses, which include accounting, auditing, and various technical topics. Some individuals have been sent abroad for training, particularly engineering staff who have been sent to Germany, France, the United Kingdom, and South Korea for training in how to operate, maintain, and inspect equipment purchased from suppliers in these countries.

A very detailed budget is prepared on an annual basis, which delineates each item of equipment to be acquired, along with all supplies, various categories of maintenance, and all types of operating costs based on a combination of past experience and projections. Budget preparation involves a participatory process in which division heads are asked for their requirements and input. The draft budget must be approved by the municipal commissioners and adopted before it becomes the basis for division management. The budget is comprehensive and covers all expenditures for the division, including all personnel and administrative costs related to water supply and sewerage.

The Municipal Act of 1888 defines time limits for the development and presentation of the budget, which must be presented to the municipal council on February fifth of each year (for the fiscal year beginning April 1). The budget preparation process begins the previous July, with the collection of information and its compilation and summary by each of seven or eight departments. Each must specify works to be undertaken, along with a description of whether these are new projects or continuations of ones begun in the prior year. Each has its own budget limit, but is also expected to provide an estimate of total demand or projected costs to meet current demand. Next, a budget proposal is prepared, which includes taxes, charges, loans, and other sources of revenue in order to determine income and loan proceeds available for the coming year. Once income is established or estimated to everyone's satisfaction, expenditures are divided into operational expenditures (including--in the case of the water and sewerage division--power and treatment charges) and capital expenditures. After operating expenditures are met, new capital expenditures are determined from the remainder or balance available.

As the World Bank generally provides a maximum of 60% of capital costs, the budget exercise is critical to determining the 40% available as the MMC contribution. The lack of sufficient income to meet 40% of capital requirements leads to an assessment of whether increases in water charges can be undertaken to generate sufficient additional resources.

The Standing Committee has the power to accept or reject the budget prior to its submission to the municipal council for adoption. According to water and sewerage division accountants, little change is typically made by the council--at least in the case of their division. An approved budget is then circulated to all departments.

Fixed assets are budgeted in considerable detail, and the accounting system records and maintains records of these acquisitions. Items are recorded at purchase price (historical cost). Fixed assets are depreciated according to a schedule prepared by the MMC, with the principal determinant being expected useful life. Engineers are expected to determine equipment requirements for the coming year and to project their cost of purchase. As the budget is adopted, it specifies which items are to be purchased. As they are acquired, engineers provide the accounting section with information on expected useful life for purposes of depreciation. Expectations regarding useful life also provide a basis for projecting replacements and their cost. After ten years, fixed assets are revalued. The chief accountant argued that this revaluation process is necessary to match market values with the stock of fixed assets for purposes of planning for replacement.

While fixed assets are recorded, there is no accounting for work in progress. Instead, all outlays are accounted for as expenditures until the project is completed, at which time the total cost of the project is recorded as such and depreciated in accordance with schedules prepared by the division's engineers.

It is unclear whether any work order system notes the use of particular fixed assets--such as heavy equipment--on a job or how supplies or materials are accounted for as they are used in a project.

The current accounting systems requires that all revenue be accrued. This results in the necessity to record as revenue those charges which have been issued but not yet paid. In accounting terms, the entry of a credit to revenue is typically offset by a debit to accounts receivable, as cash payments trickle in following the issuance of bills for water. The MMC never realizes 100% of the charges it issues; therefore, the value recorded in accounts receivable grows in size and extends in time. There is no procedure to write off amounts which realistically could be determined uncollectable.

The necessity to account for income indefinitely and regardless of whether it has been received is understood by MMC accountants to be an inherent feature of a commercial accounting system. To their knowledge, no one has proposed writing off some share of outstanding receivables or to record the aging of receivables on a regular basis. The Municipal Act of 1888 prohibits the imposition of penalties by the Municipal Corporation; therefore, the MMC has no little recourse.

The MMC is permitted to cut off water supply in response to failure to pay outstanding bills. With the billing system computerized, the computer is programmed to issue a disconnection order once a customer has had an outstanding charge for 90 days. In reality, MMC accountants note the relative

importance of public officials. A customer who receives a disconnection notice is likely to turn to his or her municipal council member, who, in turn, will pressure the MMC Water Supply and Sewerage Department to turn on the water again.

Political influence also affects the budget preparation and approval process. Once a department has an approved budget, construction can begin on projects that were included in that budget. Project or job estimates include costs of materials, labor, and supervision. For projects whose value is less than three lakhs (US \$8,500), department approval is sufficient, making it possible to undertake smaller maintenance and reconstruction projects without the necessity of undertaking the annual budget approval process. A list of registered contractors is maintained by the five divisions of civil construction. These include roads, mechanical/electrical, water supply, sewerage, and stormwater drainage. Each division has a tender process and divisions of contractors according to class or level of construction capacity.

There is a tender committee within the municipal corporation, including engineers, accountants, and others. This committee reviews bids received. When a work order is issued, it specifies the date by which work must begin and the time period in which it is to be completed. The contract provides some loan funds to the contractor as needed for working capital on projects approved. The contractor submits a bill to the division engineer for certification once payment is due. This bill is then sent to the accounts office for approval and issuance of a check. These steps take place within the context of the MMC's General Conditions of Contract for Civil Works, which specifies in detail the schedule of payments and percentage provided at various stages of contract completion. Total advances for machinery and equipment cannot exceed 6% of the contract amount. Contractors on the approved list are made aware of this fact and acquainted with MMC procedures.

A system of budgetary controls restricts expenditures to those for which budget allocations have been made. Bids are obtained for most construction and purchases. As bills are sent to the accounting office for payments to be approved and issued, staff must check the budget to insure the availability of funds. Sanctions are possible to permit additional outlays to cover cost increases and overruns, which accountants admit are a chronic problem with large construction projects. Within each division, funds must be taken from other projects of lower priority in order to meet cost requirements that exceed earlier expectations.

In most residential cases in the old city, water is not metered. Instead, a water tax is levied as a percentage of the ARV (Annual Rateable Value) of property; with charges for sewerage at 50% of water charges. If the ARV is disputed, these charges are also held up. When metered, the rate for water is 60 paise per thousand litres. Meters have been installed in new residential areas as well as in all commercial and industrial establishments. There are problems with meters not working in all cases. Commercial water is charged at the rate of Rs. 23 per thousand litres. This compares with a cost of supply of Rs. 2.7 per thousand litres--a cost which division accountants say is high due to the located of water sources some 70 kilometres away from Mumbai.

It is interesting to note that 80% of water supply is for residential customers, who provide just 20% of the revenue. The 80% of revenue paid by commercial and industrial users clearly subsidizes residential consumers to a considerable extent.

It is expected that the MMC will seek a rate increase during fiscal year 1997/98 in response to the lack of revenue receipts. The MMC also seeks an additional loan from the World Bank for the Bombay Sewerage Project #4. 40% of funds for the project must come from internal sources. On the whole, World Bank funds provide only a small portion of capital resources. In the 1997/98 budget, the MMC projects outlays of Rs.4,465,185,000. Of this amount, Rs.3,865,946,000 is to come from internal resources, with the remaining Rs.599,239 from the World Bank.

The carrying of outstanding revenues as receivables provides a distorted picture of division finances which has a profound impact on budget preparation, particularly capital budgeting. The budget for 1995/96, for example, shows a Rs. 300 crore surplus as available for allocation to various budget line items. This entire surplus, according to division accountants, is actually accounts receivable and is not expected to be realized by the MMC. The division accountants have not been able to communicate this fact in terms that the 221 municipal councillors can understand. As a result, they approve large capital budgets and have expectations that large portions of the capital expenditures projected will be covered by this "surplus." One impact of this was experienced with the Bombay II project with the World Bank. In this case, \$185 million was approved, but only \$145 million was borrowed, as the MMC could not provide sufficient funds to leverage the full amount.

Coverage of Mumbai's population by water and sewerage services has expanded through these successive World Bank projects. The division estimates that 70 to 80% of the population not living in slums has access to piped water and wastewater. They also estimate that 40 to 50% of slum dwellers have access to "basic services" such as standpipes. In Mumbai's slums fifteen families can come together and apply for a standpipe. It is not clear how this process works or how widespread knowledge of it is among slum dwellers; however, 150,000 standpipes have been developed in this manner. For standard residential, commercial, or industrial customers, a water connection charge is imposed. Computers generate bills and customers are able to pay in the ward in which they receive services, with 23 wards having their own assessment and collection offices. Large users have monthly bills, with most residential customers receiving bills on a quarterly basis. Division accountants estimate collection efficiency at 80%

Water and sewerage division accountants state that the World Bank is pleased with their financial management system and the progress achieved, with the exception of the problem of accounts receivable. In this regard, they argue that no one offers a solution and that the problem arises from the application of a commercial accounting system to a noncommercial entity.

Tariff Determination

As mentioned above, there is significant cross subsidization of residential water and sewerage on the part of commercial and industrial users. Cost recovery in gross terms, considering all users aggregated together, is practiced in principle in MMC planning. The fact that some users will not pay what is charged is not taken into account. Neither is there an effort to recover the losses from earlier recording of revenues not received as accounts receivable. A distorted picture is thus the basis for MMC decision making regarding tariffs.

Increases in existing tariffs are made only when projections of income compared with expenditures

service due to nonpayment once it reaches a threshold measured in time, amount of arrears, or some combination. This latter requirement, by becoming statutory, would fail to permit local elected officials the latitude to direct the MMC to retain service to customers who exert political pressure. In addition, the MMC should adopt internal policies regarding the aging and write-off of receivables after a defined period of time, and add to their accounts the following:

1. A contra asset account for Allowance for Doubtful Collections or Uncollected Revenues, which records those amounts not expected to be received in accordance with the aging schedule or policy adopted. (Note that this account is debited, with a corresponding credit to Accounts Receivable).²
2. An expenditure account for Bad Debt Expenditures to record receivables actually written off upon determination that they are uncollectable. (Note that this account is debited, with the balancing credit entry to Allowance for Doubtful Collections).

The adoption of these accounts and related policies will result in a more realistic picture of revenues, which will no longer be inflated by receivables which no one expects to convert to cash receipts. The inclusion of policies or regulations which permit MMC employees to cut off service or to take other action to collect revenues is also necessary to prevent the continued increase of doubtful accounts receivable. Such policies must be explained carefully to MMC council members so that they understand their ramifications and the importance of reform in their internal actions and guidance. Explanations must include an assessment of the potential impact, including the reduction in apparent revenues resulting from the elimination of those which are uncollectable.

The second option is only possible in the longer term. This involves the replacement of the current commercial accounting system with a more appropriate governmental fund accounting system that is tailored to the needs of local governments in India. The experience of the MMC in its adoption and use of a commercial accounting system raises issues of concern to the Institute of Chartered Accountants of India (ICAI) in its efforts to define accounting standards for local units of government. The development of new standards and their adoption by local governments such as the MMC should incorporate these lessons learned in the utilization of a commercial accounting system. The particular features of local government and self-imposed restrictions which may impair their ability to function effectively in the billing and collection of revenues for services delivered must be incorporated into guidance presented by ICAI. This guidance, or more specific standards, as these are developed, should incorporate sample policies or treatment of accounts receivable and other relevant components of an accrual or modified-accrual based system.

Other elements which might also be addressed by ICAI in their work are the need for fixed asset accounting procedures, accounting for work in progress, and standards and schedules for depreciation to provide intergovernmental consistency. Recommendations regarding the treatment of inventory or supplies and the use of work order or task order systems--or information concerning their usefulness in a municipal government setting--might also be part of ICAI efforts.

²Specific accounting recommendations are consistent with Generally Accepted Accounting Principles (GAAP).

Regardless of future actions by the MMC, it is important for local governments in India to understand, as a result of their experience, the benefits of accurate revenue accounting for financial decision making. Whatever accounting standards are adopted and systems implemented, they should facilitate sound financial management and make the process of budget preparation, capital budgeting, revenue forecasting, and analysis easier and more transparent rather than complex. The contrast which the MMC's experience provides to the normal pattern of cash-based and single-entry accounting should elucidate some of the issues to be addressed by ICAI and others concerned with the development of standards and systems to make local government financial management more effective.