Urban Financial Management

A Training Manual

James McMaster
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Preface

This manual is designed for use in training courses in urban financial management in developing countries. It is based on a selection of training materials that have been progressively developed over the past several years for a series of courses organized by the Infrastructure and Urban Development Division (EDINU) of The World Bank's Economic Development Institute and held in Colombo, Kuala Lumpur, and Bombay. These courses were co-directed by EDINU, local training institutions (including the Ministry of Local Government, Housing, and Construction, Sri Lanka; the National Institute of Public Administration, Malaysia; and the National Institute of Urban Affairs, India), and other multilateral or bilateral institutions, including the United Nations Centre for Human Settlements (HABITAT) in Nairobi and the U.S. Agency for International Development (USAID). Financial donors included the United Nations Development Programme (UNDP), the Australian International Development Assistance Bureau, and USAID.

The manual aims to present a broad coverage of urban finance, describe the techniques of urban financial analysis, and provide group exercises for course participants. Course directors should use it as a flexible training package and may select that material which best suits the particular learning needs of each group. The specific urban finance training needs vary from country to country and may also differ among groups of participants within a country.

The manual is designed to provide only the core material for courses on urban financial management and should be supplemented with specific material and case studies relating to the particular administrative, financial, institutional, legal, and political conditions of the countries of the participants. One source of additional material is Urban Management in Asia—Issues and Opportunities, published by EDI and the National Institute of Urban Affairs, New Delhi in 1989.

The manual is divided into four chapters.

- Chapter one provides an overview of key issues in urban finance and introduces a framework for urban financial analysis. The uses of financial analysis are illustrated and data needs are discussed.

- Chapter two focuses on revenues and addresses the questions of how and from where government authorities responsible for urban development can mobilize the resources required to finance the provision of urban services and the development and maintenance of urban infrastructure. It reviews the range of local sources of revenue and discusses means of increasing local revenue through changes in the rates of existing taxes and charges, the imposition of new ones or the increase in the revenue yield for existing sources by, for instance, improving the efficiency of tax administration. The role of central governments in providing resources to local governments in the form of grants and loans and setting constraints on local government resource mobilization is also discussed.

- Chapter three examines expenditure analysis and addresses the question of how to spend more wisely. It examines expenditure planning and the formulation of recurrent and capital budgets including the linking of capital investment programming to recurrent budgets.
Chapter four discusses private participation in the delivery of urban services, forms of private sector involvement, and the role of nongovernment organizations and community groups. The exercises are designed to provide training in analysis of the implementation issues related to promoting greater private sector involvement in urban service provision.

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Abbreviations

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>BCR</td>
<td>benefit-cost ratio</td>
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<tr>
<td>CAS</td>
<td>current account structure</td>
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<td>CIATA</td>
<td>Brazil’s property tax reform system</td>
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<td>DMC</td>
<td>Daggur Municipal Corporation</td>
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<td>EDINU</td>
<td>Infrastructure and Urban Development Division of the Economic Development Institute</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>HMG</td>
<td>His Majesty’s Government</td>
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<td>IRR</td>
<td>internal rate of return</td>
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<td>MFP</td>
<td>management and finance plans</td>
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<td>MSTP</td>
<td>Management Support for Town Panchayats</td>
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<td>NGO</td>
<td>nongovernment organization</td>
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<td>NPV</td>
<td>net present value</td>
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<td>PPBS</td>
<td>program performance budgeting systems</td>
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<td>RGS</td>
<td>revised grant structure</td>
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<tr>
<td>RPTA</td>
<td>Real Property Tax Administration (Philippines)</td>
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<tr>
<td>Rs</td>
<td>rupees</td>
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<tr>
<td>UNCHS</td>
<td>United Nations Centre for Human Settlements</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>USAID</td>
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Introduction

Urban Finance Issues

Urban public authorities in developing countries have come under increasing financial pressures during the last decade. They now face a rapidly growing demand for urban services as a result of continuing rapid urban population growth; however, their capacity to supply urban services as well as to undertake the necessary infrastructure development, is severely constrained by a shortage of fiscal resources. This situation is the result of a combination of factors—including reductions in intergovernmental transfers, increased cost of debt servicing, as well as the cost of borrowing due to higher interest rates, and higher unit costs of providing services—which have restricted revenue growth. To compound the problem, many cities not only have a massive backlog of new infrastructure requirements but also need to allocate substantially more resources to maintenance, renovation, and replacement of older, deteriorating equipment.

In this environment, urban government agencies can respond to fiscal stress by employing three broad strategies.

1. First, they can seek to raise additional revenue through a variety of means such as increasing their user fees and charges, raising local taxes, introducing new taxes and charges, and selling off assets such as unused land.

2. Second, they can seek to improve the efficiency and effectiveness of their operations through productivity improvement programs; more efficient programming, planning, and budgeting; cutting back some programs; using low-cost approaches; or achieving cost savings through the use of private contractors.

3. Third, they can reduce the scope of their activities by greater use of private participation in the provision of urban services under self-help activity systems and through mobilization of nongovernmental resources. Further, in situations where urban authorities are providing purely private goods such as car parking facilities and recreation facilities, they could withdraw and allow the private sector to finance such facilities.

This manual addresses each of these three strategies: revenue mobilization (chapter 2), expenditure planning (chapter 3), and private participation in the provision of urban services (chapter 4).

Strategy One: Raising Additional Revenue

When local governments consider the option of raising additional revenues, it is important for them to take into account the equity criteria behind their taxation and user-charges practices.

Equity relates to how the benefits and costs of urban government budgets should be distributed among residents. Equity or fairness in taxation involves two main principles. The principle of horizontal equity requires that people in equal positions be treated equally. For example, large variations in property tax assessment on homes of similar value would be considered to be inequitable in terms of the principle of horizontal equity. The principle of
vertical equity is based on the concept of the ability of consumers to pay for services, that is, those with a greater ability to pay are charged a greater tax burden. Most concerns about local tax systems have centered on the vertical equity issue and on the possibility that local taxation might be regressive, that is, low-income residents pay a greater percentage of their income in local taxes and charges.

User charges can be assessed according to the principle of the benefits received by the users, that is, the beneficiaries are charged for the services they receive. These charges, however, can be considered unfair in terms of vertical equity because user charges do not take into account a person's income level when everyone using the service is charged the same rate, regardless of how poor or rich the user might be. To reduce this inequity, some local governments have developed a system of price discrimination so that certain groups, such as low-income residents and pensioners, are charged a reduced rate for particular services. Thus, while employing flat-fee user charges reduces the redistributional effect of the local budget, differentiating user charges according to ability to pay has some advantages in vertical equity terms, even though it is difficult to administer.

Urban authorities and municipal governments have two main sources of revenue. The first are revenues they collect themselves, directly from the citizens of the area they serve. These include local taxes such as property tax, service charges, fees and licenses, rent for the use of buildings and facilities, interest on any investments as well as miscellaneous sources such as from the sales of assets. Some also receive profits from business enterprises which they own, such as guest houses, although this source of revenue is not generally very significant. The other major source of revenue is from central-government grants. In some countries, state or provincial governments may also provide grants to local governments. In most countries, the central governments are reducing the level of grants they provide to local government and are placing increased pressure on local governments to make greater efforts to mobilize more revenue from their own sources.

It is important for urban local governments to review their own efforts thoroughly to increase their level of financial self-sufficiency by accelerating the growth of their own source revenue. These efforts may involve the following measures:

- Updating and maintaining existing local tax bases, especially the property tax (for which there is further room for improvement in most countries);
- Improving local tax administration by, inter alia, revising tax rolls, intensifying inspection and checking, establishing systems of collection targets, and introducing modern computerized record-keeping methods;
- Eliminating taxes of insignificant yield, to concentrate efforts on those which can provide significant yield;
- Removing tax exemptions such as those on government property and on owner-occupied housing;
- Getting from central governments more flexibility in setting local tax rates;
- Introducing new local tax revenue sources;
- Revising and extending service charges; and
- Establishing enterprises for profit.

Service Charges. Urban public authorities customarily make charges for many urban services and facilities. Housing for rent, water supply, sewerage, parking lots, toll roads, slaughter houses, markets, health clinics, recreational facilities, and refuse collection are frequently the subject of charges. Local governments must seek to define their objectives clearly. When imposing service charges, two common alternatives are:

- To seek, as far as possible, to recover costs, so as to minimize the burdens to be placed on taxation ("cost recovery"); and
- To maximize revenues, hoping to realize profits ("charging what the market will bear").
Questions of equity may arise. A full-cost recovery approach may mean that housing or water facilities cannot be provided to people who are poor and in desperate need of them. Thus, a combination of the two approaches may be appropriate whereby market-level charges to those who can afford them make it possible to cross subsidize below-cost charges to the poor.

There is a third possible objective of service charges: to control demand. This might apply particularly to parking facilities or water supply to wealthier residential areas; in the latter case, an appropriate progressive tariff structure must be devised.

The issue of service charging is not a simple one. Urban authorities need to examine carefully each of their service areas to decide for which services, for what purposes, and according to what criteria charges should be set. Since the cost-of-service provision is at the heart of questions of charging in many cases, it needs to be clearly identified. The present forms of local government budgets, however, often do not readily allow this to be done. A move to program-based budget structures, together with the use of appropriate costing techniques, would greatly assist in this end. It is important that, once charging policies are set, they are regularly reviewed and the level of charge maintained in real terms unless there are good policy reasons for not doing so.

**Enterprises for Profit.** Local governments may establish their own enterprises whose primary purposes are the generation of profit to supplement local revenues. This is to be distinguished from enterprises of the public-utility kind whose main functions are to provide public services, where any profits realized would be primarily intended for use in financing new internal investments.

Of course, enterprises often involve risks. Local governments are not generally experts in the management of ventures which require a high degree of entrepreneurial skill and familiarity with the competitive practices of the private marketplace.

As a general rule, it is probably better for local authorities to avoid direct management of enterprises outside familiar areas such as municipal markets and recreational facilities, and instead to seek to obtain benefits of private entrepreneurial activity through joint venture or franchise arrangements where the risks to the local authority are either limited or nonexistent.

**Strategy Two: Expenditure Planning to Improve Effectiveness and Efficiency**

Often there is considerable scope for improving the ways urban government agencies use the resources currently available to them. Undertaking measures to improve efficiency and effectiveness in the provision of urban services aims both at reducing the cost of providing each category of service and at ensuring that the type and nature of the services are the most appropriate for achieving the authority’s objectives (which in turn should reflect the government urban policy objectives).

There are five main methods of improving the efficiency and effectiveness of urban governments:

- Improving the budgeting and programming of financial management systems,
- Implementing lower cost methods of service delivery,
- Ensuring that adequate funds are available for the operation and maintenance of capital infrastructure,
- Contracting out services to the private sector where it is shown to result in cost savings, and
- Implementing productivity-improvement schemes.

**Improving Budgeting and Programming.** A key aspect of maximizing effectiveness relates to improving the efficiency of planning, programming, and budgetary systems at each level of government.
Modern thinking suggests that public agencies can best formulate their expenditure proposals through the preparation of medium-term rolling programs covering all capital and recurrent expenditures and their sources of finance. The program period should be at least equal to that needed to implement sizeable capital projects; 3 years is probably the minimum requirement for such purposes. The programs should be prepared, briefly, by first estimating the total financial resources available to the relevant agency and then compiling a list of all potential calls on those resources, covering not merely capital development projects but also the requirements for recurrent expenditures on operations and maintenance, administration, and debt service. A system of prioritization of both projects and recurrent activities should be developed to enable the program content to be finalized by matching the quantified expenditure needs to the available resources over the program period. The process should be repeated annually by updating the program and rolling it forward to cover a further year. At the same time, the annual budget can be prepared by refinement of the first year of the program. Such a system has many potential benefits, especially in the case of multi-function government agencies, by enabling the totality of projects and activities to be formulated in an integrated manner, with a formalized approach to the selection of projects and activities based on the objective of maximizing the impact on community problems.

Particular problems in the effective formulation of urban programs are encountered in the frequent case where different agencies are involved in the delivery of a common service. Coordination mechanisms need to be devised between the programs of such separate agencies so that such problems can be overcome.

In most cases, there seems to be considerable scope for improvement in the structure of local government budgets. Operational expenditure is often analyzed only by department (administration, public works, and so forth) and type (salaries, supplies, office costs, and so forth); rather than by program area (roads, public health, solid-waste disposal, and so forth); sometimes this also applies to capital outlays. Thus, it is frequently difficult to see quickly the relative balances of total resource allocations to each program, and it is not easy to undertake policy-oriented analyses for making decisions on priorities among programs. Sometimes there is no clear distinction drawn between capital and operating expenses. Such a distinction is important, not merely in economic theory but also to enable policy judgments to be made on questions such as the priority being given, or to be given, to asset maintenance.

LOWER COST APPROACHES. An essential part of program formulation should be the development of formal systems of project justification which examine alternative ways of achieving basic objectives using financial and economic analysis. Least-cost solutions on the basis of minimum acceptable standards of provision are especially appropriate in the areas of housing, water, and sanitation with the aim of using limited resources to provide significant benefit to the maximum number of people.

Minimum-cost approaches, however, are not always appropriate. In some cases, minimum-cost approaches to capital investment projects may lead to higher levels of maintenance expenditure. For example, markets built to low standards may deteriorate rapidly and require constant repair. Roads which are inadequately profiled and not complemented by effective drainage may bring flooding to previously dry areas.

ENSURING ADEQUATE FUNDING FOR OPERATIONS AND MAINTENANCE. When setting expenditure priorities, proper recognition must be given to the importance of adequate provision for the operation and maintenance of existing urban infrastructure. Failure to provide sufficient funds for maintenance and efficient operation can result in rapid deterioration of expensive facilities and equipment, resulting in higher levels of future maintenance and shorter asset life. For example, roads on which timely repairs are not made may quickly give rise to major renovation requirements; dilapidated market buildings may depress trading and rentals or fall into disuse; drains which are not regularly cleared may give rise to flooding and thus result in damaged property.
Many developing countries have found that reducing operations and maintenance expenditure below a desired standard is not an efficient way to cut government expenditure because in the long run it substantially increases costs.

**Contracting Out for Provision of Services.** Recent studies have clearly demonstrated that there is potential for the achievement of further substantial cost savings to local government through contracting out a wider range of urban services to the private sector. Local governments have traditionally contracted out a limited range of services and usually have developed adequate systems of contract administration and supervision.

Urban authorities with sound financial management systems are in a good position to analyze the unit cost of services and to identify additional activities to contract out to the private sector through a comparison of the prices quoted by contractors with the cost of in-house provision.

**Implementing Productivity-Improvement Schemes.** Many local governments have achieved significantly improved productivity through the implementation of such schemes as the computerization of accounting and financial management systems, computerization of property tax administration, introduction of management by objectives and results, and staff development and training. In most developing countries, urban government authorities are in need of institutional strengthening programs.

**Strategy Three: Private Participation in the Provision of Urban Services**

The reality of the widening gap between the demand and supply of urban services inevitably compels many urban authorities in low-income communities to hand over responsibility for the provision of selected urban services to community self-help organizations. In these cases, some urban authorities have been able to withdraw from the provision of selected activities and have re-allocated the resource savings to other essential services.

Developing community participation programs for the provision of urban public services can be initiated by the government, the private sector, or by community groups, but the distinguishing feature of this approach is that it reduces the demands placed on government for urban service provision.

Community participation schemes have been given a variety of names—including “self-help,” “cooperative,” “community-based,” “participating,” and “self-sustaining”—and are characterized by people’s participation in directly providing for their own unmet needs through neighborhood organizations. Key issues in these schemes include:

- What types of urban services are most appropriate for self-help service delivery?
- What are the most appropriate procedures and institutional structures for delivering these services?
- What role should government play in initiating and supporting self-help programs?

Increasing the role of the private sector in the provision of urban services may also lead to the complete withdrawal of the government from providing services which are purely private in nature and which the private sector is perfectly willing to undertake in a free-market situation. In some cases, private firms are substantially disadvantaged by the presence of government competing with them in the same market. This is so if the government is selling private goods or services at a subsidized price to consumers and is, therefore, not fully recovering all the costs attributable to those goods or services. Entrepreneurs often complain about the pervasive influence of government-owned businesses that are mostly inefficient and unprofitable but that can dominate the market through preferential treatment, subsidies, and political concessions.

This form of unfair competition discourages private firms from entering the market and leads to inefficiency and a lack of competition. It must be noted, however, that reduction in the scope of public sector activity does not necessarily lead to an increase in private sector
participation. If the reduction in the public sector participation occurs in services that have "public goods" characteristics, the private sector will fail to provide them.

Private enterprise can be looked to for the provision of facilities where it is appropriate that clients should pay for the services, and where it is acceptable and feasible that, by choice or force of circumstance, if they do not pay, they do not obtain the relevant benefits. Private enterprise can have the advantages over public because:

- It can offer greater efficiency. It is less constrained by political pressures, may operate in a competitive environment, is not subject to the tortuous administrative processes and rigorous accountability requirements which usually apply to public bodies, and will often be more responsive to its clients' requirements or complaints.
- It often has access to capital sources which may not be readily available to public authorities.

On the other hand, private enterprise is criticized as being intrinsically uninterested in providing services to poorer groups or for areas where there is little prospect of profit. For such cases, there can be selective public sector provision or the use of subsidies and controls. Alternatively, private firms may be issued contracts to provide services to specific geographic zones which include both unprofitable poorer areas as well as profitable areas. This allows for a system of cross subsidization to be implemented whereby all consumers in each specific zone receive the same quality and level of service at the same price. The surplus generated from the profitable services needs to be sufficient to cover the losses incurred in providing services to the unprofitable areas and still leave a sufficient overall profit to make the operation attractive to the provider.

Government Roles in the Provision of Urban Services

This section describes the different roles each level of government can take in providing services to urban communities. The relative strength of these roles at each level of government varies from country to country depending, among other factors, upon the legal framework, the political-administrative structure, or the economic strength of each government level.

Central Government

Among the several roles the central government can play in the provision of urban services, three deserve particular mention: the assignment of responsibilities, the payment of grants or subsidies to implementing agencies, and the direct provision, or sponsorship, of loan finance.

Assignment of Responsibilities. Central government has essentially four choices in assigning responsibilities for urban services provision: to entrust them in whole or in part to local governments, including organizations under the latter's control, to establish national corporations for specific functions, to assign them to its own ministries or departments, or to leave some to the private sector. The choices are complex and often raise hard political issues. Important considerations are the degree of control the central government wishes to exercise and the technical and financial capabilities of the candidate bodies. Whatever the decisions are, however, it is most important that responsibilities are clearly defined, understood, and adhered to and that financial sources are identified. Failure to do so risks confusion of roles, conflict in policy objectives, uncoordinated planning and execution of programs, and multiple-channel funding of individual services (with the subsequent to a loss of financial control).

Grants and Subsidies. Local governments in most countries are heavily dependent on central government financial transfers, although some individual large cities are far less so than the overall averages would suggest. In broad terms, there are three types of grants:
"Block" grants, usually allocated by formula and usable for a range of purposes subject only to broad controls;

"Specific" grants, which must be used for specified services, purposes, or individual projects, subject to the approval of the central government; they may be allocated by formula or on a project-by-project basis; and

"Deficit" grants, paid to meet shortfalls in local authorities' revenues.

The desirable characteristics of a grant system are the following:

- They should take into account the differences in the spending needs of the authorities in relation to clearly defined responsibilities;
- They should compensate for differences in the authorities' ability to finance their spending needs, that is, differences in their local revenue potentials;
- They should provide incentives to authorities to improve their local-revenue yields;
- They should be stable, predictable, and buoyant from year to year;
- They should not encourage extravagance in the use of resources (deficit grants and grants calculated as a percentage of expenditure can be criticized on such grounds).

In addition, where there is an avowed commitment to local democracy, grants should be administered to support this aim. Block grants are particularly suitable in this context.

**Loan Finance.** Borrowing is an obvious and appropriate way of raising capital finance for investment in such projects as housing, water, public transportation, and many others which generate a direct financial return. Local governments may also borrow for nonrevenue-raising projects, repaying the loans out of future general revenues, although this practice is less common in some countries.

The central government may involve itself in urban loan finance in three roles.

- First, it may act as a direct lender of funds. This is especially appropriate where policy requires the subsidization of lending terms or where the payback period needs to be longer than that normally available on commercial loans.
- Second, central government may sponsor loans from other domestic or external institutions. In the domestic market, such sponsorship can take the form of central government guarantees for lending institutions or their borrowing instruments which would otherwise not be prepared or able to provide funds to local authorities; or the central government might offer tax reliefs and/or relatively cheap funds (for example, from employee savings or pensions funds) to designated lending institutions. Such arrangements are particularly relevant to housing mortgages for low-income households.

A variant of these first two roles is for the central government to set up loan funds on a revolving or other basis from which urban authorities may borrow on standard terms.

- Third, the central government has a role in the authorization and control of borrowing by local governments. In some cases, approval is operated on a case-by-case assessment of affordability. In others, control is exercised by the stipulation of a maximum ratio between debt outstanding or debt service and a local government's revenues.

**Other Roles.** The central government plays other important roles in relation to urban governments through:

- The setting of national development strategies in periodic plans;
- The designation of the local tax structures and the scope for the levying of charges;
- Regulations governing the annual budgeting and financial and audit procedures;
- Guidance on organizational and staffing structures and on levels of remuneration; and
- The provision of training and technical assistance.
Local Government

Local governments in most developing countries have been assigned a range of functions related to the provision of local public goods and services. In economic theory, public goods or services are distinguished from private goods and services. There is no financial incentive for the private sector to provide "public goods," because there is no practical means available for private firms to charge individual consumers for such goods and services. These types of goods and services are said to suffer from a "free rider" problem: once they are made available, it is difficult to exclude nonpayers from consuming them. Examples of local public goods include streets and footpaths, street lighting, air-pollution control, and fire protection.

Many local government service functions could not be provided by the private sector if the local government were to withdraw from their provision. These public goods and services are, therefore, best financed by taxation and planned, organized, and provided by local governments. Nevertheless, the private sector can play a valuable role in the actual delivery of some of these services, such as road construction and maintenance, through contracting.

Generally, local urban authorities are assigned responsibility for the provision of the types of services which can most efficiently and effectively be delivered by a decentralized form of government. Local governments normally are allocated responsibility for detailed urban planning and urban development control. They are responsible for controlling both land development and land uses, as well as providing basic urban infrastructure services such as water supply, roads, sewerage and drainage systems, and parks and recreational facilities.

It would be most inefficient and costly for the central government to undertake these types of local urban functions directly, due to its remoteness from local communities. Decentralization gives local governments a substantial comparative advantage in the planning and organization of local community services because those governments are closer to the community and can respond more rapidly to the needs of residents.

Local governments have, over the years, expanded their activities into the production of private goods and services, such as housing, recreation and sporting facilities, and health services. In most cases, they have extended into these functional areas to provide subsidized services to low-income residents who would otherwise be unable to afford these services at the private market price. In other cases, local governments have made use of grants or vouchers to subsidize the private provision of these type of services to the poor. In all these cases, local governments play an important redistributinal role in the provision of subsidized or free services to low-income residents including the provision of basic human needs such as shelter, water supply, and access roads.

Some of the functions undertaken by local governments involve the supply of public-utility-type services where there is a "natural monopoly" situation. The provision of water, electricity, the road system, and piped gas are in this category. Competition in the distribution of these services is not really feasible, because it would involve wasteful duplication of resources to construct competing network systems. Urban governments have usually been allocated responsibility to provide these public-utility services to prevent them becoming private monopolies.

Thus, the role of local governments is to:

- Undertake, efficiently and effectively, functions allocated to it by the central government;
- Provide services in response to the needs of residents;
- Mobilize resources from its own residents to undertake these functions;
- Plan, program, and budget the efficient provision of urban public services to meet the needs of its residents;
- Coordinate with other levels of government for the provision of urban services and provide reports to them;
- Plan, control, and monitor the use of land and environmental assets; and
Introduction to Urban Financial Analysis

This section introduces the basic concepts of financial analysis and describes the uses of this type of analysis. It also describes the data needs for undertaking financial analysis. The section is divided into two main parts:

- Financial Analysis Framework, presenting the basic relationships between revenue generation, expenditure control, and financial balance; and
- Uses of Financial Analysis, providing selected examples of the ways in which municipal financial analysis can be used to answer pressing questions in municipal management.

Financial Analysis Framework

In this manual, we are interested in the basic relationships involved in the management of urban government finance. These relationships can be divided into three major categories:

- Revenue generation—how well the government is tapping the revenue potential and the costs of increasing revenues.
- Expenditure control—the costs of delivering public services and the factors that cause those costs to rise.
- Financial balance—the existing balance between revenues and expenditures and the trends projected into the future.

The key factors in revenue generation, expenditure control, and financial balance are summarized in figure 1.1. This figure helps explain the process of analysis of financial data.

In looking at the “Revenue Generation” block in figure 1.1, we are concerned both with local sources and with external sources of revenue. Local sources are those raised directly from the local community such as business licenses and property taxes. External sources are those that come from outside the local community such as central government grants and borrowing.

In looking at local revenue sources, we are concerned first with the size of the local revenue base. This is the amount of revenue that the local government is entitled to collect. It is usually set by national laws which empower local governments to collect certain types of taxes and other fees. The central government most often assigns the tax base and the range of tax rates. Local government can increase revenue by improving administration of tax and by increasing the tax rate within the legal range.

If the local government were 100-percent efficient in local revenue generation, it would collect 100 percent of the local revenue base. Collection procedures, however, which make up the second major component of the “Revenue Generation” block, are never 100-percent efficient for several reasons. First, local governments may not try to collect all types of revenues allowed by the law; second, even the best collection systems will miss some revenue.

In looking at external sources of revenues, we are concerned first with central government grants which can account for a large portion of some local government budgets. Second, we are concerned with revenue derived from borrowing, usually from a central government agency or bank. Borrowing carries with it, of course, the obligation to repay the loan, so it also generates a future cost on the expenditure side of the diagram. Central government grants can also create a future expenditure obligation if the grant is used for capital construction (such as a water system) which creates a need for future operation and maintenance costs.

In looking at the “Expenditure Control” block of figure 1.1, we are concerned first with the number and extent of the public services the local government is mandated by law to provide. This can vary greatly from country to country. Second, we are concerned with the actual number of services provided because local governments often provide fewer services...
than they are legally responsible for. The costs of providing services are determined by the local cost factors (costs of labor and materials) of those particular services plus the administrative costs of running the local government. In addition, governments that have borrowed money in the past have loan repayments, which are part of local government expenditures.
Revenues and expenditures come together in the "Financial Balance" block. Financial balance is simply the comparison of revenues to expenditures. If revenues exceed expenditures, there is a surplus; if expenditures exceed revenues, there is a deficit. Here we are concerned with both the current balance in any one year and also with the trend into the future; that is, the pattern of surpluses or deficits that can be predicted. We are also interested in the stability of the financial balance from year to year—whether there are wide swings between surpluses and deficits and, if so, what causes those swings.

This overview has presented the main components of the financial analysis framework. The next section describes the major uses of financial analysis, showing how all the components come into play.

**Uses of Financial Analysis**

Financial analysis can be used to answer a number of questions that are important to local government management. We have selected five of the most relevant applications to show how financial analysis can be used. The five examples are:

- Identifying underused revenue sources;
- Projecting revenue and expenditure trends into the future;
- Assessing debt-carrying capacity of local governments;
- Evaluating the impact of rate changes in local fees and licenses; and
- Improving cost efficiency of local services.

**FINANCIAL ANALYSIS CAN IDENTIFY UNDERUSED REVENUE SOURCES.** An important use of financial analysis is to pinpoint which local revenues can be increased and by how much. This can be done for a single municipality or for groups of municipalities. Furthermore, the techniques used may vary depending on the type of data the analyst has access to.

Some techniques enable a municipality to compare its revenue collections to other municipalities and to judge how much those collections can reasonably be increased. Techniques for analyzing the yield of individual revenue sources, such as the property tax, are presented in detail. In addition, there are methods for determining if a poor yield of the tax is due to poor collection procedures or failure to update the tax rolls.

Figure 1.2 shows an example of an analysis of revenue yield, showing a comparison of a municipality's property-tax collection per capita to the average for all the municipalities in the country. The analysis shows the falling performance of municipality X and roughly estimates how much the municipality could be collecting.

The information in figure 1.2 illustrates not only that municipality X has a declining property-tax collection per capita but also that, compared to other cities, the municipality is really losing ground at a sizeable rate. Furthermore, the figure shows that the problem began in 1980—until that time, municipality X was following closely the average trend for the other cities in the country, albeit somewhat below the average. The information in figure 1.2 also illustrates what municipality X has "lost" in potential revenue by not keeping up with the upward trend of other cities.

**FINANCIAL ANALYSIS CAN ASSESS CURRENT CONDITIONS AND PROJECT FUTURE TRENDS.** Financial analysis can help local officials appraise the current financial status of their municipality and extend that analysis into the future. The importance of being able to assess future trends in financial condition is illustrated by the example shown in table 1.1.
Figure 1.2 Property Tax Collections per Capita Comparing One Municipality to All Other Municipalities

Table 1.1 Example of a Municipality's Revenues, Expenditures, and Balance (all figures in thousands)

<table>
<thead>
<tr>
<th>Year</th>
<th>Local Taxes &amp; Fees</th>
<th>Central Govt. Grants</th>
<th>Total Revenues</th>
<th>Total Expenditures</th>
<th>Balance (Surplus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>120</td>
<td>150</td>
<td>270</td>
<td>150</td>
<td>+120</td>
</tr>
<tr>
<td>1985</td>
<td>130</td>
<td>155</td>
<td>285</td>
<td>180</td>
<td>105</td>
</tr>
<tr>
<td>1986</td>
<td>125</td>
<td>175</td>
<td>300</td>
<td>215</td>
<td>85</td>
</tr>
<tr>
<td>1987</td>
<td>125</td>
<td>190</td>
<td>315</td>
<td>260</td>
<td>55</td>
</tr>
<tr>
<td>1988</td>
<td>130</td>
<td>200</td>
<td>330</td>
<td>310</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 1.1 shows the revenues and expenditures for a local government over 5 years. A superficial look at the numbers shows that every year there is a surplus of revenues over expenditures. Graphing of revenues and expenditures over the 5-year period, however, demonstrates that expenditures have been rising much faster than revenues (figure 1.3).
The projection of the trends of revenues and expenditures over the next few years seems to suggest, that unless some measures are taken to reverse the trend, the current surplus will become a large deficit in a few years.

Furthermore, an analysis of the relationship between local revenues and central government grants (table 1.1) indicates that the growth in total revenues is made up of increases in the central government grants; local revenues are not increasing at all.

Trend analysis can be used to determine how much revenues need to rise to match future expenditures or to determine the level at which expenditures need to be kept in order to stay in balance with local resources. This type of analysis can also be used to answer "what-if" questions, such as what would be the impact on local revenue needs if central government grants were frozen at the current levels?

**Financial Analysis can be used to Assess the Debt-Carrying Capacity of the Local Government.** The preceding discussion on financial trend analysis can be extended to look at the ability of a local government to pay back loans. Local governments need to be able to project the impact of loan repayments on local finances before borrowing the money. Many times, local governments borrow funds for projects that appear to be good investments, only to find that they impose a serious drain on the community's financial resources.

For example, many communities borrow money to upgrade municipal markets, assuming that revenues from market fees will more than pay for the costs of the improvements. The costs of repaying the loan, however, may drive up market fees, causing some sellers to leave the market. This, in turn, could cause market revenues to fall below expenses with the
difference having to come from the municipal general fund. Table 1.2 (1) shows the impact of this on the revenues and expenditures of a municipal-market upgrading project, (2) shows the expenses and revenues of the old market compared to the estimated amounts for the proposed new market, and (3) includes two “scenarios” reflecting different assumptions about the number of sellers who would use the market at different market-fee rates.

Table 1.2 Simplified Balance Sheet for Municipal Market Upgrading Project

<table>
<thead>
<tr>
<th></th>
<th>Old Market</th>
<th>Scenario A *</th>
<th>Scenario B **</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fee collectors’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td>1,500</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>Maintenance</td>
<td>8,000</td>
<td>8,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Water</td>
<td>500</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Electricity</td>
<td>0</td>
<td>3,500</td>
<td>3,500</td>
</tr>
<tr>
<td>Debt repayment</td>
<td>0</td>
<td>7,500</td>
<td>7,500</td>
</tr>
<tr>
<td>Total expenses</td>
<td>10,000</td>
<td>22,500</td>
<td>22,500</td>
</tr>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of daily</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>selling licenses</td>
<td>600</td>
<td>800</td>
<td>450</td>
</tr>
<tr>
<td>Rate/each</td>
<td>25.00</td>
<td>25.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Total revenue</td>
<td>15,000</td>
<td>20,000</td>
<td>18,000</td>
</tr>
<tr>
<td><strong>Net revenue</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Revenue-expenses)</td>
<td>+5,000</td>
<td>-2,500</td>
<td>-4,500</td>
</tr>
</tbody>
</table>

* Scenario A assumes the number of sellers' licenses will increase by 1/3 and the fee will remain the same.
** Scenario B assumes the fee will go up and the number of sellers will drop by 25%.

Figure 1.4 provides another example. Revenue from street vendors was not affected by the rate increase as the number of licensees continued its upward trend. For the other two groups, however, revenues declined as the number of persons paying the fees dropped markedly. The drop in the number of people paying the handcart and taxi license fees means that either many are avoiding payment of the fee or that the rate increase drove some of those people out of business. If the reason is avoidance, the local government should be able to enforce payment and, hence, increase revenues. If the fee is too high, the local government must decide whether or not to roll back the rate increase to bring people back into the provision of handcart and taxi services.
Some techniques presented in this manual show how local governments could approach the debt problem described above. These techniques include those used for assessing the impact of changes in market fees and for analyzing the impact of the shortfall in market revenues on local government finances, as well as those used for evaluating the municipal government's cash-flow position including the consideration of loan grace periods to defer interest payments until investments start to generate revenues.

**Financial Analysis Can Be Used to Assess the Impact of Rate Changes in Local Taxes and License Fees.** Financial analysis can be used to determine the impact of changing rates on taxes and license fees. This is useful in deciding the appropriate rate and identifying where collection problems exist. Analysis of the past performance of license fees reveals where existing collections may be less than expected. For example, the graph in figure 1.4 shows the number of license fee payers for three different groups in a municipality and illustrates how a 1982 rate increase across all three licenses had different impacts on fee paying compliance.

**Financial Analysis Can Be Used to Assess the Efficiency of Public Services.** Financial analysis can be used to improve the efficiency in public service delivery by analyzing, first, the costs incurred in producing public services and, second, the costs for those services that operate on a self-financing basis, the revenues generated versus the costs of providing the service.

Table 1.3 shows an example of costs in refuse collection for three cities. Cities A and B seem to be spending about the same amount while City C spends a lot more but also collects more refuse. What can we learn from these numbers?
Table 1.3 Total Costs for Refuse Collection for Three Cities, 1982
(all costs in $1,000)

<table>
<thead>
<tr>
<th>Refuse Collection Expenditures</th>
<th>City A</th>
<th>City B</th>
<th>City C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department administration</td>
<td>200</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td>Equipment (trucks) depreciation</td>
<td>250</td>
<td>240</td>
<td>600</td>
</tr>
<tr>
<td>Fuel</td>
<td>15</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Maintenance</td>
<td>10</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Labor</td>
<td>400</td>
<td>400</td>
<td>600</td>
</tr>
<tr>
<td>Landfill costs</td>
<td>25</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td>900</td>
<td>1,000</td>
<td>1,780</td>
</tr>
<tr>
<td>Tons of refuse collected per day</td>
<td>405</td>
<td>305</td>
<td>605</td>
</tr>
</tbody>
</table>

The easiest way to compare service delivery costs is to standardize those costs on some common basis. This is fairly simple to do with refuse collection by translating the total costs into costs per ton of refuse collected. Table 1.4 shows this calculation for the three cities shown in table 1.3.

Table 1.4 Standardized Comparisons of Refuse Collection Costs for Three Cities
(from Table 1.3)—Costs per Ton of Refuse Collected

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>City A</th>
<th>City B</th>
<th>City C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department administration</td>
<td>5.00</td>
<td>10.00</td>
<td>8.33</td>
</tr>
<tr>
<td>Equipment depreciation</td>
<td>0.38</td>
<td>0.67</td>
<td>0.50</td>
</tr>
<tr>
<td>Fuel</td>
<td>0.25</td>
<td>0.67</td>
<td>0.33</td>
</tr>
<tr>
<td>Maintenance</td>
<td>10.00</td>
<td>13.33</td>
<td>10.00</td>
</tr>
<tr>
<td>Labor</td>
<td>0.63</td>
<td>0.67</td>
<td>0.50</td>
</tr>
<tr>
<td>Landfill costs</td>
<td>22.50</td>
<td>33.33</td>
<td>29.66</td>
</tr>
</tbody>
</table>

Table 1.4 indicates that City A has the lowest total cost per unit and City B has the highest. Furthermore, City B’s costs are higher because of higher administrative costs and labor costs. In addition, City B is spending more on fuel and truck maintenance than the other two cities. City C has a high cost of equipment and a much higher administrative cost than City A. A public official from City B can use this information:

- To determine that his/her city is spending too much money on refuse collection,
- To pinpoint which cost components are out of line with other similar cities, and
- To estimate how much his/her city could save on refuse collection expenditures if they were as efficient as City A.

This type of analysis can be used for all types of public services whenever the costs of the service can be measured as well as the revenues that are collected from the users of the service.
Data Needs

The type of information needed for financial analysis is quite simple and usually readily available. It is most important, however, that data are reliable because poor quality data will generate misleading results. There are four types of information required:

- Revenue and expenditure data of the local government for the past 3- to 5-year period;
- Estimates of population size and inflation rates for the same period of time covered by the revenue and expenditure data;
- Additional secondary information available from studies on housing, income, and municipal services; and
- Information on revenues and expenditures of other local governments in the country.

The first two categories constitute the most essential data; the other two categories will allow for more and different kinds of analysis but are not absolutely required to get started. This information is usually recorded on a routine basis by local agencies all over the world. Assembling it for financial analysis is not difficult and does not take much time. There are a few common sense rules, however, that must be followed to make sure the data are accurate and most useful.

Revenue and Expenditure Data

Two points need to be kept in mind when assembling revenue and expenditure information. First, it is important to collect consistent data when gathering data for several different years. For example, if total property tax amounts in one year include the amount of arrears collected, property taxes in other years should also include arrears.

The second point is that revenues and expenditures should be categorized according to the same categories used in the official accounting and reporting systems (which may be mandated by the central government). This makes data collection much easier and permits a comparison of experiences across different local governments.

Furthermore, in collecting revenue and expenditure data from government reports, a distinction must be made between “budgeted” and “closed” accounts. “Budgeted” refers to the amount of revenue or expenditure estimated at the beginning of a budget year. “Closed” refers to the actual amount accounted for at the end of the budget year. The actual or closed-account information should be used in financial analyses since that information is more accurate than the budget estimates.

Finally, it is important to distinguish between “constant” and “current” values of the local currency. Constant values include an adjustment for inflation and are intended to represent the actual purchasing power of an amount of money “deflated” to some past base year. Current values do not reflect any such adjustment. For example, an expenditure of $100 in 1988 may be expressed as $75 in 1984 constant dollars or as $100 in current dollars—the amount recorded. This means that $100 in 1988 would purchase the same amount of goods and services that $75 could purchased in 1984 (the base year).

The use of constant value accounts for inflation provides a more accurate reading of changes in expenditures and revenues in terms of purchasing power. On the other hand, its use requires an additional transformation of existing data, which is always recorded in current amounts. Furthermore, inflation estimates for some countries may not be very reliable, especially when inflation is high. For these reasons, the analysis developed in this manual uses current values with specific comparisons made against inflation rates rather than using constant values which internalize adjustments for inflation. The analytical techniques presented, however, can make equal use of revenue and expenditure data in constant values, if the reader so chooses.

Revenue Data. Different countries allow local governments to take responsibility for different sources of revenue. Therefore, there can be no single list of revenue sources and
categories. Nevertheless, a general set of revenue sources and the major categories that have proved useful across a number of different countries can be listed.

In a first step, revenue categories can be divided into those revenues that are earmarked for special uses only and those that go to the general account, or fund, of local government. Special fund revenues should always be kept separate.

Table 1.5 shows the major categories of revenue sources for local governments and the individual revenue sources that fall under each category. Some local governments have many individual sources of revenue, such as many different kinds of licenses, so it may be useful to group certain revenue sources together. A good number of categories of revenue sources for analysis is five to ten. One must avoid having too few categories because with too broad categories it is hard to make sense of what is really happening; at the same time, too many categories prevent the analyst from seeing the major trends in the data.

Table 1.5 Major Revenue Sources of Local Governments in Developing Countries

<table>
<thead>
<tr>
<th>1. Local Taxes</th>
<th>4. User Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Real Property</td>
<td>4.1 Betterment Levies</td>
</tr>
<tr>
<td>1.2 Personal Property</td>
<td>4.2 Charges from Public Services Consumers</td>
</tr>
<tr>
<td>1.3 Per Capita (Head)</td>
<td></td>
</tr>
<tr>
<td>1.4 Business and Professional Services</td>
<td></td>
</tr>
<tr>
<td>1.5 Sales</td>
<td></td>
</tr>
<tr>
<td>1.6 Excise</td>
<td></td>
</tr>
<tr>
<td>1.7 Income, or Graduated Personal Tax</td>
<td></td>
</tr>
<tr>
<td>1.8 Agricultural Production Personal Processing</td>
<td></td>
</tr>
<tr>
<td>2. Licenses</td>
<td>6. Central Governments’ Transfers</td>
</tr>
<tr>
<td>2.1 Occupational</td>
<td>6.1 Shared National Taxes</td>
</tr>
<tr>
<td>2.2 Vending</td>
<td>6.2 Formula Grants</td>
</tr>
<tr>
<td>2.3 Business Premises</td>
<td>6.3 Ad Hoc Grants</td>
</tr>
<tr>
<td>2.4 Vehicles</td>
<td></td>
</tr>
<tr>
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The largest single sources of revenue should be treated as separate categories. The minor sources may be aggregated into categories that have some common basis (such as “professional and business licenses” or “agricultural processing taxes”). Table 1.6 shows a list of the categories of revenues that have been used most often in revenue analysis in developing country municipalities. This list is intended to be illustrative only since individual local governments will always have revenue categories that reflect their own situations.

Table 1.6 Most Common Categories of Revenue Data

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<tr>
<td>3. Other Local Taxes</td>
<td>8. Borrowing</td>
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<td>4. Market Fees</td>
<td>9. Miscellaneous (all other sources)</td>
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EXPENDITURE DATA. It is somewhat more difficult to describe expenditure data than revenue data since there is a lot of variation in the way different governments report that information. Since it is normally preferable to collect data as they are already recorded on official accounting or report forms, the categories dictated by each central government will usually be taken for expenditure analyses.

Generally, expenditure data are first categorized by different funds. Almost always there is a general fund (for general expenditures of the local government) and several other special funds. Often there is a capital fund for expenditures to construct major capital projects. Where there is a capital fund, the general fund usually is reserved for current operating expenditures, in which case it may be called the current account or operating account.

Often, there are separate funds for public services that are provided on a fee-for-service basis, such as water and sewer systems. This accounting system may keep together both capital and current operating expenditures for those separate services. In addition, local governments may keep records on expenditures broken down by administrative costs versus direct costs of providing individual public services. Finally, some accounting systems simply keep track of expenditures by category of expense, including salaries, materials, equipment purchase, and services purchased. In this case, the activity or program for which the expenditure is made may not be noted.

Loan repayment causes some problems in recording expenditure data, because such expenditures are often categorized differently by different local governments. For example, loan repayment may be considered a current operating expenditure, a capital expenditure, or a special fund expenditure, or may not be recorded at all.

Table 1.7 shows the major categories of expenditures that one is likely to encounter. Again, it must be stressed that the recording of data must be adapted to the kinds of data made available in local government records. Ideally, one would like to have data on total expenditures for each public service, on the administrative costs of the local government, and of capital versus current expenditures. In addition, it would be useful to have information on the expenditures incurred in collecting revenues, particularly the local tax collection and fee collection costs. If actual collection costs are not available, the next best type of information is the total expenditures of the office charged with tax collection.

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Current Expenditures</th>
<th>Capital Debt</th>
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<tbody>
<tr>
<td>Administration</td>
<td>Personnel Materials</td>
<td>Services</td>
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<tr>
<td>Departments</td>
<td>Fuel</td>
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<tr>
<td>Health</td>
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<tr>
<td>Water/sewer</td>
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<td>Roads/bridges</td>
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<td>Housing</td>
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<td>Education</td>
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<td>Fire</td>
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<td>Health/sanitation</td>
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<td>Parks/recreation</td>
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<td>Markets/salehouses</td>
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</tbody>
</table>

* May not be assigned to individual departments.
Population and Inflation Estimates

Estimates of total population within the boundaries of the local government’s jurisdiction are necessary in order to calculate per capita rates for local revenues and expenditures. In addition, the rate of population growth is also useful to judge the growth of expenditures and revenues. In localities where a head tax is collected, it is also valuable to know the size of the adult population from which the tax is collected.

In addition to population estimates, estimates of inflation on a year-to-year basis are also very important. These estimates should cover the same years as the revenue and expenditure data. As mentioned above, simple estimates of inflation can be used to adjust revenue and expenditure data to constant values.

Additional Information from Special Studies

In addition to the types of information listed above, there are other useful data such as those commonly found in studies of housing, income, urban development, and economic activity. This information falls into two categories:

- Data used to estimate the revenue base of local government; and
- Data used to compute measures of municipal service delivery efficiency.

For the first type of information, the most interesting data are those that allow the analyst to estimate the number, or amount, of items on which taxes are collected. For example, it is useful to know the number of households in a municipality in order to estimate the number of houses on which property tax is collected. In addition, other special studies that may have been carried out in the local community can provide additional useful information on:

- Average costs of housing (either value of property or rental paid);
- Amount of agricultural production (if an agricultural tax is collected);
- Municipal properties;
- Amount of livestock (if a livestock tax is collected); and
- Number of business establishments (by the types that form the basis for a tax, for example, number of hotels, restaurants).

The reason for collecting this type of information is to compute the basis for estimating the revenue base for any given tax or license fee. For example, knowing the number of business establishments can be used to project the number of business licenses that could be issued. Even if the precise number for a specific municipality is not known, some national figures can be used to estimate the local values. For example, if we know that there are 1.5 automobiles for every 10 people in the country, we can make a reasonable estimate of the number of automobiles in a city of a given size.

Information on the delivery of municipal services, such as data on amount of services delivered and number of households covered, can be collected to develop measures of service efficiency. It is also useful to have data on the number of persons employed in delivering specific services (for example, the number of employees in the local water department).

Table 1.8 provides a list of types of data from these special studies that one should try to collect.
Table 1.8 Data Collected from Special Studies

1. Information for estimating revenue base
   Number of households
   Total number of properties
   Tax billing and collection data
   Number and type of business establishments
   Amount of personal property
      (automobiles, bicycles, livestock)
   Amount of agricultural production and processing
   Average personal, or household, income
   Percentage of income devoted to housing
   Average cost of house construction
   Average rent of housing
   Amount of municipal-owned property

2. Information for estimating municipal service measures
   Amount of service delivered by agency
      (for example, amount of water pumped)
   Number of households served by each municipal service
   Number of persons employed in each service agency

Comparative Revenue and Expenditure Data for Other Municipalities

Comparative data on revenues and expenditures from other local governments can be very helpful in financial analysis as a standard against which to measure the performance of a particular municipality. This information is often compiled by one of the central ministries for each fiscal year, and published in report form or simply kept on file for internal use.
Revenue Mobilization

Local Revenue Generation

Municipalities in most developing countries must strive to meet the costs of constructing and maintaining urban facilities and services, a task often made more difficult by continuous population growth and rising inflation. Revenue must be raised to cover both capital-investment and recurrent expenditures, as well as employees' salaries and debt service. Such revenue will be adequate only if it grows with the demands made on it, that is, in line with the expansion of services and rising costs.

Examining the Pertinent Issues

Simply raising adequate revenue, however, is not enough. It must be raised in an equitable fashion. Indeed, the two tasks are interrelated because unfairness is in itself an obstacle to revenue collection. Resistance to pay taxes or charges will increase if individuals perceive that they pay more than they can afford, or feel that they are bearing an undue proportion of the burden compared to others or the level of services they receive. These issues raise the questions: who actually pays the cost of urban services (and who should pay the cost), should taxes or user charges be levied, and is nation or local taxation more appropriate?

WHO PAYS? Some public services are financed by general taxation and others by direct charging to the consumer. In the first case, every taxpayer contributes regardless of his or her use of the service; in the second case, payment depends directly upon provision and use.

Looking purely at financing by general taxation, there is a further distinction. Some services are paid for by the national taxpayer through central government expenditure, subsidies to public enterprises, and grants to local authorities and some are paid for by the local taxpayer through local taxes and local surcharges on national taxes.

TAXING OR CHARGING? What distinguishes a service financed by consumers from one funded by taxpayers?

Generally, if it is possible to measure the consumption levels of urban services (such as water, electricity, telephone, and refuse collection) by individual households, user charges can be applied. User charges can be based on two principles of equity or fairness. The first is the “benefit principle.” Under this principle, those who receive direct benefits from a service pay for it through a consumer charge related to their level of consumption of the service. The second, and equally valid criterion, is known as the “ability-to-pay principle.” Charges based on this principle are related to the financial capacity of households to pay for urban services. Low-income households are charged a lower rate per unit of service than higher income groups. If a service benefits everybody collectively and indiscriminately, such as defense or disease control, the cost is borne by taxation.

Of course, many services fall between these two categories (known, respectively, as private and public goods). A service may benefit one person particularly but, nevertheless, have some effects on others; such effects are known as externalities, and may be positive or
negative. Domestic water supplies, for example, benefit the individual household and their cost can be measured; but they also reduce communicable disease and, therefore, have wider benefits. Where the benefits are both private and public, a consumer charge subsidized from taxes may be justified if it enables or encourages a wider number of people to use the service. The mix of charge and subsidy should depend upon the balance of private and public benefit. Where the effects are negative, for example the congestion or pollution caused by city center parking, it is advantageous to make the charge punitive, that is, above the level of the service cost, to discourage consumption.

There is a further aspect of fairness. Some services may be largely private goods with little externality but are, nevertheless, regarded as “merit goods,” that is, basic human needs. Subsidization or even total financing from taxation may be regarded as right to enable consumption by those who are too poor to meet a full consumer charge. This reasoning is often applied to primary education, medical care, and even housing, its extent depending on what an economy can afford and what contemporary values regard as a minimum standard of living. Critics argue, however, that such subsidization should be directed to general income support so that the poor can exercise choice over the services they use.

A second major consideration is economic efficiency. Where individuals are free to choose how much of a service they consume, charging enables the price mechanism to play a crucial role when allocating resources through:

- Rationing demand (on the basis that those who value the item or service most will be prepared to pay most);
- Providing the incentive to avoid waste;
- Providing signals to the supplier concerning the scale of production; and
- Providing the resources to the supplier to increase supply.

With no price charged for the consumption of a good or service, demand and supply are unlikely to be brought into equilibrium and, thus, the allocation of resources will not be economically efficient. Water supplies and medicines are examples of costly goods for which charging is particularly supported on efficiency grounds.

The problem, however, is that the market mechanism does not function perfectly. In many cases, the government is a monopoly supplier and may be tempted to charge more than the necessary cost of a service, either to reallocate resources or because of inefficient provision.

A third factor is administrative convenience. Charges are often a relatively easier form of revenue to collect than taxes, because they can, in most cases, be enforced through cutting off a service.

**National or Local Taxing?** How does one distinguish between financing from national taxes and financing from local taxes? There are several arguments for fiscal decentralization, that is, for paying for services by local rather than national taxes:

- A service may be a public good, but may, nevertheless, benefit only those living in a particular locality;
- Local knowledge and choice may be a more accurate guide to what services are needed, leading to more efficient use of resources;
- A more careful and honest use of resources may also result from the more direct and visible accountability of officials to a local electorate;
- Greater political equilibrium may be secured from allowing some division of power between center and locality over choices of levels and directions of taxing and spending.

There are, however, counter-arguments for national financing.

- A service may be clearly in the national interest. It may be, first of all, possible to distinguish between the benefits derived by individual localities and, second, desirable to ensure that the service is provided uniformly.
• Where comparable standards of service are desirable, national financing may be necessary to avoid disparities arising from differences in local wealth and taxable capacity.

• Technical considerations may make it difficult to levy some of the more lucrative tax revenues at the local rather than national level (for example, customs or corporate profits taxes).

But, again, there are limitations to the central government's ability to prescribe exactly how a service is best provided in each area or to manage it efficiently. Hence, what results is the frequent compromise of financing a service from national taxes but administrating it through transfers to decentralized authorities.

Thus, the costs of urban infrastructure and services are recovered basically from three sources:

• From the consumer through user charges;

• From the local taxpayer through municipal taxes (or provincial taxes where conurbations have provincial status); and

• From the national taxpayer through direct government expenditure, grants, or revenue sharing.

These are concentric rather than exclusive groups; mean or patronizing attitudes to grants, for example, conveniently overlook the extent to which local taxpayers are also national taxpayers. Moreover, the demarcations between the three categories are not always clear. Specific-purpose property taxes for water, conservancy, and so forth, usually fall only on consumers, though not in proportion to consumption; revenue sharing based on derivation is also local taxation in substance, though not in administrative or legal form.

Municipalities also receive loans, often for capital expenditure. Borrowing, however, is really a transitional form of finance, not a basic type of cost recovery, since capital and interest will eventually be paid from charges or taxes. It may contain or conceal an element of grant where soft terms or default are involved.

Local Taxation

Local taxation can be interpreted in three ways:

• Taxes which municipalities impose by their own legislation and which they assess and/or collect;

• Taxes levied under national legislation but with tariffs determined by municipalities (either freely or within statutory limits);

• Taxes which are levied and administered by central government but whose proceeds are given to, shared with, or surcharged by municipalities.

Discussion in this manual is concerned with all these categories. A tax source is of interest if local authorities specifically derive revenue from it, whether or not they levy or administer it, or decide its tariffs. The manual is also concerned with the suitability of taxes for levy or administration by municipalities, since they often wish or are expected to play a part in raising the money they spend.

The Three Forms of Local Taxation. If the present local tax base is unsatisfactory, that is, it is not yielding sufficient revenue or its incidence is perceived as unfair, reform can concentrate upon improving revenue administration, increasing the tax rate, or reducing exemptions of the existing taxes or search for alternative local taxes. It can, of course, seek to do all three, so this chapter will look primarily at three alternative forms of local tax, (and their advantages and disadvantages): taxes on property, taxes on income, and taxes on expenditure. Each will be described in turn and then evaluated according to general criteria.

Urban Property Taxes. Taxes on land and buildings constitute the most common form of direct revenue for local authorities in urban areas. They are normally general-purpose
revenues contributing to a range of urban services, particularly the physical infrastructure such as roads, drainage, refuse collection, and so forth. Property tax valuations, however, are also used frequently as a base for special taxes or charges to meet the costs of individual services such as water supplies or street lighting.

1. **Coverage.** Taxes on land and/or buildings are normally imposed on all types of property—commercial, industrial, institutional, and residential. There are usually some exemptions, often including places of worship and charitable institutions; government properties are customarily exempt, but a grant may be paid to local authorities in lieu of the tax. Some countries exempt small properties below a stipulated value; this may be a legal exemption or simply an administrative choice which ignores squatter settlements and so forth.

2. **Tax rate structure.** Property taxes are normally assessed by applying a tariff (a percentage) to a valuation. The tariffs may be prescribed by law or left to the discretion of the local authority. Such discretion may again be restricted by statutory minimum or maximum levels. The tariff in any one locality is normally a uniform percentage; however, it may differentiate between types of property, for example, being heavier on industrial or commercial than on residential properties or higher on rented buildings than on those occupied by the owner.

3. **Valuation.** Valuation may be based on:
   - Annual rental values, that is, the potential income to the owner from renting a property (whether it is actually rented or not);
   - Capital improved site values, that is, the potential market sale price of the land or the land plus its improvements (meaning the buildings, infrastructure, and amenities developed on the land); or
   - Unimproved site values, that is, the potential market sale price of the land as if it were vacant, disregarding any actual development on it.

4. **Annual rental values.** Rental values are normally calculated on the basis of "a fair rent" after deducting standard percentage representing the national cost of repairs and maintenance. In theory, rental values are closely linked to the occupier's income and, therefore, provide a fair and readily explained basis for taxation. This assumes, however, that there is a substantial and fair rental market and that the valuers have clear evidence of the prevailing rents levels. Rental values may be much harder both to calculate and to justify where:
   - The private rental market is relatively small (for example, in the United Kingdom);
   - Rent levels are subject to violent fluctuation or severe distortion by conditions of scarcity; or
   - Ineffective rent-control legislation causes a substantial disparity between the official rents used for purposes of valuation and those really paid by tenants.

   The most obvious way of assessing rental values is to extrapolate from a large-scale survey of actual rents paid for different types of property in different localities. Where such evidence is difficult to obtain, rental valuations are often based upon a national percentage return upon capital values. In such cases, the distinction between annual rental and capital value taxation becomes somewhat artificial.

5. **Capital values.** Assessment of capital-improved site values may be based upon one of four methods of calculation:
   - **Sales data method.** A comparison of actual sales of different types of property in different localities. Where there is an active, competitive real estate market, the going market price for properties traded on the market can be used by assessors and other appraisers to estimate the value of properties that were not sold. Current market price data are the most direct evidence of current property values.
• **Capitalized value method.** A capitalization of rental incomes (assuming a current market rate of return upon investment of capital but allowing for depreciation).

• **Replacement cost method.** Current costs of the land plus current replacement costs of the buildings. This is the most commonly used method. It involves estimating the value of existing buildings on the property based on current cost of construction, less a depreciation allowance for the age and condition of the building. The size of the building, number of rooms, building materials, and type of construction are all taken into account in estimating replacement costs. The land value is estimated separately by comparison with actual sales of land that are similar in terms of zoning, general location, size, topography, and other factors that might affect its desirability and price. Finally, the land value is added to the depreciated replacement cost of the buildings and structures to arrive at a total value for the property. This then may be compared to recent sales prices of similar properties in order to test the validity of the estimated assessed value. The other steps are necessary because no one property is exactly identical to another and the unique features of each property need to be taken into account in a systematic manner.

• **Regression analysis method.** A more sophisticated method of placing a value on property is through the application of multiple regression analysis, which is a statistical technique for correlating independent variables with a dependent variable to estimate market value. In this method of valuation, the characteristics of the properties may be used as independent variables in the equation where the dependent variable is the estimate of property value. The co-efficients for the independent variable indicate the expected changes in property value from a change in the independent variables. Multiple regression analysis is a complex technique requiring a large amount of data, and it must be used very carefully.

6. **Unimproved site values.** In some countries, capital valuations are based upon "unimproved site values," that is, the value of the land and its best possible development, not its current state of development. This system has the notional advantage of encouraging owners to develop their land since they will not incur any more tax in doing so; indeed, the taxation penalizes any underdevelopment. It also ensures that local authorities do not lose revenue through any lack of potential development. These potential advantages may not be realized in practice for a number of reasons:

• Property tax liability is only one, and rarely the most important, of the factors which influence the investment decisions of a land owner.

• Unimproved-site valuation requires evidence of "the best potential development" of a particular plot. This is hard to establish.

• The incentive element can work only on the assumption that an owner either develops the land or vacates it. Effective application of this principle would lead to the concentration of desirably located property in the hands of those with the greatest capital.

The application of unimproved-site valuation is often modified in practice to offset the difficulties and potential hardships which have been described. This means assessing property below the value of its best potential development or keeping tariffs at a low, effective rate. Either method, however, restricts the real incidence of property tax on the more expensive developments, leading to a considerable loss of potential revenue. Some countries have attempted to find a reconciliation between the advantages and disadvantages of this system by imposing a dual tariff on the values of a site and of its improvements, with a heavier weighting on the site value.

*Taxes on Income.*** Income tax is almost invariably a major national government tax source, jealously guarded by the central treasury. Nevertheless, there are a number of ways in
which local governments in different parts of the world derive revenue from the taxation of income.

1. Separate local income taxes. In a few cases, local governments are permitted by law to impose a tax on income which they levy, assess, and collect themselves, and which is parallel to, but distinct from, the national income tax. An entirely separate tax administration is used, and calculation of a local liability is not related to the national system of rates, personal allowances, and so forth. Local authorities in Finland have this power. The main example, however, is in the United States where the Federal and State governments have concurrent powers of taxing income. In several states, the cities and counties are also permitted to levy a separate income tax, so that in New York City, for example, a citizen will be paying a separately assessed and collected tax on income to three levels of government.

2. Surcharge on national income tax. A more common system is for local authorities to impose a surcharge on the national income tax, that is, a percentage addition to the tax liability as assessed and collected by the central government. Local authorities in Japan and a number of European countries—Belgium, Denmark, Italy, Norway, Sweden, and Switzerland—have this power. A rate of surcharge may be:
   - Fixed by law (as in Switzerland);
   - Fixed by each local authority within a range prescribed by law (as in Belgium, Italy, and Norway); or
   - Prescribed by each local authority without limit (as in Denmark, and by each of three levels of local government in Sweden).

The surcharge is normally a flat percentage rate charged on taxable income (that is, net of personal allowances, and so forth), but a progressive tariff operates in Switzerland. There are major constraints on implementing a surcharge system in smaller, less-developed countries where personal income tax systems are not major sources of revenue.

3. Assignment of national income tax. In several countries, the central government assigns to local authorities a fixed percentage of the national income tax collected. In Turkey, South Korea, the Philippines, and The Federal Republic of Germany the percentage pertains to the tax collected within the municipality's boundaries; in Brazil and the Netherlands the percentage share is pooled and distributed by formula.

4. A tax on professions. In certain countries, such as France and India, a tax is imposed upon the pursuit of a particular profession (for example, medicine or the law), payable to local authorities. The tax may consist of a percentage applied to payroll or turnover or, alternatively, a fixed rate for each profession. In the latter case, the tax operates very much like a licensing fee. The French tax known as patente, is replicated in a number of francophone African states. Big businesses are assessed based on the type of operation and the resulting fixed multiplier is applied to the property tax valuation.

5. Mass personal taxes. In some developing countries, local authorities have levied a general personal tax on the lower segments of income which fall below the point at which liability for national income tax begins. This has operated in countries where only a relatively small minority pays national income tax, partly because most incomes do not reach the lower exemption level, and partly because the national income tax administration is not geared to cover a mass of peasant farmers, small traders, and so forth. The local personal taxes have normally attempted to cover the entire adult population and have been characterized by:
   - A basic minimum rate of tax for which every able-bodied adult is liable, regardless of income;
   - A fairly low minimum tax rate acting as a cut-off point below the incidence of national income tax; and
• The use of crude, “imputed” or “presumptive” income criteria to estimate earnings from common sources of livelihood such as cultivation, livestock ownership, trading, and so forth.

These mass personal taxes have operated mainly in tropical Africa, where traditions of communal land ownership and shifting cultivation have made land taxation an unsuitable base for mass taxation. Head taxes, however, have not been cost effective in urban areas in developing countries, where collection enforcement is expensive.

Taxes on Expenditure. This category comprises a broad sweep of local sales taxes, royalties, entertainment taxes, vehicle taxes, and so forth, which are often described as “indirect taxes” because they can usually (but not invariably) be passed on by the payer to someone else, normally the end user.

1. Sales of goods. General taxes on sales of goods are normally levied by central governments or by the state level in a federation. There are a few exceptions. About 3,000 local authorities in the United States impose a surcharge on state sales tax. Madras Municipal Corporation receives part of a similar surcharge. In the Netherlands and the Philippines, municipalities receive a share of national sales tax, and Brazilian municipalities receive 20 percent of value added tax. A local surcharge on petroleum sales taxes operate in some cities in Japan and both North and South America.

2. Sales of services. There is a variety of local taxes on sales of individual services, most commonly on:
   • Entertainment, including cinemas, theaters, and sports;
   • Hotels and restaurants (for example, in Indonesia); and
   • Public utility bills (for example, electricity, gas, and telephones).

3. Movement of goods. The majority of municipalities in India, Nepal, and Pakistan (and formerly in Bangladesh) impose a tax, known by an old French title octroi, upon the value of goods entering a town for use, consumption, or sale. It is collected by the equivalent of customs posts on the borders of cities and towns. The practical inconveniences involved have occasioned many recommendations for the abolition of octroi (the Indian state of Pradesh has abolished it) but it has proved impossible to find an alternative source which matches the scale and buoyancy of its yields. Octroi is customarily levied according to the weight of goods or per unit. Several cities such as Ahmedabad and Bombay now impose it on the value of the goods as invoiced (reserving discretion to assess value independently if the invoice is suspect). This is generally found to yield significantly higher revenues. A variable tariff may be imposed with a low rate (or total exemption) for essential food stuffs and higher rates for consumer durables. Rates of tax are generally very low, usually under three percent of value.

4. Taxation of vehicles. Almost all countries impose a substantial annual licensing tax on vehicles which considerably exceeds any registration costs. National governments often claim these revenues because of their size, and the argument that vehicles do not stay in one region. Local authorities often have an equally valid claim upon them insofar as they have to meet the costs attributable to motoring: road construction and maintenance, and parking provision, in particular. A number of countries recognize this and assign vehicle taxes to municipal authorities—Colombia, Egypt, South Korea, and Spain are examples. In some countries, such as India, Indonesia, and Pakistan, taxes on motor vehicles are reserved to state or provincial authorities, but local authorities tax non-motor vehicles such as bicycles, bullock carts, and rickshaws, a dubious, ill-rewarding privilege. (Some large Indian municipal corporations, such as Bombay, do receive the motor vehicles taxes as well).

The assessment of annual motor vehicle taxes varies considerably. In some countries, a flat rate applies to each class of vehicle, private passenger, public passenger, light
commercial, and so forth. Others have graduated tariffs depending on such variables as weight, engine capacity, distance between axles, or age.

A few city governments also receive a substantial tax on the initial registration of vehicles or on subsequent changes of ownership. This is usually a flat fee, but in Indonesia it is a percentage of the sale value.

Parking fees are normally regarded as charges rather than taxes. Singapore’s area license fees, however, are sufficiently large to assume the character of a tax upon traffic entering the congested central business district at peak hours.

**EVALUATION OF LOCAL TAXATION.** To judge the potential and performance of taxes, criteria are needed. These are set out under six headings. Five—adequacy and elasticity, equity, administrative feasibility, political acceptability, and economic efficiency—apply to all revenue sources, tax or non-tax, central or local. The sixth concerns the suitability of a tax for levy and administration by local rather than national government.

**Adequacy and Elasticity.** The first and most obvious requirement for revenue sources is that they should be adequate to meet the costs of the services which they are intended to finance. Small, multiple levies, which neither can nor do yield substantial revenues, are expensive in money, time and public patience. It is usually desirable to concentrate effort on taxes which can raise at least a substantial portion of the cost of the services to which they are devoted.

The cost of services is not static, however. Costs increase because of inflation, because population may be growing (particularly in urban areas), because rising standards of living inspire demands for higher standards of services (for example, by creating additional traffic or use of water), and because national development plans may expect services to be improved and expanded. It is, therefore, highly desirable that revenue sources should show “elasticity,” that is, that their capacity to yield additional revenue should respond to the same pressures as the increasing demands upon public expenditure, and that the tax base should grow automatically when prices rise, the population increases, the economy expands, and so forth.

Some revenue sources are far more responsive in these terms than others. Property tax revenues are frequently substantial, stable, and predictable—the most substantial tax sources for municipal government if one takes a worldwide view—but the elasticity of property taxes is poor in relation to growth in prices, population, and incomes. Real increases in rents or market values are reflected in the growth of the tax base only when revaluations are carried out—often an infrequent process, inefficiently executed. Between revaluations, revenues can be kept in line with prices only by tariff increases which can be politically difficult. Automatic indexation of taxable values improves buoyancy, but this practice is largely confined to some American cities, north and south, and does not obviate the need for regular revaluation to maintain equity. Population increase does give rise to increases in the tax base, but this is rarely commensurate with the rate of population growth since much of this is absorbed in overcrowding existing buildings or illegal construction.

National income taxation is far more buoyant, certainly so far as inflation and economic growth are concerned, and this would benefit local authorities which exploit it through surcharging or tax sharing. Whether it is responsive to population growth depends upon the structure of employment and the extent to which income taxation extends to the informal economy. The other types of local taxation of income, such as occupation taxes, are less elastic since they normally depend upon discretionary increases in tariffs to keep pace with inflation. They do, however, capture growth in population and business.

Taxes on expenditure are, perhaps, the most buoyant of all, particularly if tariffs are expressed in percentages of prices and not on a unit-price basis. The volume of businesses taxed (or of traffic, in the case of vehicle tax in Indonesian provinces) have proved extremely elastic. Between 1975 and 1985, octroi revenues in Bombay increased eightfold,
while property tax rose by only 50 percent. The only drawback, of course, is that yields will respond to recession as well as to growth.

Equity. A second major requirement is that of equity—that is, the burden of maintaining public expenditure should be borne by sections of the community in proportion to their ability to pay. By these standards, taxation is good if it is progressive (that is, if the percentage of a person's income paid in tax increases with the level of that income), tolerable if it is proportionate (that is, if the percentage of income paid in tax is constant at all levels), and bad if it is regressive (that is, if the percentage of income paid in tax declines with rising income levels). In terms of local taxation, the question of equity has to be seen in three dimensions. First of all, the incidence of tax should be equitable between people of different income levels ("vertical" equity). Second, it should be equitable between different sources of income; a salaried individual should not pay more than one with an identical income derived from business or agriculture ("horizontal" equity). Third, the incidence of taxation should be fair between different geographical areas: people should not be taxed more heavily simply because they live in one area rather than another.

Equity has to be seen, however, in relation to both revenue and expenditure. It may not necessarily be unfair to tax people more highly if they live in an area which has an exceptionally high level of government service. The worst inequities occur when people are taxed more heavily in relation to their income and yet receive a substandard level of service.

A progressive tax structure is desirable on the grounds of social justice. It does mean, however, that people in the lowest income groups should be subject to very light taxation or be totally exempt. This is easier to achieve in well-developed economies where the bulk of the population is in middle-income brackets, than in poorer societies where most of the population is in the low-income range. In the latter case, the tax base provided by the middle- and high-income groups may be too small to bear the major weight of public expenditure (the constraints usually being both economic and political).

The equitable incidence of a tax is affected by its coverage, by its rate structure, and by its methods of assessment. Injustice arising from imperfections in assessment methods will obviously hurt far more if tax rates are high than if they are low. As tax rates increase, so does the volume of complaint over any crudity in assessment methods. This means that deficiencies in the system of assessment are a serious constraint upon increasing the incidence of a revenue source.

Property taxes are crudely equitable in that there is usually a rough correlation between the income of individuals and business and the value of the premises they occupy. There are, however, a number of factors which impair equity:

- Market forces may result in considerable differences in rental or capital values which depend upon location rather than the quality of the premises or the incomes of the occupants.
- The rental or purchase costs of housing or business premises upon which the tax is based, may represent a higher percentage burden on the income of the poor than on the rich.
- Assessment methods may include an inequitable bias.
- Differences between business firms in the size and value of the premises they occupy may reflect the type of business more than its profitability (for example, selling cement necessitates a bigger shop than selling jewelry).

Income taxation is potentially the fairest form and can most readily be made progressive. The problem, however, is to achieve horizontal equity, that is, to achieve equal taxation of people with equal incomes but from different sources. Assessing salary earners is easy, assessing the self-employed more difficult. Two devices are common—self-assessment and the use of presumptive income criteria.
The equity of taxes on expenditure is difficult to determine because of uncertainty about who really bears the tax. Insofar as such taxes are passed on to the consumer, it can be argued that equity is preserved since expenditure is a reflection of ability to pay.

Evidence suggests, however, that expenditure taxes are highly regressive where they extend to mass consumption goods, such as food and clothing, since purchase-taxed foods take a higher proportion of the income of the poor than of the rich. This applies particularly to taxes on liquor and tobacco. This rarely, however, constitutes a major criticism of local expenditure taxes, such as octroi, since their incidence on final price is normally insignificant compared with that of national levies. Taxation of private vehicles can be highly progressive, particularly if graduated by size.

Administrative Capacity. The third major consideration in the assignment of revenue sources is administrative capacity. Revenue sources vary in the amount of skill, integrity, and determination required in their administration. They also vary in the amount of time and money involved in collecting them, compared with the yield. In many cities in developing countries, the majority of the population is self-employed or working for small “informal sector” business without clearly assessable income. The administrative costs of assessing and collecting any direct property or income tax from such a population are very high, although the average amount that can be collected per capita may be low. On the other hand, a very substantial revenue may be collected through a duty on petroleum, for example, at negligible administrative cost. In such economies, there is a heavy bias of administrative convenience toward dependence upon indirect revenues, which can be levied on formal sector commercial transactions through large manufacturers, importers, distributors, and so forth. This is not necessarily consistent, however, with considerations of equitable incidence.

The great administrative merit of property taxation is that liability is, or should be, obvious. One cannot conceal a plot or a building. Even so, considerable effort is necessary to keep cadastral surveys and taxrolls up to date. Industrial surveys are expensive in themselves.

The biggest administrative problem with property taxation is assessment. First, this requires technical skill which is often in short supply, though pooling valuers at national level or using consultants may help. Second, the process often involves a high degree of personal judgment and of contact between assessors and taxpayers which offers wide temptation to collusion in undervaluation. Simpler systems, which limit site visits to physical measurement and apply standard formulas, perhaps by computer, may be more effective.

Collection of property taxes can also prove difficult if liability attaches to elusive owners rather than occupants, if records are not kept up to date, and if sanctions are not punitive or strictly enforced.

Income taxation is relatively simple to administer so far as wage and salary earners are concerned, if employers are required to deduct at source. Assessment of and collection from the self-employed is far more difficult and collection costs can be high. Use of presumptive incomes helps assessment, but the resulting inequity is tolerable only where the incidence of the tax is low. If the tax is a mass tax, that is, not confined to the wealthier businessperson, a highly localized administrative network is needed to identify taxpayers and enforce payment. Even so, the mobility of labor in large cities can lead to substantial evasion. One check on this is a requirement of tax clearance for access to public services.

Taxes on expenditure raise very large revenues with very little cost or difficulty where they are collected through large marketing or manufacturing organizations or imposed (as with vehicle taxation) through forms of licensing which the public has a strong incentive to obtain. These levies are much more costly and difficult to apply to commercial transactions conducted through small business, markets, and the “informal sector.” A tax on the movement of goods, such as octroi, is relatively simple to enforce since the taxed foods “come to the
collector,” though this does impose some inconveniences on transporters (often much exaggerated by the transport lobby) and dangers of corruption.

**Political Acceptability.** No tax is popular, but some taxes are more unpopular than others. Political will is needed to impose taxes, to collect them physically, and to enforce sanctions against defaulters. Sometimes political sensitivity focuses on particular questions of social values (for example, should land be taxed, or should a charge for water be imposed?) or of sectional interests (of landowners, civil servants, traders, and so forth). More generally, taxes are usually less sensitive politically if they are indirect (concealed) and do not involve too many overt political decisions such as a parliamentary/council decision to raise the rate of tax.

Property taxes are highly sensitive politically for two reasons. First, they have to be collected directly from the payers and are, therefore, even more overtly seen as a burden than income taxes which may be deducted by employers. Second, any increase in tax, whether by tariff revision or revaluation, is normally dependent upon a deliberate political decision by ministers, members of parliament, mayors, or councilors.

Income taxation is sensitive insofar as it is also a direct tax (though collection at the source mitigates this to some extent) and increases in payment take place automatically as incomes rise. Taxation of the self-employed, however, is more sensitive since much argument may arise in the assessment process, and effective collection may depend upon a degree of “muscle” which is perceived as harassment.

Taxes on expenditure are usually the least sensitive politically since they are normally indirect and subject to a measure of concealment. They may, however, encounter opposition where they are seen to contribute to price rises which foster discontent or where an attempt is made to impose high rates on luxury items which affect political and business elites.

**Economic Efficiency.** Taxation has a dual purpose: to provide money for public purposes and to influence economic behavior. Taxes affect the cost of individual decisions—a property tax affects the profitability of building and renting a house, a sales tax affects the cost of buying a shirt, and entertainment tax affects the cost of going to the cinema. Taxes must be judged in terms of their effect upon the decisions of a taxpayer and upon the taxpayer’s propensity to work, consume, save, and invest.

Economic efficiency criteria are generally more important in appraising taxes at the national rather than the local level for two reasons. First, it is usually central governments who are principally responsible for overall economic management and who use taxes to manipulate economic behavior. Second, the scale of local taxes is usually insufficient to make a significant difference to people’s choices. A national customs duty of 50 to 100 percent will clearly affect the decision to buy a foreign car. Octroi at 2.5 percent is not going to make goods significantly more expensive to buy, but it must nevertheless be of concern whether local taxes will have a significant effect—harmful or helpful—on local economic behavior.

Property taxation is often debated in terms of its incentive effects on land use and construction. As already mentioned, unimproved-site value taxation is frequently recommended and occasionally adopted, to encourage high-value development and, conversely, penalize underdevelopment. It is likely that the supposed incentive and disincentive effects of property taxation in most cities in developing countries are considerably exaggerated, simply because of the low ratio of the tax to the other costs and incomes which influence an owner’s choice over development.

**Tax Administration by Local Authorities.** In addition to the general factors discussed above, tax administration by local authorities raises specific questions of feasibility. Some relating to the availability of administrative skills have already been raised. Others must be mentioned here.

The first issue is whether it is clear to which authority a particular tax liability is due. This is rarely a problem with property taxes since a plot or building is clearly located
within a particular jurisdiction. Some argument arises over local income taxation where an individual resides in a different jurisdiction from that in which he or she works; it is usually held that the area in which a person lives should get the tax, but some towns claim the right to tax commuters. The most difficult question arises over taxes on corporate incomes, where profits may be derived from operations in several locations. Countries with local taxes on corporate profits have developed formulas for assigning these to different municipalities, but the process is complex.

A second, and related, issue is whether the feasible point for collecting a tax is necessarily the location where it is effectively paid. Sales taxation may be collected, for example at a point of import or manufacture but effectively passed on to a buyer in another locality. Similarly, towns which are major retail centers may derive substantial revenue from people who live in neighboring jurisdictions (though that may not be wholly unfair).

A third issue concerns the feasibility of local variation in tax rates or assessment rules. Ideally, a local authority should have discretion to set its own tax rates, to make its own decision on the levels of taxation it raises and of services it offers. In the case of property taxation, no practical difficulty arises if one town levies a higher rate than another; it may have effects upon the local economy and upon choices of location, but at least the local authority can decide whether to bear these consequences or not. Differences in rates of local income taxation impose more difficulty where deduction is made at source. Employers, companies paying dividends, and so forth, may be severely inconvenienced in complying with different tax rates, though this is not impossible given the increased use of data-processing equipment. The biggest obstacles to variable tax rates apply to taxes on expenditure, since these can lead to significant variations in prices between jurisdictions and, therefore, to movements in trade; again, however, one can argue that a local authority should be free to make a decision in the light of all its consequences, beneficial or adverse.

GENERAL EXPERIENCE WITH LOCAL TAXATION. Financing by local taxes maintains the principles of local cost recovery, although the amount of individual tax liability is not closely related to the benefits received. It enhances accountability insofar as local representative bodies have discretion to fix tax levels and assessment criteria themselves and to reconcile these with expenditure priorities.

The most widespread base for local taxation is property—the value either of land alone or of land and buildings. The clear connection between such property and a given locality or the supply of physical services such as roads and drains gives it an obvious "local" character; it is the least vulnerable to poaching by higher levels of government. The latter immunity is chiefly due to two characteristics. The first is the cash from the ultimate bearer of the tax burden. The second is its inelasticity in relation to inflation, population growth, or rising incomes, causing pressure on public spending. These weaknesses have led to a widespread decline in the percentage contribution made by property taxation to the support of urban services. In much of western Europe, the tax is fast disappearing as a significant source of urban revenue.

Local taxes on corporate and personal income—usually by surcharge—are major sources of revenue for local authorities in parts of western Europe, North America, Japan, and South Korea. In economies where the bulk of commerce is in the hands of large corporations and most people are in fixed-wage employment, income taxation offers urban government a substantial and buoyant revenue base, providing that the rates of national/state income tax are not too high to preclude a significant local income tax or surcharge. These conditions are rarely obtained in cities in developing countries and few of them benefit directly from this tax base. A graduated personal tax in a number of African countries represented a major attempt to tax a large amount of income unexploited by national taxes, but these survive significantly only in Uganda and Zambia. Mass personal taxes are a means of exacting a contribution from all citizens, but in urban conditions that is a laborious and demanding process.
There are several cities which draw major revenues from taxes on goods, services and general business revenue turnover. Octroi provided 67 percent of Bombay's current revenue in 1985–1986 and 71 percent of Karachi's. These taxes can be lucrative and buoyant but are extremely heterogeneous and spasmodic, that is, a relatively few cities collect large revenues from taxes which vary considerably in their base and method of assessment. More widespread are taxes like those on entertainments which finance relatively small proportions of city budgets.

With inflation and rapid growth, city governments may be able to cope with the costs of providing a relatively limited range of physical services—local roads, refuse collection, and so forth—with a revenue base of property tax and user charges only. Those which have shown the capacity to finance a wider range of services (such as education and slum improvement), and to respond more energetically to growing demands have either (a) a substantially wider revenue base with at least one other major tax source (for example, motor vehicles in Jakarta, octroi in Bombay or Karachi) which effectively exploits the more buoyant features of urban economy, and/or (b) significant and increasing transfers from national/state government. These are not necessarily preferred alternatives, simply descriptions of past performance. A substantial and wider local revenue base may be more secure in the long term than a rising level of dependence on transfers.

User Charges

Some public services are financed by general taxation and others by direct charging to the consumer. In the one case, every taxpayer has to contribute regardless of whether the service is immediately available to him or her and how much he or she uses it; in the other, payment depends upon the service being provided and the use made of it. The reasons for this distinction have been discussed in the introduction to this section (see “Examining the Pertinent Issues,” pages 23–25.)

In practice, this distinction becomes blurred in two ways. First, charges may be imposed which greatly exceed the cost of the services rendered, the surplus being appropriated to a general revenue pool (as opposed to extending the service or subsidizing other users). This is typical of many charges for regulatory purposes—licensing fees, for example. Such “charges” are effectively taxes. Second, a service may be only partially financed by charges, the balance coming from specific or hidden subsidies from general tax revenue.

There is also a widely used practice which marks a halfway stage between taxing and charging. This is the calculation of service charges as a percentage of property tax values. Water, street lighting, and drainage charges in many Indian cities have this basis. They are like a charge insofar as they fall only upon taxpayers to whom the service is provided or available, but they are like a tax in that their scale is not related directly to the quantity consumed by the payer.

The Extent of Charging. There are enormous variations in the extent of public user charging—variations in charging for a service at all, variations in the extent of direct cost recovery, and variations in the dependence of particular public authorities upon revenue from charging.

Taking the first dimension, there are some services for which direct user charging (with or without subsidy) is almost universal.

- Piped domestic and industrial water supplies are normally billed through metered consumption rates, through a rate based on property valuation or the diameter of the mains connection pipe, or through sale from public water points.
- Public transport costs are recovered, partially at least, from passenger or freight fares (though subject to increasing degrees of subsidization from general revenues in western countries).
Postal and telephone services are normally sold per unit of service though there are exceptions of basing telephone charges upon property valuation.

Gas and electricity are also basically charged according to volume consumed, though unit costs often decline as the amount used increases.

Public housing tenants almost invariably pay rents (or tenant-purchase installments) except where free housing is provided to public servants as part of their conditions of service.

Some form of entrance fee is normally charged for use of certain recreational facilities (such as municipal swimming pools, golf courses, or theaters) though not for others (such as parks).

Provision of public utility services (such as water, gas, electricity, and telephones) is also usually subject to initial connection fees and sometimes to a basic standing charge, regardless of consumption.

There is a far greater range of services for which user charges are imposed in some cases or places, but not others. The following are prominent examples.

**Education.** Most countries now provide free tuition within their public school system at primary level, though the costs of "extras," like uniforms, meals, and textbooks may still be a significant burden for poor families. A minority still charge for primary tuition mainly where the provision of school places falls far short of the needs of the school-age population, though usually at highly subsidized rates. The position at secondary level is not dissimilar, but with more countries charging and at significantly higher rates; these are frequently counterbalanced by greater provision of exemptions or scholarships for the poorer students. In tertiary education, charging may be regarded as the rule; what varies is the extent of subsidization and of scholarship provision. An alternative concept in higher education is charging the costs to a loan account which the student discharges over his or her subsequent career. Parental contribution is frequently sought for the capital costs of school building through "self-help" community effort.

**Roads (and related infrastructure).** Construction and maintenance of highways are typically financed from general taxation. There is a variety of specific user charges for roads. Trunk roads with limited access are often operated as toll roads. Initial construction of estate or neighborhood roads, together with drainage and street lighting, is frequently charged to the landowners through initial service charges or to local taxpayers (and in some Colombian cities through the valorización tax system). These costs may alternatively be recovered from the developers and residents by public acquisition, servicing, and resale of land—a widespread practice by urban development authorities or new-town corporations—or by the variant of land readjustment. Costs of city center roads may be recovered indirectly through parking fees or area licenses (most significantly in Singapore). Maintenance of local roads and paths in rural village or urban neighborhoods may depend upon obligatory communal labor or some monetary commutation.

**Medical services.** Generalizations are difficult, but two basic models can be discerned. In the first, public hospitals and clinics provide a free basic service, while charging for preferential accommodation or priority treatment for nonemergency cases in hospitals; a substantially free basic service may, nevertheless, be associated with a low flat-rate fee for treatment and/or drugs, subject to exemption for children, the elderly or destitute. The other model is full-cost charging by hospitals and clinics—whether publicly or privately run—but with a national medical insurance scheme or a range of private insurance schemes to cover patients' costs; some form of protection is usually given to those with low incomes and inadequate insurance cover by means-tested exemption or the graduation of charges.

**Environmental health.** As a demonstrably public good, public health services are customarily tax borne. There are exceptions. Sewerage or refuse collection is frequently
charged to those served, occasionally by specific fees, but usually in the case of households, by a rate graduated according to property valuation. Removal of industrial refuse or effluent is usually charged specifically according to volume and effluent strength. Where communal sanitation is provided, users may be expected to maintain it collectively.

- **Fire services.** Urban authorities occasionally charge their citizens (or their insurers) for putting fires out.

**Cost Estimation.** The basis of charging is cost recovery. Policy may permit charging less than the full cost or may seek the recovery of more than the full cost involving, respectively, a contribution from or to general revenue. Issues of subsidization or surplus generation will be discussed in later sections. The first necessity under a charging policy is to define and calculate the full costs of the service under consideration. This begs three issues.

*Attributing Costs to a Particular Service.* The first issue is what expenditures to attribute as costs to a particular service. Where does one draw the boundary between the costs of a particular service and those of general public services in the locality or the general administrative overheads of the local authority concerned? For example, in calculating the costs of a site-and-service plot, one could include expenditure on:

- Local off-site services (estate roads, drainage, street lighting);
- Extensions to trunk infrastructure necessitated by the estate (for example, main roads, water-treatment plants and pumping stations, main services);
- Social and community services (for example, schools, clinics, community halls);
- Project administration (for example, managers, architects, engineers);
- A proportion of central administrative overheads (for example, planning, personnel and finance departments, the chief executive office).

An intermediate approach is to attribute only the marginal costs of administration, that is, those increases in overheads caused specifically by the expansion of a service. The community services on an estate might be regarded as part of the general services provided by local government to public and private housing tenants and owner-occupiers alike. If this is so, there would be no justification for including them in the housing costs; a different case would arise if services provided to a municipal estate were of an exceptionally high standard and character. Again, it is possible to resort to the principle of charging the marginal costs, that is, those increases in public expenditure which arise specifically from the provision of the service.

The cost "boundaries" issue arises most sharply in respect to car parking. The full cost of a parking lot might be regarded as confined to the provision and management of a parking site. It can be argued, however, that the costs of parking include providing access to the general area, thereby including the whole of the road and traffic management system in the vicinity.

*Calculating Costs: Actual Expense versus Pooled Average.* The second issue is whether the costs should be calculated according to the actual expense of a particular unit of service or on a pooled average basis. The actual costs of an identical level of service may vary considerably. Amortization of capital costs will vary with the age of the capital assets because of inflation and because of fluctuations in the interest rates attached to any loans involved. Location affects costs. Water and electricity will cost more to supply to outlying areas because of transmission costs—the length of mains, pumping, leakage, and so forth. Low-density populations consume less than high density, but the fixed costs of provision will not fluctuate proportionately. A half-empty bus serving a sparsely populated area will cost almost as much to run as a crowded one in the city center; depreciation and labor costs may be almost constant and fuel consumption will not be proportionately lower.

There are conflicting arguments. If chargeable services are seen as purely private goods and charging as a market-pricing instrument, each unit of service should be charged according
to its own marginal cost. A consumer is provided with a service only if he or she is prepared to pay the supplier's true cost of providing it. This encourages rational use of a service and an optimal location of settlement. If wealthy commuters choose to live on elevated 4-acre plots 20 miles from the city, they should bear the heavy costs of pumping water to them; the charges might encourage them to live somewhere more sensible in the eyes of town planners.

The opposite argument is that the circumstances which vary the cost of service are not necessarily of the consumer's making; insofar as the service might meet a basic human need, the consumer should not be penalized if these costs are above average in his or her case. If the poor live on the outskirts of a town, for example, it may be because that is the only place they can afford land and shelter; distance from work will increase their essential expenditure in any case. Their burden should not be increased further by charging above-average unit costs for essential services.

In many cases, this issue can be difficult to resolve. It faces public housing authorities when fixing rents of estates which vary greatly in the historical construction costs and interest charges pertaining to particular generations of houses. Two questions, however, affect the balance to be struck between the arguments for marginal cost and for equalized charging. The first is the extent to which the service (or some minimum provision of it) is meeting an essential human need. The second is the degree to which individual consumers choose the circumstances—particularly the location—which affect the cost of the service they use. Both questions really involve the degree of consumer choice; the extent to which use of a service at above-average cost is self-imposed, like buying an expensive shirt.

Including Capital Costs. The third issue in cost estimation is whether capital costs are included and on what basis. There are many examples of services which are meant to be self-financing, but only the operating and maintenance costs are charged to the consumer. The capital costs have been met out of general public revenues or from loans which have been fully discharged. Many long-standing water supply and sanitation systems fall in this category; so does the New York City subway.

Clearly, where debt charges are still current, these would be included in the chargeable costs of a service unless it is being deliberately subsidized. Even so, these debt charges might fall below a market level if the loans are "soft," that is, they have not been advanced on full commercial terms. There are arguments, however, for including capital costs in the estimation of charges, whether the authority administering the service is currently discharging them or not. Capital investment is regarded as having an opportunity cost; it could have been used on some other form of public expenditure if left in the taxpayer's pocket. Seen in this light, investing capital in a particular service can be justified only if it earns a rate of return comparable with alternative forms of public or private use. The public's willingness to buy a service at the resulting level of charging is comparable to its readiness to buy goods or services from a commercial operator using the same amount of capital; it is the essential market test of viability. It is even argued that this test of comparison can be fully met only if charges include the equivalent of the taxation which a private operator would have faced.

Alternatively, it can be argued that it is improvident not to contribute to the capital costs of assets just because they have already been fully met by another generation or public body. They will wear out in time and will require replacement at current costs. Not to pay toward capital costs is to live off the sacrifice of previous and future generations. Charging should, therefore, include the amortization of capital assets at their current rather than historical value, that is, the cost of acquiring or constructing them now.

Marginal cost pricing is a further variation of this approach, aiming to charge all consumption at the unit cost of meeting any additional demand; if extra demand would necessitate new capital expenditure, its unit costs would be reflected in the price of the whole existing supply. For example, if a water supply is capable of supplying twice the
present level of demand, the marginal cost of extra consumption would be zero. If its full
capacity is already exhausted by current demand, however, the marginal cost of water is
investment in a new supply (extra reservoirs, pumping stations, mains, pipes, treatment
plants, and so forth). Such pricing is advocated on the grounds that every consumer must be
faced with the full-cost implications of increasing demand. It is mainly urged in relation to
utilities such as water and electricity where increases in consumption can flow from the
decisions of existing as well as potential consumers.

Including provision for future capital requirements through depreciation charges, current
cost accounting, marginal cost pricing, or similar approaches is obviously prudent in theory,
but it does have its dangers. Adoption of such principles may give rise to considerable
increases in charges which conflict with counter-inflationary policies. It can also generate
substantial cash surpluses which discourage service managers from proper concern with
efficiency and economy in expenditure. Surplus funds held against future capital commitmens
can be too readily diverted to cover deficits in the financing of other services.

Chargeable Costs. There are, therefore, a variety of practices in cost estimation. Chargeable costs may include:

- Operation and maintenance only;
- Amortization of capital costs on "soft" terms (that is, interest free or on submarket
  interest rates; perhaps with moratoria on repayment or prolonged repayment
  schedules);
- Amortization of capital costs at full market rates of interest;
- Depreciation of the value of capital assets over their estimated life;
- A commercial rate of return on the value of the investment in capital assets;
- The marginal cost of investment (that is, the unit capital costs of providing more than
  the present supply); and
- A notional element of tax liability.

In calculating the value of capital assets for assessing depreciation or rates of return,
valuation may be based on either historical costs or current market or replacement costs.

A two-part tariff may be adopted with a fixed charge for the capital installation costs
and a variable charge based on consumption.

Charging Below Cost. The grounds for imposing charges would normally suggest that they
should be based upon the total costs of the services under provision (though subject to all the
question over cost estimation just discussed). The extent of this self-financing varies,
however. As we have seen, the theoretical justification for charging involves some
compromises. These may result in charges being fixed below full-cost level and subsidized
from general revenue. There are three major reasons why this may happen.

The first case arises where a service is basically a public good—is provided because of
its collective benefit—but a charge has to be imposed to discipline consumption. The charge
would then have to be set at a level calculated to deter waste but to permit the minimum
essential level of consumption by all income groups. Medical prescription charges or water
standpipe rates may fall into this category.

The second case for subsidization occurs where a service is partly a private and partly a
public good—where it primarily benefits the individual user, but its consumption needs to be
encouraged for some public saving or benefit. The most conspicuous example is where rail or
bus fares are subsidized to encourage people to use public rather than private transport, as a
means of reducing traffic congestion and road expenditure.

Last, and most significant, a private good may be subsidized, because it is regarded as a
basic human need and the lower income groups, at least, could not be expected to meet its full
cost. One has to be careful in giving examples simply because the conception of "basic needs"
is highly subjective and relative to the general standard of living.
To the purist, subsidization is an aberration. Clearly, it can lead to inefficiencies—either because resources are squandered on a provision which is not cost effective or because it benefits all consumers whether they need the subsidy or not. Two solutions are advanced. First, reduced charging should apply only to certain categories of users: lower income groups, children, old people, and so forth; or second, subsidization should apply only to a minimum level of consumption above which market pricing should apply. The first 40 liters of water supplied to a person per day might be charged, for example, at a low rate below cost; consumption above this level would be priced at the full marginal cost. This is known by The World Bank as the "lifeline" approach. Water tariffs in Hong Kong and Tokyo, for example, are based on this principle.

**CHARGING ABOVE COST.** In some cases charges may be based upon recovering more than the cost of a service, that is, upon making a profit. There are three cases, at least, where this may arise. The first is where charges are imposed for a basically regulatory purpose involving little direct cost. There is a wide variety of charges from which municipalities in various countries derive revenue—often substantial—of this type. Examples include plot registration fees, land transfer fees, building licenses, trading licenses, parking charges, and liquor licenses.

Second, charges may be imposed at an above-cost level to reinforce their disciplinary effect upon consumption. Telephone charges may be graduated according to the time of day to discourage congestion at the peak business hours. Parking fees or area licensing fees may be imposed at punitive levels, as in Singapore, to keep the private car out of the city center.

Third, a service may be in heavy demand and people are willing to pay highly for it because of its importance or popularity and short supply. This may particularly operate where the same service is subject also to costly private enterprise provision.

Charging above cost could be justified in such circumstances if the surplus revenue is ploughed back into extending the service so that a greater number of users have access to it. Charging above cost, however, is analogous to taxation. Its incidence and equity have to be considered. Which sections of the community are paying over the odds for a service, and which sections are benefiting from the surplus revenues? Charging high parking fees may be equitable insofar as car owners are generally of higher income groups. Making profits out of bus users through fares, bus station fees, and so forth, may largely penalize the poor.

**EVALUATION OF USER CHARGES.** The extent and practice of charging are subject to such variation that generalizations about the scale of its contribution to local government revenues would be meaningless.

**Adequacy and Elasticity.** Some comment is possible, however, on elasticity. Charging should be responsive to growth in population and incomes, since these are generally reflected (often more than proportionately) in the growing demand for, and consumption of a service. The response is dependent, however, upon the accessibility of capital to expand the service to meet a growth in demand. There is an associated problem that population growth, particularly in large urban sectors, is so often associated with diseconomies of scale—the higher pumping costs and greater leakage involved in supplying outlying areas with water, for example.

Charges tend to be unresponsive to inflation, however. They are almost invariably based upon fixed tariffs per unit of service and a discretionary decision is needed to increase them when costs rise. Increasing house rents, water charges, and bus fares is unpopular and they frequently fall far behind the rate of inflation.

**Equity.** Charging is traditionally regressive, that is, it satisfies the benefits principle but fails to satisfy the ability-to-pay principle. There are three reasons. First, it falls upon consumption, which may be dictated more by essential needs than income levels. Second, subsidization often benefits middle and higher income groups more than the poor, as already discussed, with public housing and tertiary education as prime examples in many developing
countries. Third, because the capital costs of installation have to be recovered regardless of the level of consumption and do not vary greatly according to that level, many tariffs are based upon a declining unit cost, that is, the more water or electricity used, the cheaper it gets. This favors large industrialists at the expense of small enterprises, householders with two bathrooms, a lawn to sprinkle, and a Mercedes to wash, at the expense of poor families with one tap.

One other regressive practice has been the initial connection charges for water and electricity—regressive in the sense that the requirement of a lump-sum payment for initial installation has frequently prevented poorer households from getting a service at all.

Charging is not usually seen as an instrument of redistribution per se. It is an inefficient tool for this purpose precisely because consumption is not related proportionately to income. Nevertheless, there is a growing concern to curb its regressive tendencies and even to use it as a positively redistributive mechanism. There are two reasons. The first is the effect which regressive incidence may have upon the access of the poor to chargeable services regarded as basic needs. The second is the failure of the taxation system in many countries to shift resources from the rich to the poor; if charges are easier to exact than taxes as a general means of financing public expenditure, this may extend to their utility in redistribution.

There are various methods by which charging can be made less regressive or positively redistributive. The first is the widespread basing of charges upon property values; water and sanitation are often priced on this basis. The second means is the use of differential tariffs with higher rates upon certain classes of user—usually commercial and industrial; this is, of course, a questionable instrument if the incidence falls on the consumer rather than the shareholder. The third is a progressive tariff which imposes increasing unit prices as consumption rises. The fourth is means-testing, with reduced tariffs or exemptions for the old and the poor (rarely an easy process to administer). Water supply schemes financed by the World Bank have been widely characterized by cross-subsidization, progressive tariffs on larger domestic or commercial consumers reducing or eliminating the charge for supply to public standpipes and to households consuming small volumes only. This is being questioned, however, on the grounds that high water consumption may reflect household size more than wealth and that large families or shared dwellings are the prerogative of the poor.

Cross-subsidized housing schemes are also an object of increasing experiment—rents or tenant purchase charges on larger houses or commercial premises subsidizing the provision of serviced sites or small units. Remedies for the burden of initial connection charges include spacing them over a number of years through recovery by installments with the regular consumption charges.

Administrative Capacity. Charges are theoretically easy to assess and collect. They are easy to assess because liability is based upon measurable levels of consumption, easy to collect because people get only what they pay for. If rents are unpaid, the tenant is evicted; water, electricity, or telephones are cut off if bills are unpaid; people can enter the swimming pool or the theater only through the turnstile.

In practice, however, there are three sets of difficulties. The first is technical—the problems of controlling illegal water connections and meter bypassing, for example, or of collecting fares from a crowded bus with passengers inside and outside. The second concerns the political will to implement sanctions. Evictions rarely win votes and are pilloried by the media; politicians may intervene to stop disconnections of water or electricity supplies to their supporters. The third problem is integrity. Tax liabilities are fixed, but those for charges vary with consumption; it is harder to check what collectors should have received.

Determined imposition of sanctions is essential to efficient administration of charges. Some other devices are common. The first is to estimate what income should be received and then impose target revenues upon collectors. Even municipal bus crews in Jakarta are expected to turn in a target collection of fares per route per day. A second practice is subcontracting charging to commercial collectors who tender lump-sum revenues competitively; this is
analogous to tax farming. Either method stabilizes revenues but can exploit the consumer. Subcontractors become monopoly suppliers and can often make extortionate profits, standpipe water selling being a notorious case in some countries.

A third practice is to require small neighborhood groups to collect charges and pay these jointly to the service authority. This has been adopted for plot and water charges in the upgraded squatter areas in Lusaka; prompt payment is rewarded by a discount in the form of some communal improvement.

**Political Acceptability.** Most charging is accepted in principle. Insofar as charges are directly related to a specific tangible service and insofar as consumption includes an element of choice, charges are understood and met with reasonable willingness.

Nevertheless, the level of charging is most sensitive politically. Most charges have to be paid out of pocket; many relate to what people regard as daily necessities—education, transport, water, housing, and the like. Increases require specific political decisions and are unpopular. Moreover, the need to raise charges arises particularly in times of inflation when governments are under pressure not to increase prices themselves. Representative bodies are often even less willing to raise bus fares, house rents, or water rates than taxes. As a result of failure to increase charges through political inertia, services either deteriorate or require increasing subsidy. Bus services for example have become increasingly unreliable through the inability to replace worn-out vehicles. Alternatively, increased charges due to rising costs may result in decreased consumption. Since capital costs and overheads may be constant, this gives rise in turn to increasing unit costs. A vicious circle of declining use and rising charges is created.

Finally, the direct connection between consumption and charging is not always a political advantage. The public may make invidious comparisons between the service they receive and the amount they pay for it. Such discontent may be helpful if it spurs managers to greater efficiency; it may be less so where it is based on misconception of the true costs of provision.

**Charging by Local Authorities.** Discussion so far has not focused specifically on charging by local government, since little distinction can be drawn between the practices and experience of central, parastatal, and local authorities in this respect. Many, if not most, of the directly charged services are provided in fact by local authorities.

There are no special problems attached to the administration of charging by local government. The performance of a service is normally located clearly in a given region and assignment does not create difficulty. Local variation in tariffs may cause political dissatisfaction, but no insuperable administrative problem. The relative closeness of local representative bodies to their electorate may, however, sharpen their reluctance to increase tariffs or enforce compliance.

**Conclusions.** Disparities in the levels of provision, relative acceptability, ease of collection, and the need to test or discipline popular demand are all powerful arguments for charging service costs directly to the consumer. Although not inherently or traditionally an instrument of redistribution, charging can be molded to this purpose where there is political will and no suitable fiscal alternative.

Much charging is highly sensitive, however; revenue may well fall below the levels needed to operate a service effectively, particularly in times of inflation, because of political reluctance to increase tariffs or enforce sanctions. The specific connection between consumption and cost, and the direct nature of payment enhance accountability where representative institutions are involved, but the consequent sensitivity can undermine the viability of a chargeable service.
Improving Administration of Local Taxes and Charges

In most developing countries, there is substantial potential for increasing the revenue yield from local taxes and charges through implementing improvements to local revenue administration.

These improvements may include reforms to the property tax laws and systems to raise more revenue from delinquent taxpayers by collecting more efficiently—introducing improved methods of identification, registration, and collection; developing a comprehensive inventory of all land parcels; incorporating missing parcels; including an accurate measurement of all land and building characteristics to be used in valuation; improving valuation systems; and devising better systems for monitoring, collecting, enforcing, and financial reporting. For example in Delhi, better property tax collection, including rebates for timely payments, penalties for late payments, better facilities for making payments, and an improved management information system increased revenue by 16 percent in 1985–1986 and 96 percent in 1986–1987. Experience has shown that improving collections works best when the tax rolls are reasonably complete and valuations are accurate—at least in relative terms. Otherwise, increases in the efficiency of collection may exaggerate existing inequalities. The maintenance of accurate property tax records, usually termed the fiscal cadastre, is a particularly important step in basic reform, since the tax base is constantly changing in developing countries because of rapid urban growth and high inflation. An accurate cadastre also aids in planning and providing local services, especially infrastructure, and in administering and collecting development charges.

The improvement of tax administration usually requires the introduction of intensive training programs in areas such as computerization of billing and tax records, property valuation methods, cost analysis (for deriving appropriate user charges for services), and accounting systems.

The World Bank's experience with property taxation reform programs in the Philippines and Brazil illustrates some of the problems involved and potential benefits.

The Philippines Real Property Tax Administration (RPTA) Project was designed to address the problems of a weak property tax system. The project's approach was to change the system of valuation from one based on owners' declarations to one based on a government inventory. The project aimed to compile, in each jurisdiction, a comprehensive inventory of all land parcels, which would incorporate missing parcels, eliminate duplicate claims, and include an accurate measurement of all land and building characteristics to be used in valuation.

The project was successful within its narrowly defined objectives. Average valuations increased by 50 percent. This was largely due not to the discovery of missing parcels but rather to the revaluation of existing parcels, based on property characteristics gathered in the field. Contrary to the government's original diagnosis, property owners were in the habit of declaring all parcels under their ownership. Owners did, however, understate the dimensions and quality of each parcel and the improvements they had made to it.

The RPTA left several problems, however. First, the calculation of individual valuations remained highly arbitrary. Although the RPTA yielded more accurate data on the characteristics of individual properties, the method used by valuers to convert that data into estimates of value was not improved. Second, property tax liabilities remained low. The RPTA did not reform rate-setting and related policies. The central government in the Philippines fixes the maximum tax rate on property, mandates fixed assessment ratios (as low as 15 percent on low-value residential property), and fixes the date on which new general revaluations become effective. Interim indexation of values is not permitted. As a result, effective tax rates before and after RPTA were as low as 0.3 percent. Finally, the RPTA did not improve collection. On average, revenue collections increased by only 1 percent in the year after the project began.
Brazil's property tax reform (known by the acronym CIATA) was designed, like the RPTA, to address the technical defects of a system producing very little revenue. The objectives of the CIATA were to revise the fiscal cadastre, in order to incorporate missing parcels and improve the accuracy of valuations and to devise a better system for monitoring collection and financial reporting.

The short-run effect of the CIATA on municipal revenues was dramatic. Municipalities typically reported increases of 100 to 200 percent in revenues in the year following implementation. Most of this increase was due to improvements in the fiscal cadastre: missing parcels were discovered and values were recalculated using more accurate data on the physical characteristics of individual properties.

Intergovernmental relations in Brazil were an obstacle to property tax reform. Unconditional transfers provide 80 percent of the recurrent revenues of local government. Because local governments could draw on outside finances to deliver services, they had little incentive to raise property taxes for their constituents.

The Principles of Revenue Administration

Revenue administration is concerned with the implementation of fiscal policy—with the process of identification/registration of taxpayers and consumers, assessment, collection, and enforcement. It is concerned with the administrative feasibility of a local tax source or charge—one of the five general criteria by which levies should be evaluated. Two particular measurements can be used:

- **Realization**—the proximity of actual yields to the true potential of the revenue source (the potential being the yield, assuming that everyone who should pay, does pay, and pays his or her full liability);
- **Cost**—the amount of resources used in collecting revenues in relation to their yield, measured in fiscal and human resources (and also public goodwill, though that is hard to measure).

Fiscal policy and revenue administration are interlinked. If a revenue source cannot be administered effectively (that is, if yields fall far short of potential) or efficiently (that is, if costs represent an unreasonable percentage of yields), it is necessary to reconsider its imposition and to evaluate substitutes.

**Realization.** In relation to realization, the objectives of revenue administration are to ensure that:

- Everyone who should pay a tax or charge does so,
- Everyone pays the right amount, and
- All revenue is properly brought to account by those who collect it.

This means:

- Identifying all those liable to pay,
- Assessing them correctly,
- Collecting the payments as assessed,
- Checking who has not paid and enforcing sanctions, and
- Controlling actual receipts by collectors to make certain they are brought to account.

Realization is threatened by two factors:

- **Evasion**—the desire of taxpayers to avoid paying a tax or charge, or to pay less than they should;
- **Fraud and collusion**—the temptation to assessors and collectors to allow payers to avoid or reduce payment in return for bribes, or to conceal and retain revenue they have collected.
These lead to the following risks:

- **Identification**—the taxpayer evades identification or the collector identifies but fails to impose the tax/charge;
- **Assessment**—the payer conceals his or her full liability or the collector is bribed to underassess;
- **Collection**—the taxpayer fails to pay, the collector fails to enforce, or the taxpayer pays, but the collector retains the money.

The art of revenue administration is to devise procedures which minimize all these risks. An important element of fiscal policy is also to choose revenue resources for which such procedures are available.

**Identification of Payers.** Procedures should make it difficult for payers to conceal their liability and easy for government to check that they have been identified by the revenue staff. It helps if:

- Identification is automatic (for example, everyone who gets an electricity supply pays a bill including a local tax on services and utilities);
- There is an inducement to people to identify themselves (for example, people have to buy a ticket including entertainment tax to enter a cinema);
- Identification can be linked to other sources of information (for example, registrations of land transfers can be used for identifying property tax payers);
- Liability is very obvious (for example, the number of permanent stalls in a market which should be paying market fees).

Conversely, it is difficult to identify payers when liability is easily concealed (for example, the ownership of a radio). It is also difficult to check on fraud and collusion when the headquarters of the revenue department has no readily available information on how many people should have paid (for example, how many lorries passed through a distant road post, or how many casual hawkers used a market).

**Assessment.** Procedures should make it difficult for payers to conceal their full liability or for assessors to undercollect. It helps if:

- Assessment is automatic (for example, a fixed percentage on the hotel bill or a cinema ticket);
- The assessor has little or no discretion, (for example, a fixed fee on a market stall per size, location and type of business);
- The assessment can be checked against other information, (for example, fees for extraction of building materials can be checked against quantities supplied by a government contractor).

Conversely it is difficult to ensure full assessment where full liability can easily be concealed or assessors exercise considerable discretion (for example, where the correct business license fee is assessed by a visit to individual premises to verify size and type of business, and so forth).

**Collection.** Procedures should ensure that payment of liabilities is enforced and that actual payments are brought fully to account. It helps if:

- Payment is automatic (for example, coin-operated public telephones or withholding of tax from salaries, contract payments, and so forth);
- Payment can be induced (for example, when payers need tax clearance certificates to get contracts, licenses, and so forth). Tax clearance procedures need to be used with care, however. They can be very unfair to payers if there is no accurate and prompt procedure for issuing assessments, recording payments, and providing receipts);
- Default is obvious (for example, a motor vehicle has no current license disk or number plates);
• Penalties are really deterrent (for example, a high rate of interest on all late payments) and are enforced; penalties also need to increase substantially the longer payment is overdue;
• Actual receipts are clear to the controllers in the central tax office (for example, if fixed fee tickets are issued rather than receipts with carbon copies which can be altered);
• Payment is easy (for example, it can be made at local cash offices, banks, post offices, and so forth, without long delays or travel).

Conversely, it is more difficult if there is no real pressure on people to pay and no clear evidence of how much has been collected. It is also difficult if taxpayers are put to great inconvenience in paying, having to travel distances and wait in queues.

COST. Cost is measured by the proportion of a revenue resource devoted to its assessment and collection. Collection costs, as a percentage of yields, can be kept low where:
• Assessment and collection are linked to some other administrative process (for example, a surcharge on electricity bills or petroleum duty);
• A number of revenue sources can be collected in a single transaction;
• Individual tax or fee payments are large that is, there is a substantial revenue return on the cost of collecting each liability (for example, with a motor vehicle tax);
• Transactions (assessments and collections) are physically concentrated;
• Assessment and payment can be made automatic (as with vehicles passing through a road toll).

Conversely, costs can be very high where:
• A fee or tax is very small;
• Assessors and collectors are dealing with only one fee or tax;
• Collection is geographically dispersed;
• Visits have to be made by collectors to taxpayers’ houses, and so forth.

CONCLUSION. There is no standard set of rules or practices that can make revenue administration watertight, but certain lessons can be drawn from the previous analysis and experience.

Revenue sources which rely upon house-to-house, business-to-business assessment and collection by officials are difficult to make really effective and efficient. Clearly, every effort has to be made to improve their administration by measures such as:
• Minimizing the discretion of assessors who have face-to-face contact with taxpayers (for example, by using formula assessments of property);
• Rotating personnel;
• Using independent evidence to cross-check assessments; applying self-assessment procedures if strongly supported by sample checks and sanctions for under declaration;
• Keeping comparative data on performance of assessors and collectors to identify those apparently needing closer supervision.

Equally, effort is needed to identify and exploit revenue sources, which do not offer the same scope for evasion, collusion, and so forth. These include:
• Taxes or charges which are paid by automatic processes (for example, taxes on fuel, electricity consumption, or entertainments);
• Taxes or charges where the payer “comes to the municipality” rather than vice versa (for example, the great advantage of octroi where the taxable goods have to pass through an inspection and collection point);
• Taxes or charges with a ready and punitive sanction for default (for example, disconnection of a water or electricity supply).

Good, comprehensive, up-to-date information is vital at all stages of identification, assessment, and collection. Coordination and exchange of information is important. For
example, information on the use of a building for commercial purposes is needed for issuing licenses, planning control, and property tax assessment; is this information exchanged between the departments responsible?

Finally, the ease or difficulty of revenue administration is heavily influenced by the attitude of the taxpayer. No one enjoys paying taxes or charges, but there are differences in the degree of acceptance or resentment which affect the intent to which people actively seek to avoid their obligations. Compliance can be encouraged. Simply explaining the purpose and calculation of a tax or charge helps. So do collection arrangements which do not subject the payer to great inconvenience—for example, having to wait in a long queue or travel a long distance to pay a water charge or license a shop. Most important of all is a visible connection between a tax or charge and the quality of the service for which it is paid. A property tax is more acceptable if the streets are repaired and the refuse removed. An increase in water charges may not be resisted if supplies become more regular.

**Analysis of Revenue Performance and Potential**

In Chapter 1, we introduced the concepts of revenue analysis and briefly demonstrated how they could be applied to identify unused revenue sources, project revenue and expenditure trends into the future, assess debt carrying capacity of local government, evaluate the impact of rate changes in local fees and licenses, and assess the efficiency of local services. This section illustrates in more detail how revenue analysis techniques may be applied to analyze the performance of individual revenue sources. For presentation of the techniques, we have selected two main revenue sources to illustrate the processes of analysis: property tax, and service/user charges.

**Evaluating Property Tax Revenue Performance.** There are several different systems for levying property taxes that affect the types of analysis that can be used. The major distinction is between property tax systems based on rental value of property and systems based on market, or sale, value of property. For some types of analysis dealing with trends in property tax revenue growth, however, the distinction between the different valuation systems makes no difference. Only in the analytical techniques dealing with estimates of the tax base is the difference between the two systems critical; in that case, alternative methods for estimating the tax base are presented.

There are two major problem areas in property tax administration: (1) property identification, and (2) valuation and tax collection procedures.

Since local governments can collect only tax amounts that are recorded on the tax rolls, poor listing and valuation practices limit the effectiveness of even the best collection procedures. Table 2.1 shows the steps in the property tax system and the relationship of listing valuation and collection procedures to tax yield. The example in the table 2.1 shows the effect of poor valuation efficiency on total yield.

The example in Table 2.1 shows a collection efficiency of 22.2 percent, meaning that less than one-quarter of what should have been collected in property taxes was actually realized. Because no procedure in the tax system is ever 100-percent efficient, we would expect a collection efficiency somewhat less than 100 percent. In many developing countries, however, efficiency rates for local property taxes of 25 to 40 percent are common, meaning that considerable improvement is possible within the existing rate structure.

There is no fixed rule about whether a given level of collection efficiency is high or low. The best way to judge the performance of an individual municipality is to compare it to other similar municipalities in the same country.

The key to analyzing property tax performance for a single municipality is to have a good estimate of the tax base—that is, the total value of all property on which the tax is levied. As we will see later in exercise 2.3, the valuations recorded on the tax rolls may not be a good estimate of the true tax base if the tax rolls are not complete, or if the property valuations are not accurate or up-to-date.
Table 2.1 Components of Property Tax Collection Systems and the Potential Results of Inefficiencies in Their Application

<table>
<thead>
<tr>
<th>Components</th>
<th>Real situation</th>
<th>As carried out</th>
</tr>
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<tbody>
<tr>
<td>Properties to be taxed</td>
<td>There are 12,000 properties in city.</td>
<td>Only 8,000 properties are recorded on tax rolls.</td>
</tr>
<tr>
<td>Property values</td>
<td>Average value of each property is $3,000.</td>
<td>Assessment records an average value of $2,000.</td>
</tr>
<tr>
<td>Total valuation on rolls</td>
<td>Total valuation should be $36,000,000 (number of properties x average value).</td>
<td>Actual valuation is $16,000</td>
</tr>
<tr>
<td>Tax rate times valuation =</td>
<td>Total liability should be 3% x $36,000,000 or $1,080,000.</td>
<td>Recorded liability if 3% x liability (3% x $16,000,000 or $480,000).</td>
</tr>
<tr>
<td>tax liability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax collection procedures</td>
<td>If collection efficiency is 100%, tax collection should equal tax liability.</td>
<td>Actual collection efficiency is 50%.</td>
</tr>
<tr>
<td>Tax yield</td>
<td>Yield should be $1,080,000.</td>
<td>Actual yield is $240,000.</td>
</tr>
</tbody>
</table>

Total efficiency of tax collection

\[
= \frac{\text{amount collected}}{\text{real liability}}
= \frac{240,000}{1,080,000}
= 22.2\%
\]

There are three ways to estimate the value of taxable property, depending on the type of property tax system and the type of information available. It must be kept in mind that these techniques give us estimates of the value of property, not a precise measure. These estimates can be used, however, to check the recorded valuation on the tax rolls. They can reveal very quickly whether property valuation is too low and how much improvement can be made. The three methods are:

- Baseline projection
- Cost projection
- Income profile projection.

Using the Baseline Projection Technique. The baseline projection technique is used when the analyst has a reasonably good estimate of property valuation at some point in the past.
and can use that estimate as the basis for estimating current values. For example, if a cadastral survey was completed at some time in the past, giving reasonably good information on property characteristics and values, that may be used as the baseline.

In order to project the baseline data into the present, we assume that (1) the total amount of taxable property has increased in proportion to the population growth, and (2) the value of property has increased in proportion to the rate of inflation. Therefore, to carry out the projection, we need to know what the population rate increase has been and what the inflation rate has been in the years since that baseline valuation estimate.

Exercise 2.1 shows how the calculation of a current estimate can be made using the baseline projection technique. Since this technique is used to estimate the total tax base using past valuations, it can be applied to either rental value tax systems or market value systems.

The cost projection technique is used for estimating the tax base for market-value-based property tax systems in which residential housing is the major component of the property tax base. The underlying principle is quite simple: we try to estimate the total value of the housing stock and then, where possible, estimate other, nonhousing property value as a proportion of the housing valuation.

**Exercise 2.1 Calculating Property Valuation Using the Baseline Projection Technique**

**Step 1. Calculate growth in number of properties**

Example: In 1984, our base year, a cadastre survey recorded 13,250 properties with a valuation of $26,500,000 or $2,000 per property. If population growth is 4 percent per year, we assume that the number of properties is growing at 4 percent per year also. Therefore, in 1985 the number of properties is: 13,250 + (.04 x 13,250) = 13,780

Each year, it increases 4 percent, giving us:

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<tbody>
<tr>
<td>Number</td>
<td>13,780</td>
<td>14,331</td>
<td>14,904</td>
<td>15,500</td>
<td>16,120</td>
</tr>
</tbody>
</table>

**Step 2. Calculate increase in value.**

Example: The average property value in 1984 was $2,000. We assume that property values are growing at the same rate as the inflation rate, which was 15 percent per year from 1984 to 1989. Therefore, average value increased 15 percent per year, giving us an average value in 1985 of $2,000 + (.15 x 2,000) = $2,300

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<tbody>
<tr>
<td>Value</td>
<td>$2,300</td>
<td>$2,645</td>
<td>$3,042</td>
<td>$3,498</td>
<td>$4,023</td>
</tr>
</tbody>
</table>

**Step 3. Calculate total valuation in 1989.**

Total valuation in 1989 = 16,120 properties x $4,023 (average value) = $64,850,760

This technique is most useful when we suspect that the tax rolls greatly understate the total tax base. The technique can be used when the analyst has information on the average cost of housing, the number of housing units, and some idea of the proportion of valuation of housing to valuation of other (commercial) taxable property. This calculation involves a two-step process in which (1) the value of residential property is estimated by multiplying the number of housing units times average cost of housing, and (2) calculating the amount of nonresidential property value as a proportion of the residential value determined in (1) above.
Using the Cost Projection Technique. The information on housing costs and number of housing units may be found in studies of housing, or occasionally, general economic assessments. Once you know what date to look for, the information is usually available in some form. Exercise 2.2 shows how the cost projection calculation is made.

Exercise 2.2 Calculating Property Valuation Using the Cost Projection Technique

Step 1. Assemble data on (A) number of housing units, (B) average cost per unit, and (C) proportion of total property tax collected from residential housing.

(A) A survey in the municipality revealed that there are 10.5 persons per household in the municipality of 262,500 people. This means that there are approximately 25,000 housing units.

(B) The survey also revealed that dwelling units averaged 45 square meters and that market value was $20 per square meter. Therefore, each unit has an average value of $900 (45 square meter x $20/square meter).

(C) From an examination of property tax collection records, we see that collection from residential property accounts for 65 percent of all property tax valuation.

Step 2. Estimate total value of housing.

Total value of housing = number of houses times average value, or 25,000 x $900 = $22,500,000.

Step 3. Estimate total property valuation.

If residential property accounts for 65 percent of total valuation (TV), the .65 x TV = $22,500,000, or TV = $34,615,384.

Using the Income Profile Projection Technique. The income profile projection is most useful for tax systems where the property tax is computed on the rental value of property, particularly the rental value of residential property. It is particularly useful in situations where the analyst suspects that the tax base is greatly understated on the tax rolls.

This technique uses data on income profiles of the population and proportion of income devoted to housing to estimate total rental value of the residential housing stock. The technique can also be used to calculate the market value of property if a rent multiplier (ratio of amount of rent to value of property) is known. Exercise 2.3 shows how the income profile projection calculation is made.

The three techniques differ mainly in the information used to estimate the tax base of the property tax. The baseline projection technique assumes that the analyst has a reasonably good estimate of the tax base for some point in time in the past. The other two techniques use independent estimates of the housing stock to determine what the size of the tax base should be.

It should be kept in mind that all of these techniques provide fairly rough estimates of the value of property, not precise determinations. The problems of undervaluation and poor collections are so severe in most municipalities, however, that even rough estimates provide good starting points.

The objective of each of these techniques is to determine the approximate size of the property tax base. Knowing what the tax base is can help the analyst assess the accuracy of current listing and valuation practices, and the accuracy of the total valuation on the
property tax rolls and determine how much additional tax could be generated from improving valuation practices.

Once the tax base can be estimated, the collection efficiency of the property tax can be calculated. This is a simple technique, requiring only that the amount of property tax collected be compared to what is estimated to be the tax potential.

Exercise 2.3 Calculating Property Valuation Using the Profile Projection Technique (Rental Value)

Step 1. Assemble data on (A) proportion of income devoted to housing, (B) total individual household income, (C) proportion of total property tax collected from residential property.

(A) A recent national housing study revealed that 18 percent of household income is devoted to housing costs (excluding heating and utilities); almost all of this is rent or mortgage costs.

(B) Another study revealed that per capita income is $800 and that there are 7.5 persons per household, meaning that average household income is $6,000 per year.

(C) The proportion of the local property tax accounted for by residential properties is 80 percent.

Step 2. Calculate total rental value of housing.

If there are 250,000 persons in the municipality and average household size is 7.5 persons, the number of households is 33,333. If rent equals 18 percent of income, average household rent is .18 x 6,000 = $1,080 per year. Total rental value is 33,333 x $1,080 = $35,999,640.

Step 3. Calculate total property valuation (rental value).

If housing accounts for 80 percent of property valuation the .80 x total valuation (TV) = $35,999,640, or TV = $44,999,550.

Evaluating User Charges Revenue Performance

There are three types of analyses that can be applied to a wide range of urban services such as water, refuse collection, markets, parking lots, bus services, and electric and telephone service:

- **Collection efficiency analysis**—the percentage of total charges due that are actually collected;
- **Cost recovery analysis**—the percentage of the total cost of supply of the service that is recovered through user charges;
- **Revenue per unit of service**—the amount of revenue realized per unit of service delivered, such as revenue collected for each cubic meter of water pumped by the municipal water authority.

**Collection Efficiency Analysis.** Collection efficiency, actually comprises two separate measures. The first is the actual collection efficiency, which is defined as the percentage of the total amount billed that is collected. The second measure is the billing efficiency, which is the percentage of total number of services provided that are actually billed. For example,
if a water authority delivers 1 million cubic meters of water per day bills for only 800,000, its billing efficiency is 80 percent. To summarize,

- Collection efficiency = amount collected divided by amount billed, and
- Billing efficiency = amount billed divided by number of services provided.

In examining billing efficiency, we must also be aware of natural "leakages" within the system. For example, in water and electricity supply systems, there is a certain amount of loss that occurs within the system distribution that is not actually consumed by a user. Therefore, if one is comparing amount of water pumped with amount billed, the discrepancy can be caused either by line leakage or by underbilling. Normally, design specifications for water and electricity systems will give estimated leakage or line losses. These loss factors must be accounted for in estimating the amount of water or electricity delivery.

Table 2.2 provides an example of financial data for a typical municipal water authority. The information in this table will be used to illustrate several different types of analyses for user charge revenues. The first type of analysis is the calculation of the billing efficiency and collection efficiency. Table 2.3 shows these calculations for the data provided in table 2.2.

Referring to table 2.3, we calculate the collection efficiency by simply dividing the amount billed by the amount collected. Calculating the billing efficiency requires that we first estimate the amount that should be billed. To do this, we must multiply the amount of water delivered by the water rate. We then divide the amount billed by the total amount that should be billed to get the billing efficiency.

Examining the efficiency ratios in table 2.3, we see that both have declined over the four-year period. The billing efficiency decline has leveled off in the last three years while the collection efficiency has been fairly stable over the last five years.

Table 2.2 Example of Cost Recovery Ratio Analysis: Water System Revenues and Expenditures for City X

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenues collected</td>
<td>$80,625</td>
<td>$92,812</td>
<td>$113,343</td>
<td>$119,789</td>
</tr>
<tr>
<td>Amount billed</td>
<td>$101,000</td>
<td>$126,500</td>
<td>$151,050</td>
<td>$162,700</td>
</tr>
<tr>
<td>Total expenditures</td>
<td>$187,500</td>
<td>$206,250</td>
<td>$226,875</td>
<td>$249,562</td>
</tr>
<tr>
<td>Total water pumped</td>
<td>187,500</td>
<td>187,500</td>
<td>200,000</td>
<td>200,000</td>
</tr>
<tr>
<td>(cubic meters)</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Line loss (design standards)</td>
<td>150,000</td>
<td>150,000</td>
<td>160,000</td>
<td>160,000</td>
</tr>
<tr>
<td>Total water delivered</td>
<td>$0.75</td>
<td>$1.00</td>
<td>$1.25</td>
<td>$1.40</td>
</tr>
</tbody>
</table>

*Total amount pumped, minus line loss.

From the analysis of our example, it is clear that both billing and collection systems could use improvement, but where is the greater payoff—in improving the billing system or
in improving collections? Table 2.4 shows how we would answer that question, by calculating how much additional revenue we could collect if we improved billings and collections to 100 percent.

Table 2.3 Calculation of Billing and Collection Efficiencies of the City X Water System (from Table 2.2)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Amount of water delivered (cubic meter)</td>
<td>150,000</td>
<td>150,000</td>
<td>160,000</td>
<td>160,000</td>
</tr>
<tr>
<td>B. Charge per cubic meter</td>
<td>$0.75</td>
<td>$1.00</td>
<td>$1.25</td>
<td>$1.40</td>
</tr>
<tr>
<td>C. Total revenue base (A x B)</td>
<td>$112,500</td>
<td>150,000</td>
<td>200,000</td>
<td>224,000</td>
</tr>
<tr>
<td>D. Amount billed</td>
<td>$101,000</td>
<td>126,500</td>
<td>151,000</td>
<td>162,700</td>
</tr>
<tr>
<td>E. Billing efficiency (D/C)</td>
<td>89.8%</td>
<td>84.3%</td>
<td>75.5%</td>
<td>72.6%</td>
</tr>
<tr>
<td>F. Amount collected</td>
<td>$80,625</td>
<td>92,812</td>
<td>113,343</td>
<td>119,789</td>
</tr>
<tr>
<td>G. Collection efficiency (F/D)</td>
<td>79.8%</td>
<td>73.4%</td>
<td>75.1%</td>
<td>73.6%</td>
</tr>
</tbody>
</table>

Table 2.4 shows that the municipality lost $61,300 by poor billing practices in 1989 and $42,911 in collections. Therefore, we should start with improvements in billing practices but also pay attention to collection procedures. Improvements in both systems together could yield close to $100,000 in additional local government revenues.

Table 2.4 Calculation of Revenue Lost in the City X Water System Through Poor Billing and Collection Inefficiencies in 1989

<table>
<thead>
<tr>
<th>Amount lost due to poor billing</th>
<th>$224,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenue base estimate (amount that should be billed)</td>
<td>162,700</td>
</tr>
<tr>
<td>Amount lost due to poor billing</td>
<td>61,300</td>
</tr>
<tr>
<td>Amount lost in collection</td>
<td>162,700</td>
</tr>
<tr>
<td>Amount billed</td>
<td>119,789</td>
</tr>
<tr>
<td>Amount collected</td>
<td>42,911</td>
</tr>
<tr>
<td>Total lost from both</td>
<td>104,211</td>
</tr>
</tbody>
</table>

Cost Recovery Analysis. The cost recovery ratio is the second type of analysis we can perform on user charge revenues. The cost recovery ratio is the amount of revenue compared to the cost of providing a service. A service is said to be self-financing if revenues equal or exceed the costs. If a service is not totally self-financing, then the local government must make up the difference, that is, provide a subsidy.

We should monitor the cost recovery ratio over time. In general, fee-bearing services should become increasingly self-financing so we would want the ratio to rise over time. If the ratio is declining over time, this means that the local government subsidy must be increased to cover the deficit.
To calculate the cost recovery ratio, we need, in addition to revenue data, information on the costs of providing the service as well. Furthermore, this expenditure data should be complete and include the total cost of providing the service.

Table 2.5 provides an example of calculating the cost recovery ratio using the data from Table 2.2 above. The calculation is very straightforward; we simply divide the revenue collection amount by the total expenditure amount. The example in Table 2.5 shows that the cost recovery ratio increased in 1987 and again in 1988 as a result of increased water rates, but the ratio slightly declined in 1989 when the growth in costs was more rapid than the increase in water rates. This example shows that the annual increase in water rate charges has been effective in improving the cost recovery ratio up to 1988. To improve the cost recovery ratio in future years, the increase in water rate charges needs to be higher than the growth of costs in order to reduce the gap between them.

Table 2.5 Calculation of Cost Recovery Ratio of the City X Water System

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Total expenditure</td>
<td>$187,500</td>
<td>206,250</td>
<td>226,875</td>
<td>249,562</td>
</tr>
<tr>
<td>B. Total revenues</td>
<td>80,625</td>
<td>92,812</td>
<td>113,343</td>
<td>119,789</td>
</tr>
<tr>
<td>C. Ratio of expenditure to revenues (B/A)</td>
<td>.43</td>
<td>.45</td>
<td>.50</td>
<td>.48</td>
</tr>
</tbody>
</table>

Revenue Per Unit of Service Analysis. The third type of analysis that we should perform on user charge revenues is the analysis of revenue per unit of service delivered. This analysis can be used only for services that can be measured on a quantity basis, such as water supply or garbage collection. The basic analysis is to convert revenues and expenditures to unit measures such as dollars per cubic meter of water. This is particularly useful if the service fee is based on a unit charge, as is common with water rates.

Table 2.6 shows the calculation of unit costs and revenues for the municipal water authority data provided in Table 2.2 above. Table 2.6 also includes the water rate fee as a basis of comparison. In addition, Table 2.6 shows the calculation of two types of subsidies. The first subsidy is the "built-in subsidy," which is the difference between the unit cost of supplying water and the water rate. This is the amount that the local municipality would have to subsidize even if it collected 100 percent of the water rates. Clearly, if the water rate is less than the unit cost of the service, a subsidy will have to be required.

Table 2.6 Calculation of Unit Costs and Subsidies of the City X Water System

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Revenue per cubic meter</td>
<td>$0.53</td>
<td>$0.62</td>
<td>$0.71</td>
<td>$0.75</td>
</tr>
<tr>
<td>B. Cost per cubic meter</td>
<td>1.25</td>
<td>1.38</td>
<td>1.42</td>
<td>1.56</td>
</tr>
<tr>
<td>C. Rate charge per cubic meter</td>
<td>0.75</td>
<td>1.00</td>
<td>1.25</td>
<td>1.40</td>
</tr>
<tr>
<td>D. Built-in subsidy (B-C)</td>
<td>0.50</td>
<td>0.38</td>
<td>0.15</td>
<td>0.16</td>
</tr>
<tr>
<td>E. Actual subsidy (B-A)</td>
<td>0.72</td>
<td>0.76</td>
<td>0.71</td>
<td>0.81</td>
</tr>
<tr>
<td>F. % Total cost provided by subsidy (E-B)</td>
<td>55.6%</td>
<td>55.1%</td>
<td>50.0%</td>
<td>51.9%</td>
</tr>
</tbody>
</table>
The second type of subsidy shown is the “actual subsidy” which is the difference between the revenue collected and the cost of providing the service. By looking at both subsidy amounts over the four-year period, we see several things:

- The built-in subsidy reduced in 1987 and in 1988, but rose slightly in 1989;
- The actual subsidy has increased from $0.72 per cubic meter in 1986 to $0.81 per cubic meter in 1989.

In order to reduce the amount of subsidy paid by the local government, it is clear that two things are necessary:

- Water rates have to increase more rapidly than the rate of cost increases, and
- Collection efficiency has to be substantially improved.

The problem cannot be solved by merely raising water rates. Looking at the impact of past water rate increases, we see that in 1987, when water rates increased by 25 cents per cubic meter, water rate revenue increased by only 9 cents per cubic meter. The same occurred in 1988 when water rates were increased by another 25 cents per cubic meter. In 1989, when rates were again raised, this time by 15 cents per cubic meter, revenue per cubic meter increased by only 4 cents per cubic meter. This demonstrates the need to improve both billing and collection efficiency in order to achieve a reduction in subsidy.

These three types of analyses—collection efficiency, cost recovery, and revenue per unit of service—are useful tools for identifying the potential for increasing the revenue yield from local government’s own source revenue through implementing revenue administration improvement measures. These techniques are also useful for analyzing past performance and quantifying the benefits and costs of various measures to improve the efficiency of tax and charges administration. They can be applied to monitor the performance of individual revenue sources and identify trends in costs, revenue, and subsidy per unit of service.

Intergovernmental Grants and Loans

Intergovernmental Fiscal Relations

The provision of public services is a shared responsibility between national, state and local governments. Central government ministries typically have the responsibility for providing electricity, telecommunications, education, health, major transport facilities, and water supply. In addition, the central (or provincial) government may provide financial support to local governments in the construction of capital facilities and/or in the general operations of the local authority.

The level of central government support to local governments can vary greatly by country and among local governments within the same country. Although there is little comparative data across countries, one study conducted by Roy Bahl and Johannes Linn (forthcoming) showed that large municipalities in developing countries received 23.4 percent of total operating budgets from non-local revenue sources while 76.6 percent was raised from local sources.

The dependence of municipal governments on external revenue sources generally seems to vary with size and economic condition of the municipality and, most important, the country. Different countries have completely different structures of local government finance. The larger municipalities (such as those surveyed in the Bahl/Linn study) are typically less dependent on direct budgetary support than are smaller local governments. On the other hand, the large cities (and especially the capital cities) are likely to have more direct investment in physical infrastructure and services by national ministries, so the true level of fiscal dependency may be understated.

The structure of local finances seems to be relatively stable over time. That is, the proportion of external revenue support to locally raised revenues in local government budgets does not change much from year to year. Indeed, with the worsening fiscal conditions of
many national governments, we would expect that the proportion of national grant support to municipalities will likely decline in the near future. This is particularly true in countries where the central government revenues have been tied to natural resource exports whose prices on the world market are unstable.

Table 2.7 The Breakdown of Revenue Source Yields in the Bahl/Linn Study

<table>
<thead>
<tr>
<th>Source of Revenue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxes</td>
<td>46.0%</td>
</tr>
<tr>
<td>Fees and charges</td>
<td>19.3%</td>
</tr>
<tr>
<td>Other revenue</td>
<td>11.3%</td>
</tr>
<tr>
<td><strong>Total local revenue</strong></td>
<td><strong>76.6%</strong></td>
</tr>
<tr>
<td>Grants and share taxes</td>
<td>17.7%</td>
</tr>
<tr>
<td>Borrowing</td>
<td>5.7%</td>
</tr>
<tr>
<td><strong>Total external revenue</strong></td>
<td><strong>23.4%</strong></td>
</tr>
<tr>
<td><strong>Total revenue</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

**Major Roles of the Central Government in Local Finances.** Central governments have historically had two major roles in local resource mobilization: allocating revenue-raising authority and providing direct financial support.

The central government determines the revenue-raising authority of local governments by specifying the types of revenue that can be raised and in most cases the rates which can be applied. In general, we find that municipal governments often have the authority to collect revenues which they do not use. On occasion, the revenue-raising authority of the local government is not made clear or the mechanism by which the revenue can be collected is not adequately specified. Often, the central government imposes rate structures that do not make it worthwhile for the municipality to collect a particular revenue.

**Rationale for Direct Central Government Fiscal Support.** Central governments provide direct financial support to local governments in order to achieve a variety of national objectives.

Intergovernmental transfer systems provide central governments with flexible policy instruments to achieve the following objectives:

- **Redistribution of Resources and Regional Equity.** Transfers can be used to redistribute resources to disadvantaged regions or to specific local government areas to achieve a greater degree of fiscal equalization among municipalities. In this case, poorer municipalities would receive a higher level of central government financial assistance per capita than wealthier municipalities. Transfers to local authorities may also be used as an instrument of regional development policy to stimulate the growth of backward depressed regions, or to promote the accelerated development of selected regional growth centers or regional cities.

- **Controlling Specific Local Government Functions.** Transfers may be used to promote increased spending on particular functions or types of projects in selected localities. The rationale for using transfers to control local government actions has several aspects. On one level, the central government may need to target certain types of
infrastructure development in certain locations to meet larger national economic development objectives. On the other hand, the central government may want to maintain a certain amount of political control over local governments which can be accomplished by controlling the allocation of grant funds and construction of facilities. In addition, central governments may need to ensure that certain levels of skilled human resources are available in the local government, which can only be accomplished in the short run by providing central government employees to the local government (and paying their costs).

- **Macroeconomic Management.** Central governments may use transfers as a means of controlling the overall level of expenditure by local government as part of its macroeconomic policy management.

- **Resource Mobilization Efficiency.** Central governments have developed tax transfer systems to achieve greater efficiency in resource mobilization. Certain types of revenues are more easily and efficiently collected by central agencies than by local governments. In this case, central transfers are used to transfer revenues to local governments which might have collected those revenues themselves.

- **National Decentralization Objectives.** Central governments may use transfers to pursue national decentralization objectives. In this case, the central government transfers are designed to strengthen local governments to enable them to assume more responsibility for delivering public services even if they cannot raise the revenues locally. Typically, under such a decentralization program, it is assumed that the local governments should, over time, decrease their dependency on central government transfers by increasing local resource mobilization.

Intergovernmental transfer mechanisms, through their power to redirect resources, provide central government with a valuable set of policy instruments for use in pursuing national equity objectives and fiscal equalization policies. This raises the question of when intergovernmental transfers should substitute for local revenue mobilization by municipal governments. Most central governments would view their transfers to local government as supplementing, rather than substituting for, local government’s own local revenue raising efforts.

Transfers are a particularly effective means of directing resources to low-income municipalities to assist them in carrying out their functions and to ensure that certain disadvantaged groups receive adequate public services. Without an effective system of intergovernmental transfers, central government would lose a great degree of control over local government activity. It would also be difficult to develop other avenues for achieving its regional equity and regional development objectives.

From the local government viewpoint, transfers provide a valuable source of additional revenue, even though there are usually conditions attached to their expenditure. In comparison, reliance on local revenue permits local government to adjust the level of local taxes and charges according to the preferences of their local taxpayers, and gives them greater financial independence to make decisions on spending priorities. If, however, transfers are viewed by local authorities as a supplement to their own source revenue, they are still able to maintain their ability to allocate their own source revenues according to local priorities and have the best of both worlds.

**Types of Central Government Financial Support.** There are five major types of direct financial support, or transfers, that central governments provide to local governments:

- Capital investment,
- Tax credits,
- Shared taxes,
- Grants in aid, and
- Loans.
These categories concern the form and method of allocating the transfer, not the source of the funds.

**Capital Investment.** Central governments often invest in physical facilities that become part of the capital stock of local governments. For example, the central government may construct a road or drainage system which is turned over to the local authority. In some cases, the investment may have revenue-raising potential (such as a municipal market). The central government may also invest equity capital in a revenue-producing authority such as a water utility. These investments may, or may not, be undertaken on the condition that the authority pay dividends to the central government.

In most cases, such direct capital investments in local infrastructure are not repaid (or are repaid only in part) by the local authorities and, therefore, constitute resource transfers from the central to the local governments.

**Tax Credits.** Tax credits (sometimes called “tax expenditures”) are not direct transfers of funds or facilities but are credits that the central government allows to taxpayers for either contributions to, or loans to, local government. The major uses of tax credits are found in (1) the deductibility of local taxes from national taxation, and (2) the exclusion from central government taxation of income earned on bonds issued by local governments.

In the United States, the issuance of tax-free municipal bonds is a major element of local government finance. In essence, local governments raise funds by issuing bonds which pay tax free interest to the public. The U.S. central government (and normally state governments where the bonds are issued) exempt the interest income from the normal income tax. The interest rate paid on municipal tax free bonds is lower than rates on taxable bonds, meaning that the central government is providing an interest rate subsidy to the local government which issues the bond. For example, in 1984 the estimated subsidy to state and local governments in the United States was about 14 billion dollars through the tax credit on locally issued bonds.

Tax credits can also be given for contributions and/or taxes paid to local governments. For example, businesses may be able to deduct local property and business taxes from national corporate taxes. Homeowners may deduct property taxes on their residences from national income taxes. In effect, the national government is foregoing tax revenue to which it is entitled in favor of the local government. In the United States, it is estimated that in 1984 about 29 billion dollars was transferred to state and local governments by use of such tax exclusions.

**Shared Taxes.** Shared taxes are taxes that are collected by the central government and then partially, or wholly, refunded to the jurisdiction from which they were collected. In practice, the shared tax may be either a percentage of a nationally collected tax (for example, 25 percent of the sales tax) or it may be a supplement to the national tax (for example, additional one percent to an existing three percent base of the sales tax.) Either way, the impact on the taxpayer and the yield to the local government is the same. Tax supplement rates may be varied by province or jurisdiction (and may be left to local decision.)

Examples of shared taxes include:
- Brazil—municipalities receive 20 percent of the value-added tax collected by the state governments from the municipal jurisdiction.
- Jordan—municipalities receive 90 percent of the property tax collected in the municipal jurisdiction.

Shared taxes are usually justified on both efficiency and equity grounds. Certain taxes may be more efficiently collected by central government agencies, so the collection is left in the hands of the central ministry. On the other hand, it may be judged equitable to remit some of a tax to the locality from which it has been collected.
Grants. Grants are direct fund transfers which differ from shared taxes only in the fact that the amount allocated to a local authority is not based on the amount of a specific tax that is collected in that authority's jurisdiction. Grants are normally categorized into three major types:

- Formula grants,
- Ad hoc grants, and
- Reimbursement grants.

Formula grants use a predetermined formula to allocate grant amounts to individual jurisdictions. Such formulas normally employ some factor for population (per capita allocation); they may also employ a separate factor for city size and/or factors for poverty or to compensate for poor economic base; in a few cases, the formula may include some provision to reward increased local tax effort. Some countries employ a formula based on budgetary equalization—the central grant is used to make up the difference between local resource mobilization and expenditure needs.

Ad hoc grants use no set formula to determine allocations to individual local authorities. Usually in these cases, the allocation process employs an implicit formula to compensate for poverty or differences in economic base. In some cases, ad hoc grants are largely political in nature, used to reward loyal constituencies. The major problem with ad hoc grants is their lack of predictability and stability from year to year.

Reimbursement grants are grants which the central government is obligated to transfer to the local authority to pay for certain costs incurred by the authority. Normally, this obligation is made by statute and may be open ended. Examples of such grants include salaries of certain officials or service personnel (for example, school teachers), and certain infrastructure costs. For example, the central government may be obligated to pay a certain percentage of local water system capital costs.

There are two major problems with reimbursement type grants. First, the obligation is often open ended so that the central government may have to pay much more than anticipated. Second, poorer local authorities may not have the resources to fund the initial expenditure for which it gets reimbursed.

All of the three types of grants described above may be operated on an earmarked basis. That is, the grants may, or may not, be used for certain specified types of expenditures. The earmarking may be very specific (for example, for elementary teacher salaries); it may be less restrictive (for example, for only development projects); or it may be general budgetary support with no restrictions.

Loans. Loans are the fifth major category of transfers. Central government involvement in loan activities for local governments usually take the form of three alternatives:

- Loan guarantees,
- Loans or grants to lending institutions which lend to municipalities, and
- Direct loans.

Loan guarantees are used to secure loans from commercial lenders to local governments with the central government assuming the risk of default. Such guarantees do not necessarily involve any outlay of central government funds unless the local government borrower defaults on its obligation. Guarantees do, however, usually result in lower interest rates to the local government as the guarantee removes the risk to the lender (assuming the central government is itself credit worthy).

Local government lending institutions are normally established on a self-financing basis, but the central government normally invests some equity capital in the operation. Furthermore, the central government may bear some of the operating costs (such as staff salaries), and also have a role in guaranteeing the loans.

In the absence of establishing an institution to provide loans to local governments, central governments may engage in the direct provision of loans from the central treasury. This is normally the case where the commercial banking sector is not sufficiently developed to make
such loans (possibly with central government guarantees). Such loans are usually made on an ad hoc basis for special projects. If the volume of such loan requests increases, the central government normally moves to set up a special credit institution.

Transfers. As noted in the sections above, transfers can take one of several forms. These include:

- Cash funds,
- Facilities and services (in kind),
- Tax subsidies.

Only in the case of the first category, cash funds, is it really possible to determine the true amount of the support actually given. Cash funds which are transferred from central to local government are the only transfers that typically show in financial accounts, either in the local government budget or the central government accounts. Not only are the other types of support difficult to measure, but they are often not considered to be “transfers.” They are, however, important elements of the fiscal relationship between central and local governments.

Different countries use different mixes of types and forms of transfers. Given the fiscal problems of national governments over the past decade, there has been a movement toward decreasing (or at least not increasing) the cash outlay by central government. In some cases, national policy has been explicitly revised to change the mix of transfers. In Mexico, the central government has adopted a policy to replace a system using largely grants with a system of increasing loans. In several countries, grant formulas are being revised to include incentives for increased local resource mobilization to lessen the dependence on central transfers.

Transfer Funding Sources. There are two major sources for the funds which are used as central government transfers: national tax pools and annual appropriations.

National tax pools are predetermined revenue pools tied to some percentage of a nationally collected tax or group of taxes. For example, the United States has created a grant pool for funding highways (an earmarked fund) which is funded by the national excise tax on gasoline.

The two major issues with the tax pool funding are buoyancy and predictability. If the tax base is not buoyant (does not rise with increased economic activity or inflation), then the total transfers available to local governments remain static. In real per capita terms, the amount going to municipal governments may actually be declining. The predictability of the amount of funds received by individual local governments depends on both the predictability of the total revenue pool of the shared tax and the stability of the sharing formula.

If the revenue pool is tied to an unstable revenue (such as oil exports or gasoline taxes) then the amount shared by local governments will be unpredictable. For example, Jordan set aside a tax pool for municipal government grants funded by two percent of the national excise tax on petroleum products. The tax pool grew rapidly in the 1970s but leveled off in the early 1980s. Unfortunately, the government of Jordan had embarked on an aggressive municipal lending program in the early 1980s based in part on the assumption that municipal revenues (including the shared tax) would continue to grow. With growing debt service but stagnant revenues, a number of municipal governments have had trouble making their debt payments and maintaining current operating expenses.

Ad hoc appropriations are used by a number of countries to fund the grant pool each year. Ad hoc appropriations for funding transfers adds an even more unpredictable element to the transfer system unless the central government is committed to stability of the funding flow. In some instances, the central government may set annual targets for the grant pool in a multi-year national plan. In many cases, however, the central government cannot keep to these targets with the actual grant allocations falling short of that which was planned. This lack of stability and predictability creates problems for the local governments since
they cannot plan on a set amount at the beginning of the budget year. This problem not only puts a strain on local government resources but makes budgeting a futile exercise (especially capital budgeting where central government transfers may make up the bulk of the investment funds).

**Considerations in Design of Transfers.** There are a number of considerations to deal with in the design of a central government fiscal support system. The following is a tentative listing of the considerations which have surfaced in the design and operations of existing systems:

- How can cash transfers be adequately recorded and other types of financial support (direct investment, tax credits, loan guarantees) be linked together to show the true magnitude of central government support?
- Who decides which investments should receive central government support and how much support should the central government provide?
- How can a system of transfers be structured in light of generally declining central government revenues so that the level of funds is both adequate and predictable?
- How can a system of transfers be structured so that the need to provide resources to poorer jurisdictions can be rationalized with the desire to stimulate increased local revenue generation?
- How can the political needs of the central government be rationalized with the other objectives in the design and operation of the transfer system?
- How much flexibility should be built into the system to allow for changes in circumstances of both the central and local governments?
- Are the specific objectives of an effective intergovernmental transfer system clearly identified? (Because different forms of transfers are more or less effective for achieving different objectives, the transfer mechanisms should be specifically selected and designed to achieve the set of objectives).

**The Use of Performance Incentives in Central Government Grant Systems**

There is a growing interest in the use of central government grants to stimulate improved performance on the part of local governments. The main objective of such performance-incentive programs is to stimulate local governments to increase their own revenue generation, making them less dependent on the central government for financial support. In addition, incentive schemes may also be targeted to stimulating local investments in certain types of projects, improving maintenance of existing infrastructure, or simply meeting certain standards for administrative behavior (for example, producing a development plan or an annual budget on time).

Incorporating performance incentive schemes into grant systems adds new variables into the grant allocation process. In fact, although there has been much discussion about the desirability of incorporating performance criteria into grant schemes, incentive schemes are relatively new and, as yet, not well tested. There are, however, several compelling reasons to attempt to use the grant mechanism to improve local performance.

**Rationale.** There is a growing awareness that central government transfers may act as disincentives to local governments to increase their reliance on locally generated sources of revenues. Although there has been no definitive study in developing countries on the effects of transfers on local fiscal effort, there is anecdotal evidence from some countries that local governments will take the path of least resistance in raising revenues. If central transfers, or easy borrowing are available, local governments will use these sources and fail to mobilize locally available sources through increased tax effort. Therefore, when transfers are freely available, local fiscal effort is found to suffer.

Central governments are under intense pressure to control public sector expenditures since many of the sources of central government revenue have stagnated or declined over the past
few years. In many countries, central governments simply cannot keep increasing financial support to local governments, particularly municipalities. Municipalities are singled out because they normally have the stronger economic bases (and taxing authority) to be able to generate much of their own revenue needs.

The central government grant system is a potentially effective vehicle for stimulating better fiscal performance of local governments because it provides leverage over local governments. Since central government transfers may constitute a large proportion of total local government budgets in most countries, the grant allocations can be a powerful tool to change behavior of local officials. At the same time, this pressure from the central government can be used by local officials as an excuse to undertake locally unpopular measures, such as increased enforcement of local tax payment. Furthermore, by incorporating performance incentives into a grant formula, the pressure for increased local fiscal effort can be made to appear more politically "neutral" and hence less objectionable.

Using the grant system for performance incentives has added leverage if the grant system is tied to loan programs. For example, receipt of both grants and loans can be tied to meeting certain fiscal performance criteria. Alternatively, the grants may be used partly as local matching funds for the loans; in effect, this approach allows loans to be offered under varying degrees of subsidization, making them more or less favorable to the borrowing local governments.

In summary, the rationale for considering adding performance incentive criteria to central government grant schemes covers four main areas:

- The need to counteract the disincentives to local fiscal effort built into existing grant systems;
- The needs of central governments to stimulate greater local fiscal effort due to national fiscal situations;
- The fact that grant systems offer an effective vehicle for stimulating local fiscal effort; and
- The opportunity for extending the leverage of grants through linkage to loan programs.

Types of Performance Incentive Schemes. Performance incentive can address a number of different aspects of local government performance. Generally, there are six different targets (and criteria) for such incentives schemes:

- Increasing the local tax effort ratio which is defined as the ratio of locally collected revenues to a measure of local wealth;
- Increasing the proportion of current operating budgets met by locally raised revenues;
- Increasing the real per capita revenue generation of local governments;
- Increasing the rate of growth in local revenue generation;
- Increasing the proportion of local expenditures going to direct service delivery expenditures and/or development programs (versus administrative expenditures);
- Increasing compliance with standards of local public service delivery and/or administrative behavior.

The first four items on the list address the revenue-raising side of local government performance, although they target different aspects of that performance. Increasing the tax effort ratio means raising local revenues faster than inflation and population growth occur since local wealth, however measured, will increase roughly in proportion to those two factors. Therefore, this objective is similar in terms of measurement to item three, increasing real per capita local revenue generation. It does, however, require defining and measuring the wealth of the local community.

The second item on the list addresses the dependence of local governments on the central treasury to meet current operating expenses; an incentive scheme with this objective would aim to limit central transfers to the local general fund (or current budget), shifting financial support from general budgetary support to capital investment. Central grant allocations for
capital investment would be linked to the success of the local government in meeting an increasing proportion of the current budget with local revenues.

The objectives dealing with revenue raising (the third and fourth bullets above) specifically focus on achieving either certain per capita targets for revenue sources or on increasing the rate of growth in those per capita amounts. These targets may include all local revenues or certain subgroups of revenues which the central government wishes to see better exploited (such as user fees).

The objective concerning expenditure efficiency (bullet 5 above) can focus on a broad class of expenditures (such as all current expenditures) or it may target certain expenditures (such as administrative expenditures). Here the issue is normally on containing certain types of expenditure growth in order to make more funds available for direct service delivery or for capital investment projects.

The final type of incentive scheme deals with stimulating local governments to change behavior, usually to undertake some activity desired by the central government such as preparing an annual development plan or submitting a budget on time. In addition, the incentive scheme may be linked to meeting certain standards in service delivery performance. For example, in Sri Lanka there is a proposal to link the incentive grant to the maintenance of physical infrastructure (measured as the proportion of infrastructure kept above the minimum standard.) Obviously, this approach requires considerably more data and monitoring than a simpler system based on financial indicators.

**EXAMPLES OF PERFORMANCE INCENTIVES IN GRANT SYSTEMS.** Although there is much interest in the concept of performance incentives in grant formulas, there are few examples where the concept has been attempted. The most notable example is in the Calcutta Metropolitan area where a “Revised Grant Structure” (RGS) was instituted to stimulate increased local revenue generation. A second example comes from Nepal, where a new grant structure has recently been designed.

The RGS in Calcutta was designed to reward local authorities that improved local revenue generation while controlling current expenditures. It links together the revenue grant (for current budget support) and the capital grant (for development projects). For each local authority, the RGS sets annual targets for the “gap” between local revenues and current expenditures (gap = revenues - current expenditures.) The RGS starts with the existing gap and makes certain assumptions about how much improvement can be made in local tax yields and what the growth in current expenditures can be kept to. The ability of individual local authorities to improve this performance will affect not only the size of the revenue grant which they will receive but also the amount of the capital grant received for development projects.

The amount of the revenue grant is set as the projected “Gap” target for each year. If a local authority has a better performance than that projected by the target, it receives the full amount of the projected revenue grant plus additional capital grants. If the local authority meets its target, it receives the projected revenue grant and the normal capital grant. If a local authority fails to meet the target, it receives only the projected revenue grant and loses some portion of the capital grant.

The incentive grant system in Nepal is quite different and somewhat less ambitious. The Nepal system sets aside a certain portion of the total municipal grant pool in a separate grant pool for performance incentives (proposed to be 40 percent initially). The incentive grant pool would be allocated in proportion to the level and percentage increase in the collection of local direct taxes. This rewards municipal governments which have either attained a high level of direct tax yields and/or are able to increase those yields substantially. In addition to the incentive portion of the grant system, other components of the grant system have separate pools for (1) economic distress, (2) a straight per capita allocation, and (3) an ad hoc allocation.
Although different in scope and means, the two examples have the same underlying thrust: to use grant funds to reward improved local fiscal effort. The Calcutta model goes much further in also linking capital grant funds to the local financial performance. This is done with the rationale that local authorities which cannot manage their current account budgets should not be given responsibility for capital investment funds.

**ISSUES IN INCORPORATING INCENTIVES IN GRANT PROGRAMS**

1. **Potential for impact.** How important is the level of central government grant funding for municipal governments? If the current funding level is proportionally quite small, then the use of grants as an incentive cannot be expected to have much impact. It is important to examine not only the overall proportion of funding but also the distribution. In some countries, the grants may be quite important for certain size municipalities or ones located in certain regions. Use of incentives will obviously have differential potential for impact depending on this variation. The potential for impact can be increased if linked to loan funds. Therefore, we should also examine not only the direct level of grant funding but the potential for leveraging.

2. **Trade off between need for fiscal equalization and incentive.** Fiscal equalization schemes reward local governments for being poor while incentive schemes attempt to reward them for increased fiscal effort or expenditure controls. It is important in defining the criteria for each that contradictory definitions and formulas are not developed. Therefore, it is important that the objective of the incentive scheme and the objective of other criteria, such as fiscal equalization, be precisely defined and measured. For example, if the criteria used for determining fiscal equalization needs are simply measured as the level of local revenue collected (such as per capita collection amounts), then it will be virtually impossible to develop an incentive formula to spur fiscal effort that is not contradictory.

3. **Need for predictable flows in grants.** Local governments require that there be some degree of stability and predictability in the central government transfers so that local budgeting and development programs can be better managed. On the other hand, incentive schemes need to be able to respond to changes in performance of local governments to be effective. This may be handled by building in some lag time between the measurement of performance and the impact on the grant allocation (although this lessens the impact of the incentive on the current local administration). Alternatively, the variation in grant allocations can be kept within certain limits to minimize sharp changes in the annual disbursement amounts, or the incentive impacts may be confined strictly to capital investment funds which can be phased in over longer time periods.

4. **Need to tie incentives to expenditures as well as revenues.** Most of the programs for improving local fiscal performance are focused mainly on the revenue generation side of financial management, and since it is easier to define and measure improvements in revenue generation than in expenditures, there is a tendency to look first at grant incentives tied to revenue increases. Expenditure efficiency, however, is just as important as revenue generation in helping local governments meet their service delivery mandates. To satisfy this consideration, an incentive scheme could be split into two parts with one part directed at revenue generation performance, and the other part tied to certain measures of expenditure efficiency. Alternatively, the incentive scheme could be linked to some overall measure of financial performance such as the current account “gap” as used in the Calcutta RGS program.

5. **Need for objective and accurate measurement.** The incorporation of an incentive scheme carries with it the need for very precise measurement of the criteria on which the scheme is based. This means that the scheme must be precisely defined and have reliable data for measurement. The most reliable data for implementing such a scheme in most countries are likely to be local revenue and expenditure accounts which
have been closed and audited. This means that there will necessarily be some lag time between performance achievement and the impact of the incentive grant. It also requires the provision of better auditing services than are currently found in most countries and the closing of annual accounts on a timely basis. The following section describes some of the measurement requirements of the different types of incentive schemes.

**Measurement Issues.** The following summarizes the measurement issues for each of the six types of incentive schemes:

1. **Local fiscal effort.** This requires data on (a) local wealth base and (b) local revenue collection. The wealth base may be defined and measured as (a) income, (b) value of physical assets (usually measured by the property tax rolls), and (c) local gross domestic product (GDP). All of these data elements present severe measurement problems and are normally not available without extensive surveys.

2. **Self reliance in meeting current budget.** This requires measures of (a) total current expenditures and (b) amount of locally raised revenues. Both of these data elements are readily available at the local level, although the annual accounts are often not closed within a reasonable time period.

3. **Increasing real per capita revenues.** This requires (a) local revenue amounts, (b) inflation estimates, and (c) accurate population estimates. All should be generally available, although the population figures for each municipality may have to be estimated from past population censuses.

4. **Increasing growth rates of local revenues.** This requires (a) historical data on amounts of local revenue collection and (b) annual inflation estimates. Both should be readily available.

5. **Controlling certain types of expenditures.** The measurement requirements will depend on the specific types of expenditures. The main measurement problem is trying to identify certain classes of expenditure that do not conform to the accounting classifications being used by the local governments. For example, all “administrative expenditures” cannot be readily separated in many local government accounting systems. In some cases, current operating expenditures cannot be separated from capital investment.

6. **Meeting service delivery targets or administrative behavior.** This category poses the most measurement problems since these targets are most difficult to define precisely and may be difficult to measure. As noted earlier, measuring the achievement of service delivery targets is an expensive and time-consuming process. Unless the amount of funds involved in the incentive grant scheme is quite large, it is likely to be difficult to justify an elaborate monitoring scheme for the incentive system alone.

**Principles of Analyzing Municipal Debt-Carrying Capacity**

Debt-capacity analysis is the process of determining how much long-term debt a municipality should be able to manage. The process is used both in deciding how much individual municipalities should be allowed to borrow and in determining the size of national credit pools that municipal borrowers may require.

**Types of Municipal Debt-Capacity Analysis.** There are no set formulas for determining debt-carrying capacity. In general, there are three types of methods that have been used to determine debt capacity of local governments:

- Free-market borrower rating systems;
- Debt-ceiling formulas; and
- Ad hoc appraisals for individual loans.
Free-Market Borrower Rating Systems. Municipalities in the United States borrow in the private capital markets through the sale of bonds. Bonds are purchased by individuals, pension funds, insurance companies, and commercial banks. The central government does not participate in the municipal bond market except to provide a subsidy by making the interest income earned on the bond tax exempt from central government income taxes.

Although some state governments may restrict the borrowing limits through debt ceiling formulas, the major control mechanism on individual borrowers is a rating system of the credit worthiness of individual municipalities provided by independent (private) rating forms. Each bond issued by a municipal government is rated by one of the rating firms; the rating is the critical factor (coupled with the time period of the bond) in determining the interest rate paid by the bond and the value of the bond if it is resold on the "secondary" bond market. This system does not restrict borrowing per se but makes municipalities with poorer credit ratings pay higher interest for their borrowing.

There are two major rating firms in the United States which take basically the same approach. Each uses a combination of factors in rating each bond offering, examining the security of the particular loan, the size of outstanding debt of the municipality, past performance on debt servicing, economic conditions of the community, and the record of management of the local government. The security of the loan is important, since the bond can be repaid from revenues generated by the project being financed, by the general revenues of the municipality, or by both. In general, the more sources of funds committed to paying the loan, the more secure the loan is and, therefore, the higher the credit rating is.

Such a system works well only in a country with very well-developed credit markets, where the local governments have a greater degree of autonomy to set fees and taxes and undertake revenue generating projects, and where interest rates on bonds can fluctuate to incorporate risk.

Such a system can run the risk of sizeable defaults where the borrowers fail to generate sufficient revenues to pay off the bonds. Since the central government does not control the process, it is left to self-regulation of the free market. On the other hand, the central government may be asked for special assistance to rescue local governments which are on the brink of default. This may be granted on an ad hoc basis but requires special action of the national legislature. Normally, this assistance is confined to loan guarantees which enables the troubled local government to borrow additional funds from the private capital market to meet their outstanding expenses and loan payments.

Debt Ceilings. Debt ceilings are limitations that are put on the total borrowing of a municipality and are usually expressed in one of two ways:

- A maximum amount of outstanding debt as some multiple of the annual revenues of the local government; or
- A maximum amount of annual debt service keyed to one of several indicators of local government's revenue collections. This is the most common form of debt ceiling and four different ways of fixing the annual debt service ceiling:
  - a percentage of total local revenues (including central government transfers);
  - a percentage of locally collected revenues;
  - a percentage of the local tax base (or of the local property tax base); or
  - a percentage of a central government transfer (usually a shared tax).

Fixed debt ceilings generally make no provision for the fact that municipalities can borrow for revenue producing projects as well as those that produce no direct revenues. The implicit assumption underlying debt ceilings is that the type of project is not material to the ability of the municipality to borrow. Indeed, many countries restrict borrowing for only those projects which will have some revenue generation.

A shortcoming of the debt-ceiling formulas that are often used is that they deal with only the revenue side of the local government's fiscal condition. Many local governments, however, have assumed relatively fixed current expenditure obligations which leaves them
little surplus for debt service regardless of their total revenue collections. For this reason, most annual debt payment ceilings are set at relatively low percentages of total revenues (for example, 15 percent).

Ad Hoc Appraisals of Individual Loan Requests. In contrast to the establishment of fixed debt ceilings, this approach examines the ability of individual loan requestors to assume debt on a case-by-case basis. In general, there are two approaches to evaluating individual cases: the balance-sheet approach and the cash-flow approach.

1. Balance-sheet analysis. This approach determines the credit worthiness of local government in much the same way that commercial firms are appraised when they attempt to borrow. It examines the assets and liabilities of the municipality as well as the projected income and expenditure statements for proposed revenue-producing projects. The balance sheet approach focuses on summary statements of financial condition, using one or more standard ratios of fiscal condition. These ratios cover both short- and long-term solvency. The most commonly used ones include measures of short-term solvency and measures of long-term solvency.

There are two measures of short-term solvency: current ratio and quick ratio. The current ratio is the ratio of total current assets to total current liabilities and is presumed to indicate the ability of the local authority to meet its current obligations. The quick ratio, or acid-test ratio, is a variation on the current ratio; however, the numerator of the ratio consists of only those assets that could be quickly converted to cash.

There are also two measures of long-term solvency: long-term debt ratio and debt-equity ratio. Long-term debt ratio reports the portion of the authority’s long-term capital that is furnished by debt holders. It is calculated by dividing total non-current liabilities by the sum of total non-current liabilities and total equity. Debt-equity ratio includes total liabilities (current and non-current) divided by the sum of total liabilities and total equity.

The measures of short-term solvency should have a value greater than one to indicate the ability to meet short-term needs with current assets. The long-term debt ratios, in contrast, are valued in reverse with lower values indicating higher long-term solvency. That is, the lower the debt ratios, the higher the likelihood that the authority will be able to meet fixed interest and principal payments in the future. There is no fixed standard for determining an acceptable debt ratio. The standard varies in direct relation to the stability of revenues. The more stable the revenues, the higher the debt ratio that is considered acceptable.

These ratios are useful as indicators of problems but they are merely aids to judgment, not substitutions for it. Furthermore, the analyst needs to have a good deal of experience in using the ratios before he or she knows which ratios are critical and what the “danger zones” of the individual ratios are.

The balance-sheet approach has been developed over the years for assessing the borrowing capacity of private commercial firms. A key consideration is the liquidation value of the borrower’s assets if the loan payments cannot be made. These types of analyses are generally inappropriate for municipal governments in developing countries since most of the assets of the local government are not able to be sold to liquidate the debt of the municipal government.

A second failing of the summary balance-sheet approach is that it does not address the issue of cash flow, that is, the balance of actual revenues and expenditures that flow in and out of the local government’s treasury. Municipalities often undertake projects that have major expenditures in the early phases of the project but do not generate income until much later. Summary balance sheets can hide this cash-flow imbalance and many local governments do not plan for this cash-flow need either in their borrowing or phasing of local projects.
Summary balance-sheet analysis is useful in aggregating all of the liabilities of a borrower so that the lender can examine the total debt exposure of the borrower. Most developing-country municipalities, however, do not have much outstanding debt; the major long-term liability that many do have is the retirement benefits of municipal workers (usually referred to as "unfunded pension liability"). The balance-sheet approach is useful in that it can draw attention to, and possibly put a value on, such future liabilities. It should be noted that liabilities such as unfunded pensions are often not recorded as liabilities on a municipal balance sheet. Obviously, if not recorded, then the balance-sheet analysis will not pick this up.

2. Cash-flow analysis. This approach ties the debt capacity analysis to the projected ability of the borrower to make the annual debt payments. It incorporates both revenue and expenditure considerations. Cash-flow analysis can be applied both to the generation of general municipal revenues, and to the generation of revenues from a specific revenue-producing project.

Cash-flow analysis projects the net revenue on a periodic basis (for example, monthly) for any enterprise. Net revenue is defined simply as the stream of revenue minus the stream of expenditures. In the case of municipalities, the enterprise can be either the municipal general fund or a revenue-producing project such as a municipal market. If a municipality is attempting to service debt from its general revenues only, then we would look at the projections of current revenues minus current expenditures. If the municipality is attempting to service debt from part, or all, of revenue-producing projects, then we must also examine the net revenue projections from those projects as well.

Cash-flow projections may be used to produce summary income and expenditure statements. These show the total revenues and expenditures (broken down into major categories) for a specified time period—usually for the life of a project and often annually. Summary income and expenditure statements, like summary balance sheets, often hide a cash-flow imbalance. Furthermore, since income and expenditures are usually shown in current values (rather than constant values), such statements can easily overstate the real value of revenues (to be collected in the distant future) when compared to expenditures (to be made in the immediate future).

Cash-flow projects (especially those for revenue-producing projects) can be used to justify unsound municipal borrowing. This is the case when the projected net revenue fails to materialize. In that case, the municipality must fall back on its general revenues which may not be adequate. The fact that cash-flow projections are merely estimates of future income suggests that a range of multiple projections, rather than single ones, should be made. Projections can be made under different assumptions about revenue and expenditure growth (and timing of that growth). Indeed, sometimes "worst case scenarios" and "best case scenarios" can be projected to show the expected range of possibilities.

Types of Security for Municipal Borrowing. There are four types of security which municipalities have to cover their borrowing:

- Revenues from projects financed with the loan;
- General fund revenues of the municipality;
- Tangible assets purchased with the loan; and
- Central government transfers to the municipality.

Three of these are future-revenue items; one is a tangible-assets item. This underscores the fact that municipalities normally do not have physical assets which can be used as collateral for loans. Many municipal assets, such as water systems, would have no buyers if they could be sold. Some saleable assets, such as municipal land, may be prohibited from being sold by statute. Only in the case where the loan is used to purchase physical assets
(land, buildings, vehicles) is there much chance that the assets can be used to secure the loan.

The other three types of security are only future revenue expectations. Future revenue expectations from revenue producing projects are risky for several reasons:

- The project may not start producing revenue on schedule if there are construction delays;
- The gross revenues may not be as large as projected if the “customers” of the project do not participate as expected;
- The operating expenditures may be higher than anticipated, lowering the net revenues.

Because of the risk of assuming a revenue flow from a single revenue-producing project, many lenders want loans secured with both project revenues and general fund revenues. In this case, the key to debt-capacity analysis is the ability to project future general fund revenues. Furthermore, since municipal governments have fixed expenditure obligations (current operating expenditures made up largely of personnel costs), we must be concerned with, not total revenues of the municipality but rather with net revenues—those revenues that are available after the fixed expenditures of the local government are met.

Projecting general fund net revenues requires the ability to project both revenue and expenditures of the local government. The main concern is to determine how much can be devoted to future debt service.

A problem with using simple projections is that expenditures tend to “follow” revenues. That is, municipal governments tend to adjust their current expenditures to match current revenues available. Therefore, projecting future net revenue on the basis of past performance will often show no net revenue available in the projections. One way around this problem is to base future expenditure projections not on past trends but rather on different assumptions about future growth. For example, the borrower could agree to keep current expenditures to a set percentage of the total revenue growth. The example from Nepal, presented in the next section, shows future expenditure projections tied to specific targets set by the local governments.

In addition to examining future revenues as “collateral” for municipal loans, we must also look to intergovernmental grants. Although many central governments could use such transfers as collateral for municipal loans, it appears that few actively use this option. Jordan has gone the farthest in this regard by having the lending agency (the Cities and Villages Development Bank) actually handle the central government transfers, taking out the loan payments before the balance of the transfer is passed on to each local government. This approach provides maximum security to the lender, assuming that the amount of the transfers is greater than the debt service.

Such a system works well only when the allocation of central government grants is relatively predictable and there is a direct linkage between the loan fund and the grant distribution. Such a linkage presents problems of a new sort. If the grant system and loan fund are seen as one and the same, then municipal officials are apt to view the loan fund as another form of “free” money and not take seriously the obligation to repay.

**Example of Using Cash-Flow Projections to Determine Debt Capacity.** His Majesty’s Government (HMG) of Nepal has undertaken a program to provide technical and financial support to municipal governments (called town panchayats) throughout the kingdom. This support is being provided through the Management Support for Town Panchayats (MSTP) program with technical assistance provided by the UNDP and The World Bank. Starting with training and technical assistance, HMG is now studying the feasibility of establishing a loan fund for the town panchayats to assist them in financing new capital investment and upgrading existing infrastructure. The first step in this process has been to determine the investment capacity of the towns.
The "investment capacity" of a town panchayat is defined as the amount of new capital investment that the town can afford to finance through loans. The first part of this case report presents the analysis used to estimate the investment capacity of a sample of town panchayats using data collected by the MSTP project. Part 2 provides an estimate of the total loan demand from all town panchayats using the sample data in part 1.

Part 1: Investment Capacity of Sample Towns. The investment capacity is determined using a three-step process. The first step estimates the capacity of a town to service debt through increasing revenues from general revenue sources. The second step estimates the capacity to generate direct cost recovery from project beneficiaries. The third step translates the revenue amounts generated in the first two steps into an estimate of the size of a loan that could be amortized (including an allocation for meeting the operations and maintenance costs created by the investment project).

1. Debt servicing capacity from general revenue increase. This step involves calculating the amount of additional revenue that town panchayats could mobilize from their own-sources by making improvements in local revenue generation and current expenditure controls. We define this improvement as the increase in the "current account surplus" (CAS) which is the difference between local own-source revenues and current expenditures of the town panchayat. This is similar to the local revenue "gap" used in the Revised Grant Structure in the Calcutta Metropolitan area. In the case of Nepal, however, most towns have a positive surplus whereas in Calcutta, the gap is usually negative.

It should be noted that the town panchayats also have HMG grant funds which supplement the CAS and can be used for capital investment. Indeed, the HMG grant funds, although nominally divided into "development" and "administrative" grants, are in practice mingled with all other revenues of the town in the general fund. Although towns do not normally segregate funds into "current" and "capital" accounts, the MSTP has initiated the practice to help towns track such expenditures.

We have estimated the potential CAS increases by use of information produced by the MSTP project in developing "management and finance plans" (MFPs) with 11 town panchayats. The MFPs contain estimates of future CAS per capita targets which the town officials have agreed to reach through improvements in revenue generation procedures and current expenditure controls. We use the CAS targets for fiscal years 1987-1988 to calculate the increase in CAS per capita over the CAS per capita amount achieved in the last fiscal year (1985-1986). Table 2.8 shows this calculation for the 11 towns with the CAS per capita increase shown in Column C.

Column D shows the translation of the per capita CAS increase into a total amount for each town. The figures in Column D show the amount of funds that each town panchayat could devote to additional capital investment in fiscal 1987-1988 (and which, therefore, could be used to amortize a loan without diminishing the current level of capital investment in the town).

2. Direct cost recovery. There should be varying amounts of direct-cost recovery from project beneficiaries, which towns could realize on projects financed with borrowing. This would range from 100 percent on projects such as municipal markets to a low of 0 percent on some social infrastructure. Several town panchayats already use cost sharing on some infrastructure (most notably Dharan and Bharatpur); those towns typically collect 30 to 50 percent of project costs from beneficiaries. On average, we would expect at least 33 percent direct cost recovery to be achieved across all investment projects.

If we assume that 33 percent of project costs can be borne by direct-cost recovery and the remaining 67 percent will be borne by general fund revenues, the contribution of cost recovery to the "debt servicing capacity" calculated above would be one half of the debt servicing capacity: 67 percent divided by 33 percent = 1/2.
This means that the debt servicing capacity calculated in column D of table 2.8 can be increased by one-half by including cost recovery at the 33 percent rate (as shown in Column E).

3. Translating debt servicing capacity into total investment amounts. To translate debt servicing capacity (Column E) into the total amount of the investment that can be financed by a loan, we need to calculate the “net present value” of a loan that generates amortization payments equal to the debt servicing capacity. In doing this, we also need to factor in a provision for operations and maintenance costs which have to be covered by local revenues. We assume that annual operations and maintenance expenditures should average four percent of the total investment which is incorporated in the net present value calculation by lowering the amount available for amortization payments accordingly. Column F shows the results of this calculation based on a loan taken at ten percent annual interest rate for a ten-year period with ten equal annual payments. The figures in Column F show the total amounts of loans that each of the sample town panchayats can service incorporating all the assumptions presented above.

Table 2.8. Estimation of Loan Amounts That Can be Serviced by Improvements in Town Panchayat: Current Account Surpluses

<table>
<thead>
<tr>
<th>Town</th>
<th>(A)</th>
<th>(B)</th>
<th>(C)</th>
<th>(D)</th>
<th>(E)</th>
<th>(F)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>Total CAS</td>
<td>With 33% cost</td>
<td>Loan Serviced</td>
</tr>
<tr>
<td></td>
<td>per capita</td>
<td>target</td>
<td>increase</td>
<td>amount</td>
<td>sharing</td>
<td>by (E) with 4% Operations &amp; Maintenance Cost</td>
</tr>
<tr>
<td></td>
<td>FY85/86</td>
<td>FY87/88</td>
<td>(B-A)</td>
<td>(C x POP.)</td>
<td>Cost</td>
<td></td>
</tr>
<tr>
<td>Bharatpur</td>
<td>39.05</td>
<td>57.55</td>
<td>18.50</td>
<td>1,408,405</td>
<td>2,112,608</td>
<td>10,420,002</td>
</tr>
<tr>
<td>Birgunj</td>
<td>9.14</td>
<td>62.76</td>
<td>53.62</td>
<td>5,300,766</td>
<td>7,951,149</td>
<td>39,217,408</td>
</tr>
<tr>
<td>Butwal</td>
<td>64.40</td>
<td>132.12</td>
<td>67.72</td>
<td>2,467,581</td>
<td>3,701,372</td>
<td>18,256,257</td>
</tr>
<tr>
<td>Dharan</td>
<td>20.96</td>
<td>39.40</td>
<td>18.44</td>
<td>1,250,509</td>
<td>1,875,763</td>
<td>9,251,615</td>
</tr>
<tr>
<td>Hetauda</td>
<td>8.60</td>
<td>12.83</td>
<td>4.23</td>
<td>222,105</td>
<td>333,157</td>
<td>1,643,228</td>
</tr>
<tr>
<td>Kalaiya</td>
<td>-15.12</td>
<td>7.58</td>
<td>7.58*</td>
<td>145,225</td>
<td>217,838</td>
<td>1,074,440</td>
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<tr>
<td>Lalitpur</td>
<td>19.33</td>
<td>19.33</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nepalgunj</td>
<td>18.61</td>
<td>43.31</td>
<td>24.70</td>
<td>1,060,025</td>
<td>1,590,038</td>
<td>7,842,535</td>
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<tr>
<td>Pokhara</td>
<td>17.26</td>
<td>29.07</td>
<td>11.81</td>
<td>838,321</td>
<td>1,257,482</td>
<td>6,202,269</td>
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<tr>
<td>Rajbiraj</td>
<td>5.93</td>
<td>10.01</td>
<td>4.08</td>
<td>105,582</td>
<td>158,373</td>
<td>781,144</td>
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<tr>
<td>Tansen</td>
<td>4.41</td>
<td>7.00</td>
<td>2.59</td>
<td>34,157</td>
<td>51,235</td>
<td>252,708</td>
</tr>
<tr>
<td>Total</td>
<td>19,249,014</td>
<td>94,941,807</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In per capita amount</td>
<td>39.0</td>
<td>192.68</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Col. A: CAS = own-source revenues - current expenditures
Col. B: CAS targets as set in Management and Finance Plans
Col. D: Population estimates from MSTP
Col. E: Column figure - 150% of Column D
Col. F: Column amount = Present Value (PV) of annuity (Column E) assuming (a) 10-year period, (b) 10% annual interest rate, (c) equal payments annually, and (d) amount available for payment reduced by 4% of PV to cover operations and maintenance costs.

*Result cannot be greater than Col. B
Estimating total loan demand of town Panchayats. Table 2.8 presents the total effective loan demand for the sample of 11 town panchayats on which appropriate data have been assembled. Included in table 2.8 is the average per capita loan demand for the sample towns, equalling Rs. 192.68.

If we multiply this per capita amount by the total population of the town panchayats in fiscal 1987–1988 (1,517,118), we have an aggregate loan demand of Rs. 290.88 million. This amount represents an estimate of the total amount of loans that the town panchayats should be able to manage given improved financial performance by the end of fiscal 1988. Varying the assumptions underlying the calculations will obviously alter the results. First, if towns select investment projects with a higher level of direct cost recovery, the debt ceiling will be higher. For example, if a town selects an investment package with 50 percent cost sharing (versus 33 percent), the level of borrowing which can be serviced increases by an additional 33 percent.

The second major assumption which may be substantially altered is the revenue raising authority of the towns. The formulation in table 2.8 assumes improvement in revenue generation and expenditure controls without altering the current legal and administrative structure; should the towns be given more revenue authority (as proposed in the revised finance legislation being submitted this year to the national assembly) the current account surplus should go higher.

A third critical assumption underlying our analysis is that the town panchayats will use increases in the CAS only to service debt; this leaves untouched the other funds that are available to the towns for capital investment (HMG grant funds plus the base CAS). For some towns with high HMG grants per capita, the town panchayat could allocate some of those funds to debt service, raising the estimate of debt capacity for the town.

Given that most of the assumptions in the foregoing analysis are somewhat conservative, we deem the estimate of total loan demand of Rs. 290.88 million as a lower limit of effective loan demand. It is, however, a reasonable starting point.

Role of the Central Government in Setting Constraints on Local Revenue Mobilization

Central governments have a number of means of controlling the fiscal affairs of local governments and placing constraints on their local resource mobilization.

These relate to the powers of central governments to assign public service delivery authority and to implement policy measures which affect the revenue-raising ability of local governments.

Public Service Delivery Authority

Central governments grant certain powers to local governments to provide local public services. In addition, the central government can set up competing providers of public services through the establishment of parastatal authorities or private firms. It is not uncommon for municipal governments to find that they are suddenly put “out of business” in a specific service (such as water supply or garbage collection) when the central government establishes a national or regional corporation to take over those functions. Sometimes the new corporation takes over the assets of municipality (for example, in the case of a water corporation) and may, or may not, pay compensation to the local government for those assets. In many cases, the new corporation simply sets up business as if the local government did not exist.

In many cases in which new service delivery corporations are set up to supersede local government responsibility, the national legislation dealing with local government service responsibilities is not changed. In these cases, the new corporation is established under...
executive order or special legislation without amending the municipal code so that the municipal governments and the new corporation both have service delivery responsibility.

Since most of the parastatal service delivery corporations are created for services which have revenue generation potential, they are usually mandated to operate on some type of cost recovery, or even self-financing, basis. This means that they must target their services to areas where ability to pay is highest and where revenues can be maximized. This means that most such corporations will serve higher income urban neighbors where settlement densities are high. This tends to leave poorer and less dense areas of municipalities with no service coverage unless it is provided by the municipal government.

The “stripping” of revenue generating public service responsibility from local governments can greatly limit their ability to mobilize local revenues. On the other hand, it is argued that local governments are usually not well equipped to manage either the technical or financial aspect of services such as water systems. The question is, is it in the national interest to strengthen local governments to enable them to carry out these functions or is it better to replace some local government functions with an array of special purpose authorities? Although the special purpose authorities may be seen as more efficient providers of individual services, the long-term cost is a diminished capacity of local governments to mobilize local resources for local services.

Another important factor to be taken into consideration when evaluating the allocation of responsibilities for service provision is the potential capacity of local governments to engage in cross-subsidization across its different activities. For example, surpluses generated from some activities such as property rental could be re-allocated to subsidize the provision of basic needs services, such as water supply, to low income residents. This criteria favors the allocation of urban service functions to local government rather than single purpose regional authorities which would be unable to cross-subsidize across services.

**Revenue-Raising Authority**

Central governments control the revenue-raising authority of local governments by:

- Controlling the types of local taxes and fees which can be collected;
- Controlling the tax and fee rates which can be applied;
- Setting limitations on local government borrowing; and
- “Crowding out” local governments from credit markets.

Central governments control the types of taxes and fees that can be used by local government, not only by directly legislating the power to tax but also by establishing national tax exemptions. In many countries, central governments set an array of tax exemptions which remove much of the local government revenue base. In addition, central governments and government corporations own taxable assets in many municipalities on which no local taxes are paid. Even in cases where the central government is obligated to make a “contribution” in lieu of taxes, the payments are often not made or are delayed.

Tax rate setting extends the central government’s control over local revenue raising. Many countries control very tightly the rates that are allowed on local taxes and fees. A major problem is that the rate schedules are often not revised for many years, meaning that taxes and fees that employ fixed rates (that is, ones that are not proportional to the tax base) lose much of their real value over time.

Setting the tax rates of local governments by the central government removes the choice from local governments to decide which revenue sources should be exploited and to what extent. Central governments defend their need to control local tax rates on the grounds of:

- Needing to manage overall fiscal policy of the country, including the local public sector;
- Needing to protect local citizens from overtaxation; and
- Needing to use the tax code as a tool of national investment planning.
On the other hand, these needs can normally be met without having to exercise detailed control over individual tax rates at the local level. Indeed, much of the desire to control local tax rates probably stems from a sense of general distrust of local officials on the part of central government officials.

Setting borrowing limits on local government debt may be practiced either through formally setting debt ceilings or simply controlling access to loans. In many countries with no formal debt ceilings on local government borrowing, central governments may require that they approve each loan request. While such a policy does not prohibit borrowing in a strictly legal sense, the approval process can be made so long and painful that it effectively proscribes any borrowing at all.

Central governments can also affect the borrowing ability of local governments by "crowding out" the credit markets. This can happen both in the domestic and international markets. In the international market, this happens when the debt service of the central governments is so high that international lenders move to restrict credit (or apply strict conditionality) to a country's future borrowing. Since local government borrowing usually is included in measuring total public sector debt, restrictions on central government credit will impact on total credit availability for local government as well.

Case Study: Dagpur Municipal Corporation (Stages 1 and 2)

This section describes the hypothetical case of a city in a south Asian country. The description includes the socioeconomic characteristics of the city, the services provided, and the financial conditions of the municipal corporation. The reader will be asked to analyze several aspects of the provision of services and perform an analysis of the corporation's finances.

**Stage 1: Analysis and Strategy**


**Exercise 2.4 Studying the Situation in Dagpur**

Urban development has usually been associated with the expansion of services and infrastructure through capital investment. The improved operation and maintenance of existing services, however, may well be equally important to the welfare of the urban population, and both lines of development may well be dependent upon improving the efficiency and viability of the public agencies responsible for operating and expanding services. The financial components of an urban development program can include:

- Capital investment;
- Increased expenditure on operation and maintenance for essential staffing, supplies, and equipment;
- Diversion of resources from unnecessary, wasteful forms of expenditure;
- Increased recovery of costs through higher taxes or charges or simply more effective assessment and collection;
- Reformed financial relationships between levels of government and different public agencies; and
- Improved budgetary control and financial information to ensure that financial targets are met.

To illustrate this comprehensive approach, you are asked to read the case study of Dagpur, an imaginary city with characteristics of a number of real south Asian cities. You will need to analyze the financial tables, looking at trends in revenue, expenditure, and overall financial performance. It would be advisable to reproduce the tables in per capita terms at constant prices, to show how far revenue and expenditure have kept pace with inflation and the demands consequent on population growth.

Imagine that you are part of a government team framing a medium-term urban development program for Dagpur and to identify:

- The major financial issues which need to be tackled;
- The financial reforms which should be considered;
- Implications of the proposed reforms that is, political, social, institutional.

"Financial reform" may be taken to include any of these components.
GENERAL DESCRIPTION. Dagpur is one of four major cities with populations exceeding one million in a south Asian country. The national population was 95 million in 1986. A number of smaller urban areas are distributed relatively evenly over the country.

The City of Dagpur has a resident population of 1.5 million people, and another 300,000 travel in daily from surrounding rural areas for work. Dagpur is located in low-lying marsh land surrounding a natural harbor at the mouth of the country's major river. It is the largest port handling some 60 percent of external trade. Until 25 years ago, it was the national capital.

Apart from the port, the city has major industries including textiles, cement, oil refineries, and food processing, and it remains the headquarters of many commercial firms. Per capita incomes average $400 per annum. Average densities range from 200 to 500 persons per hectare. Due to growing pressure on agricultural land in the country's interior, some political strife in border areas, natural growth, and attractions of city employment, the city's population has been growing at the average rate of 5.2 percent per annum over the past decade.

Dagpur has a Municipal Corporation (the DMC), which is governed by a council consisting of 33 members elected from individual wards. They, in turn, elect the mayor. The DMC permanent staff is headed by a commissioner, seconded from the civil service, who is assisted by a number of chief officers including a treasurer and engineer.

The DMC is responsible for roads, street lighting, footpaths, primary education, markets, fire protection, water and sewerage, public health, refuse collection, medical services, parks, libraries, and other recreational facilities.

The Dagpur Development Authority is responsible for planning the city and the peri-urban area and also for housing improvement and land development. It is a parastatal organization; the members of the authority, except for the Mayor of Dagpur, are appointed by the national government.

Separate public corporations under the control of the central government are responsible for electricity, public transport, postal and telecommunications services, the port, and the railways.

CITY SERVICES. The following paragraphs briefly describe the services in the city of Dagpur along with the institutions responsible for providing them.

Water Supply and Sanitation. Water supplies and sewerage are the responsibility of the Dagpur Water and Sewerage Board, a self-financing subsidiary of the DMC. The main source of water is an inland lake some 50 miles from the city. Rapid population and industrial growth have outstripped the capacity of the present plant, last augmented in 1957. As a result, water pressure is low and some areas receive supplies for only four hours a day. It has not been possible to provide piped water to some new outlying suburbs, which are now supplied only by tubewells and water trucks. The groundwater is brackish due to the coastal location and the tubewells are only a temporary solution to demand. Only about half the city is connected to the sewerage supply. Most of the rest is served by septic tanks and night soil cartage, but some squatter settlements are totally unserved by municipal sanitation and resort to open drains and channels.

Roads. The DMC is responsible for all roads in the city limits. Although the basic network of roads has been sufficiently developed to avoid major traffic congestion, maintenance is a serious problem due both to the marshy and low-lying nature of the terrain and to the rapid increase in heavy traffic, particularly to the port. There has been a marked deterioration in surfaces in recent years.

Solid-Waste Disposal. The DMC is responsible through a specific department for solid-waste collection and disposal. The system is irregular and inadequate because the vehicle fleet has not expanded in line with the city's growth. Moreover, expenditure on new vehicles
has been cut back in recent years, and over half the fleet is near or over its normal working life, so breakdowns are frequent.

**Education.** Free primary education is provided by the DMC with the help of a grant from central government which is applied to help cover the recurrent costs. Secondary schooling and further education are provided by a mix of central government and private bodies. New primary schools are constructed by the DMC but, again, with grant aid and some voluntary contribution. A rapid expansion has been necessary, both to meet the city's population growth and to implement a national policy of providing schools for all children of primary school age. Because the city's schools are generally better, many children come into them from adjoining rural areas. Staffing is adequate, but there are occasional shortages of books, and facilities, such as laboratories, have been developed, with parental help, only in schools in the wealthier suburbs.

**Health Services.** The central government maintains a specialist teaching hospital attached to the university, and there are two other hospitals run by charitable foundations. The DMC runs two general hospitals, a maternity hospital, and a network of neighborhood health centers and clinics. Its facilities are well staffed, but hospitals are frequently handicapped by shortages of money for drugs and basic equipment such as sheets, bandages, and so forth. The Public Health Department runs the hospitals, health centers, clinics, and other preventive services.

**Housing Development.** Rapid population growth has led inevitably to a shortage of housing, overcrowding, and illegal squatting. The Development Authority has been developing new residential areas for some 20 years on a commercial basis, building on substantial amounts of public land on the periphery of the historic city. Most of these areas have been for middle- and upper-class residents. The authority has been successful in generating surpluses on its plot sales for investing in further development. There have been financial problems for the DMC, however, which has had to provide schools, clinics, and other community facilities in the new estates. Moreover, it has had to take over the cost of maintaining the infrastructure some years before the purchasers of plots have finished building houses, shops, and so forth, and have started to pay property tax. The Development Authority has more recently engaged in upgrading services in the shanty areas. Squatters are provided with basic services, improvement loans, and security of tenure but are obliged to pay a consolidated service charge to the authority. The revenue from this charge is supposed to be divided between the operating costs of the Water and Sewerage Board, the DMC, and the recovery of the authority's own capital outlay. Recovery so far has only been approximately 55 percent of the amount due, and the authority is giving first priority to repayment of its own external debt for the improvement projects.

**Public Transport.** Public transport services are provided by a state-owned company with 200, mostly dilapidated, buses. The company has to rely on government subsidies and, because of a general shortage of funds, has not been able to renew or properly maintain its rolling stock. As a consequence, only half of the fleet is operating regularly, which results in bus overloading and excessive waiting times. Faced with much complaint about the quality of the service, the government has rejected proposals from the company's directors for an increase in fares, which have remained constant since 1976. In view of this public transport shortage, the government has tolerated the growth of illegal taxis and converted vans which transport an estimated third of the city's passengers (with fares roughly 50 percent higher than those of the state-owned company).

**DMC Finances.** The following paragraphs describe the financial condition of the municipal corporation, indicating the sources of revenues and the uses of expenditures.
Revenue and Expenditure. Details of revenue and expenditure of DMC over the last 5 years (1982–1986) are given in tables 2.9–2.11.

Table 2.9 DMC Total Revenue and Expenditure 1982–1986 (in millions of rupees)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent revenue</td>
<td>220.0</td>
<td>200.0</td>
<td>260.0</td>
<td>236.0</td>
<td>300.0</td>
</tr>
<tr>
<td>Capital receipts</td>
<td>14.0</td>
<td>10.0</td>
<td>16.0</td>
<td>16.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Total revenue</td>
<td>234.0</td>
<td>210.0</td>
<td>276.0</td>
<td>252.0</td>
<td>320.0</td>
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<tr>
<td>Recurrent expenditure</td>
<td>144.0</td>
<td>140.0</td>
<td>180.0</td>
<td>174.0</td>
<td>210.0</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>90.0</td>
<td>80.0</td>
<td>96.0</td>
<td>92.0</td>
<td>110.0</td>
</tr>
<tr>
<td>Total expenditure</td>
<td>234.0</td>
<td>220.0</td>
<td>276.0</td>
<td>266.0</td>
<td>320.0</td>
</tr>
</tbody>
</table>

Table 2.10 DMC Revenues 1982–1986 (in millions of rupees)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent revenues</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Property tax</td>
<td>85.0</td>
<td>90.0</td>
<td>92.0</td>
<td>94.5</td>
<td>95.0</td>
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<tr>
<td>Motor vehicle tax</td>
<td>55.0</td>
<td>73.0</td>
<td>89.5</td>
<td>108.0</td>
<td>125.0</td>
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<tr>
<td>Entertainment tax</td>
<td>18.0</td>
<td>20.0</td>
<td>27.0</td>
<td>29.0</td>
<td>31.0</td>
</tr>
<tr>
<td>License fees</td>
<td>11.0</td>
<td>13.0</td>
<td>18.0</td>
<td>24.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Rent and charges</td>
<td>7.0</td>
<td>9.0</td>
<td>8.0</td>
<td>9.5</td>
<td>10.0</td>
</tr>
<tr>
<td>Interest</td>
<td>4.0</td>
<td>5.0</td>
<td>5.5</td>
<td>6.0</td>
<td>5.0</td>
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<tr>
<td>Education grants</td>
<td>15.0</td>
<td>19.0</td>
<td>25.0</td>
<td>29.0</td>
<td>32.0</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>5.0</td>
<td>7.0</td>
<td>7.0</td>
<td>8.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Total recurrent revenues</td>
<td>200.0</td>
<td>236.0</td>
<td>272.0</td>
<td>308.0</td>
<td>330.0</td>
</tr>
<tr>
<td>Capital receipts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loans</td>
<td>3.0</td>
<td>6.0</td>
<td>5.0</td>
<td>3.0</td>
<td>8.0</td>
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<tr>
<td>Grants</td>
<td>6.0</td>
<td>8.0</td>
<td>13.0</td>
<td>10.0</td>
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<tr>
<td>Sales of capital assets</td>
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<td>2.0</td>
<td>3.0</td>
<td>2.0</td>
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<tr>
<td>Total capital receipts</td>
<td>10.0</td>
<td>16.0</td>
<td>20.0</td>
<td>16.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Total revenues</td>
<td>210.0</td>
<td>252.0</td>
<td>292.0</td>
<td>324.0</td>
<td>350.0</td>
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Table 2.11 DMC Expenditures 1982–1986 (in millions of rupees)

<table>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recurrent expenditures</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General administration</td>
<td>5.0</td>
<td>8.0</td>
<td>9.5</td>
<td>12.5</td>
<td>18.0</td>
</tr>
<tr>
<td>Financial administration</td>
<td>4.0</td>
<td>5.0</td>
<td>5.5</td>
<td>6.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Education</td>
<td>37.0</td>
<td>49.0</td>
<td>61.0</td>
<td>72.0</td>
<td>84.0</td>
</tr>
<tr>
<td>Public health</td>
<td>25.0</td>
<td>33.0</td>
<td>37.0</td>
<td>47.0</td>
<td>54.0</td>
</tr>
<tr>
<td>Solid-waste management</td>
<td>20.0</td>
<td>24.0</td>
<td>25.0</td>
<td>26.0</td>
<td>26.5</td>
</tr>
<tr>
<td>Roads/lighting</td>
<td>33.0</td>
<td>38.0</td>
<td>42.0</td>
<td>48.0</td>
<td>48.0</td>
</tr>
<tr>
<td>Fire</td>
<td>4.0</td>
<td>4.0</td>
<td>5.0</td>
<td>6.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Libraries</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Recreation</td>
<td>6.5</td>
<td>7.0</td>
<td>9.0</td>
<td>11.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Social welfare and miscellaneous services</td>
<td>2.5</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Total recurrent expenditure</strong></td>
<td>140.0</td>
<td>174.0</td>
<td>200.0</td>
<td>236.0</td>
<td>264.0</td>
</tr>
<tr>
<td><strong>Capital expenditures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>15.0</td>
<td>25.0</td>
<td>30.0</td>
<td>30.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Public health</td>
<td>23.0</td>
<td>28.0</td>
<td>16.0</td>
<td>23.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Solid-waste management</td>
<td>7.0</td>
<td>5.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Roads and lighting</td>
<td>20.0</td>
<td>25.0</td>
<td>23.0</td>
<td>22.0</td>
<td>16.0</td>
</tr>
<tr>
<td>Fire</td>
<td>5.0</td>
<td>2.0</td>
<td>1.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Libraries</td>
<td>2.0</td>
<td>-</td>
<td>1.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Recreation</td>
<td>4.0</td>
<td>3.0</td>
<td>2.0</td>
<td>9.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Social welfare, administration and miscellaneous services</td>
<td>4.0</td>
<td>4.0</td>
<td>3.0</td>
<td>7.0</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Total capital expenditures</strong></td>
<td>80.0</td>
<td>92.0</td>
<td>78.0</td>
<td>100.0</td>
<td>96.0</td>
</tr>
</tbody>
</table>

**Tax Revenues.** The DMC collects three major taxes. The first is the property tax which is levied on the rental value of land and buildings. Yields have been restricted by a number of factors:

- There has been no general revaluation since 1972. Assessments of rented residential property are based, by judicial interpretation, on statutory rent limits which bear little relation to the rents actually paid. Assessments of commercial properties and owner-occupied residences are based upon the evidence of actual rent payments or the assessor's judgment of potential rental value based upon physical visitation.
- The DMC's tax rate (17.5 percent) has reached the maximum level permitted by law. Requests to the government to increase the rate level or carry out revaluation have
not been successful so far. (The government is thought to be reluctant to increase taxes with municipal elections due later in 1987 and a general election in 1988.)

- Collections raise approximately 73 percent of demand. Collectors experience difficulty in tracing the owners of buildings with multiple occupation. The automatic penalty for late payment is a surcharge of 10 percent per annum, but legal procedures in case of default are slow, and the courts are unsympathetic. The DMC is reluctant to apply for the ultimate sanction of distraint on goods or eviction.

The second tax collected by the DMC is the motor vehicle tax. The annual tax on all vehicles registered in the city accrues to the DMC. The tax is based upon a formula assessment of value, taking into account weight, age, engine capacity, and usage. The formula is revised every year by the national government.

There is continuing controversy over the assignment of the motor vehicle tax revenues to the DMC. Surrounding local authorities complain because the bulk of the commercial vehicles using their roads pay tax to the DMC, not to the local authorities, and the vehicles are owned by companies with headquarters within the city. The DMC argues that many of the private cars (and taxis) commuting into the city by day are registered in outlying municipalities. The Ministry of Finance has argued for central collection of the tax to avoid these conflicts and has offered a compensatory grant at the level of the current collections. The Ministry of Local Government has so far resisted this proposal on the local authorities' behalf.

The third tax, the entertainment tax, is collected at the rate of 33 1/3 percent on the value of the cinema tickets, and 15 percent on entry fees for theaters, sporting events, and other commercially run entertainment. Control is maintained through central printing and supply of tickets by the DMC.

Grants. The DMC receives a grant which is intended to meet 50 percent of the cost of primary education. This consists of two elements. The first meets half the cost of teachers' salaries, calculated on an established level which increases each year to take into account school expansion and national salary settlements. The second element consists of a capitation grant per pupil to meet non-teaching costs. The capitation element is reviewed every five years, the present level having been fixed in 1982. DMC also receives capital construction grants for new schools based upon a national standard formula. The grant is meant to meet two-thirds of the cost, but the amount equals as little as 30 percent of the true costs in Dagpur because of its above-average land costs.

Other Revenues. Major categories of other revenues are:
- Licenses for registration of shops, hotels, trades, and so forth;
- Rent of markets and other municipal properties;
- Charges for fee-paying services and hospitals, sports centers, and so forth;
- Income on investments.

Capital Finance. Most capital expenditure is financed from revenue; however, loans for construction of roads, markets and medical units, are available from a national municipal development bank.

Table 2.12. DMC Balance Sheet, December 31, 1986

<table>
<thead>
<tr>
<th>Liabilities</th>
<th>Rupees (’000)</th>
<th>Assets</th>
<th>Rupees (’000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term loans outstanding</td>
<td>40,300</td>
<td>Fixed assets</td>
<td>119,700</td>
</tr>
<tr>
<td>Capital discharged</td>
<td>79,400</td>
<td>Cash and bank</td>
<td>4,267</td>
</tr>
<tr>
<td>Deposit: Income</td>
<td></td>
<td>Investments</td>
<td>49,700</td>
</tr>
<tr>
<td>Tax deductions</td>
<td>13,210</td>
<td>Sundry creditors</td>
<td>2,120</td>
</tr>
<tr>
<td>Employees superannuation fund</td>
<td>11,106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sundry creditors</td>
<td>49,825</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General fund balance</td>
<td>18,054</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>175,787</td>
</tr>
<tr>
<td></td>
<td>175,787</td>
<td>175,787</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.13 Retail Price Index 1982–1986

<table>
<thead>
<tr>
<th>Date</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 January 1982</td>
<td>100</td>
</tr>
<tr>
<td>1 January 1983</td>
<td>115</td>
</tr>
<tr>
<td>1 January 1984</td>
<td>126</td>
</tr>
<tr>
<td>1 January 1985</td>
<td>136</td>
</tr>
<tr>
<td>1 January 1986</td>
<td>143</td>
</tr>
</tbody>
</table>

Exercise 2.5. Analyzing the Dagpur Municipal Corporation

Readers should now undertake the analysis of problems and identification of objectives for reform defined in exercise 2.4.

Stage 2: Revenue Estimation

Timing: Mid 1987

The current position. Stage 1 of the case study reviewed the financial position of the DMC at the beginning of 1987 and identified major financial problems which had to be tackled and reforms which would be needed.

As a result of the review, there have been detailed negotiations between the central government and the DMC in which potential donors have also been involved. As a result, agreement has been reached on the following package of nine measures designed to restore the financial viability of the DMC over a three-year period from 1988 to 1990, and to enable
it to tackle some of the major service deficiencies in the city, particularly in the areas of road maintenance and refuse collection.

1. The government has agreed that the DMC should continue to levy the motor vehicle tax and will revise the rates of tax each year in line with inflation.

2. A reassessment of property tax values has been carried out; the new assessment values will be brought into effect in 1988 but with some compensatory reduction in the rate of tax; tax rates, however, will be adjusted annually thereafter to maintain the real value of the tax until further revaluation. (The implications are set out in table 2.14.)

3. Collection procedures for property tax will be tightened up with the introduction of an automatic computerized system of recording payments and taking action against defaulters. The DMC has accepted a target of improving the collection efficiency of property tax by three percent per annum.

4. DMC has agreed to recover more of the cost of some (unspecified) services directly from the beneficiaries. For this purpose:
   - Rents and charges are to be credited directly to the department providing the service in question in the 1988 budget, so that the net cost to general services is clearly shown; and
   - The rates of rents and charges are to be reviewed (see table 2.16).

5. The formulas for recurrent and capital grants for the primary education service have been revised in 1988. (Details are given in the “Educational Finance” section below.)

6. It has been agreed that the Municipal Loans Fund will make 15 million rupees available for DMC capital projects or equipment purchases in each of the years 1988, 1989, and 1990, subject to preparation of an acceptable capital program. These loans will be repayable over a maximum of 15 years by equal installments of capital and interest at 10 percent per annum.

7. DMC has agreed to hold down spending on administrative overheads and to give priority for increased expenditure to refuse collection and to road improvements and maintenance. The Municipal Loans Fund allocation may be used partially for purchase of new road plant and refuse vehicles, but DMC is to create provision for a Renewals Fund within its Recurrent Budget.

8. DMC will also attempt to increase the annual revenue surplus available for capital expenditure by improved revenue mobilization and restraint on recurrent spending outside the priority areas.

9. DMC will take over responsibility for slum improvement program from 1988. Current plans are to improve 700 acres over the next five years at an average capital cost of 60,000 rupees per acre.
Exercise 2.6 Producing Revenue Forecasts

To comply with these arrangements DMC now has to submit forecasts of revenue and expenditure over the three-year period 1988 to 1990. These will show, in particular, how it proposes:

- To improve its recurrent revenue performance;
- To eliminate existing short-term debt;
- To service increased borrowing from the Municipal Loans Fund;
- To finance continuing growth of the primary education service (in line with national targets) and major improvements (operating or capital) in roads and refuse collection.

At this stage, you are asked to produce the revenue forecasts. (Expenditure forecasts will be made at stage 3, chapter 3). You will need to produce the following detailed statements in respect of the period 1988–1990:

- Estimates of revenue from property tax with proposals over tax rates (table 2.14).
- Estimates of revenue from rents and charges with proposals over tariffs (see "Rents and Charges" section below).
- Estimates of revenue and expenditure on education (see "Educational Finance" section below).
- Overall projections of recurrent and capital revenue under each head. (Performance for 1982–1986 was given in tables 2.10 and 2.11. Tables 2.15 and 2.16 present revised estimates for 1987.)

The retail price index (see table 2.13) at 1 January 1987 stood at 149 (1/1/82 = 100). Inflation during 1987 is estimated to have fallen to three percent. Allowance for inflation should be made in the 1988 projections, but forecasts for 1989 and 1990 should be made at constant (1988) prices.

<table>
<thead>
<tr>
<th>Table 2.14 Property Tax Revenue for 1982–1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue (millions of rupees)</td>
</tr>
<tr>
<td>Total assessed property value</td>
</tr>
<tr>
<td>Rate of tax</td>
</tr>
<tr>
<td>Total tax demand</td>
</tr>
<tr>
<td>Actual collections:</td>
</tr>
<tr>
<td>Current Year</td>
</tr>
<tr>
<td>Arrears</td>
</tr>
<tr>
<td>Total Revenue</td>
</tr>
<tr>
<td>604.8</td>
</tr>
<tr>
<td>17.5%</td>
</tr>
<tr>
<td>105.8</td>
</tr>
<tr>
<td>81.5</td>
</tr>
<tr>
<td>3.5</td>
</tr>
<tr>
<td>85.0</td>
</tr>
</tbody>
</table>
Table 2.15 DMC Revenues—Revised Estimates for 1987 (in millions of rupees)

<table>
<thead>
<tr>
<th>Revenues</th>
<th>Revised Estimates for 1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent Revenues</td>
<td></td>
</tr>
<tr>
<td>Property tax</td>
<td>95.0</td>
</tr>
<tr>
<td>Motor vehicle tax</td>
<td>140.0</td>
</tr>
<tr>
<td>Entertainment tax</td>
<td>33.0</td>
</tr>
<tr>
<td>License fees</td>
<td>88.0</td>
</tr>
<tr>
<td>Rent and charges</td>
<td>11.0</td>
</tr>
<tr>
<td>Interest</td>
<td>5.0</td>
</tr>
<tr>
<td>Education grants</td>
<td>34.0</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>Total recurrent revenues</strong></td>
<td><strong>353.0</strong></td>
</tr>
</tbody>
</table>

| Capital Receipts                 |                            |
| Loans                            | 7.0                        |
| Grants                           | 11.0                       |
| Sales of capital assets          | 2.0                        |
| **Total capital receipts**       | **20.0**                   |
| **Total revenues**               | **373.0**                  |

During 1987, a revaluation has been carried out. There has been on average a 320 percent growth in values since the last general assessment in 1972. As a result, the revised total assessed value is Rs 2,250 million at mid-1987.

The new 1987 valuation roll should be used for assessing property tax liabilities in 1988. At the same time, however, tax rates should be reduced to cushion the impact of the increased valuations on taxpayers. Furthermore, modest increases in tax rates should be made in succeeding years (that is, 1989 and beyond) to maintain the real value of the tax until the next general revaluation is undertaken.

The DMC should aim to improve its collection efficiency by at least three percent per annum. For this purpose, a computerized system of records has been introduced. Automatic penalties have also been doubled for all payments more than six months in arrears.

**RENTS AND CHARGES.** Revenue from rents and charges in 1986 totalled Rs 10.5 million arising from the following sources listed in table 2.17.
### Table 2.16 DMC Expenditures—Revised Estimates for 1987 (in millions of rupees)

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Revised Estimates for 1987</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recurrent Revenues</strong></td>
<td></td>
</tr>
<tr>
<td>General administration</td>
<td>20.2</td>
</tr>
<tr>
<td>Financial administration</td>
<td>7.8</td>
</tr>
<tr>
<td>Education</td>
<td>100.0</td>
</tr>
<tr>
<td>Public health</td>
<td>60.0</td>
</tr>
<tr>
<td>Solid-waste management</td>
<td>28.0</td>
</tr>
<tr>
<td>Roads/lighting</td>
<td>49.0</td>
</tr>
<tr>
<td>Fire</td>
<td>7.0</td>
</tr>
<tr>
<td>Libraries</td>
<td>4.0</td>
</tr>
<tr>
<td>Recreation</td>
<td>11.0</td>
</tr>
<tr>
<td>Social welfare and miscellaneous services</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Total recurrent expenditures</strong></td>
<td>291.0</td>
</tr>
<tr>
<td><strong>Capital Expenditures</strong></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>40.0</td>
</tr>
<tr>
<td>Public health</td>
<td>20.0</td>
</tr>
<tr>
<td>Solid-waste management</td>
<td>2.0</td>
</tr>
<tr>
<td>Roads/lighting</td>
<td>15.0</td>
</tr>
<tr>
<td>Fire</td>
<td>4.0</td>
</tr>
<tr>
<td>Libraries</td>
<td>1.0</td>
</tr>
<tr>
<td>Recreation</td>
<td>5.0</td>
</tr>
<tr>
<td>Social welfare, administration and miscellaneous service</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Total capital expenditures</strong></td>
<td>90.0</td>
</tr>
<tr>
<td><strong>Total expenditures</strong></td>
<td>381.0</td>
</tr>
</tbody>
</table>

### Table 2.17 Revenues from Rents and Charges*

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount collected (in rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rents of shops and market stalls</td>
<td>4,300,000</td>
</tr>
<tr>
<td>Abattoir fees</td>
<td>730,000</td>
</tr>
<tr>
<td>Private accommodation charges at DMC hospitals</td>
<td>280,000</td>
</tr>
<tr>
<td>Commercial refuse collection fees</td>
<td>1,330,000</td>
</tr>
<tr>
<td>Car parking fees</td>
<td>1,900,000</td>
</tr>
<tr>
<td>Sports center entrance fees</td>
<td>1,080,000</td>
</tr>
<tr>
<td>Zoological garden entrance fees</td>
<td>280,000</td>
</tr>
<tr>
<td>Community center hire charges</td>
<td>180,000</td>
</tr>
<tr>
<td>Staff housing rents</td>
<td>420,000</td>
</tr>
<tr>
<td></td>
<td>10,500,000</td>
</tr>
</tbody>
</table>

* Details of individual charges are given in Tables 2.18–2.24 and accompanying text.
**Rents of Shops and Market Stalls.** The DMC owns and rents blocks of shops and markets. It divides its tariff into two grades according to location:

- **Grade I:** Central business district and high income group residential suburbs.
- **Grade II:** Other areas.

<table>
<thead>
<tr>
<th>Grade</th>
<th>No. of Prop.</th>
<th>Size (square meters)</th>
<th>Annual rent (Rs. per sq. meter)</th>
<th>Total Rs. per prop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shop I</td>
<td>20</td>
<td>40</td>
<td>1,000</td>
<td>40,000</td>
</tr>
<tr>
<td>I</td>
<td>45</td>
<td>20</td>
<td>900</td>
<td>18,000</td>
</tr>
<tr>
<td>II</td>
<td>50</td>
<td>20</td>
<td>800</td>
<td>16,000</td>
</tr>
<tr>
<td>II</td>
<td>130</td>
<td>10</td>
<td>700</td>
<td>7,000</td>
</tr>
<tr>
<td>Market</td>
<td>I</td>
<td>150</td>
<td>400</td>
<td>2,400</td>
</tr>
<tr>
<td>II</td>
<td>420</td>
<td>6</td>
<td>300</td>
<td>1,800</td>
</tr>
</tbody>
</table>

Actual revenue in 1986 was Rs 4,300,000, which reflects notional shortfalls of Rs 130,000 due to temporary vacancies and arrears.

The rents were last revised in 1982. Current private sector commercial rents are in the range (depending on exact location and standards of construction, and so forth):

- **Grade I** areas: Rs 1,000–2,500 per square meter.
- **Grade II** areas: Rs 500–1,200 per square meter.

Shops and markets are administered by the Markets Division of the finance Department. Costs are shown in table 2.19.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and wages</td>
<td>600,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>500,000</td>
</tr>
<tr>
<td>Debt charges</td>
<td>1,200,000</td>
</tr>
</tbody>
</table>

**Abattoir Fees.** The Public Health Department provides the abattoir buildings and inspection, although slaughtering is carried out by the commercial butchers who use the facilities. Fees are charged for use of the premises and inspection as follows:

- Rs 5 per cow, and
- Rs 2 per sheep or goat.
Revenue in 1986 totalled Rs 730,000. The Department's estimated costs in operating the abattoirs in 1987 are shown in table 2.20.

Table 2.20 Established Costs for Operating the Abattoirs (1987)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and wages</td>
<td>250,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>270,000</td>
</tr>
<tr>
<td>Debt charges</td>
<td>300,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>820,000</strong></td>
</tr>
</tbody>
</table>

_Hospital Accommodation Fees._ The DMC provides free treatment and in-patient accommodation at its hospitals and health centers. Private wards are available at one of its general hospitals and its maternity hospital. The private wards can accommodate up to 40 patients. The charge is Rs 100 per head per day; this rate was last revised in 1985. Revenue in 1986 was Rs 280,000.

The Public Health Department estimates the cost of food for private patients at Rs 45 daily. Departmental accounts do not otherwise distinguish between the accommodation and nursing costs of private and ordinary patients. Accommodation charges in private hospitals and clinics range from Rs 100 to Rs 500 per day.

_Commercial Refuse Collection Fees._ The current fee for removal of refuse from industrial and commercial premises is Rs 2 per ton set in 1984. Revenue in 1986 was Rs 1,330,000. Approximately 25 percent of the total refuse collected (approximately 450 tons daily) comes from industrial and commercial premises. The total recurrent cost of the service is estimated at Rs 26 million in 1987.

_Car Parking Fees._ The DMC collects fees from streetside parking meters, installed in 1970. (Other parking lots are provided by the private sector.) The fee is Rs 1 per 2 hours. Revenue in 1986 was Rs 1,900,000. Collection costs are shown in table 2.21.

Table 2.21 Collection Costs for Parking Fees (1986)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and wages</td>
<td>200,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>250,000</strong></td>
</tr>
</tbody>
</table>

_Sport Center Entrance Fees._ Current entrance charges (last revised in 1980) are:
- Annual subscription: Rs 100 (entitling free entrance);
- Daily entrance: Swimming pools: Adults Rs 2, Children Rs 1; and
- Other sports: Adults Rs 4, Children Rs 2. (Other sports include tennis, squash, badminton, volleyball, and basketball.)
Total revenue in 1986 was Rs 1,080,000. Estimated operating costs of the sports centers are shown in table 2.22.

Table 2.22 Estimated Operating Costs of the Sports Centers (1987)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and wages</td>
<td>1,450,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>1,350,000</td>
</tr>
<tr>
<td>Debt Service</td>
<td>1,700,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,500,000</strong></td>
</tr>
</tbody>
</table>

Zoological Garden Entrance Fees. Entrance fees (last revised in 1982) are currently Rs 2 per adult and Rs 1 per child. Revenue in 1986 was Rs 280,000. Estimated operating costs are shown in Table 2.23.

Table 2.23 Estimated Operating Costs of the Zoological Garden (1987)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Wages</td>
<td>560,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>440,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,000,000</strong></td>
</tr>
</tbody>
</table>

Community Center Hire Charges. Charges are levied for hiring community centers for private functions (e.g., weddings). The fee, last revised in 1983, was Rs 20 per hour. Revenue in 1986 was Rs 180,000.

The total cost of operating community centers in 1987 is estimated at Rs 1,200,000.

Staff Housing Lists. DMC provides 440 houses for its employees. Rents are charged at 5 percent of salary. Total revenue in 1986 was Rs 420,000. The estimated costs of operating the staff housing estates are shown in Table 2.24.

Table 2.24 Estimated Operating Costs of Staff Housing Estates (1987)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Wages</td>
<td>300,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>500,000</td>
</tr>
<tr>
<td>Debt Service</td>
<td>1,220,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,020,000</strong></td>
</tr>
</tbody>
</table>
EDUCATION FINANCE. As stated in the Stage 1 brief, the Dagpur Municipal Corporation is responsible for providing primary education. The government, however, provides grant aid which is supposed to meet 50 percent of the recurrent costs and 66 percent of capital expenditure. In fact, government grants have declined as a proportion of DMC expenditure on education as shown table 2.25.

Table 2.25 DMC Expenditures on Education and Government Contributions (in millions of rupees)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent expenditure</td>
<td>37.0</td>
<td>49.0</td>
<td>61.0</td>
<td>72.0</td>
<td>84.0</td>
</tr>
<tr>
<td>Government contribution</td>
<td>15.0</td>
<td>19.0</td>
<td>25.0</td>
<td>29.0</td>
<td>32.0</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>15.0</td>
<td>25.0</td>
<td>30.0</td>
<td>30.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Government contribution</td>
<td>6.0</td>
<td>8.0</td>
<td>13.0</td>
<td>10.0</td>
<td>11.0</td>
</tr>
</tbody>
</table>

There are several reasons for this decline. In 1982, the government’s recurrent grant was based upon 50 percent of the following costs:

- Salaries for 4,350 teachers at an average of Rs 6,300 per annum. (The number of teachers was based on an enrollment of 174,000 pupils and a teacher-to-pupil ratio of 1:40.)
- Nonsalary costs calculated at Rs 20 per pupil.

The actual number of teachers and enrollments corresponded with the government’s grant basis. DMC expenditure exceeded the grant-aided total, however, because:

- DMC also employed 2,000 ancillary staff (caretakers, cleaners, and so forth) at an average wage of Rs 2,100 per annum, for which no grant aid was given.
- Nonsalary/wage costs averaged Rs 29 per pupil.
- In 1982, it was estimated that 85 percent of the children of primary school age were enrolled. The government launched an ambitious five-year program to provide primary school places for 95 percent of the age group by 1987. Allowing also for Dagpur’s 5.2 percent annual population growth, the government, therefore, estimated enrollments in Dagpur at 251,000 pupils in 1987.
- During the 1982–1987 period, the government also allowed a reduction in the teacher-to-pupil ratio to 1:35. While class sizes have been maintained at 40, this is meant to allow employment of supernumerary headmasters in large schools or part-time specialist teaching.
- By 1987, teacher salaries have risen on average to Rs 9,390.
- The recurrent grant in 1987 is, therefore, calculated on 50 percent of the figures given in table 2.26.
Table 2.26 Recurrent Education Grant Calculations for 1987 (in rupees)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>6,700 teachers 251,000 at Rs 9,390 per annum</td>
<td>63 million</td>
</tr>
<tr>
<td>Nonsalary Costs of 251,000 pupils at Rs 20 per capita</td>
<td>5 million</td>
</tr>
<tr>
<td>Total</td>
<td>68 million</td>
</tr>
</tbody>
</table>

While DMC is receiving recurrent grant based on 50 percent of Rs 69 million, its actual recurrent expenditure has risen to Rs 100 million in 1987 for the following reasons:

- Actual enrollments have risen to 288,000. This, DMC argues, is because substantial numbers of children attend Dagpur schools while living in the areas outside the city boundaries (while government projections are based upon the city’s resident population).
- DMC decided to reduce its teacher-to-pupil ratio to 1:35.
- DMC continues to employ ancillary staff for whom no grant is received. There are now 4000 such staff at an average salary of Rs 3,130 per annum.
- Nonsalary/wage costs have risen to an average or Rs 34.7 per pupil.

The actual breakdown of expenditure in 1987 is shown in table 2.27.

Table 2.27 Actual Education Expenditures for 1987 (in rupees)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,250 teachers 288,000 at Rs 9,390 per annum</td>
<td>77.77 million</td>
</tr>
<tr>
<td>4,000 ancillary staff at Rs 3,130 per annum</td>
<td>12.5 million</td>
</tr>
<tr>
<td>Nonsalary/wage costs (288,000 x Rs 34.7)</td>
<td>10.0 million</td>
</tr>
<tr>
<td>Total</td>
<td>100.0 million</td>
</tr>
</tbody>
</table>

A comparison of Tables 2.26 and 2.27 shows:

- Government's capital grant of Rs 11 million in 1987 is based upon accommodation for 500 extra classes (20,000 additional pupils at 40 per class) x Rs 22,000 per class (66 percent of the estimated cost of Rs 33,000 per class).
- DMC's actual expenditure of Rs 40 million in 1987 is based upon accommodation for 700 extra classes (28,000 additional pupils at 40 per class) x Rs 57,000 per class.
- DMC argues (as with the recurrent grant) that the additional enrollments are due to children coming into city schools from outside the boundaries. It also argues that its unit cost of Rs 57,000 per class is much higher than the national average of Rs 33,000 because of the higher construction standards and the higher land purchase costs associated with a large-city location. Rs 22,000 per class (66 percent of the estimated cost of Rs 33,000 per class.)

As part of the 1987 review of DMC’s financial position, the government has accepted some changes in the funding of primary education to take effect in the 1988 financial year. These are as follows:

- The 1987 enrollment of 288,000 pupils will be accepted as the base figure for calculating school population for grant purposes.
- Increases in school population from 1988 to 1992 inclusive will be estimated on (a) annual population increases (as hitherto),
(b) a national target to increase the number of schools from 95 percent of the number needed for the primary school-age population in 1987 to 100 percent in 1992.
- Nonsalary/wage costs will be estimated upon Rs 30 per pupil for grant purposes.
- Capital costs will be estimated at Rs 45,000 for each additional class.

The government will continue to meet 50 percent of recurrent and 66 percent of capital costs based upon these projected enrollments and unit costs. It has refused, however, to include the cost of ancillary staff in its grant, or to accept DMC's lower teacher-to-pupil ratio for grant purposes.

**Exercise 2.7 Preparing Property Tax Income Forecasts**

High and low forecasts of property tax income over the years 1988–1990 should now be prepared, with varying assumptions over:
- Growth of the property tax base;
- Rates of tax fixed for each year; and
- Collection efficiency.

(These assumptions need to be specified.)

**Exercise 2.8 Reviewing Rents and Fees**

Rents and fees should now be reviewed with a view to introducing any proposed increases in 1988. Recommendations should include:
- Any proposed increases in tariffs;
- Reasons for proposing increases (or not proposing increases) in the case of each rent or charge; and
- An estimate of increased revenue to be derived from any charges in tariffs.

**Exercise 2.9 Forecasting the DMC's Expenditures and Grants for Education**

It is now necessary to forecast the DMC's recurrent and capital expenditure and its education recurrent and capital grant revenue for the three years 1988–1990. This should be done at constant 1988 prices (assuming three percent inflation in 1987).

**Dagpur Water Supply.** The Dagpur water supply is inadequate to keep pace with the growth of industry and population. The existing supply is a lake some 50 miles inland on the far side of the coastal hill range. Further supplies can be obtained from this source but only with additional pipes, pumping equipment, treatment plants, and so forth. The Water and Sewerage Board (W&SD) has asked the central government to negotiate an international loan for this purpose. You are part of a central government team appraising the application. To gain some impression of Dagpur’s position, you have decided to compare its performance with that of Gulshan's Water, Sewerage and Sanitation Department (WSSD), which is generally regarded as one of the most efficient water authorities in the country.

Tables 2.28–2.32 are comparative financial statements for the Gulshan and Dagpur Water and Sewerage Boards. Gulshan's financial indicators for 1986 (calculated from tables 2.29, 2.30, and 2.31) are summarized in table 2.33.
Table 2.28 Balance Sheets, December 31, 1986

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Gulshan WSSD</th>
<th>Dagpur W&amp;SB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>554.85</td>
<td>86.60</td>
</tr>
<tr>
<td>Short-term investment</td>
<td>985.00</td>
<td>—</td>
</tr>
<tr>
<td>Inventories</td>
<td>269.10</td>
<td>119.60</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Consumers</td>
<td>440.55</td>
<td>195.80</td>
</tr>
<tr>
<td>b) Others</td>
<td>289.80</td>
<td>128.80</td>
</tr>
<tr>
<td>Other current assets</td>
<td>431.01</td>
<td>191.56</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td>2,970.31</td>
<td>722.36</td>
</tr>
<tr>
<td><strong>Fixed Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Book value</td>
<td>4,336.43</td>
<td>1,945.08</td>
</tr>
<tr>
<td>Less depreciation</td>
<td>1,539.63</td>
<td>1,520.08</td>
</tr>
<tr>
<td>Net value</td>
<td>3,196.80</td>
<td>425.00</td>
</tr>
<tr>
<td>Capital work in progress</td>
<td>1,283.40</td>
<td>570.40</td>
</tr>
<tr>
<td><strong>Total fixed assets</strong></td>
<td>4,480.20</td>
<td>995.40</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>7,450.51</td>
<td>1,717.76</td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>527.94</td>
<td>394.64</td>
</tr>
<tr>
<td>Deposits</td>
<td>266.13</td>
<td>118.28</td>
</tr>
<tr>
<td>Accrued interest</td>
<td>19.53</td>
<td>8.68</td>
</tr>
<tr>
<td>Miscellaneous accrued liabilities</td>
<td>155.07</td>
<td>68.92</td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td>968.67</td>
<td>590.52</td>
</tr>
<tr>
<td>Long-term debt</td>
<td>1,296.09</td>
<td>692.12</td>
</tr>
<tr>
<td><strong>Total liabilities</strong></td>
<td>2,264.76</td>
<td>1,282.64</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government grant</td>
<td>746.91</td>
<td>331.96</td>
</tr>
<tr>
<td>Revaluation surplus</td>
<td>713.01</td>
<td>—</td>
</tr>
<tr>
<td>Operational surplus</td>
<td>2,247.31</td>
<td>103.16</td>
</tr>
<tr>
<td>Equipment renewals funds</td>
<td>1,400.00</td>
<td>—</td>
</tr>
<tr>
<td>Miscellaneous surplus funds</td>
<td>78.66</td>
<td>—</td>
</tr>
<tr>
<td><strong>Total equity</strong></td>
<td>5,185.75</td>
<td>435.12</td>
</tr>
<tr>
<td><strong>Total liabilities and equity</strong></td>
<td>7,450.51</td>
<td>1,717.76</td>
</tr>
</tbody>
</table>

Exercise 2.10 Comparing the Gulshan and Dagpur Water Supply System

Your team leader has asked you to:
- Calculate the financial indicators in respect of the Dagpur Water and Sewerage Board.
- Compare Dagpur's financial performance with that of Gulshan.
- Suggest what steps might be necessary, and in what order of priority, to improve the Dagpur Board's position as a condition of additional loan capital.
Table 2.29 Statement of Revenue and Expenditures in 1986 (in millions of rupees)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Gulshan WSSD</th>
<th>Dagpur W&amp;SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>936.78</td>
<td>240.19</td>
</tr>
<tr>
<td>Operating expenditure</td>
<td>339.96</td>
<td>230.09</td>
</tr>
<tr>
<td>Net (operating) income</td>
<td>596.82</td>
<td>10.10</td>
</tr>
<tr>
<td>Depreciation</td>
<td>127.71</td>
<td>56.76</td>
</tr>
<tr>
<td>Net income after depreciation</td>
<td>469.11</td>
<td>(46.66)</td>
</tr>
<tr>
<td>Debt service</td>
<td>49.67</td>
<td>48.10</td>
</tr>
<tr>
<td>Net surplus/deficit</td>
<td>419.44</td>
<td>(94.76)</td>
</tr>
</tbody>
</table>

Table 2.30 Billing and Collections (in millions of rupees)

<table>
<thead>
<tr>
<th>Year</th>
<th>Billings</th>
<th>Collections</th>
<th>Gulshan WSSD</th>
<th>Dagpur W&amp;SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>738.25</td>
<td>531.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>758.47</td>
<td>553.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>984.23</td>
<td>767.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>1170.97</td>
<td>936.78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.31 Summary of Operating Expenditures for 1986 (in millions of rupees)

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Gulshan WSSD</th>
<th>Dagpur W&amp;SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>135.97</td>
<td>55.22</td>
</tr>
<tr>
<td>Chemicals</td>
<td>17.00</td>
<td>6.90</td>
</tr>
<tr>
<td>Repairs and Maintenance</td>
<td>47.60</td>
<td>20.72</td>
</tr>
<tr>
<td>Electricity</td>
<td>115.59</td>
<td>138.05</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>23.80</td>
<td>9.20</td>
</tr>
<tr>
<td>Total</td>
<td>339.96</td>
<td>230.09</td>
</tr>
</tbody>
</table>
Table 2.32 Water and Sewerage Tariffs, 1987

<table>
<thead>
<tr>
<th>Type of Charge</th>
<th>Gulshan</th>
<th>% of</th>
<th>Dagpur</th>
<th>% of</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of</td>
<td>Tariff</td>
<td>Yield</td>
<td>Tariff</td>
<td>Yield</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metered charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td>Rs 3/10,000 ltrs.</td>
<td>14</td>
<td>Rs 2/10,000 ltrs.</td>
<td>18</td>
</tr>
<tr>
<td>Industrial &amp; commercial</td>
<td>Rs 20-60/10,000 ltrs.</td>
<td>42</td>
<td>Rs 15-45/10,000 ltrs.</td>
<td>35</td>
</tr>
<tr>
<td>Metered bulk supplies</td>
<td>Rs 50/10,000 ltrs.</td>
<td>3</td>
<td>Rs 40/10,000 ltrs.</td>
<td>2</td>
</tr>
<tr>
<td>Nonmetered charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water benefit tax</td>
<td>% of RV</td>
<td>15</td>
<td>5% of RV</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74</td>
<td></td>
<td></td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Sewerage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metered charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td>50% of water charges</td>
<td>4</td>
<td>50% of water charges</td>
<td>3</td>
</tr>
<tr>
<td>Industrial &amp; commercial</td>
<td>50% of water charges</td>
<td>12</td>
<td>50% of water charges</td>
<td>7</td>
</tr>
<tr>
<td>Nonmetered Charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewerage benefit tax</td>
<td>4% of RV</td>
<td>10</td>
<td>4% of RV</td>
<td>10</td>
</tr>
<tr>
<td>Total sewerage charges</td>
<td></td>
<td>26</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.33 Gulshan’s Financial Indicators for 1986

<table>
<thead>
<tr>
<th>Financial Indicator</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick current ratio</td>
<td>2.8</td>
</tr>
<tr>
<td>Collection efficiency</td>
<td>80.0</td>
</tr>
<tr>
<td>Debt service coverage</td>
<td>12.0</td>
</tr>
<tr>
<td>Working ratio</td>
<td>36.0</td>
</tr>
<tr>
<td>Rate of return</td>
<td>10.5</td>
</tr>
</tbody>
</table>
Expenditure Planning: How to Spend More Wisely

Recurrent Budgeting

Budget Functions and Formats

The annual budget occupies the central place in the management process of virtually all systems of local government. The budget serves several purposes:

- It is a plan for keeping the local authorities solvent, for ensuring that expenditure is covered by existing reserves, revenue which can be realistically expected, and loans which can be obtained and repaid.
- It establishes priorities for the authority's services.
- It allocates resources among the different activities of the local authority and determines the levels and directions of work to be undertaken during the budgetary period.
- It determines, so far as the law provides any discretion, levels of taxes, fees, and charges to be collected by the local authority during the coming year.
- It provides the legal authorization for expenditure during the budgetary period.
- It provides comprehensive information upon the financial position and plans of the authority.

As such, the budget has three major roles:

- A policymaking role in choosing how to allocate resources between major outputs in terms of services, infrastructure, (that is, in deciding what the authority can hope to achieve).
- A management role in allocating resources to particular agencies (departments, and so forth) and estimating the inputs (personnel, equipment, buildings, and so forth) required to achieve the specified outputs.
- A control role in giving legal authority to local officials to collect and spend money, and in prescribing exactly who can spend how much on what.

Capital and Recurrent Budgets. A traditional form of budgeting normally consists of separate estimates of capital and recurrent revenue/expenditure. The capital budget is normally concerned with creation of long-term assets (for example, construction of new roads, schools, water treatment plants, sinking of new tubewells). The recurrent budget (sometimes called the routine or revenue budget) is concerned with the regular operation of services, including the salaries, pension contributions, and so forth, of personnel, the purchase of short-life equipment, the costs of routine repair and maintenance, and the servicing (repayments of capital and interest) of long-term debt.

In this traditional form of budget, regular revenues, taxes, charges, fees, and grants-in-aid are credited to the recurrent budget. The only revenues credited directly to the capital budget will be loans or grants specifically targeted for capital projects, or receipts from the sale of capital assets (land, buildings, and so forth). If recurrent revenues exceed recurrent
expenditure, a transfer may be made from recurrent to capital budgets so that the surplus can be devoted to capital spending.

There are some variations on this traditional breakdown. In some countries, the capital budget is replaced by a development budget, which includes spending that is recurrent by nature (for example, staff costs, travel, and so forth) but developmental in purpose. An extreme example is financing university scholarships from the development budget on the grounds that the skills of the graduate represent a permanent asset. The purpose of such classification may be largely cosmetic, but it can be a device for funding particular types of expenditure from sources such as external aid or loans which are not available for recurrent expenditure. There are, however, considerable dangers in such practices since they can result in building up a scale of regular commitment, for example on permanent staff costs or debt service, which is not adequately backed by reliable recurrent revenue.

There are also certain notable "gray areas" between capital and recurrent expenditure. Debt service is sometimes shown as capital expenditure; it should, however, be included in the recurrent budget if it is a charge against recurrent tax, charging, or grant revenues. Vehicles and equipment with a medium-term life (for example, typewriters) may also appear in either budget. If they form part of the normal operation of services, however, and will have to be replaced at the end of their useful life, they should be included in the recurrent budget; if this approach results in very "lumpy" patterns of expenditure, a renewals fund can be incorporated with replacement costs being charged to the budget in regular annual installments over the estimated life of the asset.

**Budget Classification.** The traditional form of municipal budget is normally subdivided according to the organizational breakdown of the authority, (that is, into a hierarchy of departments/directorates, sections, subsections, and so forth), so that the amount allocated to each unit and subunit expenditure is further subdivided into "line items" by object of expenditure (for example, personnel costs, travel, utilities, supplies, and so forth).

A different approach is the one followed by Program Performance Budgeting Systems (PPBS) which classify expenditures by objective rather than organization. Proponents of PPBS argue that the traditional budget is concerned with inputs rather than outputs; it does not allow the decisionmakers to apply a true sense of priority to the allocation of funds because it is not clear how much is spent on particular overall purposes, (for example, promotion of public health may be financed through a range of departments responsible for environmental health, water supplies, and sanitation). A full PPBS groups expenditure by programs serving major objectives to which a number of operating units may contribute.

PPBS formats have proved complex to install because (a) budgeting across departmental boundaries presents control difficulties, (b) defining objectives can cause controversy, and (c) some expenditures may serve more than one objective (policing, for example). A compromise frequently adopted consists of sticking to conventional budgetary subdivisions by organization, but:

- Prefacing each department's estimates with a statement of objectives and output targets (for example, "provide primary education for 90 percent of the children in the age group 6-12");
- Attaching performance targets to the vote for each activity (for example, "improve the percentage of refuse lorries in daily running order to 80 percent"); and/or
- Incorporating workload measures to show how variations in the funds allocated relate to variations in the work performed. (See table 3.1.)

A related problem is that of overheads. Although it may be clear that a department's expenditures are incurred on specific activities with specified objectives, workloads, targets, and so forth, these activities will also create costs for central departments providing administrative and technical support (personnel, accounting, internal audit, store keeping, and vehicle and building maintenance, and so forth). Even the department's own central management may divide its attention between a number of major "outputs."
recharging is often used to overcome this problem so that all expenditure in the budget is charged to activities with a direct output of service to the public.

Table 3.1 Example of How Variations in Allocated Funds Relate to Variations of the Work Performed

<table>
<thead>
<tr>
<th>Activity</th>
<th>Year</th>
<th>Estimated Expenditure</th>
<th>Premises to be Inspected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and drugs</td>
<td>1987</td>
<td>50,000</td>
<td>536</td>
</tr>
<tr>
<td>Inspection</td>
<td>1988</td>
<td>53,000</td>
<td>571</td>
</tr>
</tbody>
</table>

Budget Duration. Local authorities traditionally develop the recurrent budget for one year. This may well be the maximum period for which revenues and service costs can be predicted with sufficient certainty to make firm decisions carrying legal authority for execution.

There are, however, a number of drawbacks to annual budgeting. Major capital development can rarely be completed within 12 months, yet commencement carries at least the implied commitment to cover the full costs over two or more years and also to cover the extra recurrent costs of staffing, supplies, and so forth, that may follow completion. Borrowing also involves an obligation to service a debt over the life of the loan.

To address these problems, at least partially, it is normal to show the full cost of a capital scheme in the budget, while only authorizing the amount to be spent on it over the budget year. An estimate of the future operating costs should also be included in the memorandum accompanying the budget, so that the full-cost implications are shown. This should help the local authority to see whether the scheme is affordable and what trade-offs exist between construction and maintenance costs. Very often apparent savings in capital costs involve expensive consequences in the recurrent operation.

Whether the local authority can really afford the long-term consequences of decisions (that is, in terms of either operating costs or debt service) will be fully apparent only from a multiyear forecast of revenues and expenditures. This is often attempted on a rolling basis, that is, the forecast always looks x years ahead (normally three years); each year the forecast is revised to take into account inflation rates and other unpredictable changes, and rolled forward another year. The commitment is attached, however, only to the figures for the current or immediately following year; the figures for the second and following years are provided for planning purposes.

Single or Multiple Agency Budgets. Some local authority activities may be funded, wholly or in part, from revenues which are specifically collected for that particular purpose, for example, a consumer charge or a special purpose grant. Others may be established as "self-funding," that is, paid for entirely by the users (so that any charge on the general taxpayers would be limited and, therefore, clearly shown and monitored). For such purposes, budgets must clearly show the relationship between the expenditure, its related revenue sources, and any subsidy from general revenue.

To achieve this degree of budgetary isolation or commercial flexibility, local authorities often set up a subsidiary agency or enterprise to undertake the self-financing activity (such as water supplies, markets, or public transport services) with their own accounts, balances, and budgets. Any subsidy from general revenue will be shown as a revenue item in the budget of the subsidizing agency and as an expenditure item in the main budget of the parent authority.
Municipal activities with specific revenue sources may be too small or too many to justify full separation from the main budget, and proliferation of separate accounts, balances, and budgets makes it very difficult to obtain an overall view of the authority's financial performance. A compromise approach may be to operate "special accounts" or "undertakings" for only one or two major self-financing services such as water supplies but to show tied revenue resources as "appropriations in aid" with the relevant expenditure within the major budget. For instance:

- Operation of sports centers: 70,000
- Less admissions fees and hire charges: 25,000
- Net general fund expenditure: 45,000

There is a further refinement that can be applied to the relation of expenditures to specific revenue sources. The authorization of expenditures can be tied to the amount of actual revenue collected. In the sports center example given above, the amount of expenditure authorized by the budget could be:

- 70,000, regardless of how much revenue is actually collected;
- 45,000 plus the actual amount of revenue collected up to a maximum of 70,000; or
- 45,000 plus the actual amount of revenue collected, whatever that could be.

Clearly, the second and third options provide the operating department with greater incentives to market a service and collect revenues in an efficient manner, and also to vary expenditures in response to consumer demand. The first option would be sensible only where the service was a significant "public good" and the revenue generated largely fortuitous (for example, fines for contravention of public nuisance controls).

**Budgetary Responsibilities and Stages.** Budget preparation normally involves a series of stages:

- Submission of first-draft estimates of revenues and expenditures for each organizational division and subdivision.
- Scrutiny of departmental submissions by the central-budget staff and initial discussions with the departments. Analysis initially focuses upon the accuracy of the estimates in terms of costing and legality but also seeks to establish a sense of justification and priority for proposed increases as well as the possibility of savings.
- Formulation of a draft comprehensive budget with options over revenue increases, expenditure increases/reductions, and so forth.
- Executive decision on the final draft of the budget.
- Enactment of the budget by the authority's governing body.
- Approval of the budget, if required by law, by a central government ministry or other supervisory body.

Responsibility for these various stages varies according to the statutory and internal management framework of the local authority. Possibilities are:

- **Submission of first-draft estimates.** Preparation may be by the operating departments, or by central budgeting/accounting staff in consultation with them. Council committees may also discuss and approve drafts for services under their supervision at this stage.
- **Scrutiny of the drafts.** Normally, this is conducted by the central budget staff who may come under the chief executive (whether an elected mayor or an appointed city manager/town clerk/municipal commissioner) or under a chief finance officer (treasurer, director of finance, and so forth).
- **Formulation of a draft comprehensive budget with options.** Normally, this is the duty of the central-budget staff. An assessment may be offered of the various options, both in terms of technical feasibility and the overall balance of pros and cons, but this must be seen only as assisting political choice, not as pre-empting it.
Expenditure Planning: How to Spend More Wisely

- **Decision on the final draft of the budget.** This decision is made by either the chief executive, or the finance committee or by a "cabinet" of senior political leaders (for example, a policy and resources committee, a city commission).
- **Enactment of the budget.** Normally, this is done by an elected council.
- **Approval of the budget.** Approval is generally granted by a central or state government minister or by a provincial governor or commissioner as required by law. Such approval is not invariably required. A supervisory authority may also scrutinize and comment on the budget before it is enacted.

In some countries, there is wider public participation in the budget process. Business firms, voluntary and charitable organizations, neighborhood associations, and so forth, will lobby the council either for direct assistance or for extra expenditures on particular services. There may even be formal public hearings at which local authority officials explain major budget proposals and members of the public have the opportunity to question them and voice opinions.

**Revenue Estimation**

Revenue estimates should be itemized under individual taxes, charges, fees, loans, grants and so forth. Comparisons over time should be shown including, for each item, actual receipts in the previous year, probable receipts during the current year, and estimated receipts in the forthcoming year for which the budget is being formulated. For example, the 1988 budget would show:

- Actual revenue 1986,
- Probable revenue 1987, and

**The Existing Revenue Base.** The first step is to estimate revenue from existing sources on existing conditions, that is, according to the existing tariffs, the existing rules about liability and assessment, and the existing methods of collection. These estimates will normally be based upon projections of recent experience. It is important, however, to analyze each revenue item with regard to the specific factors which may cause variations in their yield from year to year. Tax yields may vary, for example:

- With changes in the specific tax base, (for example, the number and size of buildings bearing a property tax or the number of vehicles subject to a registration tax); or
- With fluctuations in the general economy, influencing the yield of revenues such as the local sales tax or the octroi.

Revenues from user charges will vary with the volume of service offered (if the service is always fully used) or demanded by the public. Once the causes of variation are understood, their impact upon revenue yields in the coming year can be predicted. Above all, it is important to be realistic and to avoid the temptation to support authorization of increased expenditures, simply by inflating revenue estimates beyond reasonable expectation.

It is then necessary to estimate what further increases in revenues could be obtained by specific changes in the existing revenue sources. Such changes could be of several kinds:

- Widening the scope of the tax or charge and making more people or transactions liable to the payment, (for example, by removing existing exemptions);
- Changing the assessment methods so that some or all payers become liable for a higher rate of tax or charge;
- Increasing the tariffs, (that is, the rates of tax or charge); and/or
- Changing collection methods to reduce evasion or accelerate payment.

**Changing the Revenue Base.** The criteria for evaluating any proposals for specific changes are discussed in chapter 2. As a first step, it is necessary to identify the underlying purpose of each revenue source.
Is it meant to be a contribution to general expenditure or a recovery of the cost of a particular service?

If it is a recovery of a particular cost, is it meant to be a straight recovery of the cost, a recovery with profits, a recovery less an element of subsidy to all users, or a recovery less a subsidy to certain classes of user (for example, children, old people, the physically handicapped, the poor)?

Is it meant to be a "flat" levy or redistributive, that is, fall more heavily upon the rich than the poor?

The second step is to appraise the recent performance of each revenue source. Two major questions to be asked are:

- In the case of a charge, have yields kept pace with the costs of the service for which it is levied?
- In the case of a tax, have yields grown at the same rate as the base upon which it is charged? (For example, have property tax yields kept pace with the growth of property and its value? have sales tax yields kept pace with the growth in local earning? or has a personal tax revenue grown in proportion to local population?)

A further step in appraising the potential for changes is to compare revenue yields with those in other comparable authorities. In the case of taxes, a per capita comparison may provide a quick indication of any striking contrast in performance; in the case of a charge, the comparison would have to be in terms of revenue per unit of service (per ton of commercial refuse collected, cubic meter of water supplied, and so forth). Where another authority appears to achieve markedly higher yields, it would then be necessary to examine differences in coverage, tariffs, collection methods, and so forth, to see where the best possibilities for improvement lie.

Finally, consideration should be given to the possibility of introducing new sources of revenue, whether taxes or charges. Clearly there are statutory, political, and administrative obstacles to new revenues; these are usually greater in respect of new taxes than of new charges. Improving an existing source is usually easier than introducing a new one. Nevertheless, many municipal revenue bases are so narrow that the burden of financing urban services is unfairly distributed among the beneficiaries, and there is little hope of achieving the scale of increases needed to meet the demands of an expanding town.

The range of local revenue possibilities has been explored in Chapter 2, together with the criteria for appraising them. These will not be repeated here.

This stage of revenue estimation will provide an initial estimate of the range of revenue expectations to be reconciled at a later stage with the expenditure estimates. The minimum will be the expectation of keeping existing sources at existing levels (unless there is pressure for an actual cut in existing revenue charges). To that minimum, the yields of different possible increases, ranked in order of their desirability and feasibility can be added.

Expenditure Estimation

As discussed earlier in this chapter, expenditures are normally classified according to the departmental organization and then by the different activities undertaken within such departments. In conventional budgeting, expenditure on an activity is further broken down into cost items such as salaries and wages, transportation costs, postal and telephone charges, supplies, and so forth. Detailed costing of inputs will clearly be needed at the stage of calculating the initial estimates to support the proposed expenditures on an activity. Whether such level of detail should be incorporated in the final authorized estimates is more questionable. Too much detail may distract the attention of those approving the budget (particularly the councilors) from the most important task of choosing the local priorities; moreover, it may be considered better to authorize lump-sum allocations to each activity, leaving the spending departments with discretion to allocate money between different cost items while still serving the same purpose. Limitations can still be imposed upon particular
types of costs, which the authority wishes to control centrally, for example, additional hiring of staff.

The alternative possibility of classifying budgets by major objectives has also been discussed. Given the difficulties of a full PPBS approach, most systems of local government continue to subdivide the recurrent budget at least by operating departments/agencies. In the case of the service departments, it may be argued that those, indeed, correspond to major types of output such as education, recreation, public health, and so forth.

An intermediate approach to this problem is that of "recharging." This practice relates to departments and sections—for example, personnel, motor transport pools, stores—that service other departments rather than provide a direct service to the public. A budget is prepared for such departments or sections, but their expenditures are then recharged to the functional departments in proportion to their use of the general services; these departmental charges are shown as revenues to the service departments, canceling out their expenditures. Clearly, such a process enables the decisionmaker to see the real costs of the functions of the organization (for example, the real costs of education comprise not only the expenditures of the education department but also the costs of the central accounting staff who have paid the teachers' salaries and the personnel staff who keep the teachers' employment records). Recharging complicates the budgeting and accounting process, however, and how far it can be practiced depends upon the administrative capacity of the organization. Recharging also has the danger of reducing the accountability of the central departments, whose costs are off-loaded onto the budgets of service departments which have no control over their level. Central departments are then subject to less budgetary scrutiny because of a spurious appearance of self-financing.

The Exisiting Expenditure Base. Most government budgeting, central or local, tends to be on an incremental basis, that is, existing costs are accepted as a base from which amounts are added for inflation, expansion in demand, or improvements. The weakness of "incrementalism" is that it accepts the historic costs of a service as given and does not examine such questions as:

- Is the service provided by the expenditure still justifiable or of sufficient priority to merit its current share of resources?
- Is the service fairly distributed among its consumers? (Geographical inequity is often prevalent in municipal services, particularly of the environmental kind, such as roads, parks, and so forth.)
- Is the service being provided or performed efficiently and economically?

The alternative is to use a zero-base approach. This basically would ignore current provision and estimate expenditure from scratch according to the following steps:

- Decide what kind of services are needed (for example, refuse collection).
- Set a standard of provision for those services (for example, collection twice a week).
- Estimate the unit costs of the service at this standard (for example, Rs. 5 per ton of refuse collected).
- Estimate the quantity of service needed to meet the standards (for example, removal of 100 tons of refuse per day).
- Estimate the total expenditure needed to perform the service, multiplying the quantity of service by the unit costs (for example, 100 tons of refuse per day at Rs. 5 per ton = 100 x 5 x 365 = 182,250).

There are obvious difficulties in applying the zero-base approach to the entire municipal budget. It is unlikely that the authority could undertake the amount of analysis required in applying such an approach. Some services are much easier to define in terms of standards, units of provision, and unit costs than others. Assessment of needs, standards, priorities are basically subjective; to define all of them from scratch would lead to endless inconclusive debate, whereas that definition may be much easier to agree in particular cases, (for example, when a particular service is clearly perceived as substandard or when a choice of
priority has to be made between a very limited range of "hard" options). Moreover, even if a zero-based budget were constructed, any major variation from the historic pattern of expenditure would be difficult to achieve in the short term.

Nevertheless, the existing expenditure base should not be accepted without question. Possibilities of savings through increased efficiency must be examined. Questions about the justification of the service, particularly its geographical distribution, need to be examined. Unit costing is a particularly valuable instrument in such examination, that is, the expenditure per unit of service (for example X cost per ton of refuse collected, per kilometer of road maintained, per school pupil, per acre of park). Various comparisons of unit cost can be made:

- Between the local authority's services and those of other comparable authorities;
- Between the costs of services in different parts of the city, for example, between different schools, different road maintenance gangs, or refuse collection units;
- Between the costs of different departments incurring a similar type of expense, for example, costs per mile of lorries; and/or
- Between the costs of the same department and service over time, for example, costs per ton of refuse collection over the last five years (after discounting inflation).

Some services may not be readily reducible to units of provision because output is not easily quantifiable or there is no uniformity in the type of service provided. In such a case, the comparison of expenditures per capita between authorities or over time may be a good proxy for measurement.

Comparisons of unit costs (or expenditures per capita) do not themselves prove anything. They simply indicate the areas of expenditure which need more detailed examination. They raise such questions as:

- If Authority A spends 50 percent less per ton in refuse collection than Authority B, are its collection methods more efficient and worth imitating? (There may also be other explanations such as shorter distances to dumping sites, lower market wage rates, and so forth.)
- If costs per unit have been rising over time, is this due to improving quality (and is this a priority) or to lessening efficiency?
- If a service costs more in one part of the city than another, does this correspond with real public need?

Close analysis of all existing expenditure may not be possible in one budget preparation. Selectivity may be necessary. Simple comparisons of expenditure per capita at constant prices on each service, either over time or between comparable authorities, should provide an initial basis for selectivity. It should highlight expenditure targets where there is an apparent scope for substantial savings through improvements in efficiency; or there is an apparent underfinancing and need for increased investment (such a conclusion would normally arise from a combination of financial analysis, public complaint, and physical evidence of deteriorating service).

The existing expenditure base, therefore, needs some examination in terms of its potential savings and greater efficiency; any lessening public demand for the service; or any desirable redistribution of costs to achieve a more equitable provision of service.

Transfers of responsibility to other agencies may be another ground for savings. Departments do not always reduce their staffing and other costs automatically, however, when a task is removed. Savings may well be resisted through fear of the effect upon employment. Nevertheless, in an expanding city, redeployment of staff may well be possible to services where expenditure is justifiably rising.

Increases in Expenditure. Once the expenditure base has been determined, a number of potential increases have to be examined. The first set to be considered are those arising from inflation. In the absence of better information, these increases may be deduced from a general rate of inflation prevailing in the economy or in the organization. It would be more accurate,
however, to look at each type of costs—for example, wages, building costs, fuel costs, general supplies—and reduce inflation according to the indices available. It is becoming increasingly common to include a general provision for inflation in the expenditure estimates; however, this approach has the danger of being inflationary in itself, (for example, by encouraging demands for wage increases that estimates themselves seem to predict). The alternative in such a case is to include a budgetary surplus to cover anticipated rises in expenditure above the level authorized in the budget.

The next set of increases to be considered are those arising from prior commitments by the local authority, that is, those increases which are unavoidable. These increases may result from previous decisions (for example, if capital development is in progress, increases in expenditure may be committed in the following year under construction contracts, to repay part of the loan or interest upon it, or to meet the operating expenses of the completed project). Alternatively, additional expenditure may be imposed upon a local authority because of the rising public demand for a service that that authority has the inescapable obligation to provide, (for example, coping with an increasing number of applications for planning consents, or emptying the dustbins on a new housing estate). It is important to ensure, however, that the increases in expenditures proposed are in proportion to the increased amount of work involved and take advantage, wherever possible of economies of scale.

The final set of increases that must be examined are uncommitted proposals for improvement or expansion of services, (that is, those involving expenditure which the authority still has the opportunity to reject or postpone). In examining these proposals three basic questions have to be asked at this stage:

- Are the proposed improvements or expansions of work consistent with the priorities of the authority?
- What are the long-term costs of the proposal: if it is accepted for the coming year, will it commit the authority to very much heavier increases in following years?
- Is the extra expenditure sought commensurate with the increased amount of work proposed?

Any uncommitted proposals for improvement/expansion of services have to be considered within an objective analysis of public service needs. These needs are affected by:

- Demographic trends, arising both from natural growth and migration, leading not only to changes in total population but also to its age distribution (in many developing-country cities, for example, the rate of increase in the number of school-aged children may be faster than that of the population as a whole);
- Economic trends leading to expansion or decline in particular types of business and employment with its consequent demands upon infrastructure; and
- Physical trends, leading to growths of urban settlement in particular localities but also to the decay of existing settlement in others.

The planning of expenditures to meet these needs requires both an inventory of existing deficits in the provision of services and a forecast of changing demands for a service, both in its total provision and in its physical distribution throughout the city.

When major changes in provision are required to meet such needs, they cannot be achieved within a single-year budget. A medium-term plan of both capital and recurrent expenditures is required so that realistic targets can be set for achieving required improvements and expansions over time. Such plans may not be necessary for all services—simply for those where major deficiencies exist and/or significant changes in need can be anticipated.

Medium-term forecasts of the expenditures needed for major changes in service provision may well result in unattainable demands for funding. Only medium-term forecasting—for example, over three to five years—can provide the basis for such judgment and for assessing the measures needed to overcome the problem. Solutions may include: (a) a fundamental reassessment of the standards of service provision, with substitution of lower cost solutions
(for example, privies or septic tanks, and so forth, for water-borne sewerage); (b) partial privatization, that is, leaving certain types of service to be provided by the private sector (for example, commercial refuse collection and disposal); (c) a renegotiation of financial relations with the central government, leading to changes in the responsibilities of the central government such as:

- Undertaking more responsibilities itself;
- Assigning additional grant aid;
- Assigning additional revenue sources; and/or
- Revising statutory limitations on local taxing and charging powers.

To summarize, this stage of expenditure estimation will produce a base aggregate expenditure consisting of current expenditures minus transfers of responsibilities, minus reductions in workload, minus other savings, plus inflationary increases, plus committed increases in workload/obligation and a set of proposals for uncommitted increases, preferably ranked in order of priority.

These outputs, together with the initial revenue estimates, provide the basis for the further stages devoted to balancing the budget.

**Balancing the Recurrent Budget**

The first question in balancing a budget is whether to estimate for a surplus, a breakeven, or a deficit. This is partly determined by the state of the local authority’s reserves. Reserves are needed:

- To provide a cushion against a large unexpected demand for expenditure or shortfall in revenue (often resulting from natural calamity or a sudden downturn in the economy);
- To ensure against year-to-year fluctuations in revenues (often associated with climatic variations in agriculturally based economies);
- To provide working balances when expenditures tend to run ahead of revenues; and
- To accumulate resources to meet a large future commitment such as a major renewal of physical plant and buildings.

Reserves must be reviewed at the beginning of the budgetary process; if they are considered inadequate, the authority should seek to replenish them by budgeting for a surplus of revenue over expenditure during the year. Alternatively, the authority can afford a deficit on its budget to the extent that its reserves are above the safety level. One option is to cover a budgetary deficit by external borrowing. However, there are (controversial) economic arguments for this practice, as it runs the risk of encouraging a level of expenditures and indebtedness which eventually may outstrip the authority’s capacity to service its loans and retain the confidence of potential lenders.

**Self-Financing Expenditure.** A second stage is to distinguish self-financing from general-fund expenditures. Items of expenditure which are supposed to be directly recoverable should be compared with the appropriate revenue estimates and any net “profit” or “subsidy” carried forward to the general revenue or expenditure totals, respectively. If the expected revenues do not cover expenditures on such items, possible cuts in costs or increases in charges should be examined to see if the subsidy from general revenues can be eliminated or reduced.

**Alternative Approaches.** At this stage, three optional approaches to balancing a budget can be considered. The first approach is to decide upon a total expenditure ceiling and direct each department to budget within a share of that ceiling allotted in advance. The aggregate expenditure would be calculated after examining the state of reserves and revenue estimates, deciding firmly at what level revenue charges and taxes would be fixed. The breakdown of this total into departmental allocations might be based upon a flat average increase over
this current year’s total. It is better, however, if this could incorporate some variation based upon priorities or, more satisfactorily, on agreed long-range forecasts of expenditures.

The second approach is to call for revenue and expenditure estimates independently and then reconcile them stage by stage. At the first stage, the lowest priority, uncommitted expenditures would be supported by the outer limits of the possible revenue collections. At the second stage, the merits of the higher priority uncommitted increases would be compared with those not necessarily desirable. A balance could then be struck, it is hoped. In a tight situation, however, the feasible revenue increases might only just cover committed expenditure necessitating the elimination of all uncommitted proposals. If the budget could still not be balanced, reductions in committed expenditures would have to be achieved (the normal approach would be to look for reductions in overhead expenditures first, but ultimately cuts in output and service might have to be considered).

A third, and intermediate, approach is to establish an expenditure ceiling for each department after the first stage of reviewing their estimates (that is, cutting out the lowest priority expenditure, then setting revenue levels and expenditure aggregates and passing the onus back to departments to achieve the further reductions necessary). This may be necessary when it is politically or administratively impossible for the financial managers to determine all the real opportunities for savings themselves. Departmental ceilings established at this stage can be weighted more accurately to take account of the varying needs and commitments revealed by the first set of estimates, if there are no longer term forecasts as a guide.

Arbitrary cuts in overheads, freezing of staff vacancies, and so forth, may be the only effective ways of achieving expenditure reductions. When cuts in output and service are required, however, these cuts need to be clearly specified to be effective. Otherwise, the effect of the reduction can be ignored or evaded by such means as postponing work or payment of bills but leaving a full level of commitment for later years.

Capital Budgeting and Investment Planning

This section discusses the process of developing a municipal capital investment program and how that process can be linked to the annual, current-operations, budget cycle. Although the discussion refers to a five-year capital investment plan, the size of the municipality’s capital investment program and the typical length of time required to complete investment projects may suggest an investment program of seven to ten years. The process consists of five distinct steps or stages:

- **Inventory of capital assets**;
- **Development of investment plan**;
- **Programming investment priorities over time**;
- **Development of the financing plan**; and
- **Development of the capital budget**.

Each one of these steps is discussed in a separate section. The concluding section describes how decisions taken in the investment planning process link to the current planning process.

**Inventory of Capital Assets**

If there has been no previous, systematic capital investment program, it is unlikely that an adequate and up-to-date inventory of existing capital infrastructure facilities exists either. Most municipalities do not have adequate records of the date of construction, cost of construction, and current condition of existing infrastructure, nor do most municipalities have a program for regularly examining the quality and level of service provided by such facilities. Although responsibilities vary greatly throughout the world, the most important capital infrastructure assets for which municipalities are responsible are:

- Water and sewer lines and treatment plants;
- Urban road network;
• Storm drainage systems;
• Sanitary landfills or other solid-waste disposal sites;
• Public buildings, sports facilities, educational and social program facilities, markets, and so forth.

Several key characteristics of these facilities should guide the municipality's planning process in determining what types and levels of capital investments will be needed in future years. The first characteristic is the level of service: what level of service is provided by the existing infrastructure network? For example, the water system may provide direct, household connections to 55 percent of the urban population and standpipes or other community facilities to an additional 25 percent of the urban population, leaving 20 percent of the urban population without direct access to potable water. Similarly, the urban area may consist of 350 kilometers of graded and graveled roads, and 250 kilometers of dirt or natural surface roads. Or still another example, storm drainage systems may consist of several hundred kilometers of open canals or drainage ditches.

Each of these examples illustrates both quantitative and qualitative aspects of the level of service provided by an existing network. Without regard to the current age and need for reconstruction of some roads, for example, a municipality may consider a capital investment project in urban roads to reduce the number of kilometers of natural surface roads from 250 to 150 by asphalt or concrete paving of 25 kilometers and grading and graveling 75 kilometers. Without extending the existing road network, the municipality would be upgrading the quality of the current level of service with possible benefits of reduced fuel consumption, reduced travel time, and increased property values (residential and commercial) along the upgraded roads. In addition, this same municipality might consider, as a part of the same capital project or as a part of a future project, extending the urban road network to recently developed formal or informal settlements which are served presently only by footpaths. Such capital project decisions focus on the current level of service provided by a network and the quality of that service. Other indicators of the level of service of an infrastructure network include measures such as the percentage of population served or the percentage of geographic area covered. For example, the indicators of water systems coverage illustrate the use of percentage coverage measures to describe the level of service.

More detailed analyses of the level and quality of service, of course, should be carried out as part of a specific capital project analysis. At the preliminary planning stage, however, a few measures or indicators of level of service or coverage are important to making decisions about whether to extend or upgrade the coverage of an infrastructure network.

Not all capital-project decisions involve adding to the level of coverage. If a municipality not only has systematic records of the coverage provided by various infrastructure facilities but also has adequate records of their age (date of construction) and current condition, the capital planning process can also consider the need for replacement or major reconstruction of existing facilities. For example, the percentage coverage by direct connection and standpipes illustrated above may not reflect the fact that several sections of the water systems are served by pipes that are more than 50 years old and that may be causing large quantities of water loss and absorbing most of the time for regular water-system maintenance crews. Thus, to consider potential capital investments adequately, a municipality also needs to have information on the possible need for replacing existing facilities. Even without direct measurement—such as by means of physical survey of road conditions—information about the date when roads were built or surfaced or about where repair/maintenance crews spend most of their time will provide some guidance in preliminary decisions about what capital projects should be undertaken over the next several years.

A systematic process for capital investment planning thus should be built around a base of relatively simple information that gives indications of the need for new or replacement
infrastructure. Such an information base takes the form of an inventory of all existing infrastructure that specifies:

- Size or quantity (size of building, length of road, and so forth);
- Age (date of construction or last reconstruction);
- Coverage (number of market stalls, percentage of population, etc.);
- Current condition (could be expert judgment such as "needs replacement within five years," based on good record-keeping about the use of maintenance personnel, one could use the percentage of repair crew's annual time required by one section of a road, water line, and so forth).

From this inventory, the municipality can then examine the areas of greatest need with respect to existing infrastructure programs and add potential capital investments to those suggested by the need to provide new services for economic development or social reasons.

**Development of Investment Plan**

As indicated in the previous paragraph, decisions to undertake capital investment are stimulated by three major considerations:

- The need to reconstruct or replace existing facilities in order to maintain existing levels and quality of service;
- The need to upgrade or add to existing facilities in order to improve either the quality of service or coverage;
- The need to undertake new programs or new services beyond the range of current municipal services, for economic or social reasons.

The first step in the development of the capital investment plan, therefore, is to establish goals for the level and quality of service, in terms of measures or indicators such as "extend water system coverage to 100 percent of the urban population by 1995 with 80 percent direct connections and 20 percent standpipe or alternative community services."

These service goals would reflect the three considerations indicated above: repair/replacement, upgrade/extension, and new programs. From the inventory of existing capital facilities, the planning process thus begins with a comparison of service goals and the extent to which those are presently met. The output of this stage is a list of capital projects required to meet service goals, with at least a rough priority listing of when those projects should be started and completed in order to achieve the specified goals.

**Programming Investment Priorities Over Time**

The third stage in the capital investment planning process is to program the investments required to meet the priority schedule established in the previous stage. This stage requires additional detailed engineering and cost estimation activities, sufficient to establish the approximate costs, and the approximate feasible completion dates for the projects listed in the priority schedule.

While the output of the preceding stage is a list of capital projects, the projects would be more in the nature of broad investment programs rather than specific projects. That is, for urban roads, the list of projects might include repaving numerous segments of commercial district streets, adding 50 kilometers of new roads to the urban road network over a five-year period, and upgrading 75 kilometers of natural surface roads over a three-year period. These broad investment programs then would have to be subdivided into actual projects that would be designed, financed, and managed as individual projects or as components of a single investment program for which international financing could be sought.

The next step consists of carrying out studies to establish the technical feasibility of the project and to develop sufficient engineering information on which to base cost calculation. These studies are part of the normal process of defining the scope of an investment project, establishing preliminary engineering designs, and developing preliminary cost estimates. At this stage, fully detailed engineering designs and cost estimates are not useful, because it is
not clear how many of the projects might feasibly be undertaken with the next five-year planning horizon.

Based on the preliminary cost estimates and the time schedule established by the technical studies, the initial priority list must be revised to establish a preliminary five-year investment plan. This five-year plan establishes the time schedule and costs for all capital investment projects under consideration by the municipality for the next five-year period, including an estimate of the annual costs in each of the five years for each of the projects. For those that will not be completed during the five-year planning period, the plan should also include the total additional costs to complete these projects beyond the 5 years.

Development of the Financing Plan

Although some general financial evaluation may have been made during the third stage so as to preclude the development of a five-year investment plan that is completely beyond the municipality's financial capacity, the fourth stage of the capital investment planning process consists of conducting a detailed financial analysis of the municipality's capacity to undertake the investment program. Several financial alternatives are considered at this stage:

- Cost recovery elements for individual projects;
- Availability of cost sharing by central or regional levels of government;
- Possibilities for improving the revenue generated by existing, general municipal sources;
- Possibilities for new, general municipal revenue sources; and
- Availability of credit and the possible terms for credit.

Many capital infrastructure projects have the possibility of directly generating revenues to cover either all or part of the investment. For example, extensions to or improvements in the water systems may be recovered through the application of additional fees, or the fee structure may include already explicit provision for the generation of capital investment revenues. If the beneficiaries of the investments include property owners whose property values are enhanced, betterment revenues can be employed to capture some of that value to pay for the investment. Since the total program of investments identified as priority in the five-year program are likely to exceed any municipality's ability to pay these out of the general revenues, every self-sustaining cost recovery option should be explored at this stage.

Under some circumstances partial funding by a regional or central government agency is possible. Urban road networks, for example, include roads that are the urban portion of a national highway or are the endpoints of major connectors between metropolitan areas and rural service centers. Partial funding may be economically justified and may be available from central government to pay for a portion of cost that is attributable to a national or regional economic development investment.

Both existing general municipal revenue sources and possibly new revenue sources also should be examined. Analysis of the collection efficiency of existing revenues, the extent to which late payments are prosecuted, the adequacy of records systems for keeping track of taxpayer obligations, all should be considered to determine the extent to which present revenue sources can be improved. In addition, if there are revenue sources permitted to the municipality which presently are unused, these should be considered for possible input to the financing plan.

Finally, the availability of credit programs from a variety of internal and external sources must also be taken into account. Only a very small set of investments can normally be carried out by paying for the full annual costs of the investments out of current revenue sources. To undertake any extensive program of capital investments will require, under most circumstances, borrowing to spread the costs over a longer period of time. The output of this fourth stage of the capital investment planning process is a general financing plan that shows the program of capital investments and the mechanisms for paying for these investments over the five-year period. It is likely that some reconsideration of priorities
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will have to take place and a revised capital investment plan developed after considering the full financing implications and the availability of financial alternatives.

Development of the Capital Budget

The fifth and final stage of the capital-investment planning process is the development of the actual capital budget. The capital budget can be divided into a three-part budget:

- The *projects* portion should show all annual construction costs, designs costs, interest costs, and any other costs attributed to each investment project, regardless of the actual financing mechanisms and the time in which payments will actually be made;
- A second part of the capital budget, the *annual capital costs*, should show only the actual financial outlay for direct payments for construction and/or principal repayment on credit-financed projects; this would include all financial outlays from those projects that are part of previous planning cycles, (even from those for which the 5-year planning horizon has been passed); an alternative is to include only a summary line for the total amortization for previous credit-financed projects rather than a project-by-project statement.
- A third portion of the capital budget, *current account transfers*, should show separate statements of costs to be transferred to the current, operating budget; these would include: design costs, future operation, and maintenance costs, and interest and fees on credit.

The decision to include interest and fees as a transfer to the current account or as a capital cost depends on the accounting approach followed. Some systems include both interest and principal as capital costs in a consolidated budget statement, whereas other systems consider interest a current cost, and principal a capital cost. Here, preference is expressed for carrying interest into the current operating budget as a current, rather than a capital cost. The rationale for this is that only the principal represents the actual investment cost whereas interest payments are the costs incurred for selecting a particular method of financing. In that sense, overall budget management strategies are treated as subject to annual review in which choices may be made to allocate more or less of the current budget to either direct payment of investment costs, hence incurring no interest cost, or to interest payments in order to increase the short-run availability of capital for investment.

With the three-part capital budget, one thus has the information necessary to understand the full cost implications of each project (*projects*), the annual (financial) value of the investment or capital being spent (*annual capital costs*), and the current budget implications of each project (*current account transfers*). The first provides a picture of the costs of the investment decisions taken through the planning process. The second provides a book statement of the purchase price of the investments, that is also the total to be depreciated if the municipal accounting system provides for the depreciation of capital assets. The third provides a picture of the impact of capital investments on present and future current budget operations.

**Current Budget Implications**

Although the previous paragraphs described a section of the capital budget containing a summary, by project, of the current budget implications of the capital investments included in the five-year plan, a more detailed analysis of these implications is desirable for an effective financial management program. The *current account transfers* portion of the capital budget shows the amount to be transferred to appropriate line items or departmental accounts in the current budget. Thus, in the current budget and in the current portion of a consolidated current and capital budget, interest and fee payments would be reflected in a separate line item account which would contribute to total current expenditures. In addition, for each municipal department responsible for operation and maintenance of capital infrastructure, the necessity of additional current and future expenditures to operate and maintain new capital facilities would be identified so that decisions on whether to increase specific
departmental budgets could be made. It is also likely, however, that some capital investments will actually reduce current budget requirements for operation and maintenance.

On the one hand, then, capital investments that are for reconstruction or replacement of existing infrastructure will reduce the amount being spent on operation and maintenance of the current infrastructure. If unit cost information for the normal repair, operation, and maintenance of existing facilities is being kept, it should be clear that relatively new infrastructure is repaired less frequently and normal maintenance, if done on time, is less expensive than for relatively older infrastructure. On the other hand, capital investments for new facilities will add to total operation and maintenance costs, although if the new infrastructure is more efficient, the unit cost of operation and maintenance of the infrastructure facilities may deceive. A full financial management planning process, therefore, will examine the operation and maintenance cost of existing infrastructure to see if opportunities exist for long-run cost reductions by replacing deteriorated capital facilities.

Appraisal and Evaluation of Urban Projects

This section outlines some of the main techniques that can be applied by local governments and urban authorities to appraise the feasibility of urban development project proposals and evaluate their impact on urban development.

Project Cycle

It is useful to distinguish several stages in the formulation and implementation of urban development projects and acknowledge the role of project-analysis techniques at each of those stages. Different terms can be used to describe the various stages of the project cycle. The following are the most commonly used terms are project identification and definition, project preparation and formulation, appraisal and project selection, implementation, and evaluation.

Project Identification and Definition. The first phase of the cycle is concerned with identifying project proposals and undertaking research on the need for these proposals. Project proposals often arise from a multiplicity of sources in response to an unsatisfied demand for services, to overcome specific constraints, or to complement other investments.

Project Preparation and Formulation. Once the project concept has been identified, the next stage is the detailed formulation and preparation of project plans. Experience demonstrates again and again that investment of resources in the thorough preparation of all aspects of the project greatly reduces the likelihood of project failure and implementation problems. For most urban infrastructure projects, this preparation stage involves detailed surveys and engineering studies for the technical design and the development of cost estimates.

Design studies are related to the needs for the project, and they involve preparing demand forecasts for services the project is intended to provide. There is often a range of design alternatives and technology packages which need to be assessed. In many cases, during the project preparation stage, a pre-feasibility study is undertaken to determine whether proceeding on to the next stage of more advanced planning is worthwhile. It should investigate whether there are other alternative ways of achieving the same objectives and the cost-effectiveness of alternative technology packages.

Appraisal and Project Selection. This stage involves undertaking a detailed analysis of all aspects of the proposed project or set of alternative projects to assess their feasibility, rank alternatives, and assist decisionmakers with the selection process. It should include a technical analysis, an economic analysis, a financial analysis, a social analysis, an institutional analysis, an environmental analysis, and an implementation analysis. These
analyses are all important components of the appraisal process and should be integrated into the appraisal report.

The basic objective of this comprehensive approach is to examine the overall soundness of the project. This process may lead to the project being redesigned to improve its likely effectiveness, its being accepted and approved for implementation, or its being rejected.

IMPLEMENTATION. The implementation stage covers the period from the initiation of the construction or development of the project to the completion when the project becomes fully operational. Close monitoring of all the activities of this stage is essential to ensure that any implementation problems which might arise are quickly identified and desirable readjustments or corrective measures are undertaken. The activities usually include the procurement of resources, construction of infrastructure, beginning of production or operation, and development of support systems.

EVALUATION. It is desirable, when a project is completed, to undertake an ex post facto evaluation study to determine whether the objectives of the project have been achieved and to assess what lessons have been gained from the project experience which might be useful when another planning process is undertaken for a similar project. This stage may involve commissioning independent evaluators to perform on-site audits and to interview project participants and beneficiaries to gain a full assessment of the strengths and weaknesses of the project. In some cases, the evaluators may recommend the preparation of proposals for expansion of the project in a second or subsequent phase.

At each stage of the project cycle, the project can be subjected to various forms of project analysis. The term used to describe the analysis prior to the project being selected and accepted is called "project appraisal" whereas when the same techniques are applied to the project once it is completed and operating, the term "project evaluation" is used.

Aspects of Urban Project Analysis

The appraisal of urban investment project proposals is a complex process that, in the case of an integrated approach, consists of undertaking simultaneously the following types of analysis:

- Technical analysis,
- Economic analysis,
- Financial analysis,
- Social analysis,
- Institutional analysis,
- Environmental analysis, and
- Urban systems analysis.

The evaluation of completed projects also involves all these types of analysis.

URBAN SYSTEM ANALYSIS. To assess the impact of the project on the overall functioning of the urban system and to identify the linkages between the project output and the urban system, urban system analysis is applied. It concentrates on examining the relationship of the project to existing and proposed urban infrastructure to identify complementarities and interrelationships, with the objective of ensuring that the project is compatible with all other elements in the urban system. Urban projects need to be assessed in relation to urban-sector policies, strategies, and programs as well as to the physical master plan for the urban area.

ECONOMIC ANALYSIS. Economic analysis involves undertaking a cost-benefit analysis of the project to assess its desirability from the point view of the society as a whole. It aims to provide guidance to decisionmakers on the overall societal viability of a project and on whether its viability or value to society could be increased by altering key design factors
such as the technology, the delivery system, the location, the timing, the method of implementation, or the energy supply.

Financial Analysis. To assess the financial soundness of a project from the viewpoint of the individual agencies and enterprises involved in the implementation and operation of the project, financial analysis is done. It examines issues such as:

- The financial rate of return on capital invested in the project to the enterprises involved;
- The cash-flow projections for the enterprises;
- The capacity of enterprises to service debts generated by the project and analysis of the borrowing capacity of the enterprises;
- The working capital requirements associated with the project and whether the enterprises involved have sufficient working capital to participate in the project; or
- Analysis of the balance sheets, income statements, and sources and uses of funds of the enterprises involved.

Technical Analysis. Technical analysis is concerned with assessing the efficiency of the technical design aspects of the project and the appropriateness of the proposed overall technology package. It focuses on the analysis of the cost-effectiveness of alternative technology options and their suitability to the local operating environment. It addresses issues such as capital-intensive versus labor-intensive technology, alternative energy sources, optimal size and location of the project, construction phasing and timing, and alternative operating systems. These technical issues are interwoven with the economic, financial, and institutional aspects, and, therefore, need to be analyzed concurrently.

For example, the most appropriate technology and design features of a proposed sewerage treatment plant should not be determined solely on purely technical factors in isolation from other important factors that may affect the selection of the optimal project. These include market factors such as the likely future demand for the services of the plant over its projected lifetime, the capacity of residents to pay for sewerage services, the likely future real costs of alternative fuels for the plant, and the interest and capacity of the private sector to provide or to manage sewerage treatment works. Urban planning factors and the availability of land at different locations also may place limits on the project which may influence the choice of the technology for the plant.

Social Analysis. Social analysis aims to assess the suitability of the proposed project design for meeting the needs of the target population groups and to suggest ways to improve the design of the project. Social analysis focuses on:

- The main characteristics of the target population groups the project aims to service. These include the demographic, cultural, social, employment, education, and health characteristics of the groups and their population size and age structure, social structure, cultural backgrounds, income levels, occupational structure, and class and ethnic composition.
- The needs that are the target of the project, including quantitative analysis of the level of unmet needs or latent demand and projections of future needs in the form of demand projections. This analysis of needs also involves assessing the cultural and social acceptability of the project outputs to the client groups and the extent to which the outputs will satisfy their needs.
- Strategies to generate community participation in the design and refinement of the project and to gain its support for the project. This may also involve evaluating the role of the community in actually implementing the project and managing it on completion, under a self-help approach in contrast to provision by the public sector.

Environmental Analysis. To assess the likely impact of the project on the urban environment, environment analysis is employed. Most urban projects generate a range of
complex environmental costs and benefits which need to be fully taken into account. These would include all the various forms of pollution of the air, water, and land. In many cases, environmental analysis may lead to the redesign of a project to reduce the level of negative environmental impacts, the identification of appropriate control measures and standards, and the incorporation of safeguards to ensure that standards are met.

**Institutional Analysis.** Institution analysis is used to determine the most appropriate institutional models, organizational structures, and management systems for implementing and operating the project. Many projects contain an element of resources devoted to institutional strengthening in areas such as staff development, training programs in operating a new technology, and the establishment of implementation and monitoring systems. Devising appropriate institutional arrangements is an important component of the project design phase.

**Basics of Cost-Benefit Analysis**

Cost-benefit analysis is a technique for judging the economic merits of a project or program. The basic objective of cost-benefit analysis is simple: to quantify the total costs of a project over its lifetime and to compare them with the value of the total benefits that are expected from the project. Cost-benefit analysis of projects provides decisionmakers with both quantitative and qualitative information about the expected economic, environmental, and social impacts of projects. It can be used to assist, and improve the quality of, decisionmaking associated with the allocation of public sector resources. The application of cost-benefit analysis to urban investment proposals by government authorities has increased greatly over the past 10 years and it is now usually a standard requirement to undertake an economic appraisal for major investment projects.

**Main Steps in Appraisal of a Project Proposal**

The appraisal of a project proposals consists of carrying out the following ten procedures and analytical tasks.

1. **Identifying the specific aims and objectives of the project or set of project options to be analyzed.** A vital task at this stage of the analysis is to develop a clear statement of the problem or unmet need that the project is intended to address. It is important to analyze the logic of the project and to examine the cause-and-effect relationships between the project outputs and the outcomes or goals it is designed to achieve. It is useful as well to review the appraisal selection criteria against which the project will be evaluated. The criteria should be related to the objectives and determine the definition of the project costs and benefits.

2. **Defining the scope of the appraisal study.** An appraisal study may involve analyzing a number of alternative projects designed to achieve the same goals such as alternative airport sites, alternative refuse collection and disposal systems, or alternative technologies for public transport. A pre-feasibility study might be required to identify and review the full range of options and to narrow down the options to a short list, by applying evaluation criteria on technical, economic, financial, social, and environmental factors.

3. **Identifying the target groups which the project aims to assist.** This task consists of reviewing the situation of the target groups in terms of their needs for the proposed outputs, their capacity and motivation to participate in the project, and other factors such as their location, population size, income levels, capacity to pay for project benefits, customs, culture, and social structure.

4. **Identifying all other relevant groups which are likely to be affected by the project.**

5. **Identifying and listing the full range of project capital and operating costs, benefits, inputs, and outputs, over the life cycle of the project.** All project impacts need to be
assessed including the economic, financial, environmental, social, political, and administrative impacts. A balanced appraisal study will usually require the professional input of an interdisciplinary team of analysts including engineers and technology experts, as well as economists, sociologists, and environmentalists.

The basic method used for identifying the costs and benefits of a project is to compare the costs and benefits that are likely to arise "with" the project in place, to the situation that would prevail "without" the project. This involves developing two scenarios of the future project environment for the expected lifetime of the project. By comparing the "with" and "without" project scenarios it is possible to identify the likely impacts of the project.

The objective of this approach is to estimate the incremental net benefit that is likely to be generated by the project investment. It should be noted, however, that this is not the same as comparing the situation "before" and "after" the project is implemented because such comparison does not take into account changes in costs and production that would occur regardless of whether or not the project was undertaken.

The "without" scenario is sometimes called the "do nothing" alternative or "base case". In most situations, if the project is not undertaken, the existing urban situation will worsen. For example, if a project to upgrade and resurface major urban roads were not done, road conditions might deteriorate rapidly resulting in increased traffic congestion, and increased vehicle operating costs and travel time. It is, therefore, important to develop a detailed scenario of the "without" project scenario to gain a full measure of the benefits of a project.

The costs of an urban project to the economy consist of the resources that are consumed by it over its lifetime as well as the negative impacts the project may have on the environment and on citizens. Generally, the costs are easier to identify and express in monetary terms than the benefits. The main elements are the capital construction costs and the operating and maintenance costs. Furthermore, there are usually some environmental and social costs that are borne by individuals and families. For example, an urban highway project may generate increased noise levels as well as lead to the social disruption of households displaced by the expropriation of properties along the road corridor. Thus, not all the costs of a public sector project are necessarily borne by the government. Private individuals may also bear some of the costs without receiving any compensation from the government. Any private costs which are related to the project should be clearly identified and, wherever possible, quantified in monetary terms.

The measurement and identification of benefits is done much the same way as the estimation of costs, but they are often more difficult to quantify because a larger proportion of benefits occur in the more distant future. The basis for placing monetary values on benefits is to start with the market value for those benefits which are sold in free markets. In many cases, the market value is distorted by various forms of government intervention such as taxes on goods and services, subsidies, quantitative import restrictions, and price controls. In these cases, adjustments need to be made to market prices to reflect the price levels that would prevail if the market was free from those forms of intervention. Further, many of the benefits of urban projects are not directly sold to consumers. In these cases, the benefits need to be assessed by other means. For example, the benefits of a road upgrading project could be assessed by calculating the monetary value of factors such as vehicle operating cost savings, travel time savings, and reduction in accidents and air pollution.

6. Collecting and analyzing demand and cost projections, project impacts, inputs and outputs, costs, and benefits. This stage includes:

- Determining the information necessary for the analysis of the project;
- Conducting any surveys to gather the required data (such as base-line surveys, or needs surveys of the target group) and data analysis;
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7. Calculating the measures of project profitability. This stage involves the calculation of the standard measures of project viability such as the net present value (NPV), the internal rate of return (IRR), and the benefit-cost ratio (BCR). These measures provide information on the profitability or overall desirability of a project.

The NPV of a project is the present value of the benefits minus the present value of the costs. It is derived by discounting the time stream of costs and benefits which occur throughout the project’s lifetime, to present values. Time discounting is the technique that is used to convert the future costs and benefits to their present value and make them comparable. Two conditions must be satisfied if a project is to be judged acceptable on economic grounds.

- First, the NPV of the project should be positive (that is, the present value of the benefits should be greater than the costs) or at a minimum at least zero; (present value of the benefits just equals the costs when discounted at a discount rate equal to the opportunity cost of capital.)
- Second, the NPV of a project must be higher than, or at least as high as, the NPV of mutually exclusive project alternatives.

The IRR (or economic rate of return) is the rate of discount that results in a zero NPV for the project. The IRR on a project, should be at least equal to the opportunity cost of capital or to the cost to the government of borrowing funds from the private sector to finance the project. The IRR is useful for comparing the profitability of a project with other alternative projects in the same sector.

The BCR is simply the present value of the benefits divided by the present value of the costs. If the ratio is one (unity), it indicates the present value of the benefits are equal to the present value of the costs. Projects are considered desirable if the BCR is greater than or at least equal to unity. For example, a BCR of two would indicate the present value of the benefits is twice that of the present value of the costs and the project would be judged to be very desirable. Normally, the BCR and NPV are calculated with a range of discount rates which reflect high, medium, and low estimates of the opportunity cost of capital.

8. Undertaking sensitivity analysis to determine how the profitability or viability of the project is affected by variations in selected costs and benefits. The economic and financial analysis of projects involves projecting the stream of project costs and benefits well into the future. Due to the uncertainty involved in predicting future values and events, it is desirable to take into consideration a range of possible variations in the values of the basic variables of the project, such as the expected future price levels or the quantity of resources necessary to operate the project, as well as in the project output levels or quantity of benefits produced.

Sensitivity analysis is used by the analyst to test how the viability of the project is affected by changes in the values of those key variables. For example, the analyst may wish to test how different assumptions about future price trends will influence the internal rate of return (or net present value or benefit-cost ratio) of the project. A range of price projections (high, medium, and low) may be fed into the analysis to see how they affect the profitability of the project. This process of sensitivity testing enables the analyst to identify those key factors that may have a significant influence on the profitability of the project and to test whether the project would be viable assuming a pessimistic future scenario (with low values for the project benefits.
and high values for project costs). It enables the analyst to test the desirability of the project under conditions that could prevail in the future.

9. Undertaking environmental and social impact analysis studies. Many projects produce complex negative environmental impacts that must be thoroughly analyzed using a variety of techniques such as matrix methods, networks, and overlaps, usually with the assistance of complex computer programs. Further, it is often desirable to undertake some form of social impact analysis to identify and quantify the impact of the project on the intended target groups (as explained in the “Aspects of Urban Project Analysis” section).

10. Preparing the final report for presentation to the decisionmakers. An appraisal study may often involve a number of sub-studies on the various aspects of the analysis, such as social impact, environmental studies, and economic cost-benefit analysis. The findings of these studies need to be integrated and presented as a unified study.

The planning balance sheet approach is useful for presenting the overall findings of an appraisal study. It is a matrix technique which identifies the major social groups affected by a project and illustrates the distribution of the costs and benefits to each group. It can also illustrate whenever possible, the present value of benefits and costs and other social and environmental impacts in monetary terms, subjective scaling systems to indicate their degree of significance.

In many cases, appraisal studies result in the production of voluminous reports full of technical details and economic jargon. Decisionmakers usually do not have time to wade through lengthy reports. Therefore, it is necessary to devote some effort to the preparation of a concise executive summary of the main findings of the appraisal study. It is important that this summary be balanced and not give undue emphasis to those factors which can be quantified in monetary terms and incorporated in standard measures of project worth (such as the internal rate of return). Some of the important social and environmental impacts may defy conversion into monetary values. Therefore, it is essential that a description of these impacts be included in any summary of the project.

Another important factor is the timeliness of the presentation of the results of appraisal studies. If they are not available at vital stages when decisions on new investment projects are made during the budget cycles, they may be of little use.

A more detailed description of the methodologies of project appraisal and evaluation can be found in the standard textbooks and manuals on this topic. Some of them are listed in the bibliography at the end of this manual.

Budgetary Control

Budgetary control has a number of purposes, among them:

- To ensure that the authority stays solvent, (that is, that expenditure does not exceed its revenues and reserves);
- To ensure that revenue is collected and money is spent legally, (that is, that it conforms with the money limits authorized through the approval of the budget);
- To ensure that the public meets its legal obligations to pay for public services through taxes and charges;
- To ensure that money is spent efficiently; and
- To ensure that money is handled honestly.

Responsibility

Budgetary control can be effective only if personal responsibilities for either collecting each revenue source or incurring expenditures under each budget item are clearly identified. After a budget has been approved, it is normal to issue some form of warrant to those
authorized to incur expenditures specifying the items of expenditure under their control and the approved provision under each.

The degree of delegation of authority to incur expenditures varies between local government systems and between individual authorities. There are roughly three patterns:

- The chief executive (the mayor, commissioner, city manager, and so forth) or the financial manager (treasurer, director of finance, chief accountant, and so forth) has to authorize all expenditures and make all payments; operating departments have to submit requisitions to him or her when they want to hire staff, order supplies, and so forth;
- The operating departments authorize expenditures within budgetary limits, but the central treasury makes all payments; and
- The operating departments authorize expenditure within budgetary limits and make payments.

A variation on the last two may require the approval of the chief executive, financial manager, or a committee for items of expenditure above stated amounts of money. The pattern depends upon the size of the authority and the ability and trustworthiness of its staff. Generally speaking, it is better to delegate authority to incur expenditures to operating departments within a voted budget since:

- It helps the department to plan its work;
- It avoids delay in undertaking the department's work; and
- It places responsibility squarely on the department to keep the scale of its commitments within the amount of funds allocated and approved to it.

Centralized control can lead to irresponsibility since the operating departments may feel no compunction to be careful about the requisitions they submit, and the chief executive or treasurer will probably lack knowledge and time to scrutinize the bids he or she authorizes.

The same principles of delegation apply within the operating departments. In a large authority, departments may have zonal branches which effectively supervise operations, such as road maintenance or refuse collection in their particular areas of the city. There may be other clear operational subunits such as schools, sports centers, or large markets. There are considerable advantages in delegating responsibility for the control of expenditure to subunits so that they can plan their operations and be held fully responsible for the efficient use of resources.

**Budgetary Adjustments**

Some variation in the budget is inevitable during the course of the year. A department may have found necessary an absolute increase in the amount of money allocated to it; this is usually known as a supplementary estimate. Alternatively funds can be reallocated so that overspending on one item is offset by underspending on another; this is known as virement. Supplementary estimates almost invariably require approval by the authority's chief executive or treasurer and often by its council since they affect the overall budget and financial prospects. Discretion is often given, however, for departments to authorize virements, perhaps within fixed financial limits. This discretion again speeds up work and encourages departments to accept responsibility for matching unexpected commitments in one direction with savings in another.

**Revenue Control**

Assessment of the amount of taxes, fees, or charges to be paid by individuals must be conducted strictly and impartially. The aim is to charge the exact amount due to the authority—neither more (to swell the collections) nor less (out of favoritism or leniency). The assessor must act in a judicial rather than a money-raising capacity, (that is, he or she is applying a given set of rules to the situation of the individual payer). Random checks are
necessary to verify the work of the individual assessors and also the information supplied to them by the people being assessed.

Many taxes or charges include some provision for remission or exemption. These often benefit old people, school children, or the physically handicapped and sometimes those in lower income groups. Again, the rule must be strictly and impartially applied. Those responsible for granting exemptions must be aware of their underlying purpose; (for example, poverty due to a physical handicap may be a good reason for exempting a taxpayer, but the physical handicap itself may not be a sufficient cause). Again, it is necessary to make random checks on the award of exemptions and remissions.

Progress in collecting revenue must be continuously monitored. A strict timetable must be set for each tax or charge, stipulating the period within which payment is due, intervals at which reminders are automatically sent to defaulters, and the date at which legal proceedings or other sanctions (for example, cutting off the water supply) will be taken. In the case of taxes and charges for which people have a regular continuing liability, it is necessary to keep an account for each payer showing the amounts due, amounts paid, and any outstanding balances due to the authority. These must be kept up to date if payment is to be enforced strictly.

Apart from instituting a regular phased procedure for each individual liability, general progress checks are needed. Comparisons of the total amount or the percentage collected at a similar stage in previous years are helpful guides. If collections are falling significantly behind normal experience, it will be important to verify the reasons as quickly as possible. The reason may be a decline in administrative effectiveness, possibly requiring a general tightening up. Alternatively, it may be due to an external economic disturbance which would require adjustments to the budgetary estimations as a whole.

**Expenditure Control**

Whoever is responsible for authorizing expenditures on a particular budget item must have regular and up-to-date information on the total amount spent and, therefore, on the balance still available for commitment. This means that expenditures must be brought promptly to account in the authority's ledgers, and statements of spending to date must be provided regularly and promptly to those controlling expenditures on each item. Although an operating department may keep its own records of the expenditures it has authorized, it is important that this be reconciled regularly with the records in the central accounts. For example, departments should be aware of charges that are made to their votes without their prior authorization such as central overhead charges, debt servicing, salaries, or internal recharging.

Unless the local authority is operating a full accrual system of accounting (which is rare), ledger accounts may reflect only payments which have actually been made. The total of such payments is not, however, an adequate basis for calculating the amount "unspent" and available for fresh commitment. This is due to the usual time-lag between a decision to incur expenditure—for example, by ordering supplies—and the consequent cash payment. It is therefore necessary for those authorizing expenditure to keep an accurate record of the commitments they have undertaken, so that they know the true unspent balance available to them. The cost of goods or services, for example, should be recorded as expenditure the moment they are ordered, rather than when the bill is paid, since the order effectively uses the money involved.

Before payments are made, they must be checked to ensure that no errors or fraud are involved. For example, wage and salary sheets need to be checked against official wage levels and, often, against the physical presence of the labor force. Payments for goods need checking against agreed contract prices, and store records against their receipt and location. Various procedures are used in different authorities, for instance:
Payments have to be authorized by two people, one from the spending department and one from the treasury (possibly the internal audit section); checks have to be signed by two people; or wage and salary payments are made by a different section from that preparing the wage sheets.

Expenditure may be within approved limits and honest, but still wasteful. The treasury (usually with the help of internal auditors) must check on the efficiency of the authority's expenditure. Example of the issues that often need to be investigated are:

- Comparing costs of direct building and repairs with the use of contractors;
- Examining the running costs and utilization of vehicles; and
- Comparing the costs of alternative means of reproducing documents—such as printing or photocopying, for example.

**Monitoring Revenue and Expenditure**

Revenue and expenditure levels under each item need to be reviewed regularly to ensure that they conform to legal authority and that solvency is maintained. One can judge progress at any point in the budget year, however, only against the expected levels of revenue and expenditure at that stage if the budget is being implemented "according to plan."

In some cases, one would expect an even pattern of collection or spending throughout the year. This might apply, for example, to staff salaries (assuming all salary increases take place at the beginning of the year) or to collection of rents on permanently leased shops or market stalls, but in many cases such patterns are either seasonal or lumpy. People may be required to pay property taxes or license fees within so many months; market fee income may be higher during a harvesting season or surrounding an annual festival. Annual or bi-annual payments such as insurance premiums or debt service charges may lead to particularly heavy expenditures in certain months.

Budgetary progress can be effectively monitored only if such irregularities in the expected pattern of revenue collection and expenditure are charted. This means drawing up a profile of collection and expenditure at the beginning of the budget year. A sample profile might be as shown in table 3.2.

### Table 3.2 Budget Item: Road Maintenance (Total Approved Expenditures Rs 2 million) (in thousands of rupees)

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected expenditures</td>
<td>120</td>
<td>120</td>
<td>260</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>130</td>
<td>120</td>
<td>270</td>
<td>350</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td>Total expenditure to date</td>
<td>120</td>
<td>240</td>
<td>500</td>
<td>620</td>
<td>740</td>
<td>860</td>
<td>990</td>
<td>1,120</td>
<td>1,390</td>
<td>1,740</td>
<td>1,870</td>
<td>2,000</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>6</td>
<td>12</td>
<td>25</td>
<td>31</td>
<td>37</td>
<td>43</td>
<td>49.5</td>
<td>56</td>
<td>69.5</td>
<td>87</td>
<td>93.5</td>
<td>100</td>
</tr>
</tbody>
</table>
Expenditure

The generally higher level of expenditure from July to December may be due to the timing of the annual pay increase. Exceptional levels of spending in March and September may be due to installments of debt charges, while insurance premiums and annual licensing fees for road machinery may be payable in October.

The amount actually spent at the end of any particular month can then be compared with the profile to see whether any abnormality is occurring. Taking the example in the last paragraph, if expenditure at the end of six months was around one million rupees, it might easily be regarded as running at a "safe" level. Comparison with the profile, however, shows that such a level creates serious dangers of overspending since more than 50 percent is required in the second half of the year to cope with the exceptional commitments scheduled for September and October.

Regular up-to-date reports of budgetary progress are required to ensure that no serious deviations from the budget are taking place or that corrective actions can be taken. A variance analysis will provide senior executives with figures whose significance can be grasped quickly. This analysis compares actual collections and current expenditures at a particular date with the level forecast for that stage of the year and then shows a simple plus-or-minus variation on the forecast. (See table 3.3.)

Table 3.3 Sample Variance Analysis

<table>
<thead>
<tr>
<th>Expense</th>
<th>Forecast Expenditure at 31 March</th>
<th>Actual Expenditure at 31 March</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Administration</td>
<td>1,500,000</td>
<td>1,600,000</td>
<td>+100,000</td>
</tr>
<tr>
<td>Road Maintenance</td>
<td>3,700,000</td>
<td>3,500,000</td>
<td>-200,000</td>
</tr>
<tr>
<td>Public Health</td>
<td>2,600,000</td>
<td>2,850,000</td>
<td>+250,000</td>
</tr>
<tr>
<td>etc. etc. etc. etc.</td>
<td>etc. etc. etc. etc.</td>
<td>etc. etc. etc. etc.</td>
<td>etc. etc. etc. etc.</td>
</tr>
</tbody>
</table>

Budgetary Correction

Regular use of profiles and variance reports, as just described, should indicate items of revenue where serious shortfalls are likely or items of expenditure where overspending is likely if current trends are sustained. When such trends become apparent, immediate investigation is needed to determine the cause and see what corrective actions, if any, are needed.

Investigation may highlight problems which can be readily corrected, for example delays in invoicing or excessive ordering of supplies. In such cases, it should be sufficient to warn the pertinent department of the need for corrective actions. The important element is being aware of the trend early enough in the budget year for such action to be effective.

On the other hand, investigation of revenue shortfalls or overspending may reveal causes which are unavoidable. Market fee collection may be depressed because of a poor harvest; expenditures on drugs may be running high because of an epidemic. Two questions then arise: first, in terms of overspending, the need for immediate budgetary adjustment to authorize extra provision, preferably by virement, otherwise by supplementary estimate; second, and more important, whether the trends in actual revenue collection and expenditures suggest
that the budget is fundamentally off course and that overall expenditure is likely to exceed revenue. If such a deficit does seem likely, the next question is whether it can be covered by reserve balances or is going to land the authority in serious debt.

If a serious deficit, which cannot be covered by reserves, is likely, major corrective actions are clearly necessary. Again, the important thing is to be aware of the danger early enough to take actions. Various steps can be considered, such as:

- Postponing the start of capital development projects (though this may help only if they are financed by general revenue, not from some specific grant or loan);
- Freezing staff vacancies;
- Subjecting all purchases of supplies and equipment to central scrutiny and approving only urgent needs; or
- Restrictions in service provision, (for example, earlier closing hours for libraries or parks).

None of these steps are desirable, but they may be essential if a financial crisis is to be averted. It is advisable to put as much of the onus as possible on the operating departments to make the savings, since they are likely to know best where potential savings lie.

**Role of the Central Government in Setting Constraints on Expenditures**

Central governments can control local government expenditures by several different means:

- Legislated controls on amounts (or proportions) that can be spent on certain items;
- Setting of personnel salary scales;
- Mandating the types and numbers of employees; and
- Budget approval processes.

Central governments may place limits on the types of expenditures that a local government can make. The amount of funds that can be expended on certain categories of expenditure (for example, administration) may be limited to some proportion of total local expenditures. In addition, local governments may be forced to maintain some surplus balance in the general fund account at all times.

Central governments frequently determine the pay scales of local government employees, linking them to national civil-service scales. This makes it difficult for local governments to adopt pay scales that reflect their own particular circumstances or to create any type of incentive pay scale to reward good performance. Some central governments make local government service financially unattractive by limiting the total compensation package available to local employees. They do this by setting the base pay scales equal to national civil-service pay scales but not adopting the additional allowances and benefits of the national civil service.

Central governments may also set limitations on the numbers and types of employees that can serve in local government. The central government frequently approves the positions of senior officers in each municipality, leaving the local administration with little control over what types of employees they need. Again, this is normally done with the justification that local governments do not have the experience to make these choices themselves. Central governments, however, are often slow to approve new staff positions even for cities with rapidly growing populations and service needs. Moreover, local officials are likely to have a much better view of what their immediate needs are.

Central governments normally have approval authority over local government annual budgets, although this authority is often not exercised thoroughly. In theory, this power gives the central government the right to challenge any line item in the local government's proposed budget. More typically, however, the budgets are submitted to the central government late, are given a cursory review, and are filed away with no further action.
Reporting Requirements

Central governments normally require local governments to provide them with varying types of financial information and to submit to audits of local accounts. The auditing responsibility of the central government is one of the most important, and generally the most poorly provided, of its functions with respect to local governments. In general, the auditing of local government accounts appears to be one of the lowest priorities of central-government audit agencies; given the problems of understaffing and lack of resources that beset audit agencies, many simply fail to carry out audits of the local authorities. This general lack of auditing renders most of the other expenditure controls of local government ineffectual.

In addition to the audit function, central governments also request certain types of financial reports from local governments on a routine basis. The most common requests are monthly revenue and expenditure statements, employee roles, development-project status reports and, occasionally, service-delivery statistics. As with the budget review function, not much is ever done with the financial reports. Sometimes, the figures may be summarized for a central government report or a ministerial inquiry. Almost never is the information analyzed and returned to the local governments for their use.

One aspect of financial reporting that is usually ignored in the legislation is the reporting of local government finances to its own citizens. Rarely is there an enforced requirement that local governments publish budgets and actual expenditures. Normally, the annual budget must be approved by the local council; but is the actual expenditure record is seldom made public. While there may be considerable concern that local fiscal affairs be documented to higher government authorities, apparently little attention is given to increasing communication between the local government and its citizens.

Implications of Fiscal Decentralization

Presently, there is a growing concern with the decentralization of public services from the national government to the local governments. While each country has its own particular issues to address, in general the trend is to transfer responsibility for service delivery and service financing. Such decentralization has important implications for the types of fiscal controls that have been presented in the previous section.

Before presenting those implications, it is first necessary to define precisely what is meant by decentralization. Rondinelli and Cheema (1988) have developed a set of four different types of decentralization which characterize the major thrusts of decentralization efforts today. These four types are:

- **Deconcentration.** The handing over of some amount of administrative authority to lower levels within central government ministries and agencies. A common form of deconcentration is the creation of regional coordination programs to plan and implement district development programs through the coordinated actions of the central ministries.

- **Delegation.** The transfer of managerial responsibility for specifically defined functions to organizations that are outside the central government structure and are only indirectly controlled by central government agencies. A common form of delegation is the creation of special purpose parastatal authorities to deliver certain revenue-generating services such as water supply.

- **Devolution.** The creation or strengthening—financially and legally—of subnational units of government, the activities of which are substantially outside the direct control of the central government. A common form of devolution is the assignment of public services to local governments with the ability to use new revenue sources to pay for the services.

- **Privatization.** The divestment of the responsibilities for the provision of a service from the government (central or local) to a voluntary organization or the private
sector. The most common form is to turn over a public service (such as garbage collection) entirely to the private sector with some regulation provided by the government.

In our present discussion, we are most concerned with decentralization through the devolution of service responsibilities. The major implication of devolution is that the control over local government actions must be passed largely from the central government to the local citizenry. If local resource mobilization is to be increased, the citizens, who must bear the impact of that increase, will need to have an enhanced participation over decisions about the types and quality of public services that they receive. This is necessary for two reasons: people will not pay increased amounts for poor, or nonexistent, services; and providing the level and type of public services with local support requires a direct responsiveness to the clients of the local government.

In short, local governments must become "sellers of services" with their citizens in the role of their "customers." Customer satisfaction and demand then become the critical factors in determining which services are provided at what prices.

This also means that, for devolution to work, central government must devolve the control it now exercises over local government, particularly fiscal controls. Currently, because of the strong web of controls exercised by central governments over local governments, the local authorities often view the central government agencies as their true clients, not the local citizens. To change this, the web of controls must be loosened.

The main shift will need to come in the level of detail that central governments currently try to control. Local governments must be able to spend their funds in accordance with citizen demands. Therefore, on the expenditure side, central government control should be loosened in the following areas:

- Types and levels of expenditures;
- Types and numbers of employees;
- Local pay scales; and
- Contracting out of service functions.

On the revenue side, central government will have to loosen control over:

- The types of taxes and fees used;
- The individual tax and fee rates;
- Individual loan approvals (once mechanisms for local government borrowing have been established).

At the same time, the central government should ensure that local governments remain financially sound, so borrowing limitations and, more importantly, monitoring the financial condition should remain its responsibility. The central government can stimulate improved performance by incorporating performance incentives in the central government grants system. As shown in the Calcutta RGS system, emphasis can be placed on overall fiscal performance (the revenue gap) and not on the details of revenue collection and expenditures.

Central governments must improve their auditing capabilities and performance in order to serve their legitimate "policing" role with respect to the local governments. They also need to improve the monitoring of financial performance, not to police the local governments, but rather to be able to provide better assistance and training. Indeed, the attitude of central government agencies in general should shift from that of control to that of assistance.

One area of control that needs to be strengthened in most countries is that of better reporting from the local government to its citizens. Since effective decentralization ultimately depends on a knowledgeable citizenry, local governments need to be encouraged to increase communication with their clients.
Case Study: Dagpur Municipal Corporation (Stages 3 and 4)

This section continues the description of the Dagpur Municipal Corporation that was initiated in the previous chapter. The focus of the analysis falls now on DMC's expenditures and the preparation of the budget for the coming year based on the expenditure estimates.

Stage 3: Expenditure Planning and Forecasting

Time: Mid 1987

In Stage 2, a series of decisions concerning the reform of Dagpur Municipal Corporation's (DMC) finances were announced. The DMC was called upon to submit a forecast of revenue and expenditure over the three years, 1988, 1989, and 1990, and to plan for the systematic improvement of two major services: road construction/maintenance and refuse collection.

In Stage 2, improvements in revenue from property tax and charging have been planned, and three-year forecasts of revenue made.

Exercise 3.1 Analyzing the Road and Refuse-Collection Systems

Turn now to expenditure plans and forecasts, in particular for the period 1988–1990. Using the information in the “Roads and Lighting” and “Solid-Waste Collection” sections below, prepare:

- Financial plans (capital and recurrent) for improvement in road construction and maintenance system and for progressive improvement of the refuse collection system over the three-year period.
- Overall projections of recurrent and capital expenditure under each head, which should be compatible with the revenue forecasts and the financial plan for education produced in Stage 2 (chapter 2).

The details of performance for 1982–1986 are given in Tables 2.9–2.11, and the revised estimates for 1987 given in tables 2.15 and 2.16. The Retail Price Index at 1 January 1987 stood at 149 (1/1/82 = 100). Inflation during 1987 is estimated to have fallen to three percent. Allowance for inflation should be made in the 1988 projections but forecasts for 1989 and 1990 should be made at constant (1988) prices.

ROADS AND LIGHTING. DMC's Engineering Department is responsible for the construction and maintenance of all roads and roadside drains, footpaths, bridges, street lighting, road signs, and traffic signals.

The present road network is as follows:
- Trunk roads: 30 kilometers
- Principal roads: 120 kilometers
- Distribution/local roads 310 kilometers (210 with asphalt and 100 with gravel)

The basic road network has been sufficiently developed to carry the present traffic volume, except for the trunk road leading to the port, which is heavily congested (particularly at intersections where through traffic competes with internal city traffic). Road maintenance has become a major problem, however, due to underfunding, low soil-bearing capacities in the marshy areas, frequent flooding in certain areas, and the rapid increase in heavy-container vehicles and other heavily loaded lorries going to the port and the industrial area. There has been a major deterioration in road surfaces in recent years in the downtown area. Moreover, some unsurfaced roads in the hilly fringe areas are also becoming impassable due to gully erosion.

Estimates for routine maintenance costs are shown in table 3.4.
Table 3.4 Estimates of Road Maintenance Costs (in rupees per kilometer per year)

<table>
<thead>
<tr>
<th>Maintenance task</th>
<th>Trunk roads</th>
<th>Principal roads</th>
<th>Local roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning drains and vegetation, maintaining shoulders etc.</td>
<td>20,000</td>
<td>10,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Street lighting</td>
<td>40,000</td>
<td>20,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Traffic signs</td>
<td>10,000</td>
<td>10,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Grading (gravel roads)</td>
<td>—</td>
<td>—</td>
<td>3,000</td>
</tr>
</tbody>
</table>

It has been agreed that efforts should be made to restore the road surfaces to a reasonable state of repair over the next three years (1988 to 1990). A survey has shown that several types of repairs are needed (see table 3.5).

Table 3.5 Road Repairs Needed

<table>
<thead>
<tr>
<th>Repair</th>
<th>Trunk Roads (kms)</th>
<th>Principal Roads (kms)</th>
<th>Local Roads (kms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resealing</td>
<td>5</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>Resurfacing (asphalt)</td>
<td>8</td>
<td>32</td>
<td>54</td>
</tr>
<tr>
<td>Resurfacing (gravel)</td>
<td>—</td>
<td>—</td>
<td>44</td>
</tr>
<tr>
<td>Major reconstruction</td>
<td>7</td>
<td>28</td>
<td>43</td>
</tr>
</tbody>
</table>

Resealing and resurfacing are normally carried out by direct labor, but some work has been contracted out by public tender. Average comparative costs in (in rupees per kilometer) 1986 are estimated at:

- Trunk roads: 2,500,000
- Principal roads: 2,000,000, and
- Local roads: 1,200,000.

The department's fleet of vehicles and equipment consists of the pieces listed in Table 3.6.

Table 3.6 Engineering Department Equipment

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Unit replacement cost (Rs)</th>
<th>Average operating life (Yrs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Dump trucks</td>
<td>500,000</td>
<td>5</td>
</tr>
<tr>
<td>1 Paver finisher</td>
<td>1,000,000</td>
<td>10</td>
</tr>
<tr>
<td>2 Road rollers</td>
<td>700,000</td>
<td>10</td>
</tr>
<tr>
<td>1 Bulldozer</td>
<td>1,000,000</td>
<td>10</td>
</tr>
<tr>
<td>1 Grader</td>
<td>800,000</td>
<td>8</td>
</tr>
</tbody>
</table>
Operating costs are included in the maintenance costs of the roads listed in Table 3.4; however, it is necessary to replace the grader and one road roller, and the Department should comply with the new policy of inserting renewal fund contributions into the annual budget.

Departmental supervisory/overhead costs amount to 10 percent of operating and maintenance costs.

The details given so far relate to the maintenance and rehabilitation of the existing system. A number of new construction schemes, however, have been identified as necessary over the next three-year period. They are:

- Segregating the trunk road to the port from internal city traffic, which involves construction of two "flyover" junctions at Rs 10 million each, and construction of a seven-kilometer bypass at Rs 3.5 million per kilometer.
- Providing roads for new residential and commercial areas including construction of 30 kilometers of principal road at Rs 2.5 million per year per kilometer and construction of 100 kilometers of local road at Rs 1.5 million per year per kilometer.
- Upgrading of street lighting: 50 kilometer at Rs 5,000 per kilometer.
- Making traffic management improvements (new signals and junction improvements) at Rs five million.

**SOLID-WASTE COLLECTION.** The DMC's Cleansing Department is responsible for solid-waste collection and disposal. Collection takes place twice a week in most residential areas and daily in the central business district and suburban shopping and market areas. It is estimated that the city generates approximately 750 tons of refuse daily, but that only 60 percent of this is collected.

Solid waste is transported primarily by truck. One truck is able to transport an average of eight tons of refuse per day, making two round trips to the dump sites. The DMC has a fleet of 60 trucks, but only 11 of these have been purchased during the last three years and most are in need of constant repair. Not more than 60 percent are in full running order at any one time. A new vehicle currently costs Rs 300,000; efficient running life is estimated at six years. It has been agreed in principle that vehicles beyond their useful life should be replaced and the fleet increased to a number large enough to meet the full demand size over the three-year period 1988 to 1990, and that contributions to a renewals fund should also be included in the annual expenditure budget, so that regular replacement will be possible thereafter.

Running costs of each truck (fuel, insurance, and maintenance) are estimated at Rs 75,000 per annum. Each truck operates with a crew of one driver and five loaders. Drivers are paid Rs 6,000 per year on average, and loaders Rs 3,000, but the labor force is maintained at 40 percent above daily operating requirements to cover weekend working, sickness, and leave.

Approximately 50,000 houses and small shops are located in old bazaar areas and squatter settlements where the roads are too narrow for the refuse vehicles. In these areas, refuse (insofar as it is collected at all) is moved by pushcart or wheelbarrow to a central collection point where it is loaded onto the trucks. These are little more than piles of refuse on open sites and much of the refuse blows away into the streets and drains.

It has been decided to improve the collection in these areas by a series of measures:

- Provision of large bins at the rate of 1 per 5 households; these bins cost Rs 100 each.
- Daily collection of bins in pushcarts; it is estimated that 200 staff at Rs 3,000 per annum and 100 pushcarts at Rs 1,000 each are required for this purpose.
- Construction of 20 collection points where the refuse can be transferred to trucks; these would be properly fenced with hard standing, loading platforms, and so forth and would cost on average Rs 200,000 each.

Disposal takes place at dump sites on the edge of the city. Disposal costs are estimated to average Rs 10 per ton (including land purchase, labor, operation of bulldozers, and so
forth). Two bulldozers at dump sites are close to the end of their useful life and becoming unreliable. Replacements are estimated to cost Rs 1 million for each bulldozer.

The Cleansing Department operates five vacuum tankers for emptying septic tanks. Running costs are Rs 80,000 per vehicle, plus Rs 14,000 per annum for the driver and the crew. The tankers are adequate in number and in good repair, but it has been agreed that renewal fund contributions should be included in the annual budget to cover eventual replacement. Tankers currently cost Rs 500,000 each and have an estimated running life of 5 years.

Finally, the Department is also responsible for street sweeping: 500 laborers are employed at an average of Rs 3,000 per year. Tools and other equipment cost Rs 200,000 per year. Five water carts are also employed for street cleaning. They cost Rs 400,000 each with running costs (including labor) of Rs 85,000 per year. Three water carts are in reasonable repair; the other two are old and unreliable.

The Department's supervisory/overhead costs (that is, central office costs, senior officers, foremen, and clerical staff) are estimated at 10 percent of operating expenditure.

State 4: Annual Budgeting

Time: Late 1987

Budgeting for 1988 is now in progress. Table 3.7 shows the revised estimates for 1987. Tables 3.8–3.16 give a summary of the estimates of recurrent expenditure submitted by each department for 1988, and table 3.17 summarizes of the capital expenditure submissions. (Estimates for education, roads and lighting, and solid-waste management will be assumed to comply with the financial plans formulated in Stage 2, chapter 2).

A change of format has been adopted. Rents and charges are being credited as revenue to the departments by which they are collected, and deducted from their gross expenditure. They are accordingly deleted from recurrent revenue.

Exercise 3.2 Formulating Recommendations for Dagpur for 1988

Imagine yourself to be the Treasurer of DMC. Draw up a memorandum to the Commissioner:

- Providing revenue estimates for 1988 (stating the assumptions on which they are based);
- Suggesting the recommendations to be made to the Council on the Estimates including: recurrent expenditure totals for each department; which capital projects are to be included; the suggested rate of property tax for 1988; any other changes in taxes or charges;
- Your recommendations should refer and relate to the agreements with the central government and the forecasts made at Stage 2 (chapter 2).
Table 3.7 DMC Revised Estimates, 1987 (General Fund Only) (in millions of rupees)

<table>
<thead>
<tr>
<th>Recurrent revenues</th>
<th>Recurrent expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property tax</td>
<td>General admin.</td>
</tr>
<tr>
<td>95.0</td>
<td>20.1</td>
</tr>
<tr>
<td>Motor vehicle tax</td>
<td>Financial admin.</td>
</tr>
<tr>
<td>140.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Entertainments tax</td>
<td>Education</td>
</tr>
<tr>
<td>33.3</td>
<td>100.0*</td>
</tr>
<tr>
<td>Licence fees</td>
<td>Public health</td>
</tr>
<tr>
<td>28.0</td>
<td>59.0</td>
</tr>
<tr>
<td>Interest</td>
<td>Solid-waste mgmt.</td>
</tr>
<tr>
<td>5.5</td>
<td>26.5</td>
</tr>
<tr>
<td>Education grants</td>
<td>Roads and lighting</td>
</tr>
<tr>
<td>34.0</td>
<td>47.0</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Fire</td>
</tr>
<tr>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Total</td>
<td>Libraries</td>
</tr>
<tr>
<td>342.5</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Recreation</td>
</tr>
<tr>
<td></td>
<td>9.6</td>
</tr>
<tr>
<td></td>
<td>Social welfare and</td>
</tr>
<tr>
<td></td>
<td>miscellaneous services</td>
</tr>
<tr>
<td></td>
<td>3.8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>280.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capital Receipts</th>
<th>Capital Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loans</td>
<td>Education</td>
</tr>
<tr>
<td>7.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Grants</td>
<td>Public health</td>
</tr>
<tr>
<td>11.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Sales of capital</td>
<td>Solid waste mgmt</td>
</tr>
<tr>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Assets</td>
<td>Roads and lighting</td>
</tr>
<tr>
<td>2.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Total</td>
<td>Fire</td>
</tr>
<tr>
<td>20.0</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Libraries</td>
</tr>
<tr>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Recreation</td>
</tr>
<tr>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Social welfare,</td>
</tr>
<tr>
<td></td>
<td>administration, and</td>
</tr>
<tr>
<td></td>
<td>miscellaneous services</td>
</tr>
<tr>
<td></td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>90.0</td>
</tr>
<tr>
<td>Total revenue</td>
<td>Total expenditures</td>
</tr>
<tr>
<td>362.5</td>
<td>370.3b</td>
</tr>
</tbody>
</table>

a. Estimates for 1988 should be based on the education plan draw up in Stage 2 (chapter 2).

b. A new department was established to take effect January 1, 1988 to supervise slum improvement schemes. Estimated expenditures for 1988 are: salaries, 300,000 rupees, and other charges, 200,000 rupees, for a total general fund expenditure of 500,000 rupees.
Table 3.8 Budget Submissions for 1988—Recurrent Expenditure for General Administration (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate 1987</th>
<th>Draft estimate 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross expenditure</td>
<td>20,200,000</td>
<td>23,310,000</td>
</tr>
<tr>
<td>Less revenue from registration fees</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Net general fund expenditure</td>
<td>20,100,000</td>
<td>23,100,000</td>
</tr>
</tbody>
</table>

Note: The 3,110,000 increase in provision for 1988 is to cover higher salaries and operating expenses of existing establishments and services plus the following new proposals (which total 2,110,000 rupees):
- Two additional administrative assistants to deal with expanding committee workloads: 40,000 rupees.
- Seven additional clerk/typists: 70,000 rupees.
- Installation of air conditioning in city hall (on lease hire): 2,000,000 rupees.

Table 3.9 Budget Submissions for 1988—Recurrent Expenditure for Financial Administration (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate 1987</th>
<th>Draft estimate 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross expenditure</td>
<td>7,800,000</td>
<td>8,900,000</td>
</tr>
<tr>
<td>Less revenue from rentals of shops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and market stalls</td>
<td>4,500,000</td>
<td>4,700,000</td>
</tr>
<tr>
<td>Net general fund expenditure</td>
<td>3,300,000</td>
<td>4,200,000</td>
</tr>
</tbody>
</table>

Note 1: The 900,000 rupee increase in provision for 1988 is to cover higher salaries and operating expenses of existing establishments and services plus the following new proposals:
- Operation of new area cash offices (staff and other changes) built in 1987;
- Computer operators for the property tax division.

Note 2: Increases in rents from shops and market stalls are due to completion of new premises.
### Table 3.10 Budget Submissions for 1988—Recurrent Expenditure for Public Health (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate</th>
<th>Draft estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1987</td>
<td>1988</td>
</tr>
<tr>
<td>Gross expenditure</td>
<td>60,000,000</td>
<td>71,225,000</td>
</tr>
<tr>
<td>Less revenue from abattoir fees</td>
<td>700,000</td>
<td>750,000</td>
</tr>
<tr>
<td></td>
<td>59,300,000</td>
<td>70,475,000</td>
</tr>
<tr>
<td>Less private hospital treatment fees</td>
<td>300,000</td>
<td>325,000</td>
</tr>
<tr>
<td>Net general fund expenditure</td>
<td>59,000,000</td>
<td>70,150,000</td>
</tr>
</tbody>
</table>

**Note 1:** The 11,150,000 increase in provision for 1988 is to cover higher salaries and operating expenses of existing establishments and services plus the following new proposals (which total 9,425,000):

- Operation of 10 new mass immunization centers (see capital investments): staff, 200,000 rupees; other charges, 100,000 rupees; and vaccines 4,000,000 rupees. Total cost: 4,300,000 rupees.
- Operation of the new health center (built in 1987): debt charges, 300,000 rupees; staff, 125,000 rupees; and drugs and other charges, 100,000 rupees. Total cost: 525,000 rupees.
- A 20 percent increase in drug provision to overcome existing shortage at DMC hospitals and health visits: 2,000,000 rupees.
- Renewals fund contributions for ambulances (calculated on a fleet of 15 vehicles with an average replacement cost of 200,000 rupees and an operating life of 5 years): 600,000 rupees.
- Purchase of hospital equipment: 2,000,000 rupees.

**Note 2:** Revenue is based upon the following fees:

- Abattoirs—Rs 5 per head of cattle; Rs 2 per head of other livestock (revised in 1983);
- Private hospital treatment—Rs 100 per bed per day.

### Table 3.11 Budget Submission for 1988—Recurrent Expenditure for Solid-Waste Management (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate</th>
<th>Draft estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1987</td>
<td>1988&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Gross expenditure</td>
<td>28,000,000</td>
<td></td>
</tr>
<tr>
<td>Less revenue from refuse collection fees</td>
<td>1,500,000</td>
<td></td>
</tr>
<tr>
<td>Net general fund expenditure</td>
<td>26,500,000</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Estimates for 1988 should be based upon the plan for this service drawn up in Stage 2 (chapter 2).
Table 3.12 Budget Submissions for 1988—Recurrent Expenditure for Roads and Lighting (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate 1987</th>
<th>Draft estimate 1988a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross expenditure</td>
<td>49,000,000</td>
<td></td>
</tr>
<tr>
<td>Less revenue from car parking fees</td>
<td>2,000,000</td>
<td></td>
</tr>
<tr>
<td>Net general fund expenditure</td>
<td>47,000,000</td>
<td></td>
</tr>
</tbody>
</table>

a. Estimates for 1988 should be based upon the plan for this service drawn up in Stage 2, Chapter 2.

Table 3.13 Budget Submissions for 1988—Recurrent Expenditure for Fire Protection (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate 1987</th>
<th>Draft estimate 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>General fund</td>
<td>7,000,000</td>
<td>8,200,000</td>
</tr>
</tbody>
</table>

Note: The 1,200,000 increase in provision for 1988 is to cover higher salaries and operating expenses of existing establishments and services plus the following new proposal:

- Contribution to the renewals fund for fire engines calculated on 10 engines with an average replacement cost of Rs 600,000 and an operating life of 6 years: 1,000,000 rupees.

Table 3.14 Budget Submissions for 1988—Recurrent Expenditure for Libraries (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate 1987</th>
<th>Draft estimate 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>General fund</td>
<td>11,000,000</td>
<td>12,400,000</td>
</tr>
</tbody>
</table>

Note: The 1,400,000 increase in provision for 1988 is to cover higher salaries and operating expenses of existing establishments and services plus the following new proposals (which total 250,000):

- One extra staff member per library to allow the libraries to remain open in the evenings: 100,000 rupees.
- Restocking with purchase of 500 books at an average cost of Rs 30: 150,000 rupees.
Table 3.15 Budget Submissions for 1988—Recurrent Expenditure for Recreation (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate 1987</th>
<th>Draft estimate 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross expenditure</td>
<td>14,200,000</td>
<td>16,600,000</td>
</tr>
<tr>
<td>Less revenue from</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sports center entrance fees</td>
<td>3,400,000</td>
<td>4,300,000</td>
</tr>
<tr>
<td>Less revenue from</td>
<td></td>
<td></td>
</tr>
<tr>
<td>zoological garden entrance fees</td>
<td>1,200,000</td>
<td>1,425,000</td>
</tr>
<tr>
<td>Net general fund expenditure</td>
<td>9,600,000</td>
<td>10,875,000</td>
</tr>
</tbody>
</table>

Note 1: The 1,275,000 increase in provision for 1988 is to cover higher salaries and operating expenses of existing establishments and services plus the following new proposals (which total 1,100,000 rupees):
- Operation of new sports center (completed in 1987): debt charges, 500,000 rupees; staffing and other charges, 400,000. Total cost: 900,000 rupees.
- Grants to new amateur drama clubs: 200,000 rupees.

Note 2: Entrance fees are as follows:
- Sports center (revised in 1980). Annual membership—Rs 100. Daily fees—swimming, Rs 4 per adult and Rs 2 per child.
- Zoological gardens (revised in 1982). Daily fees—Rs 2 per adult and Rs 1 per child.

Table 3.16 Budget Submissions for 1988—Recurrent Expenditure for Social Welfare and Miscellaneous (in rupees)

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Revised estimate 1987</th>
<th>Draft estimate 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross expenditure</td>
<td>4,000,000</td>
<td>4,500,000</td>
</tr>
<tr>
<td>Less revenue from hiring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>of the community center</td>
<td>200,000</td>
<td>220,000</td>
</tr>
<tr>
<td>Net general fund expenditure</td>
<td>3,800,000</td>
<td>4,280,000</td>
</tr>
</tbody>
</table>

Note: The 480,000 increase in provision for 1988 is to cover higher salaries and operating expenses of existing establishments and services plus the following new proposals (which total 400,000 rupees).
- Operation of new craft centers for the physically handicapped: instructors, 50,000; materials, 50,000. Total cost: 100,000 rupees;
- Grant to new hospice for AIDS victims: 300,000 rupees.
Table 3.17 Capital Expenditures 1988—Departmental Submissions

<table>
<thead>
<tr>
<th>Department and expenditures</th>
<th>Cost (in rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>Per Stage 2 financial plan</td>
<td></td>
</tr>
<tr>
<td><strong>Public health</strong></td>
<td></td>
</tr>
<tr>
<td>Construction of 10 mass immunization centers at Rs 500,000</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Construction of a 200-bed hospital for new suburbs—first phase (total project cost is Rs 50,000,000)</td>
<td>20,000,000</td>
</tr>
<tr>
<td>Construction of two additional health centers (one in new suburbs, one in upgraded squatter settlement)—first phase</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Replacement of 10 ambulances</td>
<td>2,000,000</td>
</tr>
<tr>
<td><strong>Solid-waste management</strong></td>
<td></td>
</tr>
<tr>
<td>Per Stage 2 financial plan</td>
<td></td>
</tr>
<tr>
<td><strong>Roads and lighting</strong></td>
<td></td>
</tr>
<tr>
<td>Per Stage 2 financial plan</td>
<td></td>
</tr>
<tr>
<td><strong>Fire Protection</strong></td>
<td>10,000,000</td>
</tr>
<tr>
<td>One new fire station (for new suburbs)</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Purchase of radio equipment</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Replacement of three fire engines</td>
<td>1,800,000</td>
</tr>
<tr>
<td>Purchase of two additional fire engines</td>
<td>1,200,000</td>
</tr>
<tr>
<td><strong>Libraries</strong></td>
<td>700,000</td>
</tr>
<tr>
<td>Construction of new library (for new suburbs)</td>
<td>500,000</td>
</tr>
<tr>
<td>Stocking new library</td>
<td>200,000</td>
</tr>
<tr>
<td><strong>Recreation</strong></td>
<td>16,000,000</td>
</tr>
<tr>
<td>New parks (20 acres)—land purchase and landscaping</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Construction of new football and athletics stadium</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Construction of two new swimming pools (for new suburbs)</td>
<td>8,000,000</td>
</tr>
<tr>
<td>Extension for zoological gardens</td>
<td>2,000,000</td>
</tr>
<tr>
<td><strong>Social welfare, administration and miscellaneous services</strong></td>
<td>9,000,000</td>
</tr>
<tr>
<td>Two new area offices (that is, zonal headquarters for DMC departments, situated in new suburbs)</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Extention to city hall (to cope with expansion of DMC departments and provide better facilities for council members)</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Additional staff housing: Two grade I houses at Rs 500,000 each</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Five grade III houses at Rs 200,000 each</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Forty grade V houses at Rs 50,000 each</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Two new area cash offices</td>
<td>1,000,000</td>
</tr>
<tr>
<td><strong>Slum improvement</strong></td>
<td>9,000,000</td>
</tr>
<tr>
<td>First phase—improvement of 150 acres (regularization of tenure; paving access paths; improving drainage, security, and lighting; installation of communal toilet and standpipes; providing electrical service to houses)</td>
<td>9,000,000</td>
</tr>
</tbody>
</table>
Private Participation in the Provision of Urban Services

The Private Sector and Urban Services

This chapter discusses the scope for private sector participation in the provision of public services and the role of non-government organizations (NGOs). It addresses the following issues:

- The characteristics of public and private goods and services and the classification of goods as private goods, toll goods, common-pool goods, and collective goods;
- Reasons and objectives for increasing the role of the private sector, including NGOs, in the provision of urban public services;
- Alternative forms of private sector involvement in public services including transfer of ownership, contracting out services to private firms, franchising services to the private sector, the use of grants and vouchers, mobilizing community groups, and developing self-service measures; and
- Strategies for reversing the growth of government through the redistribution of responsibilities for the provision of public services (such as load shedding, limiting government involvement, increasing competition, and implementing user charges).

Key questions to be discussed include:

- What are the objectives of privatization?
- Why should the private sector provide public goods and services?
- Why do governments provide private goods and services?
- Which government activities should be transferred to the private sector, NGOs, and community groups?
- What safeguards are necessary and which regulatory powers or functions should be kept by government to control privatized activities?
- Which form of private participation in public service provision is most suitable for the different services/functions?

Defining the Types of Goods

To identify the scope for privatization, it is necessary to examine the nature and characteristics of different kinds of goods and services. Some goods and services must be funded by taxation and organized by the government because the private sector has no means of charging for this category of goods. Other goods and services are currently provided by government but, by the nature of those goods and services, the private sector would be perfectly capable of producing them in an efficient manner. There is no basic need for the government to produce these goods.

Economists classify goods and services into the following four types:

- Private goods;
- Toll goods;
- Common-pool goods; and
- Collective goods.
PRIVATE GOODS. Private goods are goods which are individually consumed and which can be purchased in competitive markets (e.g., garbage collection, theaters). Private firms satisfy the demand for these goods and sell them to those individuals who are willing to buy them at the market price. Some of the goods and services that are now provided by governments were, in past times, produced and sold at a profit by private firms. Governments could withdraw from the production of those private goods and services and let the private sector try to find ways to produce them in a profitable manner.

TOLL GOODS AND SERVICES. Toll goods and services are those consumed jointly by all citizens, but it is feasible to charge consumers individually for their consumption because non-payers can be excluded from their consumption. Many public utilities provide toll goods such as electricity, water supply, telephone services, sewerage service, gas supply, mass transport, public libraries, cable TV, toll roads and bridges, national parks, and stadiums. The quality of some toll goods is actually enhanced by joint consumption. For example, the broader the reach of the communications network of a telephone, telex, telegraph, facsimile, and postal service, the more value it has to individual consumers.

Many of these toll goods are natural monopolies because of the economies of scale involved in providing the service network. In many situations, there is room for only one efficient supplier. The enterprise that gets in first has a competitive advantage because it will usually be able to produce at a lower cost than any new competitor attempting to gain a share of the market. In some cases the introduction of competition is a waste of resources because it leads to unnecessary duplication of network systems (i.e., two telephone systems in the same town).

State ownership of natural monopolies is common and has been justified on the ground that a private firm could possibly exploit the monopoly situation by charging consumers excessively high prices. There are, however, a variety of ways government can regulate private monopolies to prevent the exploitation of the consumers. Price control is the most commonly used method. Another option to introduce competition into a natural monopoly market is for the government to construct the headworks and distribution network and lease the facilities back to the private sector to operate and supply the service. Private firms would compete through submitting competitive tenders to operate the system. Tenders would specify the price that firms would charge consumers. Contracts would be negotiated with the selected firm to operate the service for a specified period of a few years.

COMMON-POOL GOODS. Common-pool goods require some form of collective action by members of society to ensure their continued supply. They are open to over-exploitation and extinction. Examples of common-pool goods are fish in rivers, lakes, and the sea, whales, and wild life which is subjected to hunting such as deer, furred animals, alligators, tigers and elephants. If the harvesting, extraction, or appropriation of such goods were unregulated, these free goods would be over-exploited.

Common property resources such as the air we breathe, rivers, lakes, the sea and forests provide consumers with free services and are also open to misuse. Some form of government intervention or collective action is usually justified to safeguard and protect common-pool resources and common-property assets. Air pollution and the problems of acid rain, the dumping of toxic and noxious wastes in rivers and lakes, and the littering of parks and recreation areas are examples of the misuse of common-pool goods.

Successful management of common-property resources is most likely to occur when the property rights are clearly assigned to a single organization, whether it be a government authority or a private firm.

COLLECTIVE GOODS. Collective goods and services will not be provided by the private sector because there is no practical method available to charge individual consumers for them. They suffer from a “free rider” problem. Once they are made available it is difficult
to exclude nonpayers from consuming them. Examples include national defense systems, police protection, fire protection, and streets and footpaths.

The provision of these goods is financed by taxes because private firms are unable to make profits from the supply of such goods because they are used simultaneously by many people and no one can be excluded from consuming them.

**Increasing the Role of the Private Sector and NGOs**

The following paragraphs present the main reasons for delegating responsibilities to private-sector operations and NGOs in the provision of urban services as well as the objectives to be achieved with such a shift in responsibilities.

**Reducing the Cost of Public Services to Consumers.** Research studies on the economic impact of privatizing government activities (for example, Pirier 1985; Savas 1982) have found that in many cases substantial cost savings have resulted after privatization. This is usually achieved by the more efficient use of resources in the production of goods and services that usually takes place in the private sector motivated by the desire to minimize costs and maximize profits. For example, a review of the comparative cost of local government activities in the United States showed that costs were between 37 and 96 percent higher when these activities were performed by local governments themselves rather than by private sector contractors. (Savas 1982).

**Relieving the Financial and Administrative Burden on Government.** The demands on public governments for the provision of more and improved services often exceed their capacity. Many governments must face rising deficits, heavy debt servicing on loans, limited borrowing capacity, backlog, and delays in the provision of new urban facilities, and community resistance to further tax increases. Greater use of the private sector, community groups, and NGOs in the provision of urban services is seen as a means of relieving the pressure on those governments.

**Satisfying Unmet Needs.** Related to the previous objective is the mobilization of community groups, NGOs, and private firms to provide services that traditionally have been the responsibility of public governments. In situations where local governments are unable to provide some services, these unmet needs often could be met by community groups and NGOs. There are many examples where voluntary community groups have provided recreation facilities, libraries, community halls, street cleaning, fire protection, security patrols, refuse collection, tree planting, maintenance of playing areas and parkland, tree pruning, lawn mowing, cleaning of roadside gutters and drains, provision of bus shelters, parking lot operation, and school bus transport. Further, many non-government organizations provide social services such as child day care, foster-home care, group home care, adoption, institutional care for the sick, elderly and incapacitated, rehabilitative services, family crisis centers, women's shelters, youth centers, sheltered workshops, retraining centers, family counseling, family planning, child protection, homemaker services, and legal aid for the poor.

The sale of goods and services in competitive market situations provides a responsive mechanism by which consumers can express their choices. Private firms compete for customers by orienting their services and products to meet the diverse range of consumer needs. They differentiate their products to appeal to the special needs of market segments and target groups. They are constantly searching for new, profitable opportunities to provide for any unmet needs of consumers.

The public sector tends to be less responsive to consumer needs because there is no automatic demand-responsive mechanism in those markets where the government has a monopoly. The public has no choice but to pay and take what is provided by the government.
INCREASING PRODUCTIVITY AND RAISING EFFICIENCY BY PROMOTING COMPETITION. Many government functions are performed in a noncompetitive environment which can result in slackness and general inefficiency, misuse of resources, lack of responsiveness to the needs of consumers and to technological change, and low levels of productivity. In comparison, private sector firms are constantly exposed to competitive forces which create an environment where good cost-efficient performance is rewarded by profits while inefficient performance can lead either to bankruptcy or takeover. Private sector involvement in the provision of public services through contracting or tendering, use of vouchers, and liberalization can introduce the benefits of competition into areas previously dominated by government monopoly.

Studies have generally found that private sector employees have a significantly higher output level than their government counterparts. Government authorities tend to use higher human-resource levels for identical production operations and make less efficient use of their plant and capital equipment. Restrictive work practices are much more common in the public sector. Inefficient and nonproductive government employees are more difficult to discharge due to the security of the tenure associated with government employment. Private firms use their staff more flexibly and are more inclined to dismiss redundant staff when they experience surplus capacity. They also make greater use of incentive payment systems which link salaries to the productivity of employees.

ENCOURAGING ENTREPRENEURSHIP, THE FORMATION OF NEW BUSINESSES, AND THE ACCELERATION OF ECONOMIC GROWTH.

INNOVATION AND ADOPTION OF NEW TECHNOLOGY. Generally the rate of innovation in public operations is lower than the private sector. The public sector is slower to adopt new technology. Public sector organizations are more resistant to change and less responsive to changes in consumer demands and the relative costs of the factors of production. Labor-intensive levels are sometimes not adjusted downward with the adoption of new technology, resulting in feather-bedding and other labor absorption practices.

The transfer of selected services which traditionally have been provided by the government to the private sector can create new business opportunities for local entrepreneurs and could be directed toward stimulating a faster rate of economic growth. The resulting increase in entrepreneurial activity may have multiplier effects as the businesses formed through privatization reinvest profits to other diversified business activities.

DECISIONMAKING. Decisionmaking in the private sector is driven by economic factors that reflect consumers' demand for goods and services and their willingness to pay for them. It is argued, however, that many public sector decisions are made on political criteria based on factors related to the attempts to gain political advantages.

The impact of decisions on marginal electorates and on government popularity with swing voters and special interest groups is often more important than the realities of supply and demand and the need for cost-recovery pricing policies for public goods and services. Political decisionmaking can lead to the misallocation of public funds to secure political ends rather than provide efficient public service.

CONDITION OF EQUIPMENT. It is claimed that private firms have a strong economic incentive to maintain their plant and equipment in good working condition and to replace it with new technologically advanced equipment. In contrast, it is argued, there is a tendency for publicly owned equipment to suffer from a lower level of maintenance and to receive less care from its operators.

Few individuals treat common property or publicly owned assets with the same care and attention as they give to their own equipment. Public assets are also often subject to a higher level of vandalism than private assets. These factors may result in public equipment being outdated and in poor condition.
INTERRUPTION OF SERVICE. Many public services are provided by a public monopoly so any strike can cut off the entire supply because no alternative source of supply is permitted. In the private sector an industrial relations dispute in one firm may inconvenience only its own customers who may seek other sources of supply. The possible permanent loss of customers to private firms provides a strong incentive for firms to settle disputes quickly.

RESPONSIVENESS TO COST CONTROL. It is claimed that achieving cost efficiency is a much more difficult exercise in the public sector than in the private sector. Public sector managers rarely benefit personally from the introduction of measures to prune costs and reduce the size of their own departments. Their status and salaries are linked to the number of employees that they manage and the level of expenditure rather than the level of efficiency of their operations. In comparison, the salaries of many private sector managers are often directly linked to the profitability of the firm.

Opposition to Privatization

As in any new approach to the provision of public services, the reactions of individuals to privatization ranges across the spectrum from strong approval to outright opposition. Opposition to privatization mainly arises from individuals' self-interest, primarily from public employees whose jobs may be at risk. Although most evaluation studies on the impacts of privatization have found that its benefits to society as a whole substantially exceed its costs, there are likely to be individuals or groups who could be adversely affected. It is, therefore, important to analyze carefully the distribution of the costs and benefits of any privatization proposal as well as its overall impact on society. Any negative impacts need to be taken into account when planning privatization projects because it is often possible to design measures to reduce these costs to a minimum and to devise means to compensate individuals or groups who are likely to be adversely affected.

Several arguments are put forward by those who oppose privatization:

IMPACT ON UNEMPLOYMENT. It is difficult to assess the overall impact of privatization on unemployment. Normally, it results in a transfer of jobs from the public to the private sector. Nevertheless, private firms may use less labor than government to undertake the same services. On the other hand, an enterprise may also grow after privatization and increase the size of its workforce. The assessment of the macroeconomic impacts requires the analysis of the distribution of any cost savings that result from privatization.

IMPACT ON PRICES OF PUBLIC SERVICES. It is argued that government subsidizes some basic services such as water supply as part of their basic needs strategy to redistribute resources to low-income groups. Cross-subsidies are also involved in government utility-pricing policies in which high-income consumers subsidize low-income consumers through price discrimination policies. Furthermore, uniform pricing policies applied across the country may not reflect substantial differences in production costs. Providing public utility services to scattered populations in rural areas may be totally uneconomic for private firms but can be financed by government through cross-subsidization. Many of these problems can be addressed under privatization by the use of a combination of grants and vouchers, zoning, and licensing to achieve cross-subsidization by private firms.

SERVICING REMOTE OR UNPROFITABLE AREAS. There is often concern that the private sector is interested in providing services only in the lucrative areas and would fail to service the uneconomic territories. Government would then be left with servicing the difficult, remote and totally uneconomic areas with no opportunity to cross-subsidize or gain economies of scale in the use of plant and equipment.

As discussed in the previous section, the private sector could still provide services to uneconomic areas but would require a subsidy or grant from government to make the operation an attractive proposition. Government could also make contracts with private firms to supply
services at a specified level of service and price, including services to uneconomic areas, combined with the privilege of exclusive monopoly rights in profitable zones, routes, or areas thus enabling the firms the possibility of making an overall profit from the contract.

**Impact on Wage Levels and Working Conditions.** Public service trade unions have expressed concern that public sector employees who are transferred to the private sector as a result of privatization might be forced to work at lower wage levels, with higher output levels and less comfortable working conditions.

**Opportunities for Corruption.** It has been argued that privatization provides politicians with opportunities to give political favors or patronage to their private sector friends by awarding them lucrative government contracts or by passing over a profitable government activity to them. Politicians may use privatization to set themselves up in new businesses or may be exposed to bribes from firms wanting to secure government businesses.

**Control of the Service Quality.** It is argued that privatization can lead to loss of control of the quality and reliability of the service and that the expense of establishing complex systems for monitoring and supervising contracts with the private sector outweighs the benefits of privatization. Moreover, service quality may be difficult to monitor. There is however little evidence to support this proposition.

**Impact on Disadvantaged Groups.** Some have expressed concern that privatization could reduce the welfare of disadvantaged groups such as the elderly, the disabled, or the poor, who may be unable to pay for services with charges based on a cost-recovery principle. They argue that the complexity and the administrative costs of providing subsidies to welfare groups after privatization could exceed any gains made by such an option, and that the direct provision of the services by government may, in the long run, be more efficient and effective.

**Concentration of Economic Power.** It has been argued that privatization could result in a further concentration of economic power in the hands of big businesses and even multinational foreign corporations that have no interest in the social-welfare aspects of service provision.

**Conversion of Public Monopolies into Private Monopolies.** Concern is expressed that the sale of natural monopolies such as public utilities that provide electricity, gas, water, or transport under monopoly conditions to private firms could give them the power to make supernormal profits and to exploit consumers. This problem can be avoided by the selection of the appropriate methods of privatization of public utilities that enable the government to regulate prices. These include the use of management contracts, on the methods of leasing, franchising, and contracting out.

**Forms of Private Sector Involvement in Public Services and Functions**

Private sector involvement in public service functions can take many forms. When considering the privatization of a government function/service, it is important to appraise carefully the costs and benefits of alternative organizational arrangements before selecting the most appropriate type of private sector involvement.

The primary techniques for expanding the role of the private sector in the provision of public services can be grouped into the following categories:

* **Transfer of Ownership and Control from the Public to the Private Sector**

  The transfer can be “complete,” “partial,” or “selective.”

  - **Complete** privatization involves transferring the ownership of a government enterprise to the private sector;
Private Participation in the Provision of Urban Services 141

- Partial privatization involves transferring a portion of the ownership of a government enterprise to the private sector; control may or may not be retained by the government depending on the percentage of the equity sold to the private sector; if the government retains more than 50 percent of the equity, it will maintain control over it; and
- Selective privatization refers to the situation where the government sells or leases to the private sector selected parts of its operations or services while still retaining other operations or services under its ownership and control; distinct sections may be sold as complete entities; in some situations, two or more sections may be combined to make a viable entity for the private purchaser.

Selling a Government Enterprise to the Workforce

In some cases, it may be possible to sell a government factory or agency to the employees. The employees purchase shares in the new company and elect the directors to manage the company. Employee-owned firms have a strong incentive to drop restrictive work practices because the employees would benefit personally from the introduction of measures geared to increase labor productivity and reduce costs. This option has been successfully implemented in Britain where the National Freight Corporation was sold to its employees at their suggestion and the Redhead ship repair yard was sold to a group of workers in 1983. Strikes, demarcation disputes, and overtime bans vanished after the takeover, and labor productivity improved.

Liberalization and Deregulation

This technique consists of introducing private sector competition into areas previously reserved for government monopolies. It involves allowing private sector firms to compete with government enterprises in the provision of goods and services where the public sector has had a monopoly. Examples include the private provision of public housing estates, private parcel services, private hospitals and health-care units, and private universities. Deregulation also encourages competition. Government regulation is a costly activity and transferring regulatory functions to the private sector organizations immediately reduces government costs and enables the reduction of the size of the bureaucracy.

Contracting-Out the Service to the Private Firms and Non-Profit Organizations

This is the most widely practiced form of privatization. The government maintains control over (and provides funds for) the activity but contracts out to the private sector the production of the goods or services. Price competition is introduced through the open invitation of tenders from firms. Government maintains the responsibility for determining the quality, timing, and quantity of services to be provided. At the local level, a wide range of municipal services can be put out to contract, including the provision of solid-waste refuse collection; street cleaning; maintenance of parks, gardens, and public lands; road construction and maintenance; ambulance services; fire protection services; engineering services; town planning consulting services; legal services; and house construction.

Franchises

This option involves the government granting a private firm an exclusive franchise or monopoly privileges to supply a particular service at a particular location. Government often maintains control over the price of the goods or services to be sold by the private firm. Franchise arrangements are often used by government to regulate the private provision of toll goods or common utilities such as gas and electric-power provision, telephone services, cable television, and water distribution. Market concessions in publicly owned airports, sporting
stadiums, race courses, national parks, and public open spaces are often leased under a franchise arrangement. Competition is introduced by competitive tenders or bids for the franchise. Franchises are granted for a defined period and are revised and renegotiated at regular intervals.

Grants and Vouchers

Governments undertake many welfare activities to achieve the social objective of providing public services to low-income groups because these groups may not be able to afford to pay for these services if they were provided by the private market. An alternative to the direct provision of these services by the government is the use of subsidies in the form of grants and vouchers.

- Grants. Under a grant system, the government pays a private firm a sum of money to subsidize the cost of providing goods or services to selected consumer groups. For example, the government may subsidize private bus companies for providing transport services to school children or to welfare recipients or pensioners. Grants may be provided to first-time home buyers to subsidize the cost of private housing, (rather than the government providing affordable public housing) or to private nursing homes to subsidize the cost to patients (rather than the government operating its own nursing homes).

Grants enable the government to withdraw from the direct provision of subsidized services to target groups through the subsidization of the private provision of such services. Grants may be given to NGOs and community groups to help them undertake activities that are traditionally thought of as part of government responsibilities. For example, grants are given to private schools, nursing homes, orphanages, volunteer fire-fighting services, and social welfare support groups. Grants are also given to support cultural groups such as drama groups, symphony orchestras, dance and opera companies, and museums.

- Vouchers. Vouchers are alternative means of subsidizing the price of goods and services to selected groups in the community. A voucher is a piece of paper given by the government to consumers entitling them to purchase goods or services from private sector producers at a subsidized rate or, in some cases, for free—in exchange for the voucher. The private firms then claim back from the government the value of the vouchers. Vouchers are simply a mechanism for targeting publicly funded subsidies to selected groups of consumers for the purchase of specified goods and services. Vouchers have a set money value and consumers have the choice in spending the voucher in the marketplace. For example, rather than government directly providing government housing at a subsidized rental, it can issue rental vouchers to qualifying consumers who can rent private housing at a rate reduced by the value of the voucher. The level of subsidy can be adjusted according to the welfare needs and the financial situation of the voucher recipients.

Mobilization of NGOs Community Groups, Residents’ Associations, Charitable Organizations, and Service Clubs

In some situations, local government can hand over some of its functions/activities to voluntary community associations. For example, a government day-care center for children could be privatized by transferring its ownership and control over to a parents’ association. Responsibility for refuse collection in some urban areas is handed over to homeowners’ associations who collect levies from their members and hire private firms to provide collection services.

In many cases, it may be more efficient for the government to provide resident associations with a grant and hand over to the association the responsibility to arrange with private firms the provision of a service. Residents are often in a better position to
monitor the efficiency of the private contractor in the delivery of the service than government.

Self-Service and Self-Reliance

In small-town and rural areas, it is sometimes more efficient to promote self-service and self-sufficiency than government provision of some public services. For example, in small-town and rural areas, residents are often responsible for taking their garbage to the local “dump” or “tip.” Often they also provide their own household water from roof collection systems, bores, and storage tanks; generate their own electricity from small diesel generators or solar-power systems; provide their own fuel for heating; and dispose of sewerage by septic tanks; and so forth. Individuals and community groups in rural areas may also be involved in rural road maintenance, bush fire fighting, eradication of pests and noxious weeds, provision of schooling, or provision of health and social welfare services. Many rural villages in developing countries traditionally have had a very high level of self-sufficiency and have received very few government services. Some of the principles of self-reliance and self-sufficiency have been translated into modern urban areas. For example, users who benefit from specific government services can be organized to assist with running and maintenance of those services. Parents and students can assist with school cleaning, staffing of the school canteen, mowing of school lawns, beautification of the grounds by tree planting and gardening, painting of school furniture and buildings, acting as unpaid teachers aids, supervising sport teams, coaching students, providing food for boarding-school meals, cooking school meals, and so forth.

Benefits and Costs of Privatization

Many arguments for and against privatization have been advanced by different political and interest groups. Some are supported by reliable research findings based on comparative studies of the actual financial, economic, and social impacts of privatization programs, while others are based purely on conjecture.

The privatization of public services frequently results in significantly lower costs and improved efficiency in service provision. These gains are the result of the differences that normally exist between the incentive systems and regulations that distinguish the public and private sectors.

Clarkson and Fixler (1987) have made estimates of the potential savings from undertaking privatization of state and local government functions based on studies done in the United States. The actual savings realized from implementing a specific privatization option are determined by a number of complex factors. These factors include the efficiency of the public sector contract monitoring system which affects performance and quality, and the structure and provision of the contractual provisions. Clarkson and Fixler found it more appropriate to estimate a potential range of annual savings for each public service as opposed to a single number. Table 4.1 shows their estimated range of annual cost savings for several representative public-service categories.
<table>
<thead>
<tr>
<th>Public service category</th>
<th>Expected savings range</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower (%)</td>
<td>Upper (%)</td>
<td></td>
</tr>
<tr>
<td>Public works and Physical Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid waste collection: Residential</td>
<td>22</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Parking lot/garage operation</td>
<td>14</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Wastewater treatment</td>
<td>8</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road/street operation/maintenance/repair</td>
<td>25</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Bus transit operations/maintenance</td>
<td>20</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Fleet management/maintenance</td>
<td>20</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Public safety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire protection</td>
<td>17</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Emergency medical services</td>
<td>28</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Correction facilities management</td>
<td>13</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Health and human services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elderly program management</td>
<td>10</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Operation/management hospitals</td>
<td>20</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Operation/management of mental health facilities</td>
<td>10</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Parks and recreation/cultural arts recreation facilities operation management</td>
<td>19</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Park landscaping and maintenance</td>
<td>10</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Convention center/auditorium operations</td>
<td>13</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>General government and support services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building/grounds maintenance</td>
<td>30</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Building security</td>
<td>34</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Data processing</td>
<td>23</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

Source: Clarkson and Fixler (1987) Chapters IV and VII.

Contracting with Private Firms to Provide Municipal Services

Contracting out to private sector firms for the provision of urban services is the method of privatization which has been most widely used in developing countries, and it has fewer implementation problems and constraints than other methods. Nevertheless, despite its familiarity and simplicity, contracting out is often poorly managed and significantly underused by many local governments. Studies have clearly demonstrated that in many countries contracting out could save enormous amounts of money if well managed by an effective system of contract administration. The bibliography at the end of this manual contains a long list of publications on privatization, some of which report on the potential cost savings that can be achieved through contracting out; however, most of the detailed
studies which have quantified the cost savings resulting from contracting out have been undertaken in the United Kingdom and the United States.

In Britain, the central government has introduced and extended measures which require local authorities to put out to tender most construction and maintenance work. For example, all maintenance work above £10,000 per job and 30 percent of the work below that figure has to be put out to bids from private contractors. Any new building work above £50,000 pounds per job (plus one third below it) has also to be contracted out on a competitive-bid basis. These reforms have enabled private contractors to carry out more than half the local work on highways, construction, and general maintenance. Table 4.2 illustrates the magnitude of the annual cost savings that have resulted from the British experience.

### Table 4.2 Local Government Services Contracted Out to Private Industry in the United Kingdom

<table>
<thead>
<tr>
<th>Local authority</th>
<th>Operation</th>
<th>Annual savings (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bath City</td>
<td>Public lavatory and street cleaning; refuse collection; catering in council; and sports halls</td>
<td>300,000</td>
</tr>
<tr>
<td>Birmingham City</td>
<td>School cleaning</td>
<td>670,000</td>
</tr>
<tr>
<td>Boothferry BC</td>
<td>Pest control</td>
<td>14,390</td>
</tr>
<tr>
<td>Bromley BC</td>
<td>Street cleaning</td>
<td>200,000</td>
</tr>
<tr>
<td>Broxbourne BC</td>
<td>Public convenience cleaning</td>
<td>11,000</td>
</tr>
<tr>
<td>Cambridgeshire CC</td>
<td>School cleaning</td>
<td>700,000</td>
</tr>
<tr>
<td>Chiltern</td>
<td>Refuse collection</td>
<td>160,000</td>
</tr>
<tr>
<td>Christchurch DC</td>
<td>Public convenience cleaning</td>
<td>16,000</td>
</tr>
<tr>
<td>Croydon DC</td>
<td>Public convenience cleaning</td>
<td>70,000</td>
</tr>
<tr>
<td></td>
<td>Pest control</td>
<td>20,000</td>
</tr>
<tr>
<td>Dover DC</td>
<td>Public convenience cleaning</td>
<td>—a</td>
</tr>
<tr>
<td>Dudley BC</td>
<td>School cleaning</td>
<td>600,000</td>
</tr>
<tr>
<td></td>
<td>College cleaning</td>
<td>130,000</td>
</tr>
<tr>
<td>Ealing BC</td>
<td>Street cleaning</td>
<td>600,000</td>
</tr>
<tr>
<td></td>
<td>School meals</td>
<td>695,000</td>
</tr>
<tr>
<td>East Staffs DC</td>
<td>Electrical contractors</td>
<td>3,000</td>
</tr>
<tr>
<td>Eastbourne BC</td>
<td>Street cleaning</td>
<td>500,000</td>
</tr>
<tr>
<td>Edinburgh DC</td>
<td>Architectural services</td>
<td>—a</td>
</tr>
<tr>
<td>Epping Forest DC</td>
<td>Pest control</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>Delivery/collection of polling equipment</td>
<td>365</td>
</tr>
<tr>
<td>Fareham BC</td>
<td>Public convenience cleaning</td>
<td>22,000</td>
</tr>
<tr>
<td>Gedling BC</td>
<td>Office cleaning</td>
<td>12,000</td>
</tr>
<tr>
<td>Gillingham BC</td>
<td>Public convenience cleaning</td>
<td>36,000</td>
</tr>
<tr>
<td>Gloucester DC</td>
<td>Horticultural produce</td>
<td>24,000</td>
</tr>
<tr>
<td>Great Yarmouth BC</td>
<td>Office cleaning</td>
<td>6,114</td>
</tr>
<tr>
<td>Humberside CC</td>
<td>Meals on wheels</td>
<td>43,000</td>
</tr>
<tr>
<td>The Royal Borough of Kensington &amp; Chelsea</td>
<td>Refuse collection</td>
<td>100,000</td>
</tr>
</tbody>
</table>
Table 4.2 (Cont.)

<table>
<thead>
<tr>
<th>Local authority</th>
<th>Operation</th>
<th>Annual savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kent CC</td>
<td>School cleaning</td>
<td>1,100,000</td>
</tr>
<tr>
<td>Kingston BC</td>
<td>Grass cutting</td>
<td>46,000</td>
</tr>
<tr>
<td>Lewes DC</td>
<td>Public convenience cleaning</td>
<td>7,000</td>
</tr>
<tr>
<td>Lothian RC</td>
<td>Car parks leased</td>
<td>220,000</td>
</tr>
<tr>
<td>Maldon BC</td>
<td>Refuse collection</td>
<td>1,180</td>
</tr>
<tr>
<td>Mendip BC</td>
<td>Refuse collection</td>
<td>126,000</td>
</tr>
<tr>
<td>Merton BC</td>
<td>School meals</td>
<td>833,270</td>
</tr>
<tr>
<td></td>
<td>School cleaning</td>
<td>250,000</td>
</tr>
<tr>
<td></td>
<td>Refuse and waste paper collection</td>
<td>750,000</td>
</tr>
<tr>
<td>Milton Keynes BC</td>
<td>Refuse collection</td>
<td>488,000</td>
</tr>
<tr>
<td>North Norfolk DC</td>
<td>Refuse collection</td>
<td>175,000</td>
</tr>
<tr>
<td>Penwith DC</td>
<td>Public convenience cleaning</td>
<td>30,000</td>
</tr>
<tr>
<td>St Albans DC</td>
<td>Public convenience cleaning</td>
<td>20,000</td>
</tr>
<tr>
<td>St Edmundsbury BC</td>
<td>Golf course leased</td>
<td>15,000</td>
</tr>
<tr>
<td>Salisbury DC</td>
<td>Pest control</td>
<td>12,000</td>
</tr>
<tr>
<td></td>
<td>Office cleaning</td>
<td>28,000</td>
</tr>
<tr>
<td>Solihull BC</td>
<td>School cleaning</td>
<td>108,000</td>
</tr>
<tr>
<td>South Bucks DC</td>
<td>Pest control</td>
<td>7,000</td>
</tr>
<tr>
<td></td>
<td>Office cleaning</td>
<td>2,000</td>
</tr>
<tr>
<td>South Kesteven DC</td>
<td>Public convenience and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>street cleaning and refuse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>collection</td>
<td></td>
</tr>
<tr>
<td>South Lakeland DC</td>
<td>Grass cutting</td>
<td>1,500</td>
</tr>
<tr>
<td>South Oxfordshire DC</td>
<td>Refuse collection</td>
<td>200,000</td>
</tr>
<tr>
<td>Southend-on-Sea BC</td>
<td>Street cleaning</td>
<td>600,000</td>
</tr>
<tr>
<td></td>
<td>Refuse collection</td>
<td></td>
</tr>
<tr>
<td>Surrey Heath DC</td>
<td>Street cleaning</td>
<td>12,000</td>
</tr>
<tr>
<td>Sutton BC</td>
<td>Cleaning of libraries</td>
<td>3,500</td>
</tr>
<tr>
<td></td>
<td>Laundry</td>
<td>14,000</td>
</tr>
<tr>
<td>Tamworth DC</td>
<td>Refuse collection</td>
<td>200,000</td>
</tr>
<tr>
<td>Tandridge DC</td>
<td>Refuse collection</td>
<td>160,000</td>
</tr>
<tr>
<td>Taunton Dene BC</td>
<td>Refuse collection</td>
<td>42,700</td>
</tr>
<tr>
<td>Vale of White Horse DC</td>
<td>Street cleaning and refuse</td>
<td>290,000</td>
</tr>
<tr>
<td>Wandsworth BC</td>
<td>Street cleaning</td>
<td>670,000</td>
</tr>
<tr>
<td></td>
<td>Refuse collection</td>
<td>1,130,000</td>
</tr>
<tr>
<td></td>
<td>Garden maintenance</td>
<td>200,000</td>
</tr>
<tr>
<td></td>
<td>Housing repairs</td>
<td>151,000</td>
</tr>
<tr>
<td></td>
<td>Vehicle maintenance</td>
<td>297,800</td>
</tr>
<tr>
<td></td>
<td>Community center cleaning</td>
<td>120,000</td>
</tr>
<tr>
<td>Waverley DC</td>
<td>Golf course leased</td>
<td>2,000</td>
</tr>
<tr>
<td>City of Westminster</td>
<td>Architectural services</td>
<td>235,000</td>
</tr>
<tr>
<td></td>
<td>Street cleaning and refuse</td>
<td>1,400,000</td>
</tr>
<tr>
<td>Wycombe DC</td>
<td>Office cleaning</td>
<td>3,455</td>
</tr>
<tr>
<td>Yeovil</td>
<td>Office cleaning</td>
<td>21,500</td>
</tr>
</tbody>
</table>

* a. Authority unwilling to give figures.
* Note: BC = Borough Council, DC = District Council, CC = County Council, and RC = Regional Council.
There has been much debate on the costs and benefits of contracting out to the private sector versus using government employees. Savas (1982) provides an excellent summary of the arguments for and against contracting out. These are quoted below:

1. Contracting is more efficient because:
   - It harnesses competitive forces and brings the pressure of the marketplace to bear on inefficient producers.
   - It permits better management, free of most of the distractions characteristic of overtly political organizations.
   - The costs and benefits of managerial decisions are felt more directly by the decisionmaker, whose own rewards are directly at stake.
2. Contracting makes it possible for the government to take advantage of specialized skills lacking in its own workforce; it overcomes obsolete salary limitations and antiquated civil service restrictions.
3. Contracting allows flexibility in adjusting the size of a program up or down in response to changing demand and to changing availability of funds.
4. Contracting permits a quicker response to new needs and facilitates experimentation in new programs.
5. Contracting is a way of avoiding large capital outlays; it spreads costs over time at a relatively constant and predictable level.
6. Contracting permits economies of scale regardless of the size of the government entity involved.
7. Contracting a portion of the work offers a yardstick for comparison; the cost of the service is highly visible in the price of the contract, unlike most government services.
8. Contracting can reduce dependence on a single supplier (a government monopoly) and so lessens the vulnerability of the service to strikes, slowdowns, and inept leadership.
9. Contracting limits the size of government, at least in terms of the number of employees.

The advocates of government service, offer the following rejoinders in rebuttal:

1. Contracting is ultimately more expensive because of:
   - Corruption;
   - High profits;
   - The cost of layoffs and unemployment for government workers;
   - The shortage of qualified suppliers and, therefore, the lack of competition;
   - The cost of managing the contract and monitoring contractor performance;
   - The low marginal cost of expanding government service;
   - Cost-plus-fixed-fee provisions in some contracts, which provide no incentive for efficiency; and
   - The absence of effective competition in “follow-on” contracts, which are commonplace.
2. Contracting nullifies the basic principle of merit employment and subverts laws regarding veterans’ preference in government employment; it is demoralizing to employees, deprives government of the skills it needs in-house, and, therefore, debilitates government capabilities.
3. Contracting limits the flexibility of government in responding to emergencies.
4. Contracting depends on adequately written contracts, which are difficult to draw up and as a result there is a loss of government accountability and control.
5. Contracting limits the opportunity to realize economies of scale.
6. Entrusting some services to private organizations might increase their political power to such an extent that there would be a general loss of independence for other private and public entities.
Privatization of State-Owned Enterprises

Over the last six years many developing countries have announced ambitious plans to privatize their state-owned enterprises including some of their urban authorities. For example, the Government of Brazil in 1985 promulgated a program to privatize progressively a total of 120 government enterprises; the Mexican government announced its intentions to privatize a large number of the 1,155 government enterprises which existed at the time of the 1982 debt crisis; Chile has privatized a total of 527 of the 600 enterprises it targeted for privatization; and Bangladesh has privatized 701 public enterprises.

Pfeffermann (1988) reports that significant privatization of state-owned enterprises have now been completed in about 20 developing countries and plans are well underway in another 15 countries. In Latin America, most countries are planning to privatize about 25 percent of their state enterprises while African countries appear ready to sell about 50 percent. The actual level of privatization achieved by these countries, however, has been far less than planned. Pfeffermann indicates that as of January 1988, Latin American countries (excluding Chile) have on average privatized only 17 percent of the public enterprises targeted for privatization. The corresponding number for the African countries (excluding Zaire and the Ivory Coast) is also about 17 percent.

There is evidence that many governments have underestimated the complexity, cost, and time required to implement the privatization of state-owned enterprises. Often substantial costs are involved for financial restructuring, physical rehabilitation of the enterprise's plant and facilities, redundancy and severance payments to employees, restructuring of debts, and the cost of advisory services. In the short term, privatization of public enterprises is often an expensive exercise for governments, especially those that have large budget deficits.

The complexity of privatization is illustrated below by considering the large number of activities and tasks that must be undertaken in implementing a well-organized program of privatization of public authorities. The process can be divided into four phases:

- **Phase 1:** Preparing for privatization
  - Develop and define privatization policy
    - Clarify objectives.
    - Establish task force for preparation of guidelines, strategies, programs, and projects.
  - Assess opportunities, threats, and scope for privatization.
    - Assess political support and limitations.
    - Identify areas of highest potential benefit.
    - Identify major constraints and the political implications.
    - Assess political costs/benefits of alternative privatization strategies.
    - Identify legal barriers.
    - Assess strength/weakness of coalitions.
  - Create private sector interest.
    - Announce privatization policy objective.
    - Educate the public.
    - Consult with private sector associations.
    - Develop an interest program through the chamber of commerce.
  - Develop program guidelines and strategies.
Phase 2: Detail Planning on State-Owned Enterprises Targeted for Privatization

5. Undertake enterprise diagnostic analysis.
   - Review management and operating systems.
   - Perform corporate financial analysis of capital structure and past financial performance.
   - Determine physical condition and value of assets.
   - Review human-resource management system.
   - Identify strengths, weaknesses, opportunities, and threats.
   - Review future market demand situation and competitive environment.
   - Identify any comparative advantage of enterprise.

6. Prepare an audit of legal obligations.
   - Ascertain legal rights of existing creditors, shareholders, and other third parties.
   - Review any outstanding government loan guarantees, mortgages, liens, loan agreements, and provisions prohibiting the sale of assets.
   - Review contracts with employees, superannuation, pensions, and allowances, and commitments to contractors, suppliers, and customers.

7. Examine the need for conversion of the legal form of the enterprise, reviewing the need for legal restructuring.

8. Review the need to modify the regulatory system.
   - Determine new needs for licensing systems.
   - Institute deregulation measures to increase level of competition.

   - Undertake balance sheet restructuring.
   - List assets.
   - Alleviate excessive debt liabilities.
   - Recapitalize.

    - Determine private sector employment opportunities.
    - Redeploy.
    - Institute employee participation in ownership.

11. Determine future ownership options.
    - Evaluate partial versus total privatization.
    - Review scope for commercialization prior to privatization to increase value of entity.
    - Review scope for management contract, leasing, or employee buy-out scheme.
    - Review options with respect to foreign ownership, and joint-venture ownership.

Phase 3: Implementation

12. Undertake any necessary legal requirements for sale of enterprise or shares, franchise agreements, management contracts, change of enterprise form, or ownership, and so forth.

13. Estimate market value of entity or services to be performed.

14. Issue conditions and undertake solicitation for transfer to the private sector.

15. Evaluate proposals against criteria and select successful bidder.

16. Negotiate with bidder and execute legal transfer.

17. Announce transfer arrangements and educate public on implications for consumers.

18. Implement industrial relations employee transfer or redundancy, or early retirement agreements.
Phase 4: Monitoring and Evaluation

19. Refine monitoring and evaluation methodology and develop performance appraisal systems.
20. Establish a database to enable the comparison of the quality and of service provision before and after privatization.
21. Undertake surveys and collection of private and public sector indicator data.
22. Compare performance data against targets, standards, or milestones, and identify shortfall and possible corrective measures.
23. Evaluate effectiveness of privatization program in terms of efficiency and effectiveness as well as the degree to which consumer needs are met.
24. Modify and adjust program and regulations in light of findings of monitoring and evaluation program.

Implementation Issues

The following section discusses some of the major issues and constraints associated with the introduction and implementation of privatization programs in developing countries.

Legal Issues

Privatization proposals often involve a whole host of complex legal issues that require careful assessment and planning before any decisions on privatization are finalized. Laws and regulations may require amendments through parliament. Redrafting of laws is a complicated and time-consuming exercise. Many government authorities function under their own specific legislation, and revision to such legislation may be necessary to implement a privatization proposal. Further, government employees who are likely to become redundant by the transfer of activities to the private sector may have their employment rights and benefits protected by an employment contract, such as an employment act and a pensions act. The national constitution may also contain articles which protect the existing pension rights of employees and other employment rights with regard to redundancy notice and payments.

Industrial Relations Issues

The privatization of government functions and the resulting contracting of public employment is usually strongly resisted by trade unions whose members' welfare may be adversely affected. The transfer of government employees to the private sector is a complex process. Private sector employment conditions may not be as favorable as those provided by the government. Private firms may expect their staff to perform at a higher level of productivity and may not tolerate some of the restrictive work practices which are common in public services. The private sector firms may not wish to absorb the public servants that become redundant once the privatization takes place. They may instead prefer to recruit extra staff with private sector work experience. Many privatization schemes have attempted to include provisions which aim to protect the welfare of employees by ensuring they do not lose any of the benefits they received in government employment with their transfer of ownership from the public agency to the private sector. These provisions, however, often place difficult constraints on the new private owners who may wish to reduce the size of the enterprise workforce, implement new work arrangements, and introduce new management systems.

Retrenchment of public servants affected by privatization may necessitate specific compensatory measures that may involve considerable costs to the government. Such measures include:

- Severance-pay packages;
- Bonuses for employees who voluntarily elect to resign;
Redeployment

Government authorities which put out to contract a large amount of their own work often attempt to redeploy surplus staff rather than make them redundant. The surplus staff members often require retraining before they are able to be integrated successfully into other sections of the organization. The redeployment of surplus staff, however, may defeat one of the primary purposes of the privatization which is often to gain overall expenditure reduction through labor cost savings. The cost savings may occur only if the redundant staff are dismissed or transferred to the private contractor's payroll.

Organizational Change

Privatization may lead to a rapid reduction in the workforce of the participating government authority. The entire organizational structure of the streamlined authority may need to be reorganized as a result of shedding part of its workload to the private sector. Most organizations strongly resist such changes. The introduction of organizational change requires skilled planning, and consultation and negotiation with all staff affected to gain their support. The morale of staff can easily be adversely affected if staff feel threatened by proposed changes, and diminished commitment and lower productivity may result. Staff are more likely to be committed to the proposed changes if they are directly involved in the decisionmaking process and the reorganization planning.

Supply of Finance and Ineffective Capital Markets

Many developing countries do not have well-developed capital markets. This makes the sale of shares on the national stock markets difficult because of lack of acceptable buyers in the market. Capital market constraints have hindered privatization in Argentina, Ghana, Malaysia, and Sri Lanka. On the other hand, privatization could lead to opportunities for the development or improvement of capital markets, by attracting new share buyers into the stock market in response to a widely advertised sale of shares in government enterprises.

Some privatization proposals involve the sale of very large organizations such as government airlines, railways, telecommunications systems, container terminals, or television channels, which require a large amount of finance. The lack of readily available sources of finance from the local capital market can impose a constraint on the pace of a privatization program. New approaches are needed to mobilize the savings of small investors and thus to widen the ownership base of these assets. Where the local capital markets are unable to supply the level of equity capital needed, there may be a case for allowing foreign capital to participate. This may also be coupled with an injection of new foreign technology and high-level management expertise.

Costs Associated with Privatization

The arguments put forward in favor of privatization often emphasize the substantial cost savings to the government budget that will result from privatization. When countries begin
the actual implementation of privatization programs, however, they soon realize that in the short term often extra funds are needed to prepare state-owned enterprises for privatization. In many cases, governments have been forced to absorb the outstanding liabilities of loss-making public enterprises. Other costs involved in preparing government agencies for privatization include the cost of studies and consulting advisory services, cost of the physical rehabilitation of enterprise buildings and equipment (to bring them up to acceptable standards), the costs of special redundancy and severance payments (to compensate employees), the costs associated with various forms of financial restructuring, (writing off bad debts) or the legal conversion of the enterprise into a limited company.

**Problems of Contract Administration and Cost Control**

Government authorities which privatize through contracting out their work often need to establish entirely new systems for contract administration, monitoring of contractor performance, selection of contractors, and the evaluation of tenders, and so forth. The ongoing costs of contract supervision and monitoring can be substantial and need to be fully accounted for when analyzing the alternative modes of privatization versus direct provision of services by government. The cost involved in survey, investigation and design work, estimates of quantities, specification of precise requirements, and so forth, which are needed for the preparation of many contracts, should not be underestimated. The fast-track method of construction of projects further complicates contract administration and, if not carefully controlled, can lead to substantial cost overruns on contracted work.

**Need for Professional Expertise**

Planning for privatization often requires a wide range of professional expertise from lawyers, financial experts and merchant bankers, technical specialists, and corporate planners. Government authorities may not have in house the full range of experienced experts to evaluate privatization schemes and prepare implementation plans. Consultants with the required skills may need to be appointed and the early involvement of merchant bankers is important to ensure the adoption of a professional approach to the raising of capital.

**Case Study: The Tan City Council**

The aim of this case study is to stimulate discussion and debate on the potential role of the private sector and community groups in the provision of urban services. You will develop a list of key issues which should be taken into account when local governments are considering the potential for greater involvement of the private sector, NGOs, or community groups. Tan City, like Dagpur, is a hypothetical city.
Exercise 4.1 Preparing to Analyze the Tan Case Study

You will be divided into five teams. Each team is asked to read and discuss the following description of a municipal council which faces a range of financial problems.

Each team will be assigned the role of one of the following community groups:

- The local private sector entrepreneurs and business community;
- The newly elected council members, who are committed to implementing a privatization strategy;
- The municipal employees concerned about employment security;
- Local residents who live in established areas adequately served with basic infrastructure; and
- Residents of peripheral rural settlements who are very poorly serviced by the municipality (this group lacks adequate water supply, sewerage, health service, transportation, and so forth.)

Each group is asked to examine the problems of the municipal government and to discuss the potential for greater private sector involvement in the provision of both urban infrastructure and services.

Each group is also asked to assess the situation from the viewpoint of the community group they have been selected to represent in this role-playing activity and to prepare a list of key issues and problems that need to be taken into consideration when assessing the benefits and costs of transferring a local government service or activity to the private sector or to a community group.

Each group will be asked, toward the end of the session, to give a short five-minute oral summary report on their perspective of the key issues and problems.

Privatization for Tan City?

At a recent council election, a residents' action group swept into office winning a substantial majority of the seats on the council. This group had campaigned strongly on a policy of privatization and promised to improve significantly the efficiency of urban services, to reduce waste and improve labor productivity, and to slow down the rate of growth of local government taxes, rates, and charges. The new mayor is strongly committed to substantially increasing the role of the private sector, non-government organizations, and community groups in the provision of local urban services.

The Mayor, supported by the council, is considering contracting out many services (currently provided by its employees) to local private firms. The mayor also plans to use grants to mobilize community groups to take over some local activities and to encourage resident groups to develop self-service measures for the provision of some services.

The municipality currently has a permanent staff of 2,500 employees and is responsible for the following functions and services:

- Roads—provision of local roads, road maintenance, repair, resurfacing, widening;
- Street lighting and cleaning;
- Footpaths;
- Drainage and road gutters;
- Water and sewerage;
- Public health;
- Refuse collection and disposal, land-fill garbage disposal site;
- Playing fields and recreation facilities;
- Car parking facilities and regulation;
- Land-use planning, and regulation;
- Parks and maintenance of public open spaces;
- Land development;
- Libraries;
Financial Situation

The financial situation of the municipality has deteriorated over the last three years. The state government has reduced its grant to the municipality by 5 percent in real terms each year for the past three years.

The rapid growth of population from the influx of new residents has led to a backlog in the provision of infrastructure, such as piped water supply, sewerage, and local roads. The growth in demand for urban services has exceeded the municipality's capacity to meet these demands.

Over the past three years, recurrent revenues have grown at an annual rate of 12 percent while the growth of recurrent expenditures has averaged 20 percent per year. The normal surplus available for capital development has now been reduced to zero. Thus, over the last two years all funds for capital infrastructure development have been borrowed at market interest rates.

Revenue performance has been adversely affected by a severe staff shortage of land assessors and the disorganized state of the land register. Most residential and commercial properties have not been revalued for rating purposes for five years and are now considerably undervalued. There is much resistance from residents to any increase in user charges and, as a result of the political situation, the municipal government has not increased water rates for five years. Sewerage rates also have not been increased for three years.

A Short History of City of Tan

Tan City is a major regional city with a population of 100,000. The region surrounding the city is well endowed with natural resources and is being rapidly developed by the government for both plantation and small-holder farming for the production of export commodities. The city is located on a fertile coastal plain on land around a natural harbor. It is a major railway terminal and its port facilities handle about 20 percent of external trade made up mainly of timber, fish, tropical fruits, pottery, and building materials.

The city is also a major center for agroprocessing, and a new tuna-fish cannery has recently been established. It is a center for tropical food processing of pineapple and other fruits and has a number of large furniture factories, timber mills, building materials manufacturers, and brickworks. The commercial area of the city provides bank, financial, insurance, and retail services to the city and the rural dwellers within a 50-kilometer radius.

The rapid growth in agroprocessing factories has attracted a large influx of itinerant workers seeking employment in the new canneries. As a result, the city's population growth has averaged 6 percent per year over the past five years, and this rate of growth is expected to continue due to the further rapid agricultural development of the region which the city serves. The Development Bank is funding a major new settlement for small-holder farmers who will produce tropical fruits for the city's canneries. The forestry industry is also likely to grow rapidly following the completion of a new $50 million veneer mill nearby. (There is a minor problem here, because there is a challenge to the high costs of the mill by the local Greenpeace movement.)

Major Tan City Municipal Services

The following paragraphs briefly describe the services provided by the municipality of Tan city and its subsidiaries.
WATER SUPPLY AND SANITATION. Water supplies and sewerage are the responsibility of the Tan City Water and Sewerage Board which is a subsidiary of the municipal government.

Piped water is currently supplied to only 80 percent of households. About 60 percent of the city is connected to the sewerage system. Water and sewerage rates cover only 50 percent of the annual recurrent operating costs; the balance is covered by a grant to the board by the municipality. The board has very limited funds to extend the water supply network although it does have an ample supply of water in its reservoirs.

Water trucks and carts supply water to the 40 percent of the outlying households without piped water. The municipality operates a fleet of 20 water trucks, and a small number of private water carriers also sell water to residents in these housing areas. The municipal water trucks show a 20 percent loss on this activity.

ROADS. The municipality is responsible for the provision and maintenance of all local roads. The roads are generally in poor condition. Many that have been allowed to deteriorate now require resurfacing and widening. This task will require the municipality to invest in $5 million of new equipment as well as recruiting extra engineering staff.

BUS SERVICES. The municipality operates a fleet of 50 buses providing services on main fixed routes. Most of the buses are old and require replacement. Bus fares only just cover operating costs but have not provided a return on capital investment or an allowance for depreciation—and thus have not generated funds for new replacement buses. There have been frequent complaints about their irregularity and inefficiency of the bus services. Private minibus services have been growing rapidly to meet the needs of the new, outlying areas.

SOLID-WASTE DISPOSAL. The municipality provides solid-waste collection and disposal services to most urban areas twice a week. It operates a fleet of 20 collection trucks which are in a poor state of repair and suffer frequent breakdowns. The peripheral settlements are not effectively served because the roads are too narrow and preclude the use of hopper trucks. The municipality collects rubbish from central points on the edge of these settlements, but the system is totally unsatisfactory and is a major health hazard.

OTHER SERVICES. Most other services are experiencing difficulty in meeting the needs of the rapidly growing population.

A privatization proposal generates different impacts on the affected constituencies. In carrying out the impact analysis, it is important to systematically list all the potential costs and benefits to each affected group. Table 4.3 illustrates an example of costs and benefits that a privatization initiative can generate. Table 4.4 shows an example of a list of objectives that would be assessed for three types of privatization options.
Exercise 4.2 Identifying Local Government Activities Which Could Be Transferred to the Private Sector, NGOs, or Community Groups

**Objective of this Exercise.** Each team will review the main activities of its local authorities, and identify activities/functions and services which could possibly be transferred to NGOs community groups, or private firms, and are likely to lead to an overall gain in the welfare of the community through increased efficiency, reduced costs, and so forth.

**Tasks.** Each team will complete these steps:

**Step 1.** Classify the Services. Select a representative local authority and draw up a list of the main categories of public services and goods it provides.

**Step 2.** Summarize the nature of each service and its financial features in terms of relative size of capital and operating expenditures, and size and type of human resources involved in providing the service to the consumers.

**Step 3.** Evaluate the suitability/practicality of transferring each main local government activity to the private sector; apply the checklist of issues and problems your team developed earlier to each of the main local government services you have identified.

**Step 4.** Select a short list of possible local government activities which could be considered for privatization; rank the activities in order of the likelihood that privatization will result in the greatest cost savings or improvements in the quality of service.

**Exercise Output.** Compile a priority list of local government functions or activities which could be transferred to the private sector and would result in an overall net benefit to the community (identifying areas where potential consumer benefits are likely to be greatest).

Each group will be asked, toward the end of the session, to give a short 5-minute oral summary report on their perspective of the key issues and problems.
Table 4.3 Cost Benefit Analysis of Privatization Proposal—Analysis of Winners and Losers

<table>
<thead>
<tr>
<th>Groups affected</th>
<th>Objectives of each group</th>
<th>Impacts of Privatization Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential customers</td>
<td>• Quality services which meet needs</td>
<td>• Cost reduction after privatization</td>
</tr>
<tr>
<td>Receivers of goods and services (Target group)</td>
<td>• Reliable service</td>
<td>• Service better meets individual needs</td>
</tr>
<tr>
<td></td>
<td>• Convenient payment system</td>
<td>• Greater reliability of service</td>
</tr>
<tr>
<td></td>
<td>• Minimum cost to consumers</td>
<td></td>
</tr>
<tr>
<td>Taxpayers in general</td>
<td>• Minimize taxes</td>
<td>• Reduced need for</td>
</tr>
<tr>
<td></td>
<td>• Receive quality public services at minimum cost</td>
<td>• Services more cost-effective</td>
</tr>
<tr>
<td>Local government employees made redundant by proposal</td>
<td>• Maintain employment, salary and other benefits at present level or higher</td>
<td>• Reduction in salaries</td>
</tr>
<tr>
<td></td>
<td>• Job satisfaction</td>
<td>• Reduced employment benefits</td>
</tr>
<tr>
<td></td>
<td>• Promotion prospects</td>
<td>• Higher labour productivity required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reduced workforce</td>
</tr>
<tr>
<td>Senior public service managers</td>
<td>• Higher salaries employment security</td>
<td>• Reduced overload</td>
</tr>
<tr>
<td></td>
<td>• Promotion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Job satisfaction</td>
<td></td>
</tr>
<tr>
<td>Elected local member politicians</td>
<td>• Win votes at next election</td>
<td>• Increased popularity with voters</td>
</tr>
<tr>
<td></td>
<td>• Stay in power</td>
<td>• Gain support from business sector from firms who receive contracts</td>
</tr>
<tr>
<td></td>
<td>• Provide service to electorate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Gain personal advantages</td>
<td></td>
</tr>
<tr>
<td>Private firms (who gain contracts)</td>
<td>• Maximize profits</td>
<td>• Increase popularity</td>
</tr>
<tr>
<td>privatize government functions (owners/shareholders)</td>
<td>• Maximize growth rate</td>
<td>• Gain new business opportunities to make profit</td>
</tr>
</tbody>
</table>
Table 4.4 Privatization: Impact Analysis

<table>
<thead>
<tr>
<th></th>
<th>Level of Goal Achievement</th>
<th>Privatization options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government objectives,</td>
<td></td>
<td>Contracting service</td>
</tr>
<tr>
<td>goals</td>
<td></td>
<td>to firms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide grants to NGOs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Issue vouchers to citizens</td>
</tr>
<tr>
<td>1. Consumer objectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Cost effectiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Government objectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Administrative effort, practicality from administrative viewpoint</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Ease of control, monitoring, supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Cost of administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Impact on industrial relations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) Impact on government employee welfare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) Suitability for cost recovery, user charges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(g) Political acceptability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Exercise 4.3 Developing Innovative Approaches to Urban Service Provision through Mobilizing Community Groups

Many urban local governments in less developed countries are faced with an extremely difficult situation. Urban populations are growing rapidly and accelerating the demand for local government services which are already severely overstrained in most cities. Demographic projections indicate a dramatic shift in the concentration of poverty from rural to urban areas with a continued high level of migration from rural areas to urban squatter settlements. Urban local governments need to develop innovative new programs to reduce urban service deficiencies. One alternative is to mobilize the labor services of community neighborhood groups and to assist them to undertake neighborhood improvement programs, construction of housing, and so forth, on a self-help basis with local government support.

Objectives of the Exercise. This exercise aims to draw on the experiences of course participants using a brainstorming approach to help in the identification, formulation, and design of innovative policy measures and programs which could be implemented by local governments to assist community and neighborhood groups improve their urban living conditions, housing situation, and basic needs for water and sewerage facilities and other urban services.

Tasks. Each team will complete these steps:

Step 1. Using a brainstorming approach, identify urban services, functions, and activities which are currently being undertaken or could possibly be undertaken by neighborhood community groups, such as:

- Neighborhood improvement programs;
- Care and maintenance of public open space, recreation areas, footpaths, school buildings, community halls, area clean-up of litter;
- Cleaning of roadside drains, mowing of curbside grass;
- Neighborhood security patrols;
- Neighborhood garbage collection and disposals, recycling of material;
- Construction of neighborhood facilities such as water systems, training facilities, neighborhood, footpaths, playing courts; and
- Street cleaning and minor road maintenance.

Step 2. List some functions which are normally considered to be the responsibility of local government but which could efficiently and effectively be undertaken by community groups.

Step 3. Identify ways in which local governments could help community neighborhood groups develop self-help programs and operate them effectively. Local government may need to provide support to community groups in the form of grants, clarification of land tenure, leasing of equipment, low-cost loans, provision of building materials, assistance with the design and planning of self-help community projects, provision of technical assistance, and supervision. Often community groups are able to mobilize the free labor services of their members to undertake construction and maintenance work, but lack equipment and supplies, and need technical design assistance.

Step 4. Select one particular urban function which could be undertaken by a community neighborhood group and outline a system which could be implemented by local government to initiate, guide, assist, and monitor such a program. For example, local government could initiate a low-cost housing program through a community neighborhood group approach. Local government might initiate a low-cost housing sites and services project and help a neighborhood group pool labor resources to build basic core houses using local materials. The project can be expanded and improved slowly as the income of the residents increases over time.

Each group will be asked, toward the end of the session to give a short five-minute oral summary report on their perspective of the key issues and problems.
Tan City Garbage Disposal Services

For a number of years, the municipality of Tan City has been faced with a problem with regard to its residential refuse-collection service. Presently, all household solid-waste refuse is collected by municipal workers operating municipal trucks and taken to one central garbage dump (owned and operated by the municipality) where the rubbish is compacted and covered with soil. The municipality provides two collection services per week to each residential household which is allowed to put out one 25-liter bin per collection day.

The refuse collection service is carried out in two shifts per day. The first shift is from 6:00 a.m. to 2:00 p.m. and the second is from 2:00 p.m. to 8:00 p.m.

The municipality operates 20 compactor system trucks with rear-end loading facilities. Each truck is staffed by a driver and six runners who pick up bins and empty them into the rear of the vehicle’s compactor system. The same set of vehicles is used for the morning and afternoon shifts.

The service employs 45 drivers, (20 for the morning shift, 20 for the afternoon shift, and 5 to replace drivers on sick leave or holiday leave), and 260 garbage runners/collectors, (120 per shift plus 20 reserves for replacement of workers on leave).

The Problem. The municipality has experienced a range of problems in providing its garbage service:

- The vehicle fleet is old and frequent breakdowns cause total disruption to the scheduled services. The average age of the trucks is eight years.
- Spare parts for the trucks are becoming more difficult to get quickly from the manufacturers’ local agents and often take seven working days to arrive at the repair and maintenance depot. The municipality stocks only a limited range of spare parts in its own store.
- The new replacement cost of the trucks is US$100,000 each, and the municipality has no depreciation reserves to purchase new vehicles. It is experiencing increasing annual deficits and its borrowing capacity is limited, due to its already high-debt service ratio caused by heavy borrowing for capital developments over the last four years.
- There is a problem with the labor productivity of its refuse collection workers. Sick leave and absenteeism is high. Further, the number of bins collected per worker seems to be well below the average of some other provincial cities that have introduced private contractors.
- The municipality has attempted to reduce the manning levels of the trucks from a driver plus six runners to a driver plus four runners. This resulted in a strike which lasted for ten days before the municipality backed down and agreed to maintain six collectors for each vehicle.
- There is a constant stream of complaints from local taxpayers regarding the irregularity of the service, spillage of garbage, and failure to collect garbage. The taxpayers have filed a petition to the municipality requesting that the service be privatized.

Analysis of Options. The elected members of the council have decided that the municipality’s senior staff should evaluate thoroughly all the options and present the elected members with an implementation plan for improving the service. The options to be considered are as follows:

- Continue with municipal collection with the purchase of new vehicles and improved management.
- Contract out collection to a private firm using a competitive tendering process.
• Divide the municipality into four collection zones of about 25,000 residents each, and contract out the work to four separate contractors using a competitive tendering system.

• Maintain collection services for half the municipality and the other half to be contracted out to private firms on the basis of a competitive tendering system.

• A franchise option: award a territorial exclusive privilege to a private firm for each of the four collection zones (25,000 residents each); contractors compete for zones based on the lowest household collection charge; the winning contractor services all households and bills them directly for the services provided; (present rates would be reduced by the equivalent amount).

• Move to a free market system where individual households choose one of several private garbage collection firms and pay them directly for collection services; (present rates to be reduced by an amount equal to the current average council refuse collection cost per household).

• Encourage homeowners’ associations and neighborhood resident groups to make their own arrangements for refuse collection by hiring private firms to provide refuse collection services to members and pay for them by levying a charge on their members (present rates to be reduced or a grant given to the residents’ association to assist with garbage collections).

• Self-service option: open three new dump sites to make a total of four, one located in each zone of 25,000 residents; residents will then be encouraged to dispose of their own garbage at the dump or to hire a private collection firm.

Exercise 4.4 Privatizing Garbage Disposal Services

Each team is required to select two of the options and to undertake the following tasks:

• Identify all the factors which should be considered when comparing the options and draw up a list of criteria by which to assess the merits of the alternative options;

• Prepare an evaluation of the likely costs and benefits (disadvantages and advantages) of the options from the viewpoint of the residents; and

• Prepare an implementation plan for the two options you have selected for analysis.

Each group will be asked, toward the end of the session, to give a short five-minute oral summary report on their perspective of the key issues and problems.

Case Study: Private Participation in Public Services and Functions—Solid-Waste Disposal in Penang, Malaysia

This section discusses the actual case of solid-waste disposal services in the state of Penang in Malaysia and describes the experiences of the Municipal Council of Penang Island in using the private sector to collect and haul the refuse to the disposal site. Comparisons are made of the systems used and their effectiveness and problems faced.

Penang is one of the 13 states of Malaysia. Situated on the northwestern part of the peninsula, the state is divided into two parts, the Island of Penang and Seberang Prai on the mainland. Penang Island is about 5.5 degrees north of the equator and hence has a tropical climate, with an annual rainfall of 229 centimeters and an average atmospheric temperature of 27°C Celsius. The austral summer months of December to March are usually the driest and hottest. Penang Island has an area of about 281 square kilometers with a population of about 500,000 people. About half the people live in the city of Georgetown which has an area of
about 23.5 square kilometers. The center of the island is hilly, with hills running roughly from north to south.

Penang Island previously had two local councils: the City Council of Georgetown and the Rural District Council. These two councils were responsible for providing various types of services, including solid-waste disposal services, to the city of Georgetown and the areas outside the city, respectively. They integrated on July 1, 1974 and became known as the Board of Management of Local Government. On December 15, 1976, this became the Municipal Council of Penang Island.

The Municipal Council of Penang Island is headed by a president and 24 councilors. There are ten departments in the council of which Health and Engineering are two.

Refuse or solid-waste disposal services are considered to be essential services to maintain a clean and healthy environment. The Municipal Council of Penang Island is the authority responsible for providing such services.

The objectives of the case study of Penang are as follows:

- To study the experience in Penang Island.
- To see the role which the private sector can play in the provision of solid-waste disposal services.
- To find ways of providing for an increasing demand of urban services without increasing the municipal staff.

**Solid-Waste Collection in Penang**

The Local Government Act 1976 names the municipal council as the authority responsible for the provision of refuse disposal services. Prior to the integration of the two local councils (July 1, 1974), the Health Departments of the two councils were responsible for the collection and disposal of refuse and solid wastes throughout Penang Island. After the two councils joined, the collection and disposal of solid wastes became the responsibility of the integrated council's Health Department.

Daily records indicate that the amount of refuse and solid wastes generated per day is about 350-370 tons. This figure reaches 400-420 tons per day during the annual fruit season (mid-May to end of July) and the various festival seasons, especially during the period prior to Chinese New Year.

In the latter part of the 1970s, the amount of refuse collected by the council was about 210 tons per day. The council was faced with a shortage of scavenging vehicles to provide for the satisfactory collection of refuse. It was imperative that the refuse be collected daily because of the high organic content (about 39.8 percent) and the warm, humid tropical climate. Decomposition of organic wastes happens quickly, and if the refuse was not collected daily, residents were faced with not only a nuisance but also a health hazard. Hence, the council was forced to collect the solid-waste daily in two shifts. The first shift was from 6:00 a.m. to 2:00 p.m. when the refuse from the city of Georgetown was collected, and the second shift was from 2:00 p.m. to 8:00 p.m. when the refuse from the areas outside of the city was collected. The same set of vehicles used in the morning was also used in the afternoon. This meant that the trucks ran for about 14 hours a day, resulting in little or no maintenance. There was a high rate of vehicle breakdown, and a growing protest from the labor force.

The council was providing the double-handling system of refuse collection. The refuse was collected by the council's laborers and kept in public bins placed at strategic points for the scavenging vehicles to collect later. Due to the high breakdown rate of the vehicles, there were occasions when the refuse could not be collected for 2 or 3 days, resulting in the overflow of the refuse which would then be left lying on the streets around the bins, causing a stench and attracting flies, rodents, and stray dogs. The council's refuse collection services became unsatisfactory. At the same time, the refuse from the factories in the free trade zone was being collected by the private sector.
Examining the Advantages of Privatization

In 1979, the council was faced with increasing difficulties in the provision of a satisfactory refuse collection service, mainly due to the shortage of scavenging trucks. The council had only 41 such vehicles, made up of side-loaders and rear-compaction vehicles. To provide a satisfactory service, 57 vehicles were required. At that time, council was removing about 200–220 tons of refuse each day.

To have the required number of vehicles to provide a more satisfactory service, the council had to purchase 16 additional scavenging trucks. The council then decided to use the private sector to provide for the storage and haulage of refuse to the final disposal site. Doing this, would have the following advantages:

- Easing the shortage of vehicles;
- Being able to go back to a single shift system of refuse clearance, that is, the refuse for the whole island would be collected in the morning only;
- Providing previously unserviced areas with refuse collection;
- Alleviating the need to provide the large refuse containers since these would be provided by the contractor.

At that time (in 1979), to the best of the council’s knowledge, there was only one company in the country which had the expertise to provide such a service. The council sent its officers to Kuala Lumpur to study the system, because at that time, that company was providing some service in that region. After the study was completed, the council negotiated with the prospective contractor.

The council compared the contractor’s price with its own costs. It cost the council $2.14 to haul 1 cubic yard of refuse and the contractor was proposing to charge council $2.50 per cubic yard. The council, however, would not have the expense of providing the bins because they would be supplied by the contractor.

It would be of utmost importance to have a weighbridge, because the amount of refuse by weight is a very essential piece of information in order to calculate the cost of providing such a service and the number of vehicles required.

Form of Privatization Adopted

Privatization can take a number of forms. The selection of the appropriate organizational form of privatization will depend on the nature of the activities to be privatized as well as factors which are of special significance to the activities concerned.

In the case of Penang Island, privatization took the form of private sector involvement in the provision of the storage and haulage of refuse to the final disposal site. There was no change in the organizational set up of the department responsible for the services. This form of privatization essentially shifts the responsibility of providing this part of the service to a private company by means of a contract, but the local government still pays for the service.

The First Contract

The first contract was awarded to a company to provide for the storage and haulage of refuse to the dump site from May 1, 1979, to December 31, 1981, a period of about two and a half years. The company was paid a sum of $2.50 per cubic yard or $25.00 per ton of refuse. The amount of refuse contracted out was about 120 tons daily and the part of the island contracted out was in the city of Georgetown. The contract was in no way issued to remove the council’s own service, but instead to supplement it in the section where the collection problems were the most difficult. With the contract issued, it became possible for council to provide for refuse collection services in the morning only, and hence do away with payment of overtime wages to its workers. The council’s fleet of vehicles could then be better maintained and serviced.
The contractor used compaction vehicles with front loading, each with a capacity of 25 cubic yards. These vehicles were used to empty refuse from 4-cubic-yard rectangular bins placed at strategic sites approved by council. The bins were filled with refuse by the council’s own workers, but the contractor had to provide the bins.

The take-over of the haulage of refuse by the contractor in the assigned city areas was gradual, over a period of about 10 months.

SERVICES OFFERED BY THE CONTRACTOR. Initially, the services provided by the contractor were satisfactory. The refuse was collected daily, including Sundays and public holidays.

Regrettably, the satisfactory services provided by the contractor were short-lived. The trucks broke down frequently, and often, the citizens had to contend with the nuisance of no collection. The refuse collected from the houses by the council’s laborers had to be heaped on the road carriageway as the refuse bins were full.

SHORTCOMINGS IN THE CONTRACT SYSTEM. The storage and haulage contract system gave rise to the following problems:

- Traffic obstruction caused by the large 4-cubic-yard rectangular refuse bins which had to be placed on sides of the carriageways, pavements, and so forth, to provide easy vehicular access;
- Damage to carriageways, pavements, and so forth, at bin sites caused by the weight of the loaded bins and the trucks;
- Littering that occurred frequently during the process of emptying the refuse from the bins into the trucks;
- Visual pollution, smells, and fly nuisances from the refuse and bins;
- Difficulty in locating suitable sites for the bins, especially in the urban areas, due to the close proximity of the houses;
- Clearance of refuse at odd hours of the night because of the disruption of normal services due to the frequent breakdown of the trucks;
- Necessity for the council to provide a back-up service when the contractor failed; only the refuse left on the road, outside of the bins, could be cleared because the operational system of emptying the bins was different; the council did not have the same mechanism as the contractor to lift and empty the 4-cubic-yard rectangular bins.

EXPIRATION OF THE CONTRACT. The first contract, which started on May 1, 1979, expired on December 31, 1981. After lengthy deliberations as to whether council should provide the refuse disposal services entirely on its own or proceed with another contract, it was decided that council was in no way physically and financially able to provide service on its own. There was no alternative but to recontract the service to the same contractor; other contractors required six month’s notice to put such a service in effect.

The renewed contract which was for a three-year period and an option to renew for another two years had several variations in the agreement. Among some of the variations were:

- The mode of payment under the renewed contract was based on the number of bins served; the contractor insisted on this system to ensure a guaranteed amount of refuse to enable them to meet their fixed operational costs; the minimum number of bins stipulated was 300 and the rate of payment was $15.60 per 4-cubic-yard bin; for bins in excess of 300, the charge for clearance was $14.00 per bin cleared;
- A new feature in the renewed contract was the introduction of “load lugger” vehicles in addition to the existing fleet of 25 cubic yard front-end loaders; this would permit the introduction of 16-cubic-yard skip-lift bins which could be placed in areas where there was a high generation of refuse, like at large markets; the load luggers had the advantage of easy maneuverability; the cost of clearing one skip-lift bin was set at $62.40.
New Problems. In spite of the introduction of the skip-lift system and renewal of the existing fleet of front-end loaders, problems still arose. One major issue was the continuous dispute over payment because there was difficulty in verifying whether refuse from the bins had been removed. The contractor would claim that the refuse had been removed and the council's officers had to go around verifying this. Vehicular breakdown continued and refuse remained uncollected.

An Ad Hoc Committee Recommends New Contractor

With the deterioration in the services by the contractor, the council set up an ad hoc committee to monitor the performance of the contractor and to study in detail the provision of a satisfactory solid-waste management service. One of the actions taken by the committee, as a short-term measure, was to reduce the workload on the contractor. The council took back certain areas from the contractor so that only a minimal manageable number of bins was given to the contractor.

Even with the reduction in the number of bins, the contractor still could not provide satisfactory service. Because of the persistent problems, the ad hoc committee and the council decided that the whole system of refuse collection and disposal should be reviewed. The Committee also decided that to break the monopolistic system, in which the contractor could "dictate" terms to the council, more than one contractor would be asked to provide the services, each with a smaller service area.

The council worked out the areas to be privatized and invited contractors to send in their applications. Among the things worked out were the number of houses in the sectors, the estimated daily amount of refuse by weight, the type and number of scavenging vehicles required (including standby vehicles), the number of workers per vehicle, and the payment rate. The council had to keep in mind that any costs worked out had to be fair so that the contractors would not suffer a loss or else the service would suffer. The type of service required was curbside collection or single handling, and the contractors were responsible for the collection of the refuse from the individual household until its final disposal at the council's dumping ground. In selecting the contractors, special emphasis was given to the company's financial position, management, workshop facilities, types of vehicles to be used, and experience in the field of refuse disposal services. The types of vehicles used had to be similar to those of the council so that if any back-up service was required, the Council would have the same type of mechanism to handle those bins. Payment was based on the weight of refuse collected.

Initially, the council gave three sectors to three separate contractors and their services began in January 1985. The contracts were for a three-year period each, with an option for renewal for another two years.

Ramifications: Redundancy of Staff, Capital Equipment, Nepotism, Corruption and Public Response

The cleansing section of the council's Health Department provides services of refuse disposal, street and drain cleaning, beach cleaning, and nightsoil disposal. At the time of the initiation of the new refuse-collection system, the council had many vacant posts as a result of the economic situation. The employees, who had been taken out from the scavenging section as a result of the privatization, were deployed to fill the vacancies in those areas. As new areas are developed, the council has to provide them with cleansing services. Some of the employees are then posted to such areas. Therefore, no actual redundancy of staff occurred.

The council still keeps its capital equipment and provides about 10 percent of the scavenging services. It is also able to provide services to remote areas which had not been previously served.
There is strict control to ensure that there is no favoritism and no corruption. Officers at the different levels and categories are involved in this control. Further, the ad hoc committee on solid-waste disposal meets regularly to discuss any possible problems with favoritism or corruption.

The public is quite satisfied with the services provided by the private contractors. They do not mind who collects the refuse, whether it is government employees, or private contractors: satisfactory and trustworthy service is their chief concern.

**Services Offered by the Private Sector**

**Services Offered by the New Contractors.** The services offered by the new contractors have been found to be satisfactory. This was partly due to curbside system collection. Because of the nature of the island, however, certain areas which have not been properly planned have no adequate access. The contractors' workers are then forced to use other means of collecting the refuse. They use either handcarts or large rattan baskets to collect the refuse and carry it to the trucks. In certain areas such as markets, large bins still have to be placed at strategic points for the workers to fill. Multi-lift bins with a capacity of holding two and a half tons of refuse are used. Cylindrical or bulk bins with capacities of about 34 cubic feet are used in places, such as hotels and shopping complexes, which earlier had multi-lift bins. Hence, the system is not purely a curbside system, but a hybrid system.

**Effects of the New System.** The new system works well, and there are fewer nuisances. Since the contractors are paid by the weight of refuse collected, they try to collect as much as possible within their own sectors. Hence, the council has to stipulate the type of refuse which the contractors are not allowed to collect unless they have written permission from authorized council officers.

**Major Issues and Problems Arising**

While the new services provided are more satisfactory, they are not without problems. The council has discovered the contractors:

- Attempting to cheat by collecting items which they are not supposed to collect unless they have special written permission or by adding water to the refuse in the trucks to increase their weight. Cheating is the main shortcoming of the new system. As a result, the supervisory officers of the council have to keep a very close check on the workers and their work performances.
- Collecting the refuse in baskets from areas with proper vehicular access before the arrival of the scavenging trucks; these baskets of refuse are dragged along the road and left by the side waiting for the truck to arrive, hence causing a nuisance.
- Not keeping within the stipulated times for collection, that is, 6:30 a.m. to 2:30 p.m.

**Monitoring and Enforcement—Ways, Approaches, and Measurement.** Each successful contractor has to sign an agreement stipulating all the terms and conditions of service. To ensure that the contractors do not have things “hidden” in the truck, the trucks have to be weighed empty each morning. That weight is taken as the weight of the empty truck for that day. When a truck laden with refuse is weighed before it proceeds to the dumping ground and is found to be heavier than it normally would be, had it carried the usual refuse, an order is given to the overseer at the dumping ground to check all the refuse carried by that truck. This is to ensure that large quantities of sand, earth, and stones are not purposely carried to increase the weight. A truck that is weighed is not allowed to have any worker on it, except for the driver. Any truck with water dripping from the refuse compartment during a dry day is also required to drain out the water by partially tilting the rear. A check is also carried out to look into the contents of the refuse of all trucks.
When a truck is found carrying items requiring a written permit, and there is no permit at the moment of checking, that particular trip is cancelled. The contractor is not paid for that trip and is fined $500.

**Cost (Per Ton of Refuse) Paid to the Contractors.** The cost to the council for clearance of refuse by the private contractors varies depending upon the areas serviced. For the single handling or curbside service, it varies from $43.00 to $73.14 per ton of refuse. One of the companies provides a multi-lift bin service at $48.40 per ton in the city area and $52.80 in the rural area. The same company also provides a service for removal of refuse from cylindrical bins at $37.89 per ton in the city and $44.00 in the rural areas.

It would cost about $87.00 to collect and dispose one ton of refuse if the service were wholly provided by the council.

**Assessment and Evaluation**

In the short period of experience which the Municipal Council of Penang Island has had, it seems clear that the private sector has a role to play in the disposal of solid wastes. The private contractors can provide a satisfactory service, but one must consider the most adequate system for the particular circumstances. In Penang's case, the single-handling or curbside system worked definitely better. Nevertheless, close monitoring of the system had to be provided by council to ensure that the services ran smoothly.

By using the private contractors to carry out the refuse disposal services, the council does not have to purchase and maintain a large fleet of scavenging vehicles, provide for workers to do the collection of refuse, or purchase other smaller items of equipment such as bins, spades, brooms, and the like, but the council does have to provide officers to supervise and keep a very close check on the contractors and their workers.

In terms of expenditure, for the years 1985 and 1986, the cost to the council for disposal (collection and haulage) of one ton of refuse by the contractors was about $55.70 and $57.98, respectively. Comparing that cost to the $87.00 that it would cost the council to provide the service, one can conclude that contracting out has been financially beneficial for the council.

**Opportunities and Proposals for Improvement**

At present, the weighbridge is situated about two kilometers away from the site of the dumping ground. To ensure that the refuse in the truck is completely emptied at the dumping ground, a physical check on the vehicle after it has been emptied will have to be made. This is to prevent "double weighing" (the driver empties only half the load and then goes around to fill the truck further). The council is in the process of installing a weighbridge at the entrance to the dumping ground. When this is completed, a vehicle can be weighed before its contents are dumped and again after the dumping. This will give the council the exact weight of refuse that is dumped.

There are some parts of Penang Island which are not accessible to the scavenging trucks. The refuse collectors are required to go from house to house using handcarts and then bringing the refuse out to the roadside so that it can be loaded into the trucks. Perhaps smaller vehicles can be manufactured and purchased to collect the refuse directly from the household bins into these vehicles.

**Conclusion**

In conclusion, the Penang Island case illustrates that the private sector can play a very effective role in providing refuse collection and disposal services even through very close supervision on the part of the municipality to ensure that the services run smoothly and efficiently. The system of refuse collection and disposal is also very important: a curbside
supervision on the part of the municipality to ensure that the services run smoothly and
efficiently. The system of refuse collection and disposal is also very important: a curbside
single-handling system was more appropriate than a double-handling system in the case of
Penang Island.

Exercise 4.5 Analyzing the Situation in Penang

Each team is asked to discuss the following questions and present a brief report of the consensus
reached at the end of the discussion. (Tables 4.5 and 4.6 provide information that might be useful in your discussions.)

- How much refuse should the municipal council give to the private sector to collect and
transport? (Consider that the council may want to keep some of the services and maintain a
certain number of trucks in case of "emergency." The contractor(s) might decide to go on
strike one day and the council would be left with no means to collect the refuse.)
- Is the present system of awarding the contract to the private sector on a weight basis
satisfactory? (Consider that some authorities feel that instead of paying the contractors by
weight, they—the contractors—could be paid according to the number of premises serviced.
Then they can collect anything that is meant to be disposed of and the council need not have
to worry about attempted cheating in order to increase the weight of the refuse. On the other
hand, be aware that with a system based on the number of premises, the contractors may not
collect the refuse from every premise daily and the council will then have to verify that the
refuse is being collected.)

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<tr>
<th>Table 4.5 Average Composition of Refuse by Weight</th>
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<tr>
<td>1. Putrescibles</td>
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<td>2. Plastics, PVC etc.</td>
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<tr>
<td>3. Metals, cans etc.</td>
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<tr>
<td>4. Paper, cardboard etc.</td>
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<tr>
<td>5. Glass, bottles, ceramics etc.</td>
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<tr>
<td>6. Rags, textiles etc.</td>
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<td>7. Wood, sawdust etc.</td>
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<td>8. Miscellaneous</td>
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**Privatization**


