

# FINANCIAL DEVELOPMENT OF MEGACITIES\*

By

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# FINANCIAL DEVELOPMENT OF MEGACITIES

## 1. INTRODUCTION

1.1 Megacities represent large concentrations of population in a relatively small geographical area, arising primarily from the presence of locational advantages and agglomeration economies in production. [Segal (1975), Petrakos (1992), Henderson (1986), Mera (1973), Moomaw (1988)]. Currently, there are 15 cities in developing countries of the Asia and Pacific region which have populations in excess of five million, and the number is expected to increase significantly by the turn of the century. [Brennan and Richardson (1989)]. Many of these cities not only represent a sizeable share (up to 60 percent) of the urban population in their respective countries but also make disproportionate contributions to value added and employment in the secondary and tertiary sectors of the economy and to national income. They also possess considerable importance from the fiscal point of view. A large chunk of national tax revenue accrues from these cities while they simultaneously consume a significant portion of public expenditure [Linn (1985)]. It is clear that the degree of success in financing the process of urban development in megacities will have a vital bearing on the state of public finances in many developing countries and on the size of and growth in national budget deficits.

1.2 Megacities financial development depends both upon the nature of policies pursued by the national governments at the macro economic level and by sub-national governments at the local level. The former relate to the broad gamut of fiscal, monetary, tariff, exchange rate and other regulatory policies and the extent to which these are conducive in particular to the process of industrial growth and the resulting expansion in the tax bases and revenues of metropolitan cities. As most countries in the region move towards market-based reforms of liberalisation, deregulation and privatisation it can be expected that megacities will be in a stronger position to augment their resource base due to the realisation of gains from the competitive advantage they possess and consolidate thereby their position in the national economy. In this sense, the macro economic policy environment is moving once again in favour of megacities in developing countries as governments retreat from interventionist policies designed to promote greater public sector involvement in lagging regions and spatial dispersion of the process of industrial growth.

1.3 Success of megacities in financing urban development will also hinge on policies pursued at the level of municipal governments in terms of the strategy adopted for mobilisation of resources from local taxes, pricing of services, involvement of the private and non-government sectors and

development of the institutional and financial apparatus for greater access to domestic and international capital markets.

1.4 The objective of this paper is to assess the prospects for financial development of megacities in the short run (up to the year 2000) and in the long run (up to the year 2010). The paper commences with a review of the major financial development issues in the context of megacities in Section 2. This section broadly assesses both the financing needs of megacities and the performance in fulfillment of these needs. This is followed by a description of the structure of municipal finances in various megacities. Section 3 deals with the issue of self-financing of basic services like water supply, sewerage, transport, etc., by resort to user charges levied essentially on the principle of full-cost recovery. Section 4 examines the issues related to financing of land. Section 5 assesses the role of local taxes and discusses the allocation of taxes among different levels of government. The efficiency, equity and administrative implications of major taxes are derived alongwith an estimation of potential revenue yield. In both sections an effort is made to highlight innovations in specific settings and formulate a judgement on their general replicability.

1.5 Section 6 examines the difficult and politically sensitive issue of fiscal transfers from higher levels of government to municipal governments in megacities. The economic rationale for transfers, the desirable form of transfers and the resulting changes from current practices are discussed. In Section 7 we take up the issues of accountability and transparency, relating especially to decentralisation and regulation, improvements in financial management and institutional improvements required for entry into the capital market. Finally, in Section 8 we give a summary of the principal conclusions and present the key recommendations which can either be implemented in the short run or in a more long run perspective.

1.6 A few caveats are in order at this stage. First, data on sub-national governments is not available in international publications. Most of the statistics on megacities presented in the paper is obtained from a review of literature. There are significant data gaps and in some cases the information is relatively out of date. However, we have been able to piece together the broad patterns and trends. In addition, more recent statistics contained in the country case studies presented at the seminar will be incorporated into the paper at a later stage. Second, many of the generalisations made in the paper may not apply equally to individual cities, given the diverse nature of Asian megacities in terms of population size, per capita income, stage of development and system of government.

However, we have tried to identify issues and present policy recommendations which are likely to be useful in the context of a large number of megacities.

## **2. FINANCIAL DEVELOPMENT ISSUES IN THE MEGACITY**

### **2.1 Financing Needs of Megacities**

2.1 The general perceptions are, first, that financing needs per capita of megacities are higher than those of smaller cities and towns and, second, that incremental costs of absorbing additional population rise rapidly on a per capita basis in the former cities [Bradford, Malt and Oates (1969), Henderson (1986), Linn (1982)]. In this sense, growth of megacities is inefficient, although the higher public costs of service provision must be traded off against lower private costs of economic production due to the presence of agglomeration economies.

2.2 A number of factors are responsible for the higher financing needs per capita. First, megacities with larger and denser populations need more services. The higher residential densities require more elaborate arrangements for services like solid waste disposal, roads, etc. Long commuting distances resulting from the spatial expansion of metropolitan area often necessitate capital-intensive and lumpy investments in mass transit and in other forms of urban transport infrastructure. Second, the presence of large-scale industry and commercial activity raises the requirements of services. In many large cities, over 40 percent of the demand for water, electricity and telephones is from industrial and commercial consumers. Third, these cities frequently represent the optimal location for services which cater for demands of the rural hinterland like port facilities, warehousing, marketing centers, transport terminals, etc.

2.3 Fourth, financing needs are enhanced by higher levels of effective demand arising from higher levels of per capita income. The income elasticity of demand is positive for services like water supply, garbage disposal, electricity, telephones, etc., and could be large in some cases. Levels of demand are artificially raised further by the demonstration effect of high consumption standards in cities in developed countries and by the policy of subsidised provision which keeps prices of municipal services low. Fifth, a common explanation frequently put forward for greater financing needs is higher unit costs of provision in megacities. The importance of this factor depends on the relative level of input costs, existence of economies or diseconomies of scale, limitations on natural resource availability (e.g., in water sources) and public administration and management capacity. Linn [1982] concludes that the unit cost curve for most services is U-shaped with respect to city size. Rising costs are expected to be observed especially in water supply and urban transport.

2.4 The empirical evidence in support of higher financing needs is provided by the stylised fact that in most countries levels of local expenditure per capita rise dramatically with city size. Linn

[1982] and Roger Smith [1975] present evidence from a number of developing countries, which shows that the per capita expenditure by municipal governments in the largest city tends to be three to ten times higher than the national average. The results may be biased for a number of reasons. First, national and state/provincial governments are likely to be more active in small cities and towns. Consequently, local governments may be responsible for a more limited range of services. Second, expenditure variations among cities could largely mirror differences in taxable capacity, especially since most municipal governments are expected to balance their budgets. Given higher per capita income, larger cities are generally able to mobilise substantially larger revenues per capita. Despite these qualifications, it is clear that continued population growth in megacities will be accompanied by substantial incremental financing needs which will pre-empt a significant proportion of the savings and public revenues in developing countries.

## **2.2 Assessment of Fulfillment of Needs**

2.5 The key question relates to the degree of success of Asian cities in expanding the provision of services in the face of population growth and adequately fulfilling their financing needs. Both direct and indirect indicators can be used for this purpose. At the most aggregative level the question is whether these cities have demonstrated relative dynamism and increased their share in the urban population of their respective countries. If it can be shown that this is the case for the majority of megacities then the conclusion would be justified that these cities remain primary gravitational points for rural migrants. Clearly, this depends on the continuing ability of megacities to provide employment opportunities and a modicum of municipal services. The experience with regard to relative growth rates is mixed. As shown in Table 1, four out of ten selected megacities of Asia demonstrated growth rates of population in excess of the overall urban population growth rate in their respective countries during the 70s and the 80s. Out of the four cities, two in particular, Dhaka and New Delhi, did exceptionally well because of their emerging role as capital cities with preferential development allocations from the national governments. It appears that many of the megacities had begun to lose momentum in the 80s due either to a failure to expand services both quantitatively or qualitatively or because the pattern of economic development, alongwith explicit spatial policies of locational fiscal incentives adopted by national governments, had increased the relative attractiveness of intermediate and small cities.

2.6 Also, a growth differential in favour of a megacity does not necessarily demonstrate success in financing the process of urban development or in catering to employment demands of new labor force entrants. This depends upon the relative importance of 'pull' versus 'push' factors in inducing

**TABLE 1**  
**RELATIVE POPULATION GROWTH RATES**  
**OF SELECTED MEGACITIES**  
*[Annual Growth Rate]*

(Percent)

CITIES	Population (1990) [Million]	DECADE OF 70s			DECADE OF 80s		
		Megacity	Overall Urban Population	Ratio	Megacity	Overall Urban Population	Ratio
SEOUL	11.6	4.6	5.3	0.862	3.2	3.4	0.953
BOMBAY	11.79	3.6	3.9	0.928	3.3	3.1	1.062
CALCUTTA	12.54	3.0	3.9	0.762	2.8	3.1	0.897
JAKARTA	9.48	4.0	5.1	0.790	3.6	5.1	0.708
DELHI	9.13	4.9	3.9	1.254	4.5	3.1	1.458
MANILA	8.26	5.2	3.8	1.626	3.3	3.8	0.874
KARACHI	8.16	5.1	4.4	1.161	4.7	4.5	1.036
BANGKOK	7.38	4.3	5.3	0.802	4.1	4.5	0.900
MADRAS	6.03	3.6	3.9	0.921	3.1	3.1	1.000
DHAKA	6.53	8.2	6.8	1.212	6.7	6.1	1.105

**SOURCES:**

- Brennan and Richardson [1989]
- World Bank, World Development Report, 1994.

migration from the countryside. If, in fact, the latter are more operative, as a result perhaps of agricultural stagnation and the resulting labor displacement, then it is quite possible that even in the face of declining levels of service and rising urban open unemployment rates a large number of rural migrants could be attracted to the megacity. This, at least partly, explains the relatively high rate of migration into cities like Dhaka and Karachi. Agricultural growth in Bangladesh was less than 1 percent per annum during the decade of the 70s and below 3 percent in the 80s. Similarly, the agricultural sector of Pakistan stagnated during the 70s with a growth rate of only about 2 percent. Further, due to the presence of information and adjustment lags, deteriorating conditions in a metropolitan area are unlikely to be immediately translated into corresponding declines in the flow of migrants.

2.7 A more direct indicator of the success in providing services is the level of the quality of life in megacities. The Population Crisis Committee, a NGO located in Washington, has defined ten indicators of quality of life and measured them for the 100 top metropolitan areas of the world at the end of the decade of the 80s. A composite urban living standards score has been derived for each city. Estimates for Asian megacities are presented in Table 2. The highest score attained among the 100 cities is by Melbourne, Australia and Montreal, Canada of 86 each (with maximum possible score



TABLE 2  
QUALITY OF LIFE IN THE ASIAN MEGACITIES

City	Popula- tion 1989 [000]	Public Safety [Murder per 100,000 people]	Living Space [Person per room]	Housing Standard [% homes with water/ electricity]	Communi- cation [Telephone per 100 people]	Education [percent children in secondary school]	Public Health [Infant death per 1000 live birth]	Peace & Quiet [levels of ambient noise (1-10)]	Traffic Flow [Miles per hour on rush hour]	Urban Living Standard [Score]
SEOUL	15800	1.2	2.0	100	22	90	12	7	13.8	58
BOMBAY	12900	3.2	4.2	85	5	49	59	5	10.4	35
CALCUTTA	12800	1.1	3.0	57	2	49	46	4	13.3	34
JAKARTA	9900	5.3	3.4	85	3	77	45	6	16.3	40
DELHI	9800	4.1	2.4	66	5	49	40	5	14.0	36
MANILA	9200	30.5	3.0	91	9	67	36	4	7.2	43
SHANGHAI	9185	2.5	2.0	95	4	94	14	5	15.3	56
KARACHI	7300	5.7	3.3	75	2	65	97	9	17.6	36
BEIJING	7040	2.5	1.2	89	2	97	11	4	25.7	55
BANGKOK	7000	7.6	3.2	76	12	71	27	7	13.0	42
TAIPEI	6100	8.7	1.1	99	31	81	5	3	11.5	69
TIANJIN	5625	2.5	1.2	82	4	71	15	5	20.2	51
MADRAS	5600	1.1	2.9	76	2	56	44	8	13.0	42
DHAKA	4300	2.4	3.1	73	2	37	108	4	21.4	32
BANGLORE	4100	2.8	2.8	67	2	60	48	4	16.0	37
SHENYANG	4040	2.3	2.5	66	3	83	13	6	16.0	42
LAHORE	3945	4.8	4.5	80	3	32	83	8	13.4	34

Source: Population Crisis Committee, Washington DC, USA.

of 100). As compared to this the Asian cities with the highest scores are Taipei, Seoul and the three Chinese cities — Shanghai, Beijing and Tianjin — with scores ranging from 50 to 70. The next cluster, with scores in the early 40s, consists of cities like Jakarta, Manila, Bangkok, Madras and Shenyang. The last group, with scores in the 30s, mostly includes South Asian cities like Bombay, Calcutta, Delhi, Karachi, Dhaka and Lahore.

2.8 These estimates of urban living standards support the contention of a broad correlation between per capita income and quality of life. By and large, megacities located in countries with relatively high per capita income have been able to provide higher living standards to their residents. This is a reflection of the fact that urban incomes are correspondingly high (generally two to four times the national average), incidence of poverty is relatively low and the resulting taxable capacity



can be tapped more effectively by municipal governments for financing the on-going provision and expansion in the network of services. There are, of course, notable exceptions to these findings. China has been able to provide a relatively high living standard to its urban residents than would appear to be indicated by international comparisons of per capita income. As opposed to this, cities like Bangkok, Bombay and Karachi have not been successful in providing a living standard to their citizens which is commensurate with their level of income.

2.9 Analysis of individual indicators in Table 2 also provides interesting insights. The gap in provision between cities with the highest scores and those with the lowest scores is most pronounced in indicators like access to living space, telecommunications and urban transport. These are among the more capital intensive services and the relatively large gaps imply the presence of relatively severe financing constraints in the poorer cities.

2.10 More direct evidence is given by Bahl and Linn [1992] about the rate of growth in local expenditures in relation to the rate of inflation in prices and growth of population. They compute the rate of growth in real per capita expenditure for a sample of large cities for either the late 70s or early 80s. There is a wide variation in these growth rates among the cities analysed. At one extreme, there is Seoul with a growth rate in excess of 18 percent and at the other extreme, Manila, with an annual decline of over 16 percent. In the event that incremental costs of service provision are generally rising in real terms in megacities, these estimates again highlight the mixed performance of Asian megacities in meeting their financing needs.

2.11 The general conclusion seems to be that while success in financing is broadly a function of the level and growth rate of per capita income, there exist wide variations in the degree of success among individual megacities. This highlights the role also of factors of governance relating to efficiency in the mobilisation and allocation of resources by different levels of government involved in the provision of urban services.

### **2.3 Structure of Municipal Finances**

2.12 Municipal governments have access to both local and external (from higher levels of government or the capital market) sources of finance. The former include local taxes, revenues from user charges, which represent the component of self-financing, and income from miscellaneous sources like fees, licences, rents from property, return on financial assets, etc. The latter largely consist of revenues from taxes shared with or grants from higher levels of government and

borrowings either of an inter-governmental nature or from financial institutions or directly from the capital market.

CITIES <sup>b</sup>	LOCAL SOURCES				EXTERNAL SOURCES			TOTAL
	Local Taxes	User Charges <sup>c</sup>	Others	Total	Grants & Shared Taxes	Borrowings	Total	
SEOUL	30.3	36.3	13.4	80.0	15.8	4.2	20.0	100.0
BOMBAY	35.8	42.3	3.7	81.8	0.7	17.5	18.2	100.0
CALCUTTA	42.2	—	10.6	52.8	47.2	—	47.2	100.0
JAKARTA	37.0	16.8	8.9	62.7	37.3	—	37.3	100.0
MANILA	58.3	6.0	7.4	71.6	24.1	4.3	28.4	100.0
KARACHI	54.6	20.9	8.3	83.8	5.8	10.4	16.2	100.0
BANGKOK	47.2	5.3	7.9	60.4	39.6	—	39.6	100.0
MADRAS	58.0	0.6	14.4	72.9	13.7	13.4	27.1	100.0
DHAKA	33.0	20.6	23.0	76.6	23.4	—	23.4	100.0
<b>AVERAGE</b>	<b>44.1</b>	<b>16.5</b>	<b>10.8</b>	<b>71.4</b>	<b>23.1</b>	<b>5.5</b>	<b>28.6</b>	<b>100.0</b>

<sup>a</sup> the data is mostly for the early mid 80s.  
<sup>b</sup> only cities for which data is available.  
<sup>c</sup> In many cities, provision of water supply and sewerage is the responsibility of autonomous agencies, revenues of which are not included.  
**SOURCE:** Bahl and Linn [1992], MRGS (1992).

2.13 Table 3 highlights the structure of municipal revenues for selected Asian megacities. The data is obtained from Bahl and Linn [1992] and pertains mostly to the period of the early and mid 80s. It has a number of problems including the understatement of the share of revenues from user charges as tariffs on water supply, sewerage, etc., in a number of cities are collected by autonomous agencies and revenues are retained by them, with no transfers back to the general municipal fund. Also, there are probably some classification problems between different local sources.

2.14 However, the table enables some broad generalizations. First, the largest source of revenue in most cities is local taxes, with a share close to half. Second, in cities like Seoul and Bombay where collections from user charges are reported the level of revenues from this source is relatively high and even exceeds that from local taxes. Third, other sources of local revenue are marginal in character except at a few locations like Dhaka (due primarily to property income). As a whole, local sources contribute the major share of revenues, generally exceeding 60 percent.

2.15 Within external sources, shared taxes and grants play a more important role in relation to borrowings. In some cities like Calcutta, Jakarta and Bangkok the share of the former is substantial. Borrowings represent essentially a residual source and are significant in only a few cities. In none of the cities the share of external sources exceeds 50 percent.

CITIES	YEARS	LOCAL SOURCES			EXTERNAL SOURCES			TOTAL
		Taxes	User Charges & Others	Total	Shared Taxes	Grants and Loans	Total	
SEOUL	1970	40.5	47.0	87.5	11.0	1.5	12.5	100.0
	1975	43.7	47.1	90.8	0.8	8.4	9.2	100.0
	1980	44.5	48.6	93.1	2.4	4.5	6.9	100.0
	1985	49.3	49.6	98.9	0.0	1.1	1.1	100.0
CALCUTTA	1966-70	73.0	—	73.0	5.7	21.3	27.0	100.0
	1971-75	53.8	—	53.8	25.2	21.0	46.2	100.0
	1975-80	60.2	—	60.2	17.8	22.0	39.8	100.0
	1981-85	45.4	—	45.4	32.3	22.3	54.6	100.0
JAKARTA	1981-82	32.0	30.2	62.2	37.8		37.8	100.0
	1983-84	33.7	37.4	71.1	28.9		28.9	100.0
	1986-87	30.7	31.9	62.6	37.4		37.4	100.0
MANILA	1975	51.0	25.6	76.6	21.0	2.4	23.4	100.0
	1981	58.8	25.6	84.4	15.2	0.4	15.6	100.0
	1983	57.4	23.2	80.6	19.4	0.0	19.4	100.0
KARACHI	1978-79	59.3	29.6	88.9	8.7	2.4	11.1	100.0
	1984-85	59.7	25.9	85.6	12.1	2.3	14.4	100.0
	1990-91	54.6	29.2	83.8	5.8	10.4	16.2	100.0
BANGKOK	1981	49.7	15.6	65.3	18.6	16.1	34.7	100.0
	1984	49.6	9.9	59.5	15.4	25.1	40.5	100.0
	1986	52.8	13.9	66.7	17.4	15.9	33.3	100.0
DHAKA	1987-88	31.6	67.8 <sup>a</sup>	99.4	—	0.6	0.6	100.0
	1990-91	33.6	62.8 <sup>a</sup>	96.4	—	3.6	3.6	100.0

<sup>a</sup> Mostly property income.  
**SOURCES:** Benarjee (1988), Kim (1988), Hirwan (1988), Siddiqui (1994), Dhiratayakinant (1988), MRGS (1991), Schroeder [1988].

2.16 We have also been able to identify the trends in the structure of municipal finances by obtaining data from diverse sources. Estimates are presented in Table 4. Not only are the statistics more recent than Bahl and Linn for most cities but they are also more representative in character and include revenues from user charges accruing to autonomous local service agencies. In this respect, therefore, the shares are not directly comparable to those given in Table 3.

2.17 A number of significant changes can be observed from Table 4. First, there is a tendency for the share of local taxes to rise somewhat over time. This testifies not only to the relative

buoyancy of such sources but also to the concentration of the fiscal effort by municipal government in this area. Significant increases in the share of local taxes have occurred in cities like Seoul and Manila. The notable exception is Calcutta where there has been a precipitous decline, although this has been compensated for by large increases in revenues from shared taxes.

2.18 Second, the share of non-tax revenues (user charges and miscellaneous sources) has tended to fall in the majority of cities. This may reflect growing problems with billings and collection as well as a reluctance to index tariffs fully to inflation due to political and other constraints. As a whole, the share of local sources has risen in four cities (Seoul, Jakarta, Manila and Bangkok) and fallen in two cities (Calcutta and Dhaka).

2.19 Third, there is a visible decline in the importance of revenue sharing arrangements with higher levels of government. Such arrangements do not exist in Dhaka. In the other cities, except for Calcutta, there is a sharp fall. As opposed to this, dependence on grants and loans appears to be greater, especially in cities like Calcutta and Bangkok.

2.20 We turn next to an analysis of each source of municipal finance in the context of megacities in the subsequent sections.

### **3. SELF-FINANCING OF SERVICES**

#### **3.1 Service Characteristics and Financing Implications**

3.1 The principal characteristics of infrastructure services which define their financing modalities relate to the degree of excludability and rivalness in consumption. These can be defined as follows:

*excludability:* when it is possible to prevent an user from consuming the service.

*rivalness:* when consumption by one user reduces the supply available to other users.

Based on these characteristics, four types of goods and services can be distinguished as follows:

**Pure Public Goods:** These are services which are neither excludable nor rival in consumption. Examples are intra-urban roads (subject to no congestion), street cleaning and lighting, traffic signalling, etc. If provision is left in private hands then such services will be underprovided because of excludability pre-empting the possibility of collecting charges from consumers.

**Pure Private Goods:** These are conventional services which are both excludable and rival. Telephones and piped water supply are both good examples of private goods. These can be provided either publicly or privately.

**Club Goods:** in such services consumption is excludable but non-rival in nature upto a point when congestion sets in. Such goods, because of the first characteristic, can be both publicly and privately provided. Examples include inter-urban highways (toll roads), libraries, parks, playgrounds, fire protection, police services, etc.

**Common Property:** Consumption is not excludable but rival in nature in such cases. Examples are groundwater resources. Here regulation is frequently the preferred option.

3.3 For the different types of services the financing strategies will tend to vary. In the case of pure public goods the pricing mechanism cannot be used and reliance will have to be placed on taxes (non-distortionary, if possible) to generate the revenues necessary to cover the costs. Therefore, self-financing is essentially precluded in the case of services which are in the nature of pure public goods. At the other extreme, reliance can be placed fully on user charges in the case of pure private goods.

3.4 The financing implications are not so clear about club goods. From the viewpoint of maximisation of social welfare it would appear that as long as the marginal cost of serving an additional consumer is near zero (that is, non-rivalness) then no user charge ought to be levied until a stage when rivalness is created due to overutilisation of the facility and congestion sets in. This is valid in the presence of sunk costs when investment in providing the service has already taken place. However, as a 'second best' option the service may be privatised and permission granted for charging a price in the form of a fee or toll, with the objective of encouraging the flow of capital into the sector.

3.5 Beyond these two characteristics, another factor which needs to be considered is the degree of externalities arising from the consumption/production of a service. If the consumption of a service by a user increases the welfare of other members of society then there exists, prima facie, a case for subsidising the provision of the service. Therefore, in the case of services with private good characteristics full cost pricing may not be the optimal policy in the presence of positive externalities. Alternatively, if the consumption/production of such services confers negative externalities in the form of congestion, noise, pollution, etc., then the price must not only cover the costs but also include a

component of taxation. An example of negative externality are emissions from fossil fuel power generation.

Based on these principles we proceed to analyse the role of user charges.

## **3.2 Role of User Charges**

3.6 User charges can play a major role in the allocation of resources to public infrastructure (which has the characteristics of a private good). If rivalness exists in consumption then there are non-zero marginal costs of producing an additional unit of service. The presence of user charges levied at the level corresponding to the marginal cost implies efficient pricing in terms of generation of the highest net level of welfare to society from the provision of the service. If the price is set at below (above) marginal cost, an increase (reduction) in price and the resulting decrease (increase) in consumption of a service will lead to an increase in net benefits because total costs will decrease (increase) by more (less) than total benefits.

3.7 Therefore, user charges levied on the correct pricing principles have a number of advantages. They increase the efficiency in the allocation of municipal services (as a means of increasing welfare of city residents). They have the potential of raising revenues in an apparently fair and equitable manner (directly from beneficiaries rather than from general tax payers). In addition, user charges help in guiding investment decisions (towards sectors with higher social returns). Despite these benefits, the concept of self-financing of municipal services and the role of user charges remains underemphasised generally in developing countries and in particular in megacities.

## **3.3 Criteria for Fixation of User Charges**

3.8 In practice, pricing policies for different services involve essentially the balancing of four different concerns. The first relates to efficiency and the need to set prices close to marginal costs of provision and in the event of the presence of positive (negative) externalities to make appropriate upward (downward) adjustments in the price. The second issue is one of fiscal constraints and their implications for financial viability. This is of special significance when efficient pricing (price = marginal cost) may lead to underrecovery of costs in cases where average costs exceed marginal costs due to the presence of excess capacity or economies of scale. The question then is whether to adopt average cost pricing and incur losses in efficiency or to access to general budgetary resources (which may come from distortionary taxes with welfare costs) to finance the deficit.



3.9 The third issue is one of equity. The level of user charges may exceed levels of affordability of the urban poor and necessitate a degree of cross-subsidisation among different types of consumers or across services. Finally, the fourth concern is one of administrative and political feasibility of collection. If charges are to be linked to consumption or raised substantially then revenues will only materialise if there is voluntary compliance or if billing and collection procedures can be effectively enforced and revenue leakages minimised.

We discuss below the implications for pricing policy which incorporate these concerns in the context of the major municipal services.

### **3.4 Water Supply**

#### **3.4.1 Pricing Policy**

3.10 Application of the pure marginal cost pricing principle in the area of water supply poses the problem of major fluctuations in price over time depending upon the rate of capacity utilisation. For example, when there has been a discrete jump in systems capacity following the implementation of a major development scheme, the marginal cost may be near zero due to the presence of excess capacity. Alternatively, in the presence of water shortage the price may have to be set at a level high enough to equate demand with supply. A pragmatic alternative which has been suggested by Bahl and Linn [1992] and adopted by the international lending agencies is to make the price equal to the average incremental cost (AIC), which is linked to the concept of long run marginal cost. This policy will lead to less fluctuations in price and also serve a broader efficiency role. Since water is one of the basic municipal services, a policy of reflecting true costs of provision at the margin will reduce the tendency for megacity populations to exceed the optimal size. To the extent that higher costs of municipal services are reflected in wage rates, firms will have to account for these costs in their location decisions.

3.11 In megacities where there is a tradition of cost-based user charges which are linked to consumption (via metering) efficiency gains can also be realised by charging differential prices from consumers who impose varying costs on the system. These differentials can be a function of the type of consumer, location, time of use, etc. For this, however, proper costing systems will have to be put in place.

3.12 Externality considerations need to be incorporated primarily in the context of life-line supplies to residential consumers in poorer neighbourhoods (so as to reduce the incidence of water-borne

diseases). Fiscal constraints will arise in the case when AIC pricing implies less than full cost recovery because the AIC is less than the historic average cost of the system. However, in most situations, due to limitations on availability of proximate water sources, average costs will rise with expansion in capacity. If there is more than full cost recovery then the extra revenues can be earmarked for cross-subsidisation.

3.13 Equity considerations in the setting of water tariffs can be incorporated in a number of ways. These range from rising block rates, user fees linked to value of property (in the absence of metering), subsidised consumption from public taps, lower charges in slum areas and squatter settlements, higher charges from industrial and commercial consumers and cross-subsidies from other services. The first four mechanisms are generally considered more effective in meeting the equity objectives. However, given the fact that the urban poor are willing to pay relatively high prices for private supplies, subsidisation must be justified more on the basis of externalities than on equity grounds [Randall (1994), Briscoe (1992)].

3.14 The final set of considerations which are of great importance are administrative and political in nature. Existing billing and collection procedures may suffer from major deficiencies due to thefts of supplies, non-payment of bills, bribery of meter readers, lack of good records and verifiable audit procedures. A sophisticated pricing system can only be implemented if proper institutional arrangements exist for enforcing collection. This is rendered especially difficult in the context of water supply due to the 'basic' nature of the service. A related issue is whether or not metering is efficient. Meters can significantly reduce demand, by up to 40 percent. Benefits of meters are likely to exceed costs when water is scarce and has a high cost and when the administrative capacity exists to ensure that a large percentage of meters function effectively and there is proper collection.

3.15 Anderson [1989] highlights the problem that the presence of a functioning metering and billing system may not be sufficient to guarantee financial surpluses for investment in system expansion. Given the presence of a state monopoly, there may be a tendency towards over employment (especially of low level, unskilled staff) as a form of local patronage or tolerance of high and growing system losses and a policy of raising charges from consumers who pay to allow for those who do not.

3.16 Altogether, administrative and political administrations imply that the transition to efficient pricing policies may not be easy and rapid. It will require action on a number of fronts, including measures to improve production efficiency through changes in the institutional framework and

incentive system for managers and the gradual implementation of a pricing system that can be enforced and provides a reasonable balance of efficiency, equity and financial feasibility.

### **3.4.2 Current Practices**

3.17 The World Bank Development Report of 1994 estimates that water tariffs in urban areas of developing countries typically cover less than 30 percent of system costs. This proportion is somewhat higher in the larger cities. While operating and maintenance costs are generally paid for, these charges do not contribute significantly towards amortization and depreciation costs. The report also makes the observation that the benefits of subsidised prices, with the objective of increasing the poor's access to water supply, have ended up being captured mostly by middle and upper income households. Therefore, a movement towards full cost pricing will not only relieve substantially the fiscal burden but will also lead to significant improvements both in efficiency and equity.

3.18 Current water pricing systems in most Asian megacities have three components — a fixed lumpsum connection charge, a fixed monthly fee and a periodic consumption charge (for metered consumers). Metering is fairly widespread for industrial and commercial consumers but not so common in the case of residential consumers. The connection fee is linked either to pipe diameter or meter size. The fixed monthly fee is based again on pipe diameter or meter size, while the consumption charge is levied either as a flat rate or on the basis of rising block rates (two to six blocks generally). For unmetered consumers, the fixed charge is linked to proxies for water consumption like annual rental value (in Bombay) or plot size (in Karachi).

3.19 Industrial and commercial consumers are generally charged higher rates than residential consumers (except for Bangkok). Practices vary with regard to charges on stand pipes. In Bombay and Bangkok there is no charge. In other cities the rate is lower than the residential rate, while in Seoul the charge is somewhat higher than the lowest residential fee. Tariff escalations are infrequent. For example, in Karachi water supply and sewerage charges have increased only twice during the last decade. Consequently, there has been a decline in the real level of these charges in the face of cumulative inflation in the general price level.

3.20 Intra-urban variation in charges are seldom observed despite significant underlying differences in costs. Also, time of the year charges (in line with level of water demand) have not yet been put in place. However, significant regional variation in charges is observed in many Asian countries.

These largely reflect differences in system size, water quality (in terms of level of treatment), water resource availability, geological conditions and relative input prices.

3.21 Billing and collection mechanisms are defective at many locations. Revenue leakages due to theft and corruption have tended to grow over time. This is prevalent not only in slums and poorer neighbourhoods but also in the case of many large industrial and commercial consumers. In Karachi, revenue leakages are estimated at over 15 percent. This problem is likely to be exacerbated in the event that a major tariff enhancement is attempted. One of the conditionalities attached to the World Bank loan for urban development of Karachi involves an over 20 percent cutback in employment of the Water and Sewerage Board and tripling of charges.

### **3.4.3 Directions of Reform**

3.22 Based on the above description of the contours of a desirable pricing policy for water supply and the nature of current practices which reveals the gaps, we are now in a position to identify the major directions of reform for many Asian megacities, as follows:

- (i) As a first step, prior to implementation of an improved pricing policy, attempts must be made to raise the level of technical efficiency, especially by reduction in system losses, and to reduce revenue leakages through improvements in billing and collection systems. The latter is likely to be more feasible and less prone to resistance in a regime of low charges. Both improvements will require reforms in the institutional framework and in the incentive system for managers.
- (ii) Full-cost pricing (based on average incremental cost or as a 'second best' option, average cost) must be the policy goal. Consumption charges should be linked to the quantity consumed, wherever possible and economically justified, to curb wasteful consumption. Large residential consumers should also be progressively metered, especially in cities (like Karachi) where costs are rising rapidly with increments in capacity.

However, the proposed pricing policy may be implemented gradually and coincide with visible improvements in institutional capacity for providing better service. Injections of donor funding (by agencies like the World Bank and Asian Development Bank) which promise major improvements in services should be used as opportunities for pricing reform to break the vicious circle.

- (iii) Externality and equity considerations can be effectively incorporated by instituting a system of low charges, below marginal costs, for connection as well as regular supply to small residential consumers. Rising block rates may continue and made more exponential in cases where there is evidence that large consumers contribute to peak demand. The differentially higher charge on industrial and commercial consumers needs to be reviewed especially if these supplies do not involve higher costs of provision. In the event that the burden of higher tariffs is shifted forwards, then this policy may be regressive in character or place export oriented activities at some competitive disadvantage.
- (iv) In cities where pricing policies are more developed, the second stage of refinement may be attempted whereby charges are varied with location, time of the day, season, etc., to capture more effectively the variation in costs and, thereby, achieve further efficiency gains.

3.23 Altogether, development of user charges in the water supply sector of Asian megacities is a key area of reform. According to estimates of the World Bank [1994] if subsidies in this sector are phased out then an additional \$ 23 billion can be generated in urban areas of developing countries. This is equivalent to over 60 percent of the current level of investment in the sector. Therefore, reduction of the fiscal burden could permit substantially faster expansion in systems capacity and contribute in a major way to financial development of megacities.

## **3.5 Sewerage**

### **3.5.1 Pricing Policy**

3.24 The optimal pricing policy for sewerage is similar to that described above for water supply in view of the link between water supply and waste water disposal. The only major difference is that in price setting the need to incorporate the costs/benefits of negative/positive externalities is potentially greater [Eskeland and Jimenez (1992), Dobbs (1991)]. For example, significant positive externalities arise at the neighbourhood level due to proper sewage disposal by low income families. As opposed to this, major negative externalities are associated with the discharge of industrial effluents, which may have a high toxic content. Therefore, the case exists for low development and connection charges from smaller residential consumers and for higher sewerage charges from industrial consumers. This implies a degree of cross-subsidisation from the former to the latter.

### **3.5.2 Current Practices**

3.25 Estimates are that sewerage charges currently recover only about 20 percent an average of system costs directly. There is greater reliance on indirect cost recovery mechanisms in this case, either as a surcharge on the property tax or from general budgetary sources. In the case of consumers with water meters there is a tendency to collect the sewerage rate as a surcharge on water payments. The magnitude of the surcharge can range from 30 to 60 percent. For unmetered consumers, the general practice is to link the payment to property tax or annual rental values. Higher rates are also charged for piped sewerage service.

### **3.5.3 Directions of Reform**

3.26 Given the link between water and sewerage charges, reforms in the former are likely to automatically increase revenues from the former although the surcharge rate may have to be reviewed to more accurately reflect costs. Similarly, reforms in the property tax especially through reassessments of annual rental values (in South Asian cities) will also yield higher revenues from sewerage charges.

3.27 A major area of reform relates to the pricing of sewerage services for industrial consumers. The scope for measuring (by metering or sampling) the discharge of effluents needs to be examined and the pricing related to the quantity and toxic intensity. Building in a pollution tax into the sewerage rate will encourage industrial units to install control devices and thereby reduce the quantum of pollution.

3.28 The above principles for setting user charges can be applied to other municipal services like solid waste disposal, urban transport, etc.

## **4. FINANCING OF LAND**

### **4.1 Land Prices**

4.1 One of the basic problems confronting megacities is the high and growing prices for land. This not only raises the problem of affordability of housing by the urban poor but also acts as a factor restricting the economic growth potential of such cities. Internationally, it is generally accepted as a yardstick for affordability that a small plot of say 100 square meters should not cost more than one year's GNP. Estimates made by Dowall and Leaf [1991] for the mid to late 80s are that in Karachi it required 13 times the GDP to purchase a 100 square meters plot ten kilometers away from the Central Business District while in Bangkok it needed four times the per capita GNP and in Jakarta,



nine times the per capita GNP. Strassman, Blunt and Tomas [1994] report for Manila that in 1990 a corresponding plot fetched a price equivalent to five times the per capita GNP and that this had increased from 2.5 times in the early 70s. Similarly, another indicator of high land prices is the magnitude of the 'land development multiplier.' This ranges from 5 to 7 for most large South and South East Asian cities as compared to the average of less than 4 for the sample of East Asian and middle income countries included in the World Bank's Housing Indicator's Programme [1992].

## **4.2 Reasons for High Prices**

4.2 What explains these high land prices? The land market is, in fact, characterised by a number of contradictions which makes the explanation a complex one. High prices co-exist with vast tracts of underutilised or vacant land. Recent estimates for the two metropolitan cities of Pakistan, Karachi and Lahore, are that almost one million plots are lying idle. In a static framework, this would tend to indicate that there is actually a considerable excess-supply of land, which should bid down prices. Similarly, if prices of land are so high, in relation especially to development costs, then why are public land development authorities in many large cities in such a poor financial state? It is necessary to explain these apparent contradictions before a proper understanding of the operation of urban land markets can be obtained. Following this, policies can be identified for improving the financing of land and associated infrastructure.

4.3 There is no doubt that strong pressure is exerted on land prices by demand-side factors which accompany the process of urbanisation. Rapid increases in population alongwith industrialisation increase the demand for residential, commercial and industrial plots. It is interesting to note that in some cities prices of land in the informal sector actually tend to rise faster than prices in the formal sector [Dowall and Leaf (1991)]. This supports the hypothesis that the major pressure on demand is exerted by households at the lower end of the income scale. Also, the general finding is that land prices at the urban periphery tend to rise faster than those in the central city, implying strong land conversion pressure. A major added factor to demand is that investment in land frequently acts as a haven for the large amounts of black money generated in developing countries. This encourages land speculation which is fuelled by the rapid inflation in prices.

4.4 Given the rapid growth of demand, the rate of inflation in land prices depends upon the degree of supply response. This is restricted by factors like problems in land acquisition, arising from the fragmented ownership of rural land and laws which limit the scope for offering market-based compensation and require cumbersome procedures. In addition, costs of development at the urban

periphery are high and are difficult to finance because of liquidity problems of the development agencies and the beneficiaries in the absence of formal credit mechanisms to finance land purchases.

4.5 Rising land prices increase the attractiveness of holding land vacant while value keeps accruing. Therefore, in this sense, there is no contradiction between growth in land prices and in vacant land. Negligible land taxes and zero transactions costs encourage owners to delay the timing of development. In addition, there may be an imbalance between the rate of development of unserviced plots and the provision of infrastructure at these sites. Consequently, premiums on serviced plots as compared to unserviced plots are quite high and can range from 50 percent to 75 percent. To the extent, however, that land is held back from development due to speculation there is need for policy intervention to decrease the quantum of vacant land.

### **4.3 Reforms**

4.6 The lack of financial viability of many land development agencies (like the KDA in Karachi) to an environment of high prices for their product can be attributed partly to the policy that plots developed by the public sector must consciously be priced low to bid down prices generally and to increase access of the urban poor and middle income groups. Consequently, the policy followed is at best cost-plus in character and does not build in profits which can be used to cross-subsidise the provision of services. Also, many of the land development authorities have become instruments of political patronage. It is not surprising that special quotas for land allocation have been reserved for privileged groups like government employees, armed forces personnel, etc., and there is considerable rent-seeking behaviour around the acquisition of subsidised land. Dowell [1991] highlights the extent of divergence between allotment and market prices in Karachi and shows that the development authority would have been considerably better off if a policy of auctioning rather than balloting of plots had been adopted. He concludes that the former policy would actually be in the long-run interest of small households as it will increase the capacity to finance an expanded program of land and infrastructure development and thereby work towards less inflation in land prices eventually.

4.7 The problem of land acquisition represents a big bottleneck which will require major legislative and procedural changes in many countries. An innovative solution that has been found is one of land readjustment. According to this approach land is acquired on the understanding that a certain proportion of developed plots will revert to the original owners. It has had some success in Taiwan and also in the province of Punjab of Pakistan where it was implemented for some time.

4.8 Another solution that has frequently been put forward is that of vacant plots taxation. The objective is to expedite the timing of development and thereby increase the effective supply of land. Smith [1978] shows in a theoretical setting that such a tax can lead to earlier development provided the tax is kept at a sufficiently high rate so as to create serious liquidity problems for owners of vacant land, who have accrued gains but no income actually realised from such land. In practice, it has been tried with some success in Taiwan where this tax was levied until 1985. However, it suffers from serious administrative and legal complications. For example, it may be argued that vacancy is forced because of lack of provision of services. Alternatively, an effort may be made to avoid the tax by temporary low cost construction of a room or so on the plot. These are the reasons why the tax has remained essentially on the statutes in Phillipines and why development authorities have seldom been able to effectively recover non-utilisation charges on plots allotted earlier which remain undeveloped. The solution may lie in including vacant land within the ambit of the property tax reform, involving a transition from annual rental value to capital value taxation (see Section 5.4.1).

## **5. REVENUE FROM LOCAL TAXES**

5.1 As highlighted earlier, locally levied taxes usually finance the highest proportion of local expenditures in megacities. In this section we discuss the criteria for assignment of taxes to local governments and describe the characteristics of major potential local taxes.

### **5.1 Tax Assignments**

5.2 The extent of self-reliance of local governments on own sources crucially depends on the allocation of fiscal powers. The division of revenue sources among different levels of government constitutes the tax assignment problem. Once expenditure assignment has been agreed on, *tax assignment and design of transfers become critical elements in matching expenditure needs with revenue means at various levels of government.* Proper arrangements ought to prevent overdependence of lower levels of government on inter-governmental transfers, which can distort local spending priorities and reduce fiscal autonomy. Broadly speaking, the criteria for tax assignment emphasize equity, which ensures the consistency of revenue means with expenditure needs and efficiency which aims at minimizing resource costs.

5.3 Musgrave [1983] and Shah [1992] have argued that taxes suitable for economic stabilisation should be centralised while lower level taxes ought to be cyclically stable. In addition, taxes on mobile factors of production should be collected centrally. Residence based taxes, like excises, or taxes on immobile factors of production may be levied by sub-national governments. Efficiency in

tax administration should also be considered. The level of government likely to have the best information on a tax base should be entrusted with the responsibility for levying the tax. Overall, the basic objective of the tax assignment formula should be to match revenue means as closely as possible with revenue needs.

## 5.2 Major Potential Local Taxes

5.4 Based on the above principles, the major potential local taxes are presented in Table 5. These include taxes on property, transport, sales, entry/exit, entertainment, resources, production, transactions and sumptuary taxes. Taxation of real estate has valorisation characteristics and can recover costs of public service provision based on the increment in property values. Since road/street maintenance is generally a local responsibility transport/motor vehicle taxes are suitable for assignment to local governments subject to the condition that the particular vehicles taxed essentially ply

**TABLE 5**  
**POTENTIAL LOCAL TAXES**

<p><b><u>Property Related Taxes</u></b></p> <ul style="list-style-type: none"> <li>• Tax on Annual Rental Values</li> <li>• Tax on Capital Values</li> <li>• Tax on Transfer of Property</li> </ul> <p><b><u>Transport Taxes</u></b></p> <ul style="list-style-type: none"> <li>• Registration and Annual Tax on Non-Mechanised Transport</li> <li>• Registration and Annual Tax on Motor Vehicles</li> <li>• Taxes on Motor Fuels</li> <li>• Congestion Tolls</li> </ul> <p><b><u>Taxes on Sales</u></b></p> <ul style="list-style-type: none"> <li>• Single-Stage Sales Tax</li> </ul> <p><b><u>Entry/Exit Taxes</u></b></p> <ul style="list-style-type: none"> <li>• Octroi</li> <li>• Export Tax</li> </ul> <p><b><u>Sumptuary Taxes</u></b></p> <ul style="list-style-type: none"> <li>• Betting and Gambling Tax</li> <li>• Tax on Lotteries</li> <li>• Tax on Race Tracks</li> <li>• Tax on Alcohol</li> <li>• Tax on Delinquents</li> </ul>	<p><b><u>Entertainment Taxes</u></b></p> <ul style="list-style-type: none"> <li>• Tax on Cinemas</li> <li>• Tax on Dramatic and Theatrical Shows</li> <li>• Tax on Feasts</li> <li>• Tax on Advertisements</li> </ul> <p><b><u>Head Taxes</u></b></p> <ul style="list-style-type: none"> <li>• Tax on Professions, Trades</li> <li>• Tax on Hearths</li> <li>• Tax on Births and Marriages</li> <li>• Poll Tax</li> </ul> <p><b><u>Resource Taxes</u></b></p> <ul style="list-style-type: none"> <li>• Royalties</li> <li>• Conservation Charges</li> </ul> <p><b><u>Taxes on 'Bads'</u></b></p> <ul style="list-style-type: none"> <li>• Taxes on Motor Fuels</li> <li>• Effluent Charges</li> <li>• Congestion Tolls</li> </ul> <p><b><u>Taxes on Production</u></b></p> <ul style="list-style-type: none"> <li>• Excises</li> </ul> <p><b><u>Taxes on Animals</u></b></p> <ul style="list-style-type: none"> <li>• Slaughter Tax</li> <li>• Livestock Trading Tax</li> </ul> <p><b><u>Surcharges</u></b></p> <ul style="list-style-type: none"> <li>• Personal Income Tax</li> <li>• Sales Tax</li> </ul>
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within a jurisdiction. If the tax base is harmonized, single-stage sales tax can be levied by any level of government and can provide a broad-based and buoyant source of revenue for local governments also. However, the point of taxation should be at the retail level to prevent possibilities of 'tax exporting' from large metropolitan jurisdictions which are centers of economic activity. [Ghaus (1995), Kerlove (1992)]. Taxes on resources and entertainment are good local government instruments because of the immobile nature of the tax base.

5.5 Income tax (both personal and corporate) is a tax on mobile factor and is partially levied for redistributive reasons. Therefore, it is more suitable for assignment to the national/central government. State/local imposition of such a tax opens the possibility for shifting income to low tax rate jurisdictions through transfer pricing practices by corporations. It is best for local governments to piggy back on the federal tax. Megacity governments, in particular, can resort to this because the disincentive created due to the relatively higher incidence of the tax in such cities can be outweighed by the existence of agglomeration economies which increase pre-tax profits.

### 5.3 Structure of Local Tax Revenues

5.6 The structure of local taxation in megacities largely conforms to the contours of the standard structure presented above. Most local governments rely heavily on property related taxes (including annual taxation of value and of transfers). Over 70 percent of local tax revenues in Seoul and about 60 percent in Manila, Dhaka and Calcutta are generated through taxation of properties (See Table 6). Another important source is octroi, an 'entry' tax levied in some South Asian Cities. In Karachi, octroi is the primary source of tax revenues with a share exceeding 88 percent. Taxation of transport

Countries	Property Related	Income	Motor Vehicle	Octroi	Entertainment	Industry Commerce	Others	Total
SEOUL (1983)	72.4	—	7.6 (10.0)	—	3.5	0.5	16.1	100.0
CALCUTTA (1982)	58.5	—	—	32.9	—	6.4	2.1	100.0
JAKARTA (1981-82)	9.5	—	64.5	—	12.2	—	13.8	100.0
MANILA (1985)	60.2	—	—	—	7.3	30.7	1.9	100.0
SHANGHAI (1987)	—	55.0	—	—	—	30.0	15*	100.0
BANGKOK (1986)	19.7	—	24.7	—	2.2	46.2	7.2	100.0
KARACHI (1991)	9.6	—	—	88.2	1.0	—	1.2	100.0
DHAKA (1983)	59.6	—	0.6	31.9	1.3	3.5	—	100.0

SOURCE: Bahl and Linn [1992], MRGS (1992), Bahl and Wallich (1992).

contributes a significant proportion of revenues to the local exchequer in Jakarta and Bangkok, while the surcharge on the business is the largest revenue contributor in the latter city. Other taxes on entertainment, gambling, alcohol, advertisements, etc. make marginal revenue contributions to municipal revenues in these cities.

5.7 The structure of local taxes in Shanghai is vastly different from other megacities of Asia. In fact, taxation is a relatively new concept in China [Bahl and Wallich (1992)]. Prior to 1979, enterprises remitted all of their profits to the central government. In 1979, as part of the overall economic and fiscal reforms in the country, taxation was introduced as a substitute for profit remittance. The nominal burden of taxation is on enterprises, which may be owned by any of the three levels of government. Taxation of households or individuals is not common in China. The structure is heavily dominated by two types of taxes — taxation of production and income. The former is sometimes referred to as sales or business tax and is shared with the central government while the latter is assessed on profits of city-owned, collective and private enterprises.

## **5.4 Issues in Local Taxation**

5.8 Issues in local taxation relate to the size and the utilization of the potential tax base, the buoyancy of revenues, incidence and problems of administration and collection. We discuss these issues in the context of some of the major local taxes.

### **5.4.1 Property Tax**

5.9 As mentioned earlier, property tax is the mainstay of local governments in most megacities. Inter-city variation in the level of its revenue generation appears to depend upon the reliance of local governments on alternate revenue sources (local and external) and the level of local autonomy in the administration and collection of the tax. By and large, property tax is less important in cities which have a broad-based revenue structure or if the higher level of government collects and retains a proportion of the tax receipts. In the latter case if the share of the Central/State government is small, it does not have the incentive to incur the political and other costs associated with adequate exploitation of tax base. Karachi and Jakarta are good examples of this. As such, an important issue in the context of property tax relates to the assignment of collection responsibility and the relative shares of different levels of government in the event of vertical revenue sharing.

5.10 Another important issue relates to the type of property taxation. Property tax basically is of three forms. It can be levied on annual rental value of property, on the capital value of land and improvements or on the site value of land. The system of property taxation varies substantially among cities. In Jakarta, Seoul and Manila the capital value system is in vogue while Karachi, Calcutta, Bangkok have the rental value system of taxation.



5.11 A cross-city study of the annual rental value system (RVS) and the capital value system (CVS) reveals major differences in the coverage and definition, rate structure and assessment procedures between the two systems. In RVS the assessed value is net rents while in CVS the tax base is the assessed value of land and improvements, or only assessed value of land under the site value system. In theory, the discounted stream of net rent payments is equivalent to the capital value of a property. In this sense the RVS and CVS are equivalent. In practice, however, there is a divergence between assessed and market values. In Calcutta there is about a 50 percent divergence between the assessed and market rental values in the case of commercial properties, while in Karachi the divergence is 70 to 80 percent. The reasons for low assessment include, first, infrequent assessments due to political or administrative problems and legislative provisions, second, legally allowable write-offs, third, presence of rent controls and key-money transactions and, fourth, underreporting of rental values in lease documents and low imputation of rental values of owner-occupied properties.

5.12 Three characteristics of CVS distinguish it from RVS. The use of flat rates is more common; there is more frequent use of differential taxation of land and improvements and administration of CVS tends to be more complicated. Site value taxation, which is a special case of CVS, in which improvements are ignored, has some of the characteristics of the CVS. Broadly speaking the advantages are allocative efficiency, ability to curb speculation and greater equity. Being a pure land tax, site value taxation is likely to be borne more by owners of land and, therefore, is more progressive [Brueckner (1988)]. The disadvantages are a limited tax base (due to exemption of improvements) implying the need for higher tax rates to attain the same target revenues and failure to discourage extravagant housing standards and luxurious commercial plazas.

5.13 In general, it is difficult to conclude as to which form of property taxation is better. CVS is a good 'urban' tax system as it can effect the use of land and thereby encourage efficiency. Theoretically, horizontal and vertical equity considerations are better served in CVS. There is not much difference in the two systems as far as productivity and buoyancy is concerned. However, the erosion of the tax base in RVS due to the presence of rent controls and key-money transactions is avoided in CVS. As far as the tax administration is concerned, RVS is perhaps less costly and easier to administer. On the whole, it appears that the trend in megacities which have a developed property tax system is towards the CVS.

5.14 Another important issue in property taxation relates to the extent of exploitation of the potential tax base. It is generally alleged that property tax is among the most underexploited taxes

internationally. This is primarily due to wide exemptions and low levels of assessment. The average level of fiscal effort, defined as tax revenue to personal income ratio, for a sample of selected megacities is about 1.5 percent (see Table 7). There are large differences in the ratio, which ranges from 1.9 percent in Bombay to less than 0.1 percent in Jakarta. Part of the variation is due to differences in tax rates and collection efficiency and part due to differences in the overall assessed value to income.

**TABLE 7**  
**LEVEL OF PROPERTY TAX EFFORT IN SELECTED MEGACITIES**

<b>Countries</b>	<b>Tax Effort Tax to Income Ratio [%]</b>	<b>Rate Effect Tax as % of Assessed Value</b>	<b>Base Effect Assessed Value to Income</b>	<b>Per Capita Collection [\$]</b>
JAKARTA (1972)	0.003	0.020	0.18	0.35
SEOUL (1983)	0.82	0.820	1.00	17.33
MANILA (1984)	0.36	0.170	2.18	2.13
CALCUTTA (1971)	3.30	0.080	40.90	5.73
KARACHI (1987)	0.30	0.015	20.36	2.71
BOMBAY (1971)	1.90	0.068	27.40	4.80
<b>AVERAGE</b>	<b>1.49</b>	<b>0.189</b>	<b>17.09</b>	<b>66.80</b>

**SOURCE:** Bahl and Linn (1992), Ghaus (1984).

#### **5.4.2 Taxation of Transport**

5.15 Broadly speaking, there are three arguments for taxation of ownership and use of automobiles, first, to finance costs of public provision and maintenance of road networks, second, to control social costs of automobile use arising from congestion and pollution and, third, to take advantage of a rapidly growing tax base. However, local governments in many developing countries are not authorized to levy these taxes, which are pre-empted by higher levels of government. Jakarta, Bangkok and Seoul are among the few cities where motor vehicle taxes are under the local fiscal domain and local governments in the first two cities rely heavily on their revenue contribution.

5.16 Transport may be taxed via fuel taxes, sales and transfer taxes on motor vehicles, annual licence taxes (levied on ownership rather than transfer or use of vehicles) and congestion charges.

Problems arise in taxation of vehicles due to the mobile nature of the tax base. Substantial inter-jurisdictional variation in tax rates may induce distortions and encourage the tax base to shift from a high tax to a low tax region. In Pakistan, for example, because of rate differentials in motor vehicle taxation, goods transport vehicles register in the low tax province while they continue to ply in other jurisdictions. As opposed to this, fuel consumption may be more amenable to taxation especially if production and wholesale distribution of fuel is through government-owned enterprises, as is the case in a number of developing countries.

In summary, transport or automotive taxes, in the presence of some inter-jurisdictional harmonisation of rates are efficient, are generally equitable, can be buoyant and if carefully designed and implemented are generally easy to administer.

### **5.4.3 Entry/Exit Taxes**

5.17 These taxes are levied on goods, vehicles or passengers entering or leaving a local jurisdiction. An example of the former is the octroi in some South Asian cities while an example of the latter is the export tax, levied in Pakistan. Octroi is, in fact, the largest single source of revenue for some cities like Karachi and Calcutta. However, despite its obvious revenue importance, it remains a controversial tax. It has been subjected to a series of criticisms. First, that it imposes high collection and compliance costs relative to the revenue generated, second, that it is regressive in its income distributive effects, and, third, that it distorts the pattern of location of domestic industrial activity and confers unwarranted protection to firms within municipal boundaries.

5.18 A detailed study of octroi in Karachi by Ghaus and Pasha [1992] reveals that some of these allegations may not be valid. First, collection of the tax has been partially privatised (at land posts) while the Karachi Metropolitan Corporation itself collects the tax at the sea port and the air port. Direct costs of tax administration are low at about one percent of revenue only, although this does not include the component of contractor's profits. Second, regressivity of the tax structure has been reduced by fixing low effective rates on basic consumer goods or on raw materials for such goods while specifying relatively high rates for luxury goods and some intermediate goods. On the whole, the incidence of the octroi in Karachi is mildly progressive. Third, distortionary effects of the tax on location of economic activities are likely to be minor because effective rates are low.

5.19 However, it can be argued that the octroi performs well in Karachi because it is a port and the tax can be levied effectively (on an ad-valorem basis) on international imports. This increases the

revenue yield and buoyancy of the tax, enhances its progressivity and minimises the scope for evasion. These advantages are unlikely to exist in other cities. Also, a problem with the octroi in Karachi, which is seldom emphasised, is the degree to which the burden of the tax is exported to other jurisdictions. Ghaus [1993] conservatively estimates this as close to 30 percent and attributes it to the fact that since Karachi is the primate industrial city of Pakistan the scope for tax exporting is greater.

5.20 Bahl and Linn [1992] argue that there are a number of reasons why local governments in South Asia want to continue with octroi. First, it produces substantial revenues for these governments. Second, there are no good substitutes in the short run. In fact, municipal finances in cities which have discontinued octroi have suffered a setback. In Dhaka, for example, octroi was abolished in the mid-80s with the proviso that revenue losses would be compensated by a grant from the national government. The grant has not shown the same buoyancy as octroi which has led to a deterioration in the city's finances. Finally, octroi has been in force for many years and has become politically more acceptable than user charges or property taxation. This has encouraged over reliance on the tax.

#### **5.4.4 Sumptuary Taxes**

5.21 Taxes on beer, liquor and tobacco are widely used in developing countries. These are generally levied to discourage consumption of items considered 'bad' and to raise substantial revenues at minimal costs. However, the price and income elasticity of these items is generally quite low. As such these taxes are neither successful in discouraging consumption nor are their revenues very buoyant. In fact, because of the low income elasticity these taxes are likely to be regressive in incidence. Therefore, sumptuary taxes can raise revenues for local government but with adverse implications on income distribution.

#### **5.4.5 Sales Tax**

5.22 Very few city governments in developing countries levy a broad-based sales tax. However, as the trading sector modernizes and documentation of transactions becomes more common, many city governments may find a general sales tax a feasible and buoyant revenue-raising option. It is important from the viewpoint of eliminating the possibility of tax exporting from megacities that the tax be levied only at the retail stage. Also, to minimise regressivity of the burden, food and other basic goods need to be exempted. Perhaps the best manner in which local governments in developing

countries can benefit from the merits of the tax, with minimal financial costs of collection, is by piggy backing on the national sales tax or VAT (levied at the retail stage).

#### **5.4.6 Other Taxes**

5.23 Municipal governments in megacities also levy a number of other taxes the revenue contribution of which individually are generally small. These include head taxes, selective excises, variety of licences, advertisement tax and fees. In general, these minor sources are difficult and costly to collect and compliance costs are high. They generally serve no objective other than raising revenue and are generally continued because of inertia. Some of these taxes like the poll and animal taxes might be regressive in incidence. Therefore, a case exists for examining the continuation of these levies.

#### **5.4.7 Directions of Tax Reforms**

5.24 As discussed above, the choice of which local taxes to exploit/develop in megacities depends upon the size, buoyancy and mobility of the respective tax base, incidence and ease of collection. These characteristics of major local taxes are summarized in Table 8. By and large, the galaxy of potential local taxes can be categorized into taxes which should be aggressively developed in megacities; taxes which may be considered if necessary; and taxes which do not appear to be suitable for megacities.

5.25 The first category includes property-related taxes, transport taxes, entertainment taxes, and surcharges on central government taxes, primarily general sales and income taxes. These are taxes which have medium to large tax bases, have medium to high buoyancy, a progressive incidence and can be properly collected. *The prime candidate for further development is the property tax which, as already mentioned, has a substantial unexploited tax base in many megacities.*

5.26 Some general directions of property tax reform are as follows:

- (i) The tax should be kept as simple as possible, with minimal exemptions and a largely uncomplicated rate structure. In the first stage, reforms should emphasize improving the general property tax administration rather than adding special features to the tax to influence resource allocation or income distribution [Roy (1993)].

**TABLE 8**  
**CHARACTERISTICS OF DIFFERENT LOCAL TAXES IN MEGACITIES**

Type of Taxes	Size of Tax Base	Buoyancy of Tax Base	Mobility of Tax Base	Incidence of Tax	Ease of Tax Collection	Case for Imposition by Megacities
Property-Related Taxes	Large	Medium/High	Low	Progressive	Medium	High
Transport Taxes	Medium/Large	Medium/High	High	Progressive	Medium	High
Taxes on Sales	Large	High	Medium	Regressive/Neutral	Low	Medium
Entry/Exit Taxes	Large	Medium	Medium	Regressive/Neutral/Progressive	Medium/High	Medium
Sumptuary Taxes	Low/Medium	Low	Low	Regressive	Medium	Low
Entertainment Taxes	Low/Medium	High	Low	Progressive	Medium/High	High
Head Taxes	Medium/Large	Low/Medium	Low	Regressive/Neutral	Low/Medium	Medium/High
Resource Taxes	Medium	Low	Low	Neutral	High	Medium/High
Taxes on Production	Medium	High	Medium	Regressive/Neutral	Medium	Medium
Taxes on Transactions	Medium	Medium	Low/Medium	Progressive	High	Low
Taxes on Animals	Small	Low/Medium	Low	Neutral/Regressive	Medium	Low
Surcharges	Large	Medium/High	Low	Progressive	High	High

- (ii) The tax should be collected by the level of government which is the prime beneficiary of revenue gains. Megacities are generally large enough to achieve full economies of scale from setting up a separate property tax administration.
- (iii) A transition from rental value to capital value taxation may be contemplated. This will take care of tax base erosion due to rent control, key money transactions and vacant land. If the former is already in existence, revenues may be mobilised by increasing the tax rate only for land, rather than for land and improvements alike [Pillai (1992)].
- (iv) The activities of assessment, record keeping, collection and handling of appeals must be separated. The scope for inducting private sector expertise in the valuation function may be examined.



5.27 The second category includes taxes which do not have a strong case for imposition. For example, entry/exit taxes or sumptuary taxes may be continued in the short run for revenue purposes but because of problems like tax exporting or regressivity of the incidence, these taxes need to be gradually phased out as part of the long-run strategy of financial development. In the interim period, the structure of such taxes needs to be rationalised. For example the octroi structure should be modified to 'localize' its incidence. As opposed to this, a local retail sales tax may not be administratively feasible in the short run but with development of proper record keeping and strengthening of local administrative capacity it may prove to be a good revenue option in the long run.

5.28 Overall, the resource mobilisation strategy should be to simplify the local revenue structure and develop a few high yielding and buoyant taxes which do not have adverse equity implications. This is particularly important so that the limited tax administration capacity in developing countries is not over stretched.

## **6. INTER-GOVERNMENTAL FISCAL TRANSFERS**

### **6.1 Economic Rationale for Transfers to Megacities**

6.1 We have described earlier that inter-governmental transfers are an important source of revenue for some megacity governments. The economic rationale for such transfers to megacities include the following:

- (i) fiscal Imbalance: The structural imbalance between the assignment of revenue sources and of expenditure responsibilities leads to a fiscal gap. Such an imbalance usually exists due to limited or unproductive local tax bases and high level of federal/state taxation which limits local revenue-rising potential. Transfers are required to close the fiscal gap.
- (ii) fiscal Inequity and inefficiency: Redistribution, an important objective of fiscal policy, is best performed by the national government. However, in a federal system "redistribution in kind" through the provision of certain 'merit goods' like education, health, etc., is undertaken by lower tiers of government. These levels of government, due to inappropriate tax assignments, factor mobility and tax competition, may underprovide such services and achieve the equity objectives in only a limited manner. Transfers from higher levels of government can increase the provision of merit goods at the local level.

6.2 Other reasons for transfers like fiscal harmonisation are unlikely to apply in the case of megacities. Due to higher taxable capacity, these cities generally do not qualify for fiscal equalisation grants.

6.3 Given the case for transfer their design is also of prime importance. Shah [1994] has identified the elements of design as consisting of autonomy, adequacy, predictability, simplicity and efficiency. Sub-national governments must have independence and flexibility in setting priorities. Formula-based revenue sharing or block grants, for example, are consistent with this objective. The transfer mechanism should also be predictable such that the recipient government can, more or less, accurately project its share. Further, the grant design should be neutral with respect to choices of resource allocation to different sectors or activities and it should provide incentives for sound fiscal management. For example, there should be no specific transfer to finance deficits.

## **6.2 Forms of Transfers**

6.4 Fiscal transfers to megacity governments may be in the form of tax-base sharing, revenue-sharing or grants. If the purpose is to correct the problem of fiscal imbalance, tax reassignment should be the first alternative to be pursued. This ensures efficiency and local autonomy. If, however, due to constrained local tax administrative capacity, adequate reassignment is not feasible than tax base and revenue-sharing mechanisms may be used. Tax base sharing means that two or more levels of government levy rates on a common tax base [Reschovsky (1980)]. Tax base determination and tax collection usually rests with the higher level of government with the lower level levying supplementary rates on the same base. Surcharges on business and commerce or income, discussed in the previous section, are examples of tax base sharing.

6.5 The other method of addressing vertical fiscal imbalance is revenue sharing, whereby one level of government has unconditional access to a specified share of revenues collected by another level. Revenue sharing based on "the derivation principle" or the point of collection is generally advocated. Unconditional grant is another mechanism used to address fiscal imbalance.

## **6.3 Current Practices**

6.6 In practice, the design of intergovernmental transfers is, more or less, consistent with the economic norms enunciated above. Revenue-sharing and conditional grants are the most popular modes of transfers. Table 9 gives a summary of revenue sharing arrangements in selected megacities.

Taxes generally shared with local governments include property tax, entry taxes, motor vehicle taxes and excises.

6.7 Grants to municipal governments are generally in the form of non-matching conditional or general purpose development grants. These may be distributed on the basis of some set formula though in practice there is generally an element of discretion and patronage in their allocation. Such arrangements undermine local autonomy and introduces uncertainty in the transfer process.

## 6.4 Directions of Reform

6.8 As a general policy guideline, inter-governmental transfers to megacities which are largely justified on grounds of reducing vertical fiscal imbalances should be viewed as the second best alternative to tax reassignment. Among types of transfers, tax-base and mandatory revenue-sharing mechanisms are preferable. The element of discretion in the flow of funds must be minimised.

## 7. ACCOUNTABILITY AND TRANSPARENCY

### 7.1 Issues of Decentralisation and Regulation

7.1 Megacity governments administer and provide basic services to populations which are larger than the national populations of many small and medium sized developing countries. However, they have generally not been given the requisite status. In some countries (like Pakistan) they have not yet been recognised as a legitimate tier of government. Therefore, the issue of institutional status and development of metropolitan governments is a basic one. It is examined in depth in one of the other theme papers of the seminar on institutional dimensions of megacity management. We focus here

City	Shared Tax	Sharing Formula
KARACHI	Property Tax	85% of proceeds on the basis of origin
CALCUTTA	Entry Tax	100% of proceeds; generally on per capita basis
	Amusement Tax	50% of proceeds on per capita basis
	Motor Vehicle Tax	33% of proceeds not on a fixed basis
DHAKA	Tax on Transfer of Property	100% of proceeds on the basis of origin
BANGKOK	Motor Vehicle Tax	100% of proceeds on the basis of origin
	Rice Export Tax	100% of proceeds on the basis of origin
SHANGHAI	Almost all the local Profit Sales, and other taxes are shared	Generally 100% of the proceed on a negotiated "fixed amount" basis is collected by local governments and transferred upwards to higher levels of government
JAKARTA	Property Tax	100% of proceeds on the basis of origin
	Petroleum products	'fixed amount' per litre

SOURCE: Bahl and Linn (1992), Benerjee (1988), Dhiratayakinant (1988), Bahl and Walich (1992), Ghaus (1989).

primarily on issues of decentralisation and regulation as they relate to the financial development of megacities.

7.2 The case for decentralisation of decisions relating to taxation and allocation of expenditures to municipal governments has been made on a number of grounds. First, these governments are likely to be in the best position to assess local needs and preferences and thereby orient budgetary allocations to priority areas. Second, autonomy in the delivery of services to local agencies is likely to promote a greater degree of accountability to beneficiaries because of closer proximity and the need to be responsive to effective demands for financial sustainability. Third, an important argument frequently put forward in support of decentralisation is that there is a stronger link of taxation and benefits at the local level. There is less perception of flow of revenues generated to other regions. This contributes to greater voluntary compliance on the part of tax payers. Of course, this perception is greater the smaller the size of a jurisdiction. In megacities, tax payers may be concerned about transfers from one area to another within the city.

7.3 Ito [1992] highlights in the Korean setting that the issue of decentralisation has also begun to acquire a political dimension. With rising incomes and education as a result of urbanisation and the emergence of a strong middle class in megacities, demands are increasingly being voiced for greater autonomy in decisions relating to proposals for taxation and to the level and quality of services. It is perhaps in the interest of national governments to allow these views to be articulated in the forum of metropolitan governments.

7.4 There are, however, limits potentially to the gains from decentralisation. These are defined, first, by the fragmentation of service delivery responsibility among different semi-autonomous agencies within the metropolitan area (like the development authorities, water and sanitation agencies, etc.) which makes it difficult for megacity governments to adopt and implement an integrated approach to urban development. This is manifest in the serious frictional problems associated with the transition from development works by a line department belonging to a higher level of government to the maintenance stage with responsibility shifting to the municipal government. Therefore, decentralisation may have to be accompanied by a process of consolidation of municipal governments.

7.5 The second major constraint is the lack of institutional capacity with metropolitan governments for performing planning and development functions, for managing sophisticated financial systems and for effective revenue administration. Despite the scope for enjoying significant economies of scale

in the presence of large populations, many megacities have not yet upgraded their management and technical cadres and the quality of staffing is generally not of a level comparable to higher levels of government. Therefore, decentralisation, in the absence of adequate institutional capacity, runs the risk of a loss of control and failure rather than success in raising resources or in the delivery of services. For example, a common allegation against local governments is that due to closeness to taxpayers they are forced to compromise on collections.

## **7.2 Reforms in Local Government**

7.6 Nevertheless, on the balance it appears that the path of reforms will have to move towards decentralisation at the municipal level, especially in the case of megacity governments. However, this must be accompanied by action on a number of fronts, which includes broad-based institutional development, especially in the finance and taxation areas, coupled with the establishment of formal procedures and standards for better financial management and revenue collection. The strategy should be that as local (megacity) governments meet a progression of clearly developed and objectively verifiable performance standards, direct controls by higher levels of government are relaxed.

7.7 A number of steps can be taken in the short run to grant greater fiscal autonomy. First, in some megacities (in the South Asian region) municipal governments do not have the fiscal powers to set their own tax rates on local taxes for the purposes of balancing their budgets. Taxation proposals have to be submitted to a higher level of government for approval. This fundamentally violates the norms of fiscal autonomy, especially since these proposals are approved anyway by the elected house of councillors. Second, municipal governments have to depend on grants from higher levels of government which are discretionary and uncertain in character. This greatly complicates the task of financial planning and budgeting. Wherever possible, those ad hoc grants need to be replaced with revenue sharing or other arrangements which are more predictable in character (as discussed in Section 4). Third, in some countries (like Pakistan) budget allocation criteria have been established which specify the portion of municipal budgets that should be devoted to development or to particular sectors. This has led to distortions in behaviour and in reporting practices. Such regulatory standards need to be abandoned and replaced by appropriate incentive schemes like matching grants to achieve the desired outcomes.

7.8 Fourth, projects above a certain size frequently have to be submitted for approval by higher authorities. This tends to create long delays and cost overruns. It appears that while this may be a legitimate practice for loan-financed projects the rationale in the case of self-financed development

schemes is not clear. Fifth, senior level appointments in key departments within municipal government like administration, finance and accounts, taxation, etc., are generally made by higher levels of government. Civil servants are assigned who rotate from one city to another. This not only restricts the upward mobility of local staff but also potentially creates a conflict situation between elected and bureaucratic components within local government. The executive heads of megacity governments clearly need to be given more appointing powers.

### **7.3 Improvements in Financial Management**

7.9 Greater accountability and transparency in the operations of megacity governments can be introduced by establishment of proper rules and procedures for financial management and greater public dissemination of financial and other information. One of the potential advantages of opening up access to capital markets to megacity governments and specialised service agencies is that it will increase accountability in the market place. Innovations in financial management and reporting systems will become essential if external funds are to be attracted.

7.10 Currently, in many megacity governments financial practices are generally based on single entry cash accounting on an annual basis. Financial systems are traditional in character and elaborate procedures of documentation have been established primarily to facilitate control and prevent leakages of funds. The financial records are usually structured by a chart of accounts which identifies main service categories and within each category separates costs of staff (establishment), supplies (contingencies) and new works (development expenditure). There is not much emphasis on development of management information systems to facilitate financial decisions.

7.11 Financial management reforms must include, first, improvements in billings and collection. Given sizeable economies of scale, gains from computerisation are high in megacities. Second, as the policy for pricing of services becomes more cost based, the need for proper cost accounting systems will increase. Third, budgetary control operates as a blunt tool with little regard to overall targets and priorities. Appropriate incentive systems will have to be put in place to ensure adherence to targets. Fourth, financial control needs to be extended to more effectively encompass areas like cash flow management and creditor/debtor control.

7.12 Expenditure planning is seldom undertaken in a multi-period framework. Many megacities do not even have planning and development departments. Consequently, municipal budgets are of little use as planning documents. The link between expenditure and income raising decisions, which



forms the basis of budgeting, is not clear. Also, project approval procedures tend to be cumbersome in character and involve little economic appraisal in a scientific manner of benefits versus costs.

7.13 The audit function is centralised usually within the relevant department at the state/provincial government level. The primary focus of audits is to assist the municipal administration in maintaining accurate accounts and prevent against any fraud or misappropriations. Audit manuals generally exist and specify the normal checks. However, the overall planning of audit and the auditing standards to be applied are not clearly defined. Furthermore, auditing techniques such as systems audit and statistical sampling are not yet widely in use.

7.14 The potential gains from improvements in financial management by megacity governments are high. This will not only help in greater mobilisation of resources but also in their more efficient utilisation.

#### **7.4 Institutional Support for Borrowings**

7.15 Many of the megacities are at a stage of development when large capital-intensive projects are required in mass transit, trunk infrastructure for water supply, sewerage, drainage, etc.,. Most of these investments probably have large social returns and the future revenue stream can potentially be organised to cover the debt servicing liabilities, provided there is access initially to capital funding. Revenue surpluses from current budgets are unlikely to be able to satisfy the demand for capital. Borrowings either from higher levels of government or from donor agencies or directly from the capital market are potentially the mechanisms available for financing the infrastructure investments.

7.16 National governments have generally been supportive of municipal governments either through occasional capital grants for special projects or by enabling access to international donor agencies like the World Bank, ADB, etc., for projects/programs related to urban development. In many Asian megacities there are currently a large number of such on-going investment activities. National governments have generally, however, been reluctant to let megacities seek significant amounts of funds directly from the domestic capital market for a variety of reasons. First, there is fear of loss of monetary control and of concomitant problems with effective macroeconomic management. Second, given the negative perceptions about institutional capacity to execute large projects and to organise the revenue cover, there are apprehensions about the future debt servicing capacity. Third, national governments borrow large amounts through banking and non-banking channels to finance

budget deficits and there is concern that entry of new borrowers will increase competition for the limited funds and bid up interest rates generally.

7.17 Therefore, what are the options for increased resort to capital funding by megacity governments? One option is borrowing through financial intermediaries like development financial institutions (DFI), regional development finance corporations or by the establishment of separate municipal funds. Although provisions exist in some countries for borrowings through DFIs the quantum of lending to municipal governments has been small because of the lack of attractiveness of long-gestation infrastructure investments in relation to industrial projects. Municipal development funds have been established in some countries (like Phillipines, Indonesia and Sri Lanka) and have a mixed record. Large megacity governments are better placed to avail of the opportunities made available by such funds because of relatively greater capacity for preparing feasible projects and greater scope for raising revenues to meet debt servicing obligations than smaller city/town municipal governments. However, there is a stronger case for establishing a separate credit line for megacity governments through one or more of the DFIs because of the greater capability of such institutions to assess risks and evaluate loan requests than government functionaries who generally manage municipal development funds. Such credit should be commercial in character and not involve any degree of concessional lending. This is essential if resources are to be mobilised from the capital market for onward lending to municipal governments and if these governments are to utilise resources efficiently.

7.18 Given the process of financial sector liberalisation that is going on in many countries and the transition to a market-based system it may now be the time to permit some access directly to megacity governments to the domestic capital market. This is already happening in some countries, like Korea. Ito [1992] estimates that in Korea the percentage of revenue gained through local bond issues rose from 4 percent in 1970 to over 10 percent in 1990. Significant advantages are that local fiscal autonomy is reinforced and it becomes possible to transfer the burden of financing to the next generation of beneficiaries with presumably higher per capita incomes. Also, it is possible that residents living in a particular jurisdiction may be more willing to buy local bonds if they perceive that some of the benefits from projects financed this way will accrue directly to them.

7.19 However, entry of megacity governments into the capital markets of developing countries will be a difficult and arduous process. In many such markets, even corporate debt instruments have not yet found a place despite the strong financial standing of many large companies. National or federal

bonds (with underlying guarantees) have tended to crowd out other portfolio choices. Perhaps, as initial support only, the national government may contemplate giving a guarantee to local bond offerings to establish their presence in the capital market. This could, of course, only be done for projects which unambiguously have high priority. Alternatively, some income tax deductibility provisions may be instituted against interest payments to lenders at least for financing of projects which are targeted to the urban poor.

7.20 Credit-rating agencies can play a role in enabling the market to assess the risk of lending to new borrowers like megacity governments. However, such agencies have emerged only recently in many countries and have yet to establish fully their credibility even in the assessment of corporate paper. It seems more feasible that credit-rating agencies can provide some institutional support to companies contemplating market financing for BOT infrastructure projects like (toll) inter-urban highways.

## **8. CONCLUSIONS AND RECOMMENDATIONS**

### **8.1 Principal Conclusions**

Based on the analysis in the preceding sections, we are now in a position to summarise the elements of the strategy of financial development of megacities as follows:

- i) Revenues from local taxes should be targeted at the level appropriate to cover all the operating and capital costs of 'pure' public goods like street lighting and cleaning, traffic signalling, etc., and bulk of the corresponding costs of 'club' goods like urban roads, libraries, parks, fire protection services, police services, parks and playgrounds, etc., especially in the absence of congestion.

Local taxes can also be used to subsidise the provision of 'private' goods like primary education, water supply, solid waste disposal, etc., which are natural monopolies [average costs above marginal costs] or confer significant positive externalities or where affordability considerations limit the scope for user charges. It would need to be demonstrated in the latter case, however, that the taxing mechanisms are more progressive in nature. Alternatively, taxes can be used as instrument for discouraging activities which impose negative externalities like environmental pollution, noise, congestion, etc., on society at large. Given these principles it should be possible for municipal governments to broadly work out the share of revenues to be financed by local taxes.

- ii) The strategy of resource mobilisation should involve primarily the development of property-related taxes and the gradual reduction in importance of entry/exit taxes, sumptuary taxes, etc.
- iii) User charges on publicly-provided 'private' goods and services like water supply, sewerage, etc., should be based on full-cost (operating and capital) principles and should be pitched below costs only in the presence of significant economies of scale or positive externalities. Aspects of affordability would also need to be considered, especially of the urban poor.
- iv) Fiscal transfers from higher levels of government can be considered as a legitimate source of revenue largely in the presence of a fiscal 'imbalance', when the expenditure responsibilities of municipal governments arising from the allocation of functions exceed the scope for efficient mobilisation of revenues from taxes falling within the domain of local fiscal powers. In such cases, reassignment of taxes needs to be explored.
- v) The preference for the form of fiscal transfers should be towards tax base sharing or mandatory revenue sharing rather than discretionary grants to preserve fiscal autonomy of local levels of government.
- vi) Access to loans from higher levels of government or directly from the capital market should be facilitated in the case of lumpy, capital-intensive projects, subject to the presence of adequate implementation capacity and future revenue cover to enable full debt-servicing.

Based on the above principles, it appears that in future years the reliance on user charges ought to be increased with a concomitant reduction in the share of local taxes. The role of fiscal transfers by higher levels of government will remain ambiguous and largely a function of the specific situation. Also, it can be expected that more elaborate institutional arrangements will be evolved generally to enable greater access of megacity governments to market borrowing.

We now turn to specific recommendations which can either be implemented in the short run (by the year 2000) or in the long run (by year 2010).

## **8.2 Short Run Recommendations**

We present these recommendations separately for each source of municipal finance and in the area of decentralisation and accountability.

### ***User Charges***

- (i) High priority may be attached first to raising the level of technical efficiency, especially by reduction in system losses, in water supply and to reduction in revenue leakages through improvements in billing and collection systems. Both improvements will require reforms in the institutional framework and in the incentive system for managers.
- (ii) A transition may be achieved to tariffs for water supply, sewerage, etc., based on full-cost (average incremental cost) principles. This policy may be implemented gradually involving price escalations in a framework of five years or so.
- (iii) Consumption charges should be linked to quantity consumed (via metering) and large residential consumers may be progressively metered.
- (iv) Block rates for water supply may be made more exponential in cases where there is evidence that large consumers contribute to peak demand.
- (v) Mechanisms (by metering or sampling) may be put in place for measuring the discharge of effluents and the pricing of sewerage services related to the quantity and toxic intensity. The sewerage rate must include a component of pollution taxation.
- (vi) Principles of full-cost pricing, subject to considerations of externalities and equity, may be applied to all services which are not in the nature of public goods.

### ***Land Pricing***

- (i) All quotas in land allocations by public land development authorities may be eliminated.
- (ii) Pricing of land may be linked to market prices. Balloting should be replaced by auction.
- (iii) Priority must be attached to achieving improvements in land acquisition procedures by legislation and other reforms. The scope for land readjustment may be incorporated in these changes.

### ***Property Tax***

- (i) Emphasis must be placed on rationalising, broad-basing and simplifying the property tax system to the extent possible. The first priority should be on decentralisation of property tax administration to the megacity level and on strengthening this administration.
- (ii) Activities of assessment, record keeping, collection and handling of appeals must be separated. Private sector expertise may be involved in the valuation process.

### ***Inter-governmental Transfers***

- (i) Discretionary or conditional grants may be replaced by more elaborate revenue-sharing or tax base sharing arrangements.

### ***Decentralisation and Regulation***

(i) Higher levels of government may withdraw regulations on megacity governments relating to approval of taxation proposals, projects and appointments. Budget allocation criteria must be made more flexible.

### ***Financial Management***

- (i) Computerization may be undertaken of accounting systems, billing and collection, etc.
- (ii) Financial control systems may be developed for better cash flow management and handling of creditors/debtors.
- (iii) Audit practices may be improved by specification of proper auditing standards and resort to techniques like systems audit and statistical sampling.

### ***Capital Funding***

(i) A separate credit line may be established in one or more development finance institutions to finance lumpy infrastructure projects by megacities. Alternatively, a municipal development fund may be created.

## **8.3 Long Run Recommendations**

### ***User Charges***

(i) A pricing policy may be adopted for water/supply, sewerage, etc., which charges differential prices from consumers who impose varying costs on the system. These differentials can be a function of the type of consumer, location, time of use, season etc.

### ***Land Pricing***

(i) A system of valorisation or development charges from beneficiaries may be evolved to finance costs of infrastructure investments with well-defined spatial impacts.

### ***Property Tax***

(i) In cities with annual rental value system of taxation, a transition may be made to capital value taxation, which includes vacant land in the tax base.

### ***Other Taxes***

(i) Entry taxes (like octroi) and sumptuary taxes may be gradually phased out in the long run.



- (ii) Retail sales tax may be explored as a revenue option.

### ***Inter-Governmental Fiscal Relations***

- (i) In the presence of a fiscal imbalance, legislative amendments may be explored for changing the allocation of taxes between different levels of government or for building in provisions for tax base sharing.

### ***Decentralisation and Regulation***

- (i) A process of consolidation may be undertaken whereby local, autonomous service and development agencies are brought under the ambit of megacity governments.
- (ii) Institutional capacity of megacity governments should be enhanced to perform planning and development functions, implement sophisticated financial systems and modernise tax administration.
- (iii) Salary scales of professional staff within megacity governments may be brought close to levels in the private, corporate sector.

### ***Financial Management***

- (i) The accounting systems may be changed from single entry cash accounting to double entry accrual accounting.
- (ii) Management information systems (with computerised data banks) may be put in place to facilitate financial and other decisions.
- (iii) Expenditure planning may be undertaken in a multi-period framework and a system evolved of making financial projections over a period of at least five years.

### ***Borrowings***

- (i) Entry of megacity governments directly into the domestic and international capital markets may be facilitated by initial support from the national government in the form of guarantees especially for high priority infrastructure projects.
- (ii) Credit rating agencies may be involved not only in the assessment of the credit worthiness of local governments but also of companies contemplating BOT infrastructure projects.

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