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## **MUNICIPAL, FINANCES - A CASE STUDY OF KARACHI**

*Aisha Ghaus*

### **ABSTRACT**

*This paper undertakes the analysis of the fiscal state of major civic agencies operating in Karachi for the period 1972-73 to 1984-85. Resource mobilisation and trends in expenditures on major municipal services are analysed and a composite index of the level of urban services provided is constructed for the period of analysis. Also, buoyancies of major municipal taxes/rates is estimated to analyse their revenue generating potential. Decomposition of the buoyancy coefficient into tax-to-base and base-to-income components is done. Finally, a set of policy recommendations is presented to enhance the extent of municipal resource mobilisation. These include measures for higher revenue generation through existing taxes, new sources of revenues and revenue-sharing transfers.*

Karachi has grown from a small harbour town inhabited by about 500,000 people at the time of independence to the biggest urban centre of the country. According to the 1981 population census Karachi accommodated approximately 5.2 million people, which constituted 22 percent of total urban population of Pakistan. Enormous influx of

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migrants initially from India (following independence) and later from other parts of the country has increased Karachi's population at a rate of 6 percent in the 60s, 5.7 percent in the 70s and 4.5 percent in the 80s. These annual population growth rates are higher than the growth rates experienced in the country as a whole during the corresponding periods. Although the rate of growth has slowed overtime, Karachi is expected to have well over 11 million inhabitants by the end of the century.

The city's attractiveness to migrants is primarily due to its economic vitality. In 1984-85, Karachi accounted for more than 19 percent of the nation's Gross Domestic Product, growing at an annual rate of 5.9 percent during the past fourteen years.<sup>1</sup> Its share in the major sectors of the national economy are; manufacturing 24 percent; banking & insurance 41 percent; construction 16 percent; and transport and communications 18 percent. Because of all these factors, Karachi generates a per capita annual income of Rs.12,672 which is approximately 3 times that of Pakistan. (See Bengali, (1987)).

A direct consequence of a higher income level and the resultant increase in migration (along with natural increase in population) is that the demand for urban services has increased rapidly overtime. The inability of the local authorities to adequately meet the needs for land and other basic amenities has led to the development of sub-standard, congested squatter settlements in the city. According to an estimate, 37 percent of Karachi's population lives in Katchi Abadis. The recent escalation in the level of violence, especially due to ethnic factors, largely concentrated in the poorer neighbourhoods of the city is perhaps an indication of the dissatisfaction with the quality of life. This perception of an inadequate provision of public services is, however, not just restricted to the relatively poorer sections of population in Karachi.

Clearly, if the city is to maintain a semblance of order in the conduct of economic and other activities then fundamental structural changes will be required to ensure fuller community participation, especially of the lower income groups who feel largely disenfranchised, particularly in the allocation of scarce public funds. The tax structure will have to be developed to mobilise more resources to ensure an adequate supply of public goods to all. Also, it is important to ensure that the taxation structure acts as a redistribution device.

The objective of this paper is to explore possibilities of further development in the municipal finances of the city. Section II defines the role of various municipal agencies, operating in the city. Section III describes the fiscal powers, revenue sources and expenditure distribution of these local agencies. To determine the state of municipal finances, financial analysis of these agencies is carried out in section IV. Some assessment of the trend in and the present level of service provision is done in section V followed by a detailed analysis of the level of municipal resource mobilisation in section VI. Finally, based on the analysis a set of proposals is presented in section VII that will ensure a higher degree of resource mobilisation at the municipal level.

## SECTION II

### ROLE OF MUNICIPAL AGENCIES

Under the federal system of government of Pakistan, the responsibility for urban development policy is split between the federal & provincial governments, while implementation is almost exclusively the responsibility of the provincial governments and the local government agencies constituted under them. Karachi Metropolitan Corporation (KMC) and Cantonment Boards (in the case of military settlements) are the basic units of urban administration. KMC is the elected local government of the city, governed by a Mayor and a Council. The latter consists of 204 elected councillors from the different wards of the city. It is mainly concerned with urban maintenance functions. However, over time the municipal government has built up significant development capability also. Its major responsibilities consist of public health, communications, fire protection, recreation, katchi abadis upgrading, primary education, curative health, etc.

Karachi Water & Sewerage Board (KWSB), a subsidiary of KMC, was formed in 1983 through a merger of KMC's water distribution and sewerage functions and the bulk water production operations of the Karachi Development Authority. KWSB now performs these functions throughout the metropolitan area.

Karachi Development Authority (KDA) is the city's primary

builder of infrastructure. Its principal activity is the development of land along with flood control works and the construction of some water supply projects, as executing agent for KWSB. In addition, it undertakes city master planning (the preparation of urban and regional plans for Karachi), building control and traffic engineering functions.

The counterpart of these local authorities in the Cantonment areas is the Directorate of Military Lands and Cantonments (MLC). All urban development and maintenance activities in the six cantonment areas in Karachi fall under the control of this authority which operates under the federal government. The cost of services is directly financed through own sources by the Cantonment Board.

### SECTION III

#### *3.1 Municipal Fiscal Powers and Revenue Sources*

Municipal agencies in Karachi are regulated by the Sind Local Government Ordinance of 1979, which has been amended somewhat in subsequent years. The Ordinance contains provisions relating to the local government functions, administration and fiscal powers. In all twenty-nine different kinds of levies are permitted under the Ordinance.

The structure of Karachi's Municipal finances is given in Table 1. The table includes revenues of the major civic agencies operating in the city, namely KMC, MLC, KDA & KWSB. The extreme dependence on taxes, a feature common to the public finance structure of Pakistan, is striking in Karachi's municipal accounts as well. In 1984-85, 67 percent of the total revenue receipts are generated through taxes. Also, there has been a tendency for the share of taxes in total revenues to increase overtime.

Octroi heavily dominates the revenues of Karachi. It accounts for more than half of the total revenues generated. The other important source is the property tax. This is the only tax which is currently being shared between the provincial and the municipal governments in Pakistan. In Sind, eighty-five percent of the revenues (net of costs of collection) are being given by the provincial government to local bodies. Betterment tax is the other tax which the provincial government collects and passes on to the local governments. Its contribution to local finances is very meager.

TABLE - 1

MAJOR MUNICIPAL SOURCES AND THEIR SHARES IN TOTAL REVENUE  
RECEIPTS 1972-73, 1978-79 AND 1984-85

TAXES	(Rs. in million)					
	1972-73		1978-79		1984-85	
	Receipts	Share in Receipts	Receipts	Share in Receipts	Receipts	Share in Receipts
<b>1. MUNICIPAL TAXES</b>	<b>58</b>	<b>32</b>	<b>252</b>	<b>48</b>	<b>770</b>	<b>54</b>
Octorio	56	31	242	46	746	52
Cinema Tax	n	n	6	1	13	1
Others	2	1	4	1	11	1
<b>2. SHARED PROVINCIAL TAXES</b>	<b>19</b>	<b>11</b>	<b>37</b>	<b>9</b>	<b>181</b>	<b>13</b>
Property Tax <sup>a</sup>	19	11	36	7	166	12
Betterment Tax <sup>b</sup>	-	-	1	n	15	1
<b>3. RATES</b>	<b>29</b>	<b>16</b>	<b>63</b>	<b>12</b>	<b>162</b>	<b>11</b>
Water Rate	13	7	37	7	110	7
Conservancy Rate	12	7	20	4	41	3
Fire Rate	4	2	6	1	11	1
<b>4. FEES, CHARGES &amp; LICENCES</b>	<b>4</b>	<b>2</b>	<b>20</b>	<b>4</b>	<b>38</b>	<b>3</b>
Income from medical instt.	n	n	2	n	5	n
Scrutiny Fees	2	1	6	1	8	1
Others	2	1	12	3	25	2
<b>5. OTHERS</b>	<b>70</b>	<b>39</b>	<b>153</b>	<b>29</b>	<b>160</b>	<b>19</b>
Income from investment	1	1	15	1	22	1
Rent & Income from Land	11	6	20	4	13	1
Grants from Prov/ Fed. Govt. <sup>c</sup>	2	1	10	2	30	2
Inc. from bulk water supply	47	26	100	19	107	8
Others	9	5	18	3	95	7
<b>TOTAL REVENUE RECEIPTS</b>	<b>180</b>	<b>100</b>	<b>525</b>	<b>100</b>	<b>1311</b>	<b>100</b>

\* Includes revenues of KMC, KDA, KWSB and MLC

a - Collected by the provincial government and shared with KMC

b - Collected by the provincial government but revenues handed over totally to KMC, net of cost of collection.

c - Primarily for primary education.

n - negligible

Besides, the municipal government levies other small taxes which altogether constitute only 2 percent of total revenues. These include cinema tax, advertisement tax, toll tax, vehicle tax etc.

A number of rates, fees, charges are also levied by the municipal government. These are levies against various municipal services provided. For example, water rates are charged for water supply services, fire rate for fire brigade services etc. Altogether rates, licenses, fee and charges accounted for 14 percent of total municipal revenues in 1984-85. The highest revenue contribution among these are of water rates and conservancy rates. Among the non-tax revenues, important are incomes from bulk water supply, investments, land and grants received from the provincial/federal governments.

As has already been mentioned, military lands and cantonments fall outside the jurisdiction of the metropolitan corporation of Karachi. They generate their own resource and incur their own expenditures and, by and large, operate under the federal government. In all only 5 percent of the total revenues generated by the municipal authorities in Karachi accrue to MLC. Their share in Karachi's population is 6 percent.

It may be mentioned here that property tax, professional and calling tax and entertainment tax (otherwise a provincial government subject) are collected by the MLC on their land.

On the capital side, major source of finance are the current account surpluses, funds from the provincial/federal governments (including loans from international agencies) and income from lands and investments. In 1984-85, current account surpluses financed approximately 31 percent of Karachi's capital expenditures. 23 percent of the capital expenditures were financed by income from land and investments.

A brief mention of the Karachi Special Development Programme (KSDP) needs to be made here. The implementation of KSDP started from 1986-87 which is financed by the World Bank and the Asian Development Bank. KMC has been awarded three projects under the KSDP. These include solid waste management, katchi abadi upgrading and accounting assistance to KMC.

### 3.2 Expenditures

Municipal governments share the responsibility of provision of some important social and economic services with the provincial governments. These include education, health and communication (Roads, bridges etc.) Provision of other services like water supply, sewerage and drainage, fire protection and public health etc., are however, the sole responsibility of local governments. Service-wise details of total expenditure incurred in 1984-85 along with their recurring and development shares is given in Table 2. The table reveals that an equal proportion, 50 percent of the total expenditure incurred in Karachi in 1984-85 was developmental in nature. This proportion is much higher compared to the higher levels of government. For the same year only 33 percent of federal and 23 percent of provincial expenditures were developmental in nature.

TABLE - 2  
SERVICE-WISE DISTRIBUTION AND SHARES OF RECURRING  
AND CAPITAL EXPENDITURES IN KARACHI\*  
1984 - 85

Head	Total (Rs. in million)	Share In Total Expenditure %	% Incurred As Recurring Expenditure	% Incurred As Capital Expenditure	Total
General Administration	210	10	100	0	100
Medical Services**	77	4	83	17	100
Public Health	226	10	83	17	100
Communication	382	18	24	76	100
Education**	81	4	94	6	100
Water supply	363	17	58	42	100
Sewerage & Drainage	179	8	41	59	100
Land	355	16	3	97	100
Recreation	90	4	43	37	100
Fire Fighting	15	1	70	30	100
Social Services	18	1	77	23	100
Others	164	7	95	5	100
<b>Total Expenditures</b>	<b>2160</b>	<b>100</b>	<b>50</b>	<b>50</b>	<b>100</b>

\* Includes expenditures of KMC, KDA, KWSB, and MLC.

\*\* Does not include provincial government expenditures.



In the intersectoral distribution, highest priority areas (as reflected by their share in total expenditures) are communications, water supply and land development. Communication accounts for 18 percent of the total expenditure incurred in Karachi followed by water supply 17 percent, and land development 16 percent. By and large, a higher proportion of these expenditures was incurred on the improvement and development of services.

Medical services along with education have taken up 8 percent of the total municipal expenditures in 1984-85. As already mentioned these services are provided by both the local and provincial governments in the city. Little developmental activity took

## SECTION IV

### THE STATE OF MUNICIPAL FINANCES IN KARACHI

Allocation of functional responsibilities discussed in the previous section, highlights the vital role of the local authorities in the provision of basic public services in Karachi. Since the quantity and quality of the services provided depend on the state of finances of the providing agency, it is important to see what has been happening to the revenues and expenditures of these agencies over time.

Analysis reveals that municipal expenditures have grown faster than receipts during the period 1972-73 and 1984-85. The annual cumulative growth rate of expenditure is estimated to be 15.8 percent while the growth rate of receipts during the corresponding period was 14.5 percent. This divergence is primarily the consequence of an imbalanced growth in the capital accounts. The growth rate of capital expenditure is substantially more than the growth rate of capital receipts, which is estimated to be 9.3 percent. Increased developmental activity, particularly in the 80's has increased capital expenditures of the municipal governments by 16.7 percent annually.

As opposed to the capital accounts, the current accounts exhibits a reverse pattern. Current revenue has grown at a rate of 17.5 percent whereas the growth rate of current expenditure has been 14.8 percent. In the public finance hierarchy of Pakistan this is the lowest growth rate

in current expenditure.

The higher growth rate of revenues in comparison to expenditures explains the growing pattern of surpluses in the current accounts of Karachi. Current account surpluses have grown from 14 percent of current expenditure in 1972-73 to 32 percent in 1984-85. The magnitude of the surplus was Rs. 342 million in 1984-85 (see Table 3).

By and large all the agencies, except KWSB have contributed to the current surpluses of Karachi. KDA. has huge surpluses, followed by KMC. KWSB is the only agency which shows a deficit since its commencement. In 1984-85, its deficit was Rs. 202 million which amounted to approximately 72 percent of its current expenditure.

In contrast to the current account, capital account exhibit consistent and increasing deficits. Deficits have increased from Rs. 33 million in 1974-75 to Rs. 703 million in 1984-85. These capital account deficits are almost a constant feature for all civic agencies except KDA. KDA incurred a deficit in just three of the last thirteen years analysed.

Overall, Karachi's municipal finances show a net budgetary deficit. The overall deficit was approximately 17 percent of the total expenditures in 1984-85. The cumulative deficit for the period of analysis was Rs. 794 million in 1984-85.

## **SECTION V**

### **ANALYSIS OF THE PROVISION OF MAJOR PUBLIC SERVICES**

The budgetary gap in the finances of Karachi is likely to have an adverse impact on the ability of the municipal authorities to adequately and efficiently meet the demand for public services in the face of growing population. However, since provision of services is divided among different agencies, the overall financial constraint is unlikely to affect all the services equally. Thus a disaggregated analysis of the individual public services needs to be undertaken to see the varying impact of the financial constraint on various services.

TABLE - 3  
OVERALL STATE OF MUNICIPAL FINANCES IN KARACHI (1972-73 TO 1984-85)

	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
(Rs. in Million)													
<b>L AGENCIES COMBINED</b>													
Current Revenue	180	239	267	333	349	421	525	630	793	915	1145	1324	1418
Current Expenditure	158	202	252	298	323	374	375	465	604	684	806	991	1076
Current Deficit/Surplus	+23	+36	+14	+35	+26	+47	+165	+189	+231	+339	+333	+342	
Capital Receipts	166	185	295	222	290	290	305	376	556	538	389	684	381
Capital Expenditure	165	206	328	243	274	345	354	416	669	860	924	939	1084
Total Deficit/Surplus	+23	+18	-19	+14	+41	-8	+101	+124	+76	-91	-187	+78	-362
<b>RACHI METROPOLITAN CORPORATION</b>													
Current Revenue	111	159	189	248	254	291	384	459	549	628	891	976	1043
Current Expenditure	99	135	168	198	207	258	251	327	380	437	547	664	713
Current Deficit/Surplus	13	24	21	50	47	32	133	132	169	189	344	311	330
Capital Receipts	15	23	21	24	25	16	14	52	14	41	51	90	47
Capital Expenditure	45	60	88	76	75	85	122	226	313	336	278	438	
Total Deficit/Surplus	-17	-13	-47	-15	-4	-27	+62	+62	-43	-83	+59	-57	-61
<b>RACHI DEV. AUTHORITY</b>													
Current Revenue	64	71	66	73	83	110	123	143	206	245	75	89	73
Current Expenditure	55	61	74	90	106	101	112	121	193	217	54	37	33
Current Deficit/Surplus	+9	+11-8	-17	-23	+8	+11	+24	+14	+29	+22	+52	+41	
Capital Receipts	151	160	272	195	262	266	283	308	517	481	339	589	318
Capital Expenditure	120	143	237	146	193	262	257	278	429	519	418	480	451
Total Deficit/Surplus	41	28	28	32	46	12	37	55	102	-9	-158	161	-92

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**MILITARY LANDS CANTONMENTS**

Current Revenue	5	8	11	12	12	21	19	27	38	43	46	62	72
Current Expenditure	4	7	10	11	10	14	13	17	31	30	43	52	62
Current Deficit/Surplus	+1	+1	+1	+2	+2	+6	+6	+9	+6	+13	+3	+9	-11
Capital Receipts	1	3	2	3	3	9	8	16	25	17	8	6	15
Capital Expenditure	1	2	3	5	5	8	12	17	14	28	24	22	33
Total Deficit/Surplus	+0	+1	+0	+0	+0	+7	+2	+8	+17	+1	+13	-83	-7

**KARACHI WATER AND SEWERAGE BOARD**

Current Revenue	0	0	0	0	0	0	0	0	0	0	132	198	228
Current Expenditure	0	0	0	0	0	0	0	0	0	0	161	237	268
Current Deficit/Surplus	0	0	0	0	0	0	0	0	0	0	-30	-39	-39
Capital Receipts	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital Expenditure	0	0	0	0	0	0	0	0	0	0	46	159	163
Total Deficit/Surplus	0	0	0	0	0	0	0	0	0	0	-76	-198	-202

Table 4 gives the trends in current and capital expenditures on major municipal services for the period 1972-73 to 1984-85. The table reveals that in almost all the major services capital expenditures have grown faster than the corresponding current expenditures. Growth rate in current expenditures have ranged between 12 to 20 percent. Highest growth sectors have been communications, recreation and primary education. Water supply, which was one of the highest priority areas in 1984-85 (as reflected by its share in total current expenditure), has grown at a rate of 14.8 percent. The rate has been particularly high since the transfer of water production and distribution to KWSB.

Public health services exhibit fastest growth in capital expenditure in Karachi. They, however, accounts for only 3 percent of total municipal capital expenditures in 1984-85. Among the slowest growing services are medical services and primary education.

TABLE - 4  
GROWTH RATES OF CURRENT AND CAPITAL EXPENDITURES\* ON  
MAJOR PUBLIC SERVICES, 1972-73 TO 1984-85

SERVICES	Percentages	
	CURRENT EXPENDITURE	CAPITAL EXPENDITURE
	Growth Rate	Growth Rate
Medical Services	14.5	8.3
Public Health	14.5	6.4
Communications	20.3	31.8
Primary Education	16.7**	3.1
Water Supply	14.8	10.8
Sewerage & Drainage	14.3	17.1
Recreation	17.3	21.3
Land Development	-	20.8

\* Includes the expenditures of K.M.C., K.D.A., K.W.S.B., M.L.C

\*\* Also includes the expenditure of the Provincial Government

The growth rates of expenditures on other services are, however, high ranging between 17 to 35 percent. It becomes crucial, at this point, to analyse how representative these rather high growth rate are of the

high rates because of the low level of the base of expenditures in the early 70's or are these a reflection of the high inflationary pressures experienced in the economy during the period of analysis? Or has the level of provision of various services actually increased so rapidly over the past decade or so? We attempt to answer these questions by constructing a Composite Index of the provision of major urban services in quantitative terms. This index will reflect growth in various services in real terms.

## COMPOSITE INDICES OF MAJOR PUBLIC SERVICES

### 5.1 Methodology:

Composite Index of the major urban service provided in the city in year 't' has been defined as:

$$CI_t = \sum_{J=1}^n W_{j0} \frac{Q_{jt}}{Q_{j0}}$$

where:  $CI_t$  = Composite Index for a urban public service in year 't'

$W_{j0}$  = Share of expenditure on the 'jth' service provided in total expenditure in the base year,

$Q_{jt}$  = Quantitative measure of provision of the 'jth' service in year 't',

$Q_{j0}$  = Quantitative measure of the 'jth' service in the base year.

Quantitative measures for various services are as follows:

Service	Quantitative measure
1. Water Supply	Water supplied(million gallons daily)
2. Sewerage & Drainage	Sewerage treated(million gallons daily)
3. Roads	Roads kilometers in Karachi
4. Education	Total number of enrollments in Karachi

5. Health	Total number of beds in Karachi
6. Transport	Seating capacity in government transport
7. Electricity	Total number of units sold(in GWH)
8. Gas	Sales volume (thousands of cubic meters)

### 5.2 Results :

The composite index of the overall provision of urban services has gone up from 85 in 1972-73 to 225 in 1984-85, at the base of 1975-76, (see Table 5). In per capita terms, the increase is from 99 in 1972-73 to 141 in 1984-85. Fastest growing services have been hospitals, buses and water supply. The least growth has been observed in sewerage treatment, roads and all levels of education. Further, urban services seem to have generally grown more rapidly after 1979-80.

It is important to emphasise that this index is just a representation of the quantitative increase in the services. It in no way captures the qualitative aspect of the services provided. For example, the overall increase in the capacity to supply water to the city is captured in the index. However, there is no reflection of the frequency of pipe line bursts which hinder the smooth supply of water, the low pressure of water supply to some parts of the city etc. Similarly, the increase in electric power breakdowns and loadshedding is not reflected in the index which just measures the increase in the electricity sold. It seems that perhaps the pattern of growth in services experienced in the city during the period of analysis is such that there has been an extension in services in quantitative terms at the expense of a qualitative improvement in service provision. This phenomenon is supported by a higher growth rate of capital as opposed and current expenditures in Karachi. The former is used for development of service while the latter reflects the funds directed to operation and maintenance.

Also, the index does not highlight the absolute level of provision of services, which is generally low. For example, in 1984-85, the per capita domestic consumption of water was 23 gallons per day (with less than half the population having piped connections), primary school

Table No. 5

## INDEX OF PROVISION OF URBAN SERVICES\*

	Water Supply	Sewerage Treated	Primary School Enrollment	Road Length	Secondary & Higher Enrollment	Hospital Beds	Seating capacity of Buses	GAS	Electricity	Overall Index of urban Services**	Index per Capita Population***	Index of
1972-73	100	100	89	47	91	79	34	86	86	85	99	86
1973-74	100	100	93	69	94	89	34	90	96	93	102	91
1974-75	100	100	96	91	97	97	66	88	100	95	100	95
1975-76	100	100	100	100	100	100	100	100	100	100	100	100
1976-77	100	100	103	111	105	106	105	105	102	103	98	105
1977-78	100	100	107	114	106	110	120	137	109	118	107	111
1978-79	100	100	109	116	111	112	133	153	119	128	110	116
1979-80	100	100	113	124	114	142	172	177	135	144	118	122
1980-81	125	100	117	134	118	197	273	182	132	149	115	129
1981-82	151	100	121	145	122	246	314	185	153	163	120	136
1982-83	195	100	125	159	124	298	339	189	159	171	120	142
1983-84	239	100	129	159	130	362	341	199	192	193	128	150
1984-85	255	100	133	159	135	440	341	217	238	225	141	157

\* Water supply, sewerage treatment, primary education and roads are provided by municipal governments; secondary and higher education, hospitals beds, buses are largely the responsibility of provincial governments; gas and electricity are federally provided.

\*\* The overall index has been constructed by taking weights for each services which are in proportion to expenditure by service

\*\*\* The growth rate is assumed at 4.5 percent.



enrollments were 68 percent of the school-going age population, 12 hospital beds per 10,000 population, only 19 percent treatment of sewerage generated and so on (see Table 6).

Therefore, it is clear that though expenditures on various services have grown at a high rate and the quantum of services provided has also grown over the past decade or so, the per capita level of provision of major public services is still very low. This is true for all services and particularly true for social services like education and health.

## SECTION VI

### BUOYANCY OF MUNICIPAL REVENUES IN KARACHI

Previous sections indicates that the financial constraint faced by the city has limited the ability of the local authorities to meet the need

TABLE - 6  
AVAILABILITY OF SERVICES IN KARACHI, 1972-73 TO 1984-85

	SERVICE	UNIT	1972-73	1977-78	1984-85
1.	Domestic Water Supply per Capita per day	gallon	17	13	23
2.	Extent of Treatment of Sewerage Generated	%	47	39	19
3.	% of School-Going Age* Children in Primary Schools	%	83	77	68
4.	Hospital Beds for 10,000 Population No.	No.	4	4	12
5.	Public Transport Bus seats per 1000 population	No.	13	35	68
6.	Plots Developed per 100 Incremental Households	No.	42	47	56

\*5-9 Years of age.

for public services overtime. Therefore, unless the performance in mobilisation of resources improve substantially, the local governments are unlikely to discharge their responsibilities in an adequate and efficient manner.

It is thus important to examine the present level and growth potential of the existing revenue sources under the local authorities.

This is done, in this section, through the analysis of buoyancy coefficients.

Buoyancy of a tax system gives the total responsiveness of tax yields to changes in national income. It is defined as a percentage change in total yield (or yields of individual taxes) associated with a given percentage change in GDP (or the relevant component of GDP). It shows the growth that results from an automatic growth of the base caused by the increase in GDP and from discretionary tax changes.

The magnitude of the buoyancy co-efficient depends on a number of factors which can be analysed by decomposing the buoyancy coefficient into tax-to-base and base-to-income components. The first gives the responsiveness of tax yield to a change in tax base while the latter encompasses the effect of changes in the tax base due to changes in income.

The value of the tax-to-base buoyancy depends on tax rates and the progressivity of the tax structure. If the rate structure is progressive or if there is an improvement in tax administration then the tax-to-base buoyancy is likely to be high, thereby implying a higher overall buoyancy. However, if high marginal tax rates induce higher evasion and corruption and if tax rates are specific rather than ad valorem then revenues may not rise proportionately with the increase in tax base and the buoyancy in this case would be less than unity.

The base-to-income buoyancy primarily depends upon the nature of relationship between changes in income and the tax base. This buoyancy can be assumed to be largely exogenous and beyond the control of the collecting agency. In contrast to this, the magnitude of the tax-to-base buoyancy can be influenced by policy action.

The buoyancy of the entire tax system at any particular time is the weighted sum of the buoyancies of the individual taxes, with weights corresponding to the revenue shares. If the share of buoyant taxes is higher the overall tax system will be more buoyant.

### 6.1 Choice of the Tax Base

In the analysis of buoyancy, it is important to correctly specify the tax base for each tax. The choice of tax base for the major municipal taxes/rates is as follows:

<b>Tax Rate</b>	<b>Tax Base</b>
Octroi Tax	Total Consumption Expenditure in Karachi
Urban Property Tax	Income generated from the Urban Ownership of Dwellings.
Water Rates	Income generated from Ownership of Dwellings.
Conservancy Rate	Income generated from Ownership of Dwellings.
Cinema Tax	Expenditure on Recreation in Karachi.
Advertisement Tax	Total Consumption Expenditure in Karachi.

Since octroi is a tax levied on goods which enter the boundaries of Karachi for direct consumption or industrial use (the products of which are eventually consumed), the total consumption expenditures in Karachi is taken as the base for the tax, see [Ghaus, (1987)]

Property tax is a tax for municipal services provided in the urban areas. As such the urban component of income generated in the ownership of dwellings sector of the city's economy is used as a base for property tax. Moreover, since in the economy of a Metropolitan city like Karachi, the rural component of ownership of dwellings sector is likely to be very small, all incomes generated in the sector are assumed to be urban.

Water rates are charged for the water services provided by the civic agency in Karachi. These charges were initially linked to the Net Annual Rental Value (NARV) of the properties. In 1981, the assessment basis was changed to plot size. However, since the value measure for the

property size is reflected in the ownership of dwellings sector of the regional account, the base for water rates is chosen to be the income generated as ownership of dwellings in Karachi. The same basis is used for conservancy rate since this is linked to the NARV of a property.

Cinema Tax is like a charge on entertainment and as such total expenditures on recreation in Karachi is the correct base for it. Lastly, expenditures on consumption is taken to be the tax base for advertisement tax. The rationale being that advertisements are meant to increase the demand of the products, which are reflected in the growing consumption expenditure in the city.

### *6.2 Measure of Buoyancy of Municipal Taxes/Rates*

The overall buoyancy<sup>2</sup> of municipal taxes is estimated to be 1.15. This means that for every 10 percent increase in Gross Regional Product (GRP), the municipal tax receipts increase by 11.5 percent, implying that municipal taxes are fairly buoyant in nature.

Table 7 gives the buoyancy of major municipal revenues sources. The table reveals that octroi, the single largest revenue source for the city has a buoyancy coefficient of 1.19. The other buoyant municipal tax is cinema tax. More than 90 percent of revenue from this tax is collected from the military cantonments. Buoyancy of other major municipal taxes like property tax and advertisement tax is, however, lower than one.

An analysis of the tax-to-tax base and tax base-to-income component reveals that the high tax-to-income buoyancy of octroi is a compound effect of both a high tax-to-base buoyancy component and the buoyant base of the tax. The 10 and 50 percent rate escalation in 1972 and 1982 respectively, an improvement in tax collection due to a handover of collection to private contractors and the advalorem nature of a major proportion of the levy (sea-dues) are important factors responsible for the high tax-to-base buoyancy of octroi tax.

High marginal propensity to consume has ensured that total consumption expenditure, the base for octroi, grows in line with the increase in GRP.

Property tax is a source which the lower tiers of government find

quite lucrative and is generally a major source of revenue for them. In Karachi, unfortunately, revenues from it have been largely stagnant. The constraints to its growth, reflected in the low tax-to-base component, are many. Lack of period reassessment of property values is a major problem faced by the tax assessing agency. The last

TABLE - 7  
BUOYANCY OF MAJOR MUNICIPAL REVENUES IN KARACHI  
1972-73 TO 1984-85

REVENUE SOURCE	TAX-TO-BASE BUOYANCY	BASE-TO-INCOME BUOYANCY	TAX-TO-INCOME BUOYANCY
Octroi	1.00	1.19	1.19
Property Tax	0.73	1.30	0.95
Advertisement Tax	0.68	1.19	0.81
Cinema Tax	1.14	1.51	1.72
Others	--	--	1.25
<b>Total Municipal Taxes</b>	--	--	<b>1.15</b>
Water Rate	0.69	1.30	0.90
Conservancy Rates	0.58	1.30	0.75
Licence, Fees & Charges	-	--	1.23

comprehensive assessment of property value was done in 1968-69, some seventeen years back. Since then the property values have gone up about four times. This means that currently only one-fifth of the tax base available is subjected to property taxation in the city. Besides, problems in the assessment procedure and various kinds of exemptions provided under the present structure have further eroded the tax base.

The inability of the taxation authorities to adequately capture the actual market values in their assessment of properties has adversely affected the revenue raising potential of some other sources as well. Important among these is the water rate. Since the basis of levying water rates was the NARV of a property till 1981, low assessed value had its bearing on water rate collections. Moreover, since 1981 there has been a switchover from ad valorem to specific tax structure. The tax which was originally charged on the basis of rental values is now charged on the basis of plot size (a physical entity). This switchover, though is

accompanied by an once-and-for all increase in water rate revenues<sup>3</sup> is likely to considerably reduce the long-run buoyancy of water rates, as is reflected in the low tax-to-base buoyancy. Also, water tariffs are low and have not been revised during the period of analysis.<sup>4</sup> All these factors have resulted in a rather low tax-to-base buoyancy of water rates.

Low tax-to-base buoyancy of conservancy rate is another consequence of the irregular property value assessment in Karachi. Moreover, the tariff charged is low (5 percent of the NARV) and has remained unchanged during the past thirteen years.

The tax-to-base buoyancy of advertisement tax is slightly below one. Leakage in revenue due to evasions alongwith the low rates, which have remained unchanged during the period of analysis, are major reasons for it.

The high tax-to-income buoyancy of total licenses, fees and charges is because important sources under this head are scrutiny fees and composition fees charged in connection with building and construction. In view of the boom in construction activities in the 70's and early 80's these revenues have grown fast which is reflected in the high buoyancy coefficient. Also, there has perhaps been an improvement in the collection effort.

### *6.3 Degree of Exploitation of Existing Revenue Potential of Major Municipal Taxes*

A comparison between the magnitude of revenues from a tax and the size of its base indicates the level of nominal incidence of the tax. This comparison has been undertaken for major taxes of the municipal pr government and is presented for the period from 1973-74 to 1984-85 in table 8. The level of nominal incidence is useful in determining whether a particular sector of the economy is overtaxed or undertaxed and the probability thereof of widespread evasion. Also, a comparison of the level of nominal incidence with the statutory rate of taxation indicates the extent to which the revenue potential of a tax remains unexploited due either to exemptions or evasion and corruption.

In 1973-74 revenues from property tax, were 6.9 percent of the tax

TABLE - 8  
REVENUE RAISING POTENTIAL OF THE MAJOR MUNICIPAL TAXES AND RATES 1973-74 TO 1984-85

	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
(Rs. in million)												
<b>OCTROI</b>												
Revenues	88.9	117.9	130.2	155.2	181.9	242.6	287.5	331.2	363.7	594.6	738.5	746.3
Tax Base (Total consumption Expenditure in Karachi)	17530	23405	22476	27163	29782	31488	38802	46278	58688	62061	75412	87287
Revenues as % of Tax Base 0.5	0.5	0.6	0.6	0.6	0.8	0.7	0.7	0.6	0.9	0.9	0.8	0.8
<b>PROPERTY TAX</b>												
Revenue*	59.0	59.0	62.3	66.8	74.5	71.0	89.8	111.3	127.8	141.1	158.4	176.3
Tax Base (Ownership of Dwellings)	893	1435	1877	2385	2902	3375	4401	5719	7269	8351	10247	11964
Revenue as % of Tax Base	6.9	4.4	3.5	2.9	2.8	2.2	2.2	2.1	1.9	1.8	1.7	1.7
<b>TOTAL MUNICIPAL TAXES/RATES</b>												
Revenues	151.6	182.8	199.5	228.2	267.3	323.6	401.3	548.9	593.9	766.4	939	962.0
Gross Regional Produce	14305	18713	21340	24559	29350	32784	40991	47515	57918	63322	76267	82587
Revenues as % of GRP	1.0	0.9	0.9	0.9	0.9	0.9	1.0	1.2	1.	1.2	1.2	1.2

\* Revenues include Gross Property tax collection including the Provincial Government's share alkso.

base. These have now fallen down to a mere 1.7 percent. Since the statutory rate is around 20 percent this indicates that there is massive under-exploitation of the tax base. Moreover, the fall from 7 percent in early 70's to just 1.7 percent in 1984-85 shows a tremendous deterioration, of almost 75 percent, in the fiscal effort of the government in the collection of property tax in the city. This is a clear indication of the extent to which the tax base has been eroded due to lack of periodic re-assessment of rental values, creeping exemptions and possible evasion. If these tendencies are checked, property taxation could yield more than four times as much as it currently does.

Revenues from octroi, though have been steadily increasing overtime, yet its incidence is less than one percent of the total consumption expenditures. The main reason for this is that the octroi rates (particularly in the case of land dues) are very low. Despite the 50 percent general escalation of rates in 1982, reflected in the jump in revenues as percentage of the base from 0.62 percent to 0.94 percent in 1982-83, the nominal incidence of octroi is still very low.

Moreover, the effective incidence of octroi is also not very broadbased. Octroi tax is levied only on goods entering the boundaries of Karachi for consumption. Goods manufactured indigenously are not liable to the payment of octroi. Since part of the consumption expenditure is on goods produced locally, they do not fall under the scope of octroi tax. Possible evasions (particularly in the case of land dues collections) may also be a factor contributing to the low incidence of octroi tax.

Total municipal taxes as a whole account for 1.2 percent of the total GRP of Karachi in 1984-85. This increase in the tax revenue-to-GRP ratio from 1 percent in 1973-74 is consistent with the high buoyancy of the municipal taxes highlighted earlier.

## **SECTION VII**

### **DIRECTIONS OF FISCAL REFORMS**

Analysis undertaken in the previous sections has led to the identification of the basic areas of fiscal reforms. The objective of this section is to spell out the various components of a policy package which follows from the analysis of municipal finances in Karachi.



We start first, with the presentation of a series of taxation proposals which could raise the level of revenue collection from existing municipal taxes. This would be followed by the identification of potential new sources of finance for the municipal government while the third part highlights scope for higher revenue sharing between the provincial and municipal governments.

### *7.1 Mobilisation Through Existing Municipal Revenues*

Review of municipal finances undertaken in the earlier sections of the paper has highlighted the principal issues in the context of local taxation. Clearly, the basic objective of levying municipal taxes is to finance the provision of urban public goods. In the context of the city of Karachi this includes flood control, drainage, garbage collection, street lighting, roads, preventive health services and fire protection. The list could be extended to include parks, libraries, museums, parking areas, community stand posts, etc., where mechanisms for collecting user charges are justified only in the event of congestion and/or they are expensive to administer. Given the inability to levy user charges by definition in the context of public goods, it is necessary to resort to taxation to generate revenues to finance the recurring and annual of such services.

In addition, due to the economies of scale in provision or externalities in the consumption of private goods like water, sewerage, primary education, curative health, etc., provided by municipal government there is a case for providing a subsidy on such services. These subsidies also have to be financed by general taxation.

Altogether, in the year 1984-85, it is estimated that the recurring expenditure on the above public goods by the various municipal agencies was Rs.521 million. The total subsidy on private goods like water, primary education and health was Rs.208 million and the estimated capital cost (in annual terms) of all services, Rs.540 million. Therefore, in 1984-85, the total revenue required from taxation were Rs.1,269 million. Actual tax revenues from octroi, property tax and other smaller taxes and rates (conservancy, fire) were Rs. 1,002 million. Therefore, the extent of enhancement required in tax revenue in the year was about one-fourths given the then prevailing level of provision of services. It is assumed that the same proportionate gap exists currently. As such, this

provides a minimum target of extra tax revenue which are to be mobilized by the municipal government. Of course, if it is proposed to expand the provision of urban services then the fiscal effort would have to be even greater.

### *Property Tax*

It has been demonstrated that the nominal incidence of property taxes on rental incomes from immovable property has declined from about 7 percent in 1972-73 to 1.7 percent in 1984-85. This sharp decline is primarily the consequence of the absence of periodic revaluation of the Gross Annual Rental Values (GARV) in line with inflation in price generally. As mentioned previously, properties are to be re-assessed once every five years. Whereas, in Sind, the last comprehensive reassessment of properties was in 1968-69, over seventeen years ago. During this period the rent index in urban areas is estimated to have increased by over 400 percent. In other words, the GARVs currently captures only about one-fifth of market rental values on the average.

The case, therefore, for a more or less, immediate reassessment of GARVs is very strong. The longer this process continues to be delayed on the ground of political expediency or otherwise the less will be the degree of exploitation of the revenue potential of this tax.

### *Octroi Tax*

In the past two decade, since the collection of octroi in Karachi, rates have been escalated twice. In 1973 there was a uniform escalation of 10 percent on all commodities. The second time rates were increased by 50 percent in 1982, again the escalation was a uniform across-the-board type. KMC seems to have adopted a policy of periodic, once and for all, escalation in octroi tax rates. While this policy gives discrete jump in revenues but does not ensure a steady growth in them. It is, therefore, suggested that the increase in tax rate should be made by the amount of average inflation of prices over shorter period of time, say, 3-5 years. The indexation of tax rates in this way will avoid jumps in revenues and will create a link between tax rates and the prices of various commodities.

Further, there is need to incorporate some changes in the relative tax rates of different commodities. Since prices of some commodities have increased much more compared to the others, uniform escalations

result in a different rate of effective taxes on different commodities. For example, the whole sale price index at the base of 1975-76, for wheat and gram is 164.39 and 444.49 respectively. With a 50 percent increase in the tax rates, both the commodities are taxed at Rs.285 per ton. This clearly shows a decline in the effective tax rate on gram relative to wheat. Differential enhancement in rates (higher taxation for goods consumed by high income groups and vice versa) will remove this anomaly.

### *Water Rates*

Water supply services in the city are largely subsidized. Presently, only the recurring costs of water provision are currently recovered through water rates. As such the immediate need for a higher level of resource mobilisation through water rates is quite urgent, especially since there appears to be a greater ability to pay for such charges. The switchover of water rates structure from NARV to plot size, which tantamounts to a switchover from advalorem to specific tax structure, has adversely affected the buoyancy of water rates. Following the recommended reassessment of property values, this change will deprive the municipal authorities of a significant magnitude of revenues which could potentially be generated. Moreover, since the present water rate structure has lost the in-built ability to generate additional revenues with an increase in property values, increase in revenues will require a higher frequency of rate escalation than before. It is, therefore, recommended that property NARVs should again be made the basis for water rate assessment. Linkage to NARVs will reduce the current regressivity bias in water rates.

Further, metering of water sales, except for bulk consumers is largely non-existent in Karachi. Since water rate is a user charge which should vary with consumption, metering should be introduced in the case of big consumers, where it is feasible. At least in the first stage, large commercial, industrial and residential users would have metered water supply.

Moreover, to gradually reduce the element of subsidy to the water sector and to make it more or less self-sustaining the policy of long run marginal cost pricing has to be adopted. This will require a substantial, but step-wise graduation of tariff rates in line with any perceived political constraints to large increase in the short run.

*Conservancy Rates*

No enhancement in conservancy rates has taken place during the period of analysis. The rates continue to be 5 percent of the NARV. On the other hand, total expenditures on preventive health, for which conservancy rates are charged have grown at annual compound rate of approximately 19 percent. In 1984-85 only 22 percent of the current expenditures on public health were recovered through conservancy charges. There is a case, therefore, for an escalation in the conservancy rates.

*7.2 New Sources of Revenues*

A study of fiscal powers of the Metropolitan Corporation of Karachi reveals that not all the taxes/rates/fees under its legal jurisdiction are yet tapped by the municipal government in Karachi. It has, by and large, relied on two taxes, octroi and property tax, which together accounted for 64 percent of its recurring revenues in 1984-85. Most of the services provided are financed by these sources. There is need, therefore, for a broadening of the municipal tax base. A new source of revenue could perhaps be the levy of cess/surcharge on taxes of higher levels of government, which is potentially within municipal fiscal powers. A prime candidate for this is a gasoline (used by automobiles) surcharge on the excise duty levied by the federal government. It could act as a proxy for a user charge on road transport and limit congestion on intra-urban highways. In addition, it would be progressive in incidence given the highly concentrated pattern of automobile ownership in the city. Further, the tax base is large and even a small surcharge could fetch substantial revenues. If collected from oil distribution companies on sales within the city, then it is recommended that revenues from the surcharge should go to a special development fund created for financing the Karachi Special Development Programme (KSDP). This would ensure tax payers that revenues collected would be used only for developing the services network, including that of roads, in the city.

Also, the concept of self-sustained provision of municipal services is not yet fully developed. By and large, only three services namely, water supply, fire brigade and sanitation and solid waste management have a direct mode of recovery. In the face of growing population leading

to an increased demand of municipal services it is important to develop (to the extent feasible) the concept of direct recovery of cost. A possible candidate for this is the sewerage tax. Presently, sewerage and drainage services, provided by the K.W. & S.B., are fully subsidised in Karachi. In 1984-85, expenditures on these services were of a magnitude of Rs.135 million growing at an annual compound rate of approximately 16 percent. It is recommended that a sewerage tax be imposed, the provision for which already exists in the ordinance. The tax can be administered by K.W. & S.B. along with the conservancy rates.

### *7.3 Mobilisation through Revenue-Sharing Transfers*

The case for expanded revenue sharing can be made on two grounds. First, given the present functional allocations between various levels of governments, the provincial and local governments have common functions to perform. The classic example of this is road maintenance. The municipal government is responsible for the maintenance of intra-city roads, while the maintenance of inter-city road network rests with the provincial government. A case, therefore, exists for the sharing of motor vehicle tax, levied by the provincial government for the specific purpose of road maintenance. The revenue shares for the two government in this case can be determined in proportion of the relative expenditures incurred by the two governments.

Second, given the present allocation of fiscal powers between different levels of government, the provincial and the local governments have common taxes under their jurisdiction. Examples of this are the tax on professions, trade and callings and entertainment tax. These taxes are presently pre-empted by the provincial government in the metropolitan area in Karachi. However, in the cantonment areas, the local authority collects them. In view of the already limited fiscal powers of the local government and to bring harmony between the cantonments and the metropolitan areas of Karachi, there is a case for the handing over or sharing of revenues from such taxes.

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APPENDIX - I

**FISCAL POWERS OF URBAN LOCAL COUNCILS IN SIND\***

**PART I**

**TAXES, RATES, TOLLS AND FEES TO BE LEVIED BY THE  
KARACHI METROPOLITAN CORPORATION**

1. Tax on Motor vehicles and boats.
2. Drainage tax.
3. Development tax for specified periods for specific public benefit or public utility projects.
4. Rate for the bulk supply of water.

**PART II**

**TAXES, RATES, TOLLS AND FEES WHICH MAY BE LEVIED BY A  
CORPORATION INCLUDING THE METROPOLITAN  
CORPORATION, MUNICIPAL COMMITTEES AND  
TOWN COMMITTEE**

1. Tax on the transfer of immovable property.
2. Tax on applications for erection and re-erection of buildings.
3. Tax on the import of goods for consumption, use or sale in the local area.
- \*4. (Omitted).
5. Tolls on roads and bridges and ferries.
6. Tax on professions, trade and callings.
7. Tax on births, marriages, adoptions and feasts.
8. Tax on advertisements.
9. Tax on animals.
10. Tax on cinemas, dramatic and theatrical shows and other entertainments and amusements.
11. Tax on vehicles, other than motor vehicles and boats.
12. Lighting rate and fire rate.

13. Conservancy rate.
  14. Rate for the execution of any work of public utility.
  15. Rate for the provision of water works or the supply of water.
  16. Cess on any of the taxes levied by Government.
  17. School fees.
  18. Fees for the benefits derived from any works of public utility maintained by the council.
  19. Fees at fairs, agricultural shows, industrial exhibitions, tournaments and other public gatherings.
  20. Fees for markets.
  21. Fees for licences, sanctions and permits granted by the council.
  22. Fees for specific services rendered by the council.
  23. Fees for the slaughtering of animals.
  24. Any other fee leviable under any of the provisions of this Ordinance.
  25. Any other tax which is levied by Government.
- 

\* As per Schedule V of the Local Govt. Ordinance, 1979.

### METHODOLOGY FOR THE ESTIMATION OF BUOYANCY OF TAXES

The tax-to-base and base-to-income buoyancy of a tax is usually estimated using the double log regression equation as follows:

$$\ln T_{it} = \alpha_{oi} + \alpha_{li} \ln B_{it} + \epsilon_{it} \quad (1)$$

$$\ln B_{it} = \beta_{oi} + \beta_{li} \ln Y_t + \mu_{it} \quad (2)$$

where :

$T_{it}$  = Tax revenue from the 'ith' tax in year t.

$B_{it}$  = Tax base for the 'ith' tax in year t.

$Y_t$  = Gross Regional Product at current prices in year t.

$\epsilon_{it}, \mu_{it}$  = random error terms.

Coefficients  $\alpha_{li}$  &  $\beta_{li}$  give the tax-to-base and base-to-income buoyancy respectively. Substituting (2) into (1) we get the tax-to-income buoyancy as :

$$b_i = \alpha_{li} \beta_{li} \quad (3)$$

### NOTES

1. The country's annual growth rate of GDP for the corresponding period is 5.7 percent.
2. Methodology used for the estimation of buoyancy coefficients is presented in Appendix II.
3. Immediately after taking over the water supply functions, KWSB conducted a survey of water rate payers as a result of which it was successful in considerably broadening the rate payers list.
4. Water rates were, however, revised in 1985-86.



## REFERENCES

- Asian Development Bank Report, "Urban Sector Profile" Manila, Phillipines, 1987.
- Ahmed, Nuzhat, "Biases in Tax Assessment of Residential Properties in Karachi", *Pakistan Journal of Applied Economics*, Vol.IV, No.2, Winter 1985
- Bengali, Kaiser, "Macro Economics Analysis of Karachi", Research Report, Applied Economics Research Centre (AERC), University of Karachi.
- Bengali, Kaiser, Aisha Ghaus and Hafiz A. Pasha, "Issue in Municipal Finances and Management in Developing Countries: A Case Study of the City of Karachi in Pakistan". *Regional Development Dialogue*, Vol. 10 No. 1, Spring 1989.
- Ghaus, Aisha, "The Fiscal Base of Karachi" Research Report, Applied Economics Research Centre, University of Karachi, 1987.
- Government of Sind, *The Sind Local Government Ordinance* 1979.
- Government of Sind, *Sind Taxation Commission Report*, 1982
- Government of Sind, *ZMC Ordinance*, 1987.
- Pasha, H.A. and Aisha Ghaus, "Analysis of Provincial Finances in Pakistan", Research Report No. 62, AERC, University of Karachi, 1986.
- Pasha, H.A. Kaiser Bengali and others, "City on the Brink: An Analysis of Municipal Finances in Karachi", Research Report No. 2, AERC, University of Karachi, 1977.
- Pasha, H.A., "Is the Local Tax Base Adequate? A Case Study of the KMC", Discussion paper No. 25, AERC, University of Karachi, April 1978.
- Pasha, H.A. and Kaiser Bengali, "Impact of Fiscal Incentives on Industrialisation in Backward Areas: A Case Study of Hub Chowki in Baluchistan", *Pakistan Journal of Applied Economics*, Vol. IV, No.1. Summer 1985.
- Pasha, H.A., Zafar H. Ismail, Nuzhat Ahmad and S.Ashraf Wasti, "Fiscal Incentives for Regional Industrial Development", Research Report No. 64, AERC, University of Karachi, March, 1986.
- Pakistan Environmental Planning and Architectural Consultants (PEPAC) *National Human Settlement Policy Study*, 1987.
- PEPAC, *Management of Cities Policy Study*, 1986.