



Solid waste management in Pakistan

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SINCE INDEPENDENCE THE population of Pakistan has increased about five fold and is estimated at 133 million in 1996. Growth rate of population is currently estimated 3.1 percent per annum, which is one of the highest in the world. Despite the sustained growth rate of about 6 percent per annum in GDP, the per capita income has been around 3 percent per annum on account of this high growth in population. It is straining the availability of goods and services and hampering national development efforts. If growth continues at this speed the total population by the year 2000 may touch the 150 million mark. At present rural urban population ratio is estimated to be 88:45 million or 66:34% on the basis of growth rate during 1972-81. The urban areas have been growing at i.e. 4.38 percent per annum during 1972-81, against 2.58 percent per annum in rural areas. The main reason behind is Rural-urban migration. Local municipal bodies have been unable to cope with the complex challenges of urban areas. The growth of urban population has been around 4-6 percent per annum putting enormous pressure on existing civic services. Rapid growth of Katchi Abadis and lack of water borne sewerage in major parts of various cities has made the problems more complex. Due to ineffective development planning, large cities are confronting a number of complex urban problems. It is estimated, that the urban areas of Pakistan generate about 54,850 tons of solid waste daily or about 20 million tons per annum. Proper SUM can lead to increased revenues for the municipal bodies and the standard of sanitation can be considerably improved indirectly leading to better health, higher productivity rate and lowering of expenditure on health sector. Presently only a part of solid waste is collected, transported and dumped. The means are inefficient and in most cases inadequate to cope with the present day challenges i.e. bulk and composition of municipal waste. Presently there is not a single city with properly planned and efficient system of SUM reaching the acceptable standard of environmental protection. Proper method of dumping the wastes are not employed. Hazardous hospital and industrial wastes are simply treated as ordinary waste. In most of the areas solid waste especially plastic bags get into open drains and sewers choking the system. In addition, bio-nondegradable solid wastes including toxic hospital and industrial wastes are found lying in heaps. Open burning of waste and bio-nondegradable component of wastes like plastic bags are adding to the pollution problems. Owing to the low levels of development and economic levels, it is not possible to make use of latest techniques, technologies and equipment being used

in developed world. For this reason many parts of the large urban areas and in some cases entire cities have turned into environmental black spots. Our present system on solid waste management is in dire need of its over hauling on comprehensive basis. The respective municipalities despite spending their 20 to 40% budget have not been able to achieve the desirable standards of environmental quality. In view of this, it would be appropriate to involve private sector in solid waste management (SWM) on the whole or partial basis for any part or whole of the city. The involvement of private sector will enable the respective municipality to achieve the desirable standards of solid waste management with the reduced cost due to their efficiency and management. The performance indicators for the Solid Waste Management in Pakistan are as follows:

Rate of Waste Generation/Person	0.283 to 0.613 Kg/c/d
Rate of Waste Generation/House	1.896 to 4.291 Kg/h/d
Rate of Waste Collection	51 to 69 %
Expenditure/Waste collected	334 to 1000 Rs./Ton
Expenditure/Person/Year	35 to 90 Rs./c/y
Expenditure/House/Year	224 to 603 Rs./h/y
Total Staff/Population	0.62 to 3.54 S/1000 P.
Population/Staff Member	282 to 1613 Person/Staff
Total Staff/House	4.53 to 23.72 S/1000H.
Houses/Staff Member	42 to 221 House/Staff
Total Staff/Waste Collected	2.63 to 15.67 Staff/Ton
Waste Collected/Staff Member	64 to 380 Kg/Staff

To make the rural society self reliant, local institutions would be entrusted with more responsibilities and greater powers. Rural communities would be encouraged to identify, formulate, implement and maintain developed projects for themselves so as to improve quality of services in rural areas. The local government system as well as NGOs will be used for the implementation of rural projects. In-order to resolve the issue of Solid Waste Management in Pakistan following recommendations are made for its implementation:

Municipal level

- Checking timely presence of all the Sanitary staff on duty may be ensured every day.
- Quick repair and maintenance of garbage vehicles must be carried out. Some senior officer, as a matter of routine, should check this daily and remove bottlenecks, if any.
- Each area of the city/town must be inspected regularly on daily basis by the concerned senior officials of the municipality to check proper disposal of Solid Waste. In case, some areas are not found clean, the concerned officials may be warned initially and punished on second and third occasion for dereliction of duty:

- The tariff rates, if prescribed, for the collection and disposal of Solid Waste may be raised and realised from the beneficiaries on no loss, no profit basis in order to improve the efficiency and management of municipal committees/corporations:

Provincial level

- Commence preparation of projects, immediately for the disposal of solid waste in cities/towns. International assistance may be sought through the Federal Government, if provincial Governments do not have the resources.
- The minimum number and type of transport equipment may be assessed and provided to municipal committees/corporations according to their need for the disposal of Solid Waste. Serious efforts may be made to generate sufficient local funds.
- The land-fill sites must be designed according to the Solid Waste generated in a city/town for its proper disposal. Composting plants be installed to generate revenues.
- The design of dust bins must be modified in order to make them functional as well as feasible for the disposal of Solid Waste in the country.

Mass awareness campaign

Mass awareness campaign programme for the disposal of solid waste may be launched in all earnest to motivate the general public in all cities/towns to create a healthy and clean environment.

References

Report on Data Collection for Preparation of National Study on "Privatization of Solid Waste Management in selected cities of Pakistan" by Environment and Urban Affairs Division, Government of Pakistan during June, 1996.

8th Five Year Plan (1988-93) by Planning Commission, Government of Pakistan, Islamabad.

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