VII. Serving Citizens: Improving Delivery of Municipal Services

The provision of municipal services is the core business of municipalities, and being responsive to citizens' needs and concerns is the key to effective and efficient service delivery. Among the more critical services is solid waste management. Another is resolving public grievances. Mayors will be judged by how well these and other services are provided to their municipality's residents.

Systems of resolution of public grievances and complaints and of solid waste management are currently being studied in 10 Asian municipalities through ADB's Benchmarking Project. The project is using the techniques of "benchmarking" and "continuous improvement" to record current practices, what is "best practice", and how each municipality can improve its services. Mr. Naved Hamid of ADB provides a brief introduction to the project.

On systems of resolution of public grievances and complaints, Mr. P.U. Asnani of the City Managers' Association of Gujarat (CMAG), India, describes Ahmedabad's citizens' charter and public complaints redressal system, and the role of CMAG in promoting these instruments in Gujarat State. Mr. H.B.S. Aradhya, Coordinator of the Benchmarking Project in Bangalore, India, presents the findings, improvements identified, and expected benefits from better public complaints systems in

Asian municipalities participating in the Benchmarking Project.

In the area of solid waste management, Mr. Nathaniel von Einsiedel of the UNDP/UNCHS Urban Management Programme discusses the various approaches in use in Asian cities. He stresses that the key to effective solid waste management is its social acceptability to the public in terms of costs, location, technology, and environmental and health concerns. From his experience, acceptability can be facilitated through a proper information and education campaign on the choice of waste disposal practice. Ms. Susan Ardosa, Benchmarking Project Coordinator in Cebu City, Philippines, presents the findings, improvements identified, and expected service benefits in solid waste management through education and better enforcement in Asian municipalities participating in the Benchmarking Project.

INTRODUCTION TO THE BENCHMARKING PROJECT

Naved Hamid
Senior Strategy and Policy Officer
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ADB is helping selected municipalities to enhance their capacity to deliver better municipal services through the Benchmarking Project, using two management techniques: benchmarking and continuous improvement. The idea underlying this project is that service delivery is the key role of local governments, and that there is a considerable potential for improving service delivery even within existing financial expenditures and resources.

Benchmarking and Continuous Improvement

The term "benchmarking" sounds complicated but the concept is quite simple and has been around for a very long time. It uses two techniques: metric or quantitative benchmarking and process benchmarking. Quantitative benchmarking is like bowling or batting averages in cricket, which can be used to compare the performance of different players. It could also be like the ranking of cities in specified areas (similar to the annual ranking published by Asiaweek), enabling cities to compare themselves. For instance, if Ahmedabad collects X amount of revenue and your city, which is the same size, collects only half that amount, then you know there is something wrong or that you can do better. Quantitative benchmarking tells you where you are. However, it does not tell you how to improve your performance.

I imagine that process benchmarking started thousands of years ago when a farmer saw that the yield of her crop was much less than that in the neighbor's field. She went over to the neighbor, asked her how she did it, observed her work, and then applied the same techniques to her own field. Process benchmarking is looking at those who are doing something well, documenting how they do it, and comparing that with your own technique. You then discover what you are doing differently and how you could improve your performance.

Benchmarking achieves greater success if it is conducted in the context of a continuous improvement strategy. Continuous improvement describes an organization's operating culture, in which it is always seeking ways of improving its products, services, and performance of management and staff. Usually, the focus of the organization is on meeting the needs of the customers; feedback from them is a critical factor for improving the organization.

Continuous improvement describes an organization's operating culture, in which it is always seeking ways of improving its products, services, and performance of management and staff.

Benchmarking has been used extensively in the private sector and is being used progressively in the public sector in Australia, the US, and other OECD countries. Little benchmarking has been done in developing countries, so it was decided to pilot test its effectiveness in improving municipal service delivery in Asia. ADB first invited a large number of Asian municipalities to participate in this program. Sixteen municipalities responded, from which we selected 10 (Box VII.1) on the basis of the commitment of the mayor, nomination of suitably qualified municipal staff for training as Benchmarking Coordinators, track record in implementing change, contacts with other municipalities, customer orientation, teamwork, monitoring and evaluation of municipal programs, and relationship with ADB.

Box VII.1. Asian Municipalities Participating in the Benchmarking Project

- Bandung, Indonesia
- Bangalore, India
- Cebu City, Philippines
- Colombo, Sri Lanka
- Kuantan, Malaysia
- Lahore, Pakistan
- Peshawar, Pakistan
- Semarang, Indonesia
- Shanghai, PRC
- Surabaya, Indonesia

Benchmarking Coordinators and Work-Based Teams

Instead of hiring local consultants, we decided to implement the project by training some existing municipal staff to lead work-based teams to undertake process mapping, adopting new

performance standards, and implementing the continuous improvement program. It was felt that given their knowledge of the municipality's scope of services, personnel, problems, and systems, they would be much more effective agents of change than would consultants. Moreover, their involvement would result in greater ownership of the process by the municipality. Therefore, a critical factor to the success of our benchmarking and continuous improvement pilot project was the appointment and training of two municipal officers per city; we called them Benchmarking Coordinators.

The Benchmarking Coordinators attended a two-week intensive training program on team creation and management, tools and techniques of benchmarking and continuous improvement, performance measurement, and process mapping. The training program took place in Cebu City on 22 November to 4 December 1998. In that training, the Coordinators agreed on six common municipal services for benchmarking, based on their importance to the municipality and its residents, and potential for improvement. The six selected services (Box VII.2) are being studied in groups of two over three rounds to ensure that they can be managed well by the Coordinators.

Immediately after the training, the coordinators organized, trained, and led the first-round teams to map the processes of selected services, collect performance data or indicators for benchmarking, analyze data, and identify areas in which the delivery of services could be improved. The performance indicators were collected on the basis of timeliness, quality, cost or price of the service, and customer satisfaction. Once the data had been collected, the participating municipalities exchanged and compared information with one another. Based upon the comparisons, the teams identified improvements that could be made in the existing services and, through a continuous

Based upon the comparisons, the teams identified improvements that could be made in the existing services.

Box VII.2. Six Services Selected for Benchmarking

- Solid waste management (education and enforcement)
- Customer complaints resolution service
- Parking regulation
- Property tax assessment and collection
- Street vendors
- Integrated computer systems

improvement process, will implement the changes based on the improvement proposals.

The municipalities are being assisted by the Australian Continuous Improvement Group, international consultants, and through constant exchange of information via city visits, E-mail, and the project's World Wide Web home page.

The Benchmarking Coordinators participated in the Second Coordinators' Workshop at Kuantan, Malaysia, on 26-30 April 1999. They shared process information and compiled their assessments of "best practices" for solid waste management (education and enforcement), and customer handling and public complaints. This workshop marked the beginning of the second round of benchmarking, which meant forming new teams to start work on two new services, property tax assessment and collection, and parking regulation. Meanwhile, the first-round teams are continuing with their continuous improvement tasks and developing service innovations based on what the other cities have done. The project started in September 1998 and was expected to be completed in the first quarter of 2000.

Networking

Part of the implementation of this project is setting up a network of Asian municipalities that collaborate in benchmarking their processes and driving change through their own continuous improvement programs. Apart from electronic exchanges and participation of the Benchmarking Coordinators in the regional workshops, the mayors of these municipalities are also given the opportunity to meet face to face and exchange information with one another through the Mayors' Forum. The first Forum was held concurrently with the Coordinators' Workshop in Cebu City.

This project has also brought together several donor agencies that are active in the urban areas of Asia. Although ADB is the lead agency, we were able to involve the Urban Management Programme of UNDP/UNCHS, which is sponsoring Lahore (in Pakistan), and the German Agency for Technical Cooperation (GTZ), which is sponsoring Bandung and Surabaya (in Indonesia). The ADB Institute is actively supporting the project by funding its home page, the Mayors' Forum, the production of training manuals, and publication of project materials. It is expected that these partners will apply the lessons learned from the project to the other Asian municipalities they are working with, and expand these overlapping networks for continuous exchange of experiences and best practices.

The latest information on all services being benchmarked and links to all participating municipalities and project partners are available from the project's home page at *http://asiancities.benchmarking.acig.com.au/.*

It is expected that these partners will apply the lessons learned from the project to the other Asian municipalities they are working with, and expand these overlapping networks for continuous exchange of experiences and best practices.

Expected Benefits of Benchmarking

Municipalities will be judged not by the extent of their physical infrastructure but on how well this infrastructure is managed and the associated services made available to the citizens.

This project is not intended to provide funds for development of physical infrastructure in the municipalities, but to improve delivery of municipal services through better management. The Benchmarking Coordinators and the work-based teams, by developing their skills in problem solving and process improvement, will be able to assist their municipalities in providing better quality and greater coverage of municipal services, faster response times, lower costs, and higher customer satisfaction. After all, municipalities will be judged not by the extent of their physical infrastructure but on how well this infrastructure is managed and the associated services made available to the citizens.

CITIZENS' CHARTER AND REDRESSING PUBLIC COMPLAINTS IN GUJARAT STATE, INDIA

P.U. Asnani
Vice President, City Managers' Association of Gujarat, and Director, US-Asia Environmental Partnership Program, Ahmedabad, India

In the state of Gujarat, in southern India, the municipal bodies have come together and formed the City Managers' Association of Gujarat (CMAG) to focus attention on the problems of urban areas. CMAG is affiliated with the International City/ County Managers Association of the US, which helps us to develop certain mechanisms in improving urban governance.

The principal objectives of CMAG are information exchange and dissemination of information on urban issues, best city management practices, technologies, and across-country

management experiences; upgrading training skills for professional development; and advocacy. Advocacy is done to raise the sensitivity of state and central governments to the importance of urban areas vis-à-vis serviceable areas, and fund sharing among local bodies in view of the growing problems of urbanization.

Among the other issues advocated by CMAG for improving urban governance are

- bringing the urban agenda to the attention of the state and central governments;
- inclusion of cities in the infrastructure master plans of the state and central governments;
- nonobligatory services to be exclusively run/ financed by the state;
- tax exemption for municipal bonds;
- devolution of full powers to strengthen the financial base of urban local bodies, such as by upward revision of taxes;
- total autonomy of municipalities to raise nontax revenue; and
- privatization.

With a view to enhancing the capacity of the urban local bodies in Gujarat, CMAG conducted workshops on improving the financial resources of these bodies, operation and maintenance of water supply and sewerage systems, citizens' charters, and complaints redressal systems. In this paper, I will focus on complaints and mechanisms linked with the citizens' charter for the urban local bodies.

The Citizens' Charter

The citizens' charter for urban local bodies was organized by CMAG in association with the School of Planning and Department of Administrative Reforms in India. The main purpose

of a charter is to improve access to public services and to promote quality by helping people understand what an organization does, how to contact it, what to expect by way of services, and how to seek a remedy if something goes wrong.

A model charter was prepared and circulated to all the urban local bodies of the state based on clear expectations (Box VII.3). The local bodies then prepared their own charters based on local conditions and capabilities to handle local problems effectively.

For fast treatment of public complaints, citizens should know where a complaint can be registered, either by telephone, in person, or by post.

Through the charter, citizens are given the opportunity to learn what the local bodies do, what services are provided, whom they should approach to obtain the services, and when they can meet the concerned officer. These are very important aspects and each local body must strive to make them more effective in the field. For fast treatment of public complaints, citizens should know where a complaint can be registered, either by telephone, in person, or by post.

Redressing Public Complaints

CMAG conducted a workshop on Public Complaints Redressal Mechanisms, participated in by urban local bodies to discuss guidelines for setting up a mechanism of dealing with complaints. CMAG also downloaded from the Internet the guidelines for setting up a mechanism to deal with complaints. The guidelines were circulated and discussed; from them we chose what would work for Ahmedabad (Box VII.4).

Ahmedabad's citizens' charter provides specific time frames for responding to public complaints in relation to water supply, sewerage, drainage, roads, footpath maintenance, property tax assessment and property transfer, passing of building plans, issuance of service licenses, public health

Box VII.3. Citizens' Charter Expectations

- Set clear standards of service that users can expect
- Be open. Communicate clearly and effectively in plain language
- Consult and involve present and potential users of public services
- Make services easily available to everyone who needs them
- Treat all people fairly
- Put things right when they go wrong
- Use resources effectively to provide best value for taxpayers and users
- Always look for ways to improve the services and facilities offered

Box VII.4. Basic Principles for an Effective Complaints System

A complaint system should be:

- Easy to access and well publicized
- Speedy, with fixed time-limits for action and keeping people informed of progress
- Confidential to protect the staff and complainants
- Informative, providing information to management so that the services can be improved
- Simple to understand and use
- Fair, with a full procedure for investigations
- Effective in dealing with all points raised by the citizen and providing suitable remedies
- Regularly monitored and audited to make sure that it is effective and improving

and sanitation, solid waste management, and birth and death registration, as well as quick redressal of public grievances.

For instance, if a complaint is lodged concerning a hole in the footpath, it is to be repaired within 24 hours. Complaints about water contamination are to be attended to within 4 hours, while complaints on broken manholes are expected to be serviced within 24 hours. Surfacing of potholes is to be done within 3 days.

Formerly, people who complained were liable to feel discriminated against. However, complaints provide free feedback about our services, and handling complaints properly shows how important customer care is to our organization. It shows that we listen to users, we learn from our mistakes, and we are continuously trying to improve the services.

Handling complaints properly shows how important customer care is to our organization.

When we institutionalized the redressal system in Ahmedabad, we learned that people would only complain if they felt that we would listen to their complaints and act on them. So we make it a point to investigate complaints thoroughly and fairly, and whenever possible we find a remedy. We use the complaints to improve our services and never allow the users to suffer or be discriminated against as a result of any complaint. The top ten tips for dealing with complaints also served as our guide (Box VII.5).

All complaints (whether written, by telephone, or in person) are recorded. People who lodge their complaints in person are given a copy of their complaint; another copy is immediately passed to the concerned section; and one copy remains in the complaint office. The concerned department is required to act on the complaint within 24 hours. The attending officer makes a record that the complaint has been addressed, and gives feedback to the complaint office. The board officer reviews the complaints everyday, while the

Box VII.5. Top Ten Tips for Dealing with Public Complaints

- Keep it simple and avoid long forms
- Use the phone more often than sending a letter
- Find out straight away what action the complainant wants
- For less serious complaints, a quick apology is better than a long letter
- Give the person specific reply. A standard reply will only make things worse
- Follow the "mother principle": treat people as you would like your mother to be treated
- Don't pass the buck. If you need to refer a complaint to someone else, make sure that the customer gets full details.
- Be clear on what remedies you can offer
- Let your customers know about improvements made as a result of their complaints
- More complaints can be good news! It shows that your customers trust you to take them seriously

Source: *http://www.cabinet-office.gov.uk/servicefirst/index/library.htm*

zonal officer, who handles five to seven wards, makes sure that all complaints within his command area have been properly addressed.

Every week, the chief executive officer receives a report of all complaints in the entire city, containing the nature of complaints, how many were disposed of, number of delayed responses, causes of delay, and remedial actions to be taken. This report is accompanied by feedback from independent sources so as to ascertain that the complaints system is really responsive to the needs of the public.

I have outlined the full mechanism, which you can use to design your own complaint system. However, it will only work if the administration is

adequately decentralized, and the staff fully empowered to take full responsibility and accountability in dealing with the complaints. This way, there is no need for the mayor or the chief executive officer to worry about the quality of action or response on the complaints, and timely and accurate feedback to improve the services can be expected.

GOOD PRACTICE ON RESOLUTION OF COMPLAINTS AND PUBLIC GRIEVANCES

H.B.S. Aradhya
Benchmarking Coordinator
Bangalore, India

Bangalore is situated in southern India in an area of 225 km^2. It has 100 elected and 5 nominated councilors. The Bangalore City Corporation has 17,000 staff in five major departments. The annual budget is about US$180 million.

Bangalore is known as the Garden City of India, with more than 400 parks, gardens, boulevards, and nurseries. It is one of the fastest growing cities in India because of its geographical location, congenial climate, and business opportunities.

Due to rapid industrialization between 1950 and 1970, the population increased at a rapid rate. The current population stands at 5 million, and during working hours swells by more than 1.2 million. With the extension of boundaries in 1995, it has not been possible to reverse the flow of migration towards the city.

In view of these developments, the demands for improving existing services such as water supply, sewerage disposal, garbage removal, and maintenance of roads have increased. It has become

mandatory to concentrate on efficient management of municipal services given our limited resources. Bangalore City Corporation has taken steps to meet the increasing demand on civic services. It is the first municipal corporation to float bonds successfully (worth Rs125 crores or US$28.6 million) with a view to improving civic amenities.

It has become mandatory to concentrate on efficient management of municipal services given our limited resources.

Under these circumstances, the system of redressal of public grievances has been revived in the Bangalore City Corporation by adopting modern technologies through the processes of benchmarking and continuous improvement. In earlier days, Bangalore's system of hearing public grievances did not have any records of complaints resolved or pending cases. The public had a negative attitude toward making complaints because the Corporation was not acting on them.

Bangalore is participating in the ADB Benchmarking Project. In the initial months of the project, one of the services that was considered critical for city residents and businesses was handling public grievances. It involves receiving and acknowledging complaints, directing them to appropriate personnel, resolving complaints, feedback to complainants, and monitoring the effectiveness of the system.

In April 1999, the Benchmarking Coordinators participated in a regional workshop in Kuantan, Malaysia, where they identified and discussed best practices in this particular service. Among the very attractive and results-oriented practices are the following:

- *United Action* in Shanghai.
- *Public Day* in Colombo.
- *Access through many zones* in Bangalore.
- *One stop shop* in Indonesian cities.
- *Daily radio program* in Cebu City.
- *Weekly report* to the chief executive and *radio feedback* to the public in Kuantan.

Table VII.1. Performance of Bangalore in Handling Customer Complaints

Performance Measure	Range of Performance	Bangalore's Score
Number of justifiable complaints per 10,000 population	14–1,500	168
Cost per complaint lodged	US$0.09–48.30	$0.70
Time taken per complaint	0.1–12 person hours	0.75 person hours
Average (median) time to first response	5 minutes–10 days	10 minutes
Average (median) time to final resolution	3–36 days	3 days
Proportions of complaints resubmitted	1– 63%	30%

These practices were measured in terms of justifiable complaints for every 10,000 adult population, handling cost per complaint, average time to first response and to resolution, and customer satisfaction with complaint resolution processes (Table VII.1).

Improvements in Complaint Handling

Bangalore has made dramatic improvements in handling public complaints and grievances following benchmarking. We have established 35 receiving points for entertaining customer complaints. The list of such receiving offices, their locations, telephone numbers, and the procedure for lodging complaints, have been published for the information of the public. All complaints are filed in triplicate copies—one copy to the complainant,

another copy to the concerned department for action, and the third copy to the computer section for recording and tracking of complaints. Necessary training has been given to the staff handling the complaints.

We have formulated an acknowledgment form, enumerating the most frequent complaints in each department, prescribing the time limit for redressal of each complaint, and specifying the department to deal with it. We have produced a directory of community services and made it available to the citizens of Bangalore, and have undertaken a publicity campaign to educate the public regarding their right to bring their grievances to the attention of the authorities and how to lodge their inquiries and complaints.

The Honorable Minister for Bangalore City Development is very enthusiastic about the redressal of public grievances. He inspects some parts of the City every day and assures the people in the locality that their complaints are being addressed, by instructing the concerned officers on the spot. He responded to public complaints during a call-in radio program on 23 May 1999, and conducted public grievances meetings in three zones on 2-4 June 1999. Hundreds of complaints were received at these meetings and the public response was very good. The mayor conducts public grievance meetings in each zone office on a pre-specified day and time, to receive and hear complaints and public grievances. Also, all executive officers have been instructed to remain in their respective offices between 3 and 5 p.m. every day except Wednesdays and Saturdays to receive complaints and hear public grievances.

The mayor conducts public grievance meetings in each zone office on a pre-specified day and time.

A middle management team, composed of the revenue officer, executive engineer, and deputy health officer, is responsible for monitoring the complaint response performance; the team meets every week to review the complaints received,

complaints addressed, and action taken. If there are any unresolved complaints, they are brought to the executive management level for discussion with the commissioner.

We have also opened a 24-hour call service in a control room at the head office with wireless connections to senior officers including those on the Water Supply and Sewerage Board for immediate resolution of complaints. There is a special team in the control room to attend to any natural disaster at night.

Based on these improvements, we have been able to provide faster and guaranteed response to the public in resolving their complaints. We have reduced the costs of dealing with complaints because they are addressed promptly and efficiently, and citizens express greater satisfaction about municipality services and accountability.

We have reduced the costs of dealing with complaints because they are addressed promptly and efficiently.

Our experience has shown that redressal of public grievances is not an easy task. It requires proper infrastructure for attending to the complaints/ grievances, either through sufficient budget allocation or delegation of powers. Every municipal administration must act to improve the infrastructure necessary to resolve complaints/ grievances at the local level.

Furthermore, unless a proper feedback arrangement is institutionalized, the senior officers will not be able to monitor the action taken. For this purpose a well-structured training program for staff at various levels has to be developed and refresher courses organized at regular intervals.

CRITICAL CONSIDERATIONS OF SOLID WASTE DISPOSAL IN ASIAN CITIES

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The economic and demographic growth of Asian cities is posing serious challenges to urban local authorities. Such growth is increasingly stressing the urban environment, whether this is regarded as the built-up surroundings of urban dwellers, the "natural support system" that sustains the city, or as the effect of urbanization on the working and living conditions of others, such as downstream fishing communities. As Asian cities experience rapid urban growth, environmental degradation occurs over a large and growing area. Prominent effects are the deterioration of air and water quality, growing problems of waste disposal, and more intense competition for increasingly congested spaces. The worsening urban environment in Asia is affecting people and nature in a number of ways: health, safety, productivity, amenities, and ecological integrity.

The worsening urban environment in Asia is affecting people and nature in a number of ways: health, safety, productivity, amenities, and ecological integrity.

About 35 percent of the urban population in Asian developing countries do not have access to adequate sanitation. A significant amount of the solid waste generated in urban centers is uncollected (see Table VII.2) and either burned in the streets or deposited in rivers, creeks, marshy areas, or empty lots. Waste that is collected is mainly disposed of in open dumpsites, many of which are not properly operated and maintained, thereby posing a serious threat to public health. Only a few Asian cities, such as Hong Kong, China; Singapore; and Tokyo, have adequate solid waste disposal facilities, and even these cities have their share of problems in dealing with the increasing volume of wastes being generated.

Table VII.2: Characteristics and Rates of Collection of Solid Wastes in Selected Asian Cities

City	Total Weight (tonnes/day)	Generation Rate (kg/person/day)	Bulk Density (tonnes/m^3)	Rate of Collection (%)
Bangkok	8,000	0.90	0.25	75
Songkla	n.a.	0.89	0.42	46
Kuala Lumpur	348	n.a.	n.a.	80
Penang	5,000	0.75	0.25	70
Jakarta	4,625	0.50	0.33	70
Manila	2,650	0.65	n.a.	70
Mumbai	5,800	0.55	0.33	86
Calcutta	3,500	n.a.	n.a.	55
Delhi	3,880	n.a.	n.a.	62
Dhaka	3,000	0.50	n.a.	50
Colombo	750	0.75	0.35	90
Karachi	4,500	0.55	n.a.	33

Source: UN-ESCAP (1995). Status of the Environment Report, Thailand. Bangkok: ESCAP.

Context of Solid Waste Management in Asia

Demography

The urban population in Asia is growing significantly. By the year 2020, an additional 1.5 billion people will be added to Asia's urban centers. Such a massive number of people will need adequate infrastructure and services, prominent among them being water supply, housing, and sanitation facilities. An adequate facility for solid waste disposal is required to ensure an urban environment conducive to the well-being and productivity of residents.

By the year 2020, an additional 1.5 billion people will be added to Asia's urban centers.

The quantity of waste generated per capita in an urban area may appear insignificant when viewed from studies that indicate that per capita waste generated in Asia varies from a low of 240 grams to a high of 484 grams per day. However, the management of this waste becomes a problem when the waste is concentrated in a particular area with high population density and diverse economic activities. Moreover, an increase in population size accompanied by an increase in per capita income and industrial activity in an area leads to an increase in the amount and complexity of the solid waste in the area. This, combined with the increasing scarcity of disposal sites in Asian cities, makes the situation even more difficult.

Economic Growth

The increase in the income of Asian cities has resulted in a proportionate increase in consumption and consequently waste generation. A recent study by the World Bank concludes that urban waste generation will increase substantially over the coming years as GNP per capita increases (see Table VII.3). While Asian cities have a lower rate of waste

generation than cities in the West, the problem of waste management in Asia is more complex: per capita waste generation is low but the amount of waste is high, owing to the higher population size and density in Asian cities.

As Table VII.3 also shows, residential waste in Asia makes up only about 30 percent of the total. However, it receives a disproportionate amount of attention. As Asian cities continue to urbanize, more attention is needed to the industrial and commercial waste stream, especially since this should be the first material to be collected by the private sector.

The high level of poverty in the region is a related aspect. Asia is a frugal society, which is the outcome of widespread poverty. This frugal nature of Asians is manifested in the thriving, private recycling market, both formal and informal, in most Asian cities.

Culture and Social Behavior

Asia has a culture of recycling.

As noted above, Asia has a culture of recycling. Households at the lowest rung of the informal recycling market sell items like used polythene bags, newspaper, glass bottles, tins and plastic cans, old wood, old clothes and shoes, etc. These households and the entire informal sector involved in the process of recycling of inorganic solid waste do not really perceive it as waste because they are aware of its value.

Unlike in western countries, disposed waste in Asia (other than in Japan and Singapore) is unlikely to consist of refrigerators, television sets, video players, or old clothes. Even the quantity of household food waste is low because a large section of the population cannot afford to throw food away, and even if there are leftovers, they are given away. The implication for solid waste management is addressing the large number of persons who rely

on recyclable waste for their livelihood in many cities of developing Asian countries. Their presence is perceived by some as making operations of sanitary landfills more difficult.

Another cultural consideration is the NIMBY (not in my backyard) phenomenon. While this may be a concern common to other regions of the world, the increasing scarcity of land in Asian cities for disposal sites is making it more difficult to deal with this phenomenon. Neither urban nor rural residents want dumpsites in their vicinity, even when "clean" technology is employed. The case of Taipei,China is a typical example; the government's plans to expand existing disposal sites or build new ones almost invariably meet with vigorous local opposition, despite generous compensation payments to affected communities by the provincial administration's department of environmental protection.

Another cultural consideration is the NIMBY (not in my backyard) phenomenon.

Climate

Most Asian cities have a tropical climate with high levels of rainfall and humidity. This aggravates the problem of solid waste disposal, particularly because the common disposal method in Asia is open dumping. The leachability of the dumped waste increases as a result of high precipitation. Under such conditions of high rainfall and humidity, incineration is more expensive because more fuel is required to maintain the necessary temperature. Moreover, heavy rains easily damage the structure of conventional sanitary landfills. However, the humid climate hastens biodegradation, thereby facilitating disposal methods such as composting.

Table VII.3: GNP Per Capita and Waste Generation in Selected Asian Countries, Current and Projected to 2025

Country	Current				
	GNP Per Capita 1995	1995 Population		Urban Waste Generation	
		Total (million)	Urban[1] (% of Total)	Generation Rate (kg/cap/day)	Total Waste (tonne/day)
LOW-INCOME COUNTRIES					
Nepal	200	21.5	13.7	0.5	1,473
Bangladesh	240	119.8	18.3	0.49	10,742
Myanmar	240[2]	46.5[2]	26.2	0.45	5,482
Viet Nam	240	73.5	20.8	0.55	8,408
Mongolia	310	2.5	60.9	0.6	914
India	340	929.4	26.8	0.46	114,576
Lao PDR	350	4.9	21.7	0.69	734
PRC	620	1,200.2	30.3	0.79	287,292
Sri Lanka	700	18.1	22.4	0.89	3,608
MIDDLE-INCOME COUNTRIES					
Indonesia	980	193.3	35.4	0.76	52,005
Philippines	1,050	68.6	54.2	0.52	19,334
Thailand	2,740	58.2	20	1.1	12,804
Malaysia	3,890	20.1	53.7	0.81	8,743
HIGH-INCOME COUNTRIES					
Korea, Rep. of	9,700	44.9	81.3	1.59	58,041
Hong Kong, China	22,990	6.2	95	5.07	29,862
Singapore	26,730	3	100	1.1	3,300
Japan	39,600	125.2	77.6	1.47	142,818

(continued next page)

Table VII.3 (cont.).

Country	2025				
	Predicted GNP Per Capita	Predicted Population		Predicted Urban Waste Generation	
		Total[1] (million)	Urban[1] (% of Total)	Generation Rate (kg/cap/day)	Total Waste (tonne/day)
LOW-INCOME COUNTRIES					
Nepal	360	40.7	34.3	0.6	8,376
Bangladesh	440	196.1	40	0.6	47,064
Myanmar	580	75.6	47.3	0.6	21,455
Viet Nam	580	118.2	39	0.7	32,269
Mongolia	560	3.8	76.5	0.9	2,616
India	600	1,392.1	45.2	0.7	440,460
Lao PDR	850	9.7	44.5	0.8	3,453
PRC	1,500	1,526.1	54.5	0.9	748,552
Sri Lanka	1,300	25	42.6	1	10,650
MIDDLE-INCOME COUNTRIES					
Indonesia	2,400	275.6	60.7	1	167,289
Philippines	2,500	104.5	74.3	0.8	62,115
Thailand	6,700	73.6	39.1	1.5	43,166
Malaysia	9,440	31.6	72.7	1.4	32,162
HIGH-INCOME COUNTRIES					
Korea, Rep. of	17,600	54.4	93.7	1.4	71,362
Hong Kong, China	31,000	5.9	97.3	4.5	25,833
Singapore	36,000	3.4	100	1.1	3,740
Japan	53,500	121.6	84.9	1.3	134,210

Note: [1] *United Nations, World Population Prospects*
[2] *assumed GNP Country waste generation rates are based on weighted averages from different cities within the country*
Source: World Bank

Current Solid Waste Disposal Practices in Asia

It is difficult to generalize the description of current solid waste disposal (SWD) practices in Asia given the very wide diversity of conditions among the countries in the region. However, there are specific cases that may be said to be representative of current practices in several Asian cities and, as such, provide useful inputs to this overview.

Landfill

As shown in Table VII.4, the predominant choice for SWD in many Asian cities is land disposal or landfill, probably because it is the cheapest technology. However, it is the most damaging to public health.

Landfill is the most damaging to public health.

In the case of Mumbai, India, for instance, solid wastes are deposited in four landfill sites. These sites are not sanitary landfills, and no measures have been taken to prevent pollution of underground and surface waters. The wastes are not covered. A serious problem is the smoke from continuously smoldering fires, allegedly caused by persons collecting recyclable materials. According to health authorities, 90 percent of the population living around the sites are suffering from respiratory ailments. Interestingly, the general perception of municipal and elected officials is that the current practice in Mumbai is the best that is possible under the prevailing circumstances.

Composting

Almost all the large cities of the developing countries in Asia installed imported mechanical composting plants in the past.

Composting is the second most common method of SWD in Asia. Almost all the large cities of the developing countries in Asia installed imported mechanical composting plants in the past. Most are now defunct and the remaining ones are not

Table VII.4. Disposal Methods for Municipal Solid Waste in Selected Countries/Territories of Asia

Country/ Territory	Disposal Method (%)			
	Landfill	Incineration	Composting	Others
Bangladesh	95	-	-	5
Brunei Darussalam	90	-	-	10
Hong Kong, China	92	8	-	-
India	70	-	20	10
Indonesia	80	5	10	5
Japan	22	74	0.1	3.9
Korea, Rep. of	90	-	-	10
Malaysia	70	5	10	15
Philippines	85	-	10	5
Singapore	35	65	-	-
Sri Lanka	90	-	-	10
Thailand	80	5	10	5

Source: Megacity Management in the Asian and Pacific Region. Manila: Asian Development Bank

operating at full capacity (e.g. Bangkok, Hanoi, Shanghai, Tokyo, New Delhi, and Mumbai) for the following reasons:

- high operating and maintenance costs compared to open landfilling (including foreign exchange costs for replacement parts of imported plants);
- higher cost of compost than commercial fertilizers (both purchase cost and labor cost to apply to agricultural fields);
- incomplete separation of materials such as plastic and glass, making the compost poor for agricultural application; and
- poor operation and maintenance of facilities.

Incineration

As a preferred method for SWD in Asia, incineration is third to landfill, but only operates well and likely to remain popular in cities of industrialized countries such as Australia; Hong Kong, China; Japan; Republic of Korea; Singapore; and Taipei,China.

Incineration has had very limited use for municipal solid waste.

Incineration has had very limited use for municipal solid waste and has not had much success in the cities of Asian developing countries where it has been installed, because most of these cities have encountered many problems with imported incinerators, either due to design problems or high operating and maintenance costs.

Factors Affecting Selection of SWD Options in Asia

The root of the problem is the broad lack of awareness and understanding among Asians of the environmental and related health consequences of improper SWD practices.

The existing problems of SWD practices in Asian developing countries may be attributed to several factors. However, the root of the problem is the broad lack of awareness and understanding among Asians of the environmental and related health consequences of improper SWD practices. Governments are often blamed by the public for uncollected wastes but not as much for unsanitary landfill operations, a manifestation of the "out of sight, out of mind" attitude. This general apathy is likely to change in the near future as Asian cities become even more crowded and the competition for land further intensifies, forcing SWD facilities to be located closer to where people live and work. While environmental education has started to bring about some awareness of cleanliness and pollution, this has generally not reached a critical mass to pressure governments into taking more positive and appropriate action.

Site Location

Most of the existing SWD facilities in developing Asian cities are located in sites that generally have been neither properly studied nor prepared. The sites have been chosen mainly on the basis of their distance from residential and commercial areas, a response to the NIMBY attitude. Many of these sites are low-lying areas where the waste that is deposited is used as landfill.

The increasing congestion of many developing Asian cities, and the intensification of land competition makes site location for SWD facilities within city boundaries very difficult. Recent attempts to site SWD facilities outside a city's jurisdiction, as in Metro Manila, have brought about interjurisdictional conflicts. Without any national legislation on solid waste management in most developing Asian countries, the municipalities are left on their own to resolve such conflicts. The result is either a standstill where nothing is resolved or long delay in implementation due to protracted negotiations. This situation can be avoided with a proper national legislation on solid waste management, including provisions for intermunicipal cooperation in operating SWD facilities. But again, such legislation is unlikely to be promulgated unless it is representative of a popular cause.

The experience of Japan in addressing such interjurisdictional conflicts is worth noting. Japan has a law that requires municipalities to dispose of all their waste within their own borders. This has obviously left them with no option but to incinerate all waste. Thus, a huge incinerator industry has developed and is one of the most influential political groups in the country.

Technological and Cost Considerations

The capital investment for a new disposal plant is a major consideration in many Asian cities. As mentioned earlier, the prevalent technology for SWD in Asia is landfill or open dumping, and the fact remains that attempts at other technologies have largely failed. While incineration can be framed as a cost-effective decision in most countries, it is still 5 to 10 times more costly than sanitary landfill, even after discounting energy revenues (see Table VII.5). Therefore, the social acceptability of the choice of technology and its associated costs are major considerations of decision makers.

Table VII.5: Costs Per Tonne (US$) of Alternative Disposal Technologies for Large Cities

Technology	Low-Income Country	Middle-Income Country	High-Income Country
Average GNP per capita	370	2,400	22,000
Open dumping	0.5-2.0	1.0-3.0	5.0-10.0
Sanitary landfill	3.0-10.0	8.0-15.0	20.0-50.0
Tidal land reclaim.	3.0-15.0	10.0-40.0	30.0-100
Composting	5.0-20.0	10.0-40.0	20.0-60.0
Incineration	40.0-60.0	30.0-80.0	20.0-100.0

Environmental and Health Concerns

Citizens are becoming more conscious of the health and environmental implications of the mishandling of certain technologies. In Japan, for example, the recent *State of the Environment* report shows a huge increase in dioxin levels, 90% of which come from incinerators, thus prompting Japanese officials to look at other options including composting, recycling, and waste reduction. Environmental protection groups are also using similar reports in other Asian countries in campaigning against incinerators. These efforts are gaining popular support, perhaps because of the "scare" tactics used by such groups in associating the increase in dioxin levels with the increased incidence of cancer. The Philippines, for example, recently passed national legislation banning the use of incinerators.

However, public awareness of the risks of open dumping is not as equally developed. The pollution of surface and groundwater by leachates from landfills, for example, is not understood by most people including political decision makers. It usually needs a crisis situation before people will take action and adopt changes to existing practices.

In Surat, India, the outbreak of a plague in late 1995 prompted the citizens and local officials to clean up the city's uncollected rubbish, clogged drains, and general unsanitary conditions. Through concerted actions by local authorities, private businesses, and the community, the city achieved dramatic improvements in terms of overall sanitation and public hygiene, and most interestingly received an award as the second cleanest city in India in 1997—just two years after the crisis. Lessons such as these should perhaps be used to enhance greater public awareness about the health risks of existing improper waste disposal practices.

Social Concerns

The general lack of understanding of SWD is also the reason behind the negative view towards waste pickers and so-called scavengers. They are generally perceived as a nuisance and may be treated like criminals. However, they depend on waste as their only source of income, sometimes even for food. Their presence in streets and dumpsites is another major consideration for decision makers in the selection of SWD facilities. In efforts to "modernize" waste collection and landfill operations, waste pickers are inevitably affected as they are removed from their only source of livelihood. In the case of the "Smokey Mountain" dumpsite in Metro Manila, for instance, many of the waste pickers violently resisted being relocated from the site when the government closed it down for development of housing and light industry. The contribution of waste pickers to reducing the volume of waste, which, in turn, prolongs the life of disposal sites, is not widely appreciated. It has been shown in many cases, that when properly organized, trained, and supervised, waste-pickers can be valuable partners in addressing the problems of SWD.

In efforts to "modernize" waste collection and landfill operations, waste pickers are inevitably affected as they are removed from their only source of livelihood.

Management and Administrative Capabilities

Another consideration facing decision makers in the selection of SWD options is the management and administrative capabilities of the authorities responsible for the facility. This is rarely considered seriously because of the lack of understanding of what SWD entails. Most government officials and politicians, especially at the local level, perceive solid waste management as a simple matter. They are generally not aware of alternative waste disposal methods or the skills required. Thus, SWD is usually given the lowest priority in terms of fund allocation

SWD is usually given the lowest priority in terms of fund allocation and staff recruitment.

and staff recruitment. Municipal staff at most disposal sites do not have the proper technical skills. Engineers with the right qualifications are reluctant to work in such an environment due to the general perception that it is a low-status job, unpleasant, and hazardous to one's health.

The above-mentioned considerations facing decision makers in selecting SWD options, while requiring individual attention, need to be addressed as a whole since they are interrelated and affect each other. From the decision maker's perspective, the common thread that runs through all these considerations is social acceptability —that is, what the public will accept in terms of location, technology, improvements in managerial and technical capacity, contractual arrangements, and the costs of all of these.

Emerging Trends and Challenges

Improving existing SWD practices in Asia requires first and foremost more effective education programs and public information campaigns on their environmental and health implications. These should help generate wider public awareness to pressure decision makers to take more serious action on the problems of improper SWD practices. These can also help increase citizens' awareness of their responsibilities and roles to improve the existing situation, such as by segregating biodegradable from nonbiodegradable household wastes. After all, environmental sanitation is everyone's responsibility, not only government; government cannot solve the problem alone.

Environmental sanitation is everyone's responsibility, not only government; government cannot solve the problem alone.

From the technological viewpoint, and given the increasing scarcity of land in most Asian cities and the NIMBY phenomenon, innovations are needed to reduce the amount of land required for SWD facilities as well as the dangers of pollution

from certain technologies. Recently, garbage processors that recycle organic household wastes have been introduced in Japan to deal with these problems. It is obvious that trends and conditions in Asia support the need for innovations to enhance waste reduction, reuse, and recycling.

The recycling issue returns us to the situation of waste pickers and scavengers, which number tens of thousands throughout Asian cities. There is an increasing number of nongovernment initiatives in organized waste segregation and recycling. These are mainly through the efforts of NGOs such as SEWA and EXNORA in India, Women Balikatan Movement in the Philippines, the Environmental and Community Development Association in Thailand, and the Urban Poor Consortium in Indonesia. Some of these initiatives are linked with local universities, which provide technical training and support. Through these universities, knowledge about waste minimization, segregation, and recycling is spreading. These initiatives are enhancing appreciation of the positive contribution of waste pickers and scavengers to the reduction of waste to be collected and disposed of by municipal authorities, and consequently the costs involved. However, the extremely unhealthy environment in which these scavengers live, often in the vicinity of the dumpsites, remains a critical problem. Thus, to alleviate the working conditions of scavengers, their activity should not be simply treated as illegal; rather they should be incorporated as partners in the solid waste management process, for example, in house-to-house collection and manual segregation of waste prior to final disposal.

The extremely unhealthy environment in which these scavengers live, often in the vicinity of the dumpsites, remains a critical problem.

Partnering with waste pickers and scavengers requires an understanding among municipal officials of the technical aspects of SWD. This suggests the need for proper skills training and improvements in organizational structures and procedures. While there have been a number of capacity-building programs

on urban environmental planning and management, most of these have been add-on components of infrastructure projects and are not sufficiently in-depth and comprehensive. SWD operations invariably require knowledge of a range of skills other than technical skills, such as conflict management, negotiation with adjacent municipalities for joint operations of common SWD facilities, and organizing scavengers for house-to-house collection.

One other skill that needs to be strengthened among municipal authorities concerns the funding of SWD operations, including the acquisition of the appropriate technology or improvements to existing facilities, and operations and maintenance. Most developing Asian cities lack sufficient financial resources to build, operate, and maintain better SWD facilities. However, possibilities exist for alternative funding and operating approaches such as privatization of the facility, as has been done in Malaysia, or through BOT schemes as was done in Hong Kong, China.

One other skill that needs to be strengthened among municipal authorities concerns the funding of SWD operations.

Adopting such approaches requires special training of municipal officials in the areas of project financing and contract management. It also requires that appropriate legal and financial frameworks for such contractual arrangements with the private sector be put in place, together with an effective performance monitoring system.

With increasing urbanization and economic growth in Asia, effecting the necessary improvements to existing SWD practices in developing Asian cities needs comprehensive national legislation to provide the appropriate environmental and health guidelines, technical design standards, and operating procedures. Such legislation should also provide guidelines for intermunicipal cooperation for common facilities, contractual arrangements with the community and private sector, and partnerships with waste pickers. This legislation is essential not only in setting the

overall policy for solid waste management, but also in providing the necessary "rules of the game" for all the actors involved. After all, improvements to existing SWD practices are not the responsibility of government alone.

GOOD PRACTICE ON SOLID WASTE MANAGEMENT

Suzanne Ardosa
Benchmarking Coordinator
Cebu City, Philippines

The ADB Benchmarking Project provided training, focused on the tools and techniques of benchmarking and continuous improvement, for two Coordinators from each of the 10 participating cities. As one of the Cebu City Coordinators, I then started training teams that were organized to take part in the benchmarking process in our city.

We have been saying that our resources are scarce, and that the problems and demands are getting bigger, but we have to remember that we still have the most important resource—the people. In the Benchmarking Project, we focus on the capability of the work force. We organized the teams who were responsible for delivery of services, and trained them on how they can improve the way they do things in the city.

In the Benchmarking Project, we focus on the capability of the work force.

During the first three months of the project, we focused on two services—solid waste management (education and enforcement), and handling public grievances and complaints.

During the first Regional Coordinators' Workshop, we had the opportunity to compare and learn from one another. When we returned home, we shared our new knowledge with our respective teams and all the people involved in the process,

and used this knowledge to improve our service delivery process.

Our advantage in this project is that we are able to see things that most mayors, chief executive officers, and managers cannot see, because we work with the front-line service providers. Therefore, we can be more detailed in approaching the problems, and eventually help in solving them without any additional cost to the city. It is just a matter of maximizing the use of available human resources.

Some of the mayors here have not been to Cebu, so I would like to give you a little background on my city. It is called the "Queen City of the South" and has a population of about 662,000. Because it is the center of education, commerce, and trade in the southern Philippines, the daytime population can reach one million or more. We have 18 councilors, 16 of whom are elected, while the other two represent the Association of Barangay Councils (the lowest LGU in the Philippines), and the youth council, respectively. We have 5,314 personnel, and our budget in 1999 was about P2.8 billion (US$70 million).

There are 20 departments. For easy coordination in the delivery of the services, they are grouped into six clusters:

- fiscal management;
- social services (health, education, and social welfare services);
- infrastructure (planning and engineering);
- support service (supply and property management);
- law and order (police, traffic management); and
- environmental services (agriculture and public services).

Solid waste management is the first service that we worked on under the Benchmarking Project

There are five key elements in solid waste management.

because it is a critical service for city residents and businesses. There are five key elements in solid waste management: education, collection, transfer, disposal, and enforcement. Under the project, we focused only on education and enforcement because these areas are manageable. Besides, cities have varied approaches in collection, transfer, and disposal of garbage, issues that were too big to handle in this project.

Education Approaches

Under the education process, we learned about the best practices in other cities, which we could adopt or learn from, improve on the strong points, and subsequently apply in our respective cities.

In Indonesia, the Adipura Awards acted as a national incentive in implementing cleanliness programs in the cities. Semarang has the "K-3" program (Kapersihan, Kaindihan, and Katartiban: cleanliness, beauty, and orderliness). Kuantan, Malaysia, uses the health license requirement for food handlers to ensure health education, including solid waste practices. Before a health license is issued, the applicant has to undergo a seminar on health education and solid waste management practices. Shanghai practices waste recycling; households separate wastes at source for private sale. This is a very successful practice because it reduces the volume of garbage by 30 percent. In the cities of Cebu (Philippines) and Colombo (Sri Lanka), a pilot project involving school children in composting and recycling of wastes is being implemented in model schools.

In the Benchmarking Project, we talk about measurements, not as a way of determining who is doing well or badly, but as a way of monitoring our performance. We need to know if we are cost effective, and if the people are satisfied with the

level or quality of service that we are giving them. In the education program, we are looking at the cost per head of population, the number of persons reached by the program, the change in solid waste practices attributable to program, and the level of satisfaction of the people.

In Cebu City, the education program is an ad hoc program that we implemented at the community level, and we were successful in doing it in the schools because it has been integrated into the school curriculum. We were able to reach 100 percent of the target group, or 116,000 students at a cost of US$0.43 per student.

We were able to reach 100 percent of the target group, or 116,000 students at a cost of US$0.43 per student.

We shared the experiences of other cities with our city teams, and from those experiences, they have proposed to create a solid waste education unit in the Department of Public Services for an integrated approach to waste reduction, segregation, and recycling. It was also proposed to expand the target groups to include housewives and other sectors of society to increase public awareness on the importance of solid waste management.

Enforcement Approaches

In the enforcement process, the best practices include

- deputizing individuals and CBOs in Cebu City to enforce the law and issue citation tickets for offenders;
- using a neighborhood watch in Indonesia;
- annual refresher training courses using several agencies in Shanghai;
- subsidizing the costs of bins; and
- notification of and commitment to collection times in Bangalore.

We measured our performance by looking at the number of complaints about solid waste nuisance per head of population served, the average time from initial report to inspection or officer's report, and the average time from report to compliance or further action.

In Cebu City, we have very strong participation of the private sector and active involvement of some village captains. The strong political will of our mayor is helping greatly in tackling the issue of solid waste management. We have an adequate budget in this undertaking. The city is providing vehicle and other support as needed, and appropriate city ordinances are in place.

There are still challenges to face, like defining the roles of participating agencies so that there will be no overlapping or buck-passing as to who should do what. We also had to contend with some adverse public reaction and poor participation of some barangays officials during the initial implementation of project. We need to increase the visibility of enforcers and improve their morale by providing them with uniforms, and upgrade our computer database to allow no-compromise penalties for repeat offenders.

In summing up, benchmarking is a strategy that we find very effective in driving continuous improvement because we are able to compare our city with other similarly situated cities. We are able to learn about and improve on the experiences of others, and allow rank-and-file employees to participate in improving their ways of doing things. This is made possible by recording processes, analyzing them, and applying improvements.

If we are good today, we can be better tomorrow, and the improvement will go on.

In closing, I would like to say that we can always do something to improve the service delivery of our cities. If we are good today, we can be better tomorrow, and the improvement will go on. There is no perfect way of doing things because there is always a better way.