



UNDP -
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Program

Lessons for Improving Service Delivery

Learnings from Private & Non-Formal Sectors in
Solid Waste Management

South Asia Region



Sindh Katchi Abadis
Authority

in collaboration with

Dawood College of
Engineering and
Technology

and

Water and Sanitation
Program - South Asia

Remarks

by Tasneem Siddiqi
(Director General, SKAA)

Summary of main points:

This workshop has identified the beginnings of solutions to some of the problems in solid waste management.

It is evident from the discussions of the last two days that everybody already knows about the issues in detail. We all want the problems to be solved but at present various small attempts are being made in isolation; they need to be integrated. We must also question whether we are competent to deliver a new, improved service.

In Karachi we have the resources for effective solid waste management (such as a 500 acre landfill site, vehicles, and surplus staff) but they are not being used appropriately.

Karachi's huge population: 12 lakh households and 10 million people presents an enormous challenge and under present circumstances nobody could manage all of the garbage produced from the households.

We need to adopt appropriate technological means for getting waste from the houses to the landfill sites and people may be able to do a lot more for themselves with appropriate support. In Orangi, for example, the majority of the population developed their own sewerage with the agency providing only advice on how to do it.

Finally the role of all actors must be clearly established, and we must also address the issue of commercial and industrial waste, which was not covered by this forum.

Introduction

As the urban environment in Pakistan continues to deteriorate, there is growing recognition of the need for a sanitation policy and sound operational strategies for dealing with the problem in a rational and effective manner. In response to this the Water and Sanitation Program - South Asia has initiated a consultative process for policy development at the Federal and Provincial levels in Pakistan. This process aims to draw in stakeholders at every level of service provision and management.

A national seminar on urban environmental sanitation (UES) in March 1998 consulted stakeholders at the senior level on current problems in the sector and produced outline recommendations on the type of policy needed. Following the seminar a program of provincial discussions was initiated to progress the policy debate and consult as widely as possible.

While it was the second in a national series, the workshop was the first of its kind for the Sindh province and aimed to promote continuing dialogue and action for UES policy development in the province. The first looked at the full spectrum of UES issues in NWFP. It also served as a networking event for UES professionals from the government, non-government and private sectors.

Karachi was selected as a venue for these discussions due to recent initiatives in solid waste management in the city, notably the privatization of the collection and disposal service in one district. The city also has a huge and thriving informal sector working in solid waste recycling.

Field visits to view these developments were provided during the workshop.

During the workshop, participants reviewed the standard solid waste management process and identified the roles and potential roles of both private and informal sector operators (including NGOs) in improving solid waste management in the city. A central concern was the need to foster linkages between these players. The result was recommendations in two main areas and an outline action plan for policy development in the province.

This report provides a summary of the discussion and recommendations arising from the workshop.

The issue of how to privatize solid waste management services was not resolved.

Similarly no consensus was reached on the viability of primary collection services in Pakistan, though several participants recommended that where this is attempted, partnerships should be developed between service providers and the community (via CBOs or NGOs) and between the public and private sectors.

At the end of the two days deliberation participants recommended the formation of two

Action Plan

Committee 1 Solid Waste

Group Members:

Noman Ahmed, Aly Ercelawn, Nargis Latif,
M. Hussain Sayed, Khalid Shaikh, M. Haneef

TOR:

- Gather waste collection data
- Consult stakeholders on present practices and issues
- Assess replications of best practices, models, studies
- Recommendation for a pilot project

Committee 2 Private Sector Monitoring

Group Members:

M. Hussain, Abdul Khaliq, Mansoor Ali,
Sara Azfar, Noman Ahmed

TOR:

- Assess current contract
- Recommendations on improving current contract and future private sector involvement

A general overview of the Solid Waste Management (SWM) process in Karachi

The starting point for discussion was the development of a common understanding of the standard SWM process. The chart below represents the system that can be found in many cities throughout the world - especially wealthier ones. In Karachi, however, there is no official primary storage or collection service in most areas (though most people make informal arrangements), hence the shading of those steps.

Actor	Generation	Primary Storage	Primary Collection	Secondary Storage	Secondary Collection	Disposal	General Points
Municipal Council	<ul style="list-style-type: none"> • Need for reduction • Need for awareness raising with households 	<ul style="list-style-type: none"> • Problem that bins are not available or maintained 	<ul style="list-style-type: none"> • Appropriate vehicles skips are not used • Councillors should have an active role 	<ul style="list-style-type: none"> • Appropriate technology & staff management is not used • There is lack of coordination of agencies • Collection timings should be set through consultation • No maintenance funds are employed 	<ul style="list-style-type: none"> • Management - collection time is a problem • Can be done by both MC and the private sector 	<ul style="list-style-type: none"> • Distance from transfer station • Who has the right to use them? • Should maintenance be mainly the MC's responsibility 	<ul style="list-style-type: none"> • Continuous coordination among the actors • Promote separation and reuse/recycling of organic waste: scope for all actors formal/informal • Need more research into private sector involvement in all stages of process • Possible lead from private sector • Incentive mechanisms need to be put in place
NGO		<ul style="list-style-type: none"> • Can NGOs be involved in source separation 	<ul style="list-style-type: none"> • Fill gap: service providers-users 	<ul style="list-style-type: none"> • Can they play a role? 	<ul style="list-style-type: none"> • Should their role be of a monitor? 		
CBO		<ul style="list-style-type: none"> • Are there effective NGOs/CBOs in smaller cities? • On self-help basis people can do primary storage 		<ul style="list-style-type: none"> • NGOs need support of MC 			
Informal Sector			<ul style="list-style-type: none"> • Link with existing informal systems- CBO? 				
Private Sector	<ul style="list-style-type: none"> • Replicate Safai Kamai 				<ul style="list-style-type: none"> • Integrate with past MC efforts 	<ul style="list-style-type: none"> • Involve private sector but with extreme caution 	
Households		<ul style="list-style-type: none"> • Own responsibility 	<ul style="list-style-type: none"> • Own responsibility • Link with Sweepers 		<ul style="list-style-type: none"> • Should their role be of a monitor? 	<ul style="list-style-type: none"> • Also CBOs 	

Karachi The SWM Department of Karachi Metropolitan Corporation (KMC) estimates that 60% of the city's daily generation of 6,000 tons is collected by the municipal service (this figure is disputed), with the rest remaining at collection points and on dump sites. Weekly or monthly campaigns are made for its disposal but these are generally unsuccessful - the campaigns are not continued until all garbage has been removed.

SWM problems in the city worsened after the second world war due to the use of disposable items, especially plastic bags, which cause drainage problems.

A few years ago an initiative known as the 'garbage train' was introduced whereby waste was transferred from collection points to a train and carried by rail to an out-of-town disposal site. Unfortunately the scheme failed due largely to a lack of coordination and cooperation between provincial and federal agencies.

Participants identified SWM Problems in relation to this backdrop in Karachi

- In sabzi mandi (vegetable market) people refuse to throw waste in the designated place and expect sweepers to clear up - they are dependent on the municipal service.
- The KMC disposal site is not used by other agencies and following abandonment of the garbage train, unofficial sites are emerging (as many as 3,000 according to one representative compared with 300 official sites).
- Burning of garbage by waste pickers is common even at landfill sites.
- Is it really viable for a private contractor to provide household collection? KMC cannot do this; they already collect 1800 tons per day in District Central alone.
- Ownership of the existing landfill site is unclear. KMC should consider privatization of sites.
- Municipal sanitation staff are untrained, unsupervised, lack motivation, and are under no pressure to work. There are opportunities for corruption and many ghost workers are appointed as sweepers.
- The SWM service is subject to considerable political interference due to vested interests.
- There is no coordination between different government departments, each of which has its own area of jurisdiction. People have to consult and coordinate with three dozen institutions of government.
- What is the real number of NGOs/CBOs active in SWM in Karachi compared with other cities, and how effective are they?
- There is a lack of awareness of SWM issues at the household level. Efforts are needed to reduce waste generation at source.
- Responsibilities at household, area and government levels must be clearly defined. Responsibilities should be shared with the people, but it is not clear whether they are willing to do something.

The following discussion was held on actors in an SWM Process

Players in SWM

The roles and potential roles of these players were identified in relation to the steps in the SWM process, as shown in the table. The two main main type of actors discussed were:

The Formal Sector

This refers to the government agencies which provide SWM services; the metropolitan corporation in the case of Karachi. The 'formal' service is the municipal service.

The Informal Sector

This term is used to refer to those players active in SWM but working outside the formal service, and includes both commercial and non-commercial actors. The commercial informal sector comprises a myriad of independent operators dealing in waste collection, purchase, separation, restoration, resale and recycling. The scale of operations ranges from itinerant manual workers to large recycling factories. At the upper end the businesses are so large that in Karachi they import waste from other Asian and middle-eastern countries.

Municipal sanitation staff also form part of the informal sector since most perform private duties on top of their official role by collecting waste from households for a small fee, and by sorting waste for resale and recycling.

Non-commercial players include NGOs and CBOs. Unlike other independent operators their motivation is not profit but a cleaner environment, resource conservation and the well-being of the public and sanitary workers. They tend to respond to those aspects of SWM in which the municipal service is weakest such as the provision or management of primary collection and secondary storage, public education, the promotion of recycling, and research and advocacy for better public services.

Case Study: Privatized Waste Collection in Karachi

Karachi Metropolitan Corporation recently awarded a contract to Al Khalid Agencies, a local contractor, for the provision of solid waste collection and disposal services in one district of the city. The privatization was still new at the time of the workshop but it nevertheless provided a useful case study for exploring the potential benefits of privatization, and its limitations.

This was done via presentations from both the municipality and the contractor, followed by discussion.

Contract Details

Work began in November 1998 under an initial one-year contract with possible extension to a maximum four years. The contract value is Rs. 43.5 million per annum.

Payment is according to the weight of refuse lifted, at Rs. 284 per ton (exclusive). Estimated quantity of waste to be lifted is 420 tons per day / 153,300 tons per annum.

Service to be provided

1. Primary and secondary collection on a daily or alternate daily basis, in 21 blocks in North Nazimabad (a middle-income area) and North Karachi (middle-to-low income). The area served comprises:

	25,000
household units (Federal B. Area)	
	47,000
household units (North Karachi)	
Total	72,000

2. Mechanical street cleaning of greenbelt areas and removal of construction debris.
3. Collection from hospital, commercial, institutional and commercial sites in the same area.
4. Removal of waste from collection points and katchra kundis and disposal at recognized sites. Burning of garbage is not permitted either at collection points or the dumping site.
5. Community awareness-raising on good waste disposal practices.

The Municipal Perspective

M. Hussain Syed, DMC Central

Why Privatize?

- To avoid administrative problems associated with municipal services – such as inter-departmental delays and non-cooperation to avoid union problems
- To free up limited resources so that they can be deployed for more neglected areas
- To learn from the private sector practices, introduce competition and improve effectiveness
- To reduce operational costs and overheads (such as pensions and staff gratuities) by as much as 50%

Overall, it was envisaged that a privatized service could be more efficient and cost effective than existing municipal arrangements.

Why these Locations?

FBA is a planned settlement in which it may be possible to create public awareness and appreciation of cleanliness. North Karachi was selected in order to test the same approach in an area with some lower income households.

Contract Management

Checks and balances on the contractor's performance will be achieved via monitoring street cleanliness and transfer points by DMC. The contract sets a legal framework for ensuring that obligations are met.

Results

Work has only recently begun but initial findings are that sweeping has improved slightly, while the amount of waste lifted has gone down a little. A positive feature is that unlike the DMC, which has many departments, the contractor has a simple organization structure making the coordination of work much easier. On the negative side, it appears at present that the contractor does not have the capacity to meet all the demands of the contract. Nevertheless, DMC believe that overall the new system is an improvement on the old service.

The Contractor's Perspective

Khalid Shaikh, Proprietor Al Khalid Agencies

Previous Experience

In 1996, the Director began providing a waste collection service for flats in North Nazimabad, a predominantly white-collar area.

Resource Deployed

There are sites offices and the contractor uses his own workshop, which enables work at night. He has ensured that 95% of vehicles are in constant working order.

Staff Comprises:	Supervisors	16
	Drivers	20
	Sweepers	550
	Night Sweepers	15
	Mechanics	4
	Helpers	10

There are no hard and fast rules on the length of staff contracts as it may be necessary to increase or decrease staffing according to service requirements. None of the sweepers are from the former municipal service.

The technology used includes household dust bins, tricycles for primary collection, and refuse trucks. Incinerators will be used for the disposal of hospital waste. Protective clothing, safety uniform, boots and gloves, are provided to sanitation staff.

A planned target of 1-2 minutes per household has been kept for primary collection. Night collections are made from 8-12 pm.

Community education will be provided, hopefully via local NGOs and/or CBOs – details have not yet been worked out.

The level of investment means that no profit can be made in year one; it will take two years to recover costs.

Problems

The contract is new and there have inevitably been problems, including:

- A huge backlog of work left by the municipality, including building debris. This is slowing progress and currently primary collection is being provided to only 25% of target households while secondary collection is at 75% of target level.
- Unions and local mafia hindering progress.
- Delays in handing over waste.
- High expectations of the municipality and public.
- Municipal sweepers still operating in area. Many have long-established private arrangements with households for the removal of their waste and some have continued even after they have officially been re-deployed.

Issues and Questions Raised

Participants highlighted a number of concerns, not so much with the principle of privatizing services, but with the way the new service had been planned and established:

1. Regarding contract management, the lack of any specific performance criteria was identified as a weakness; it was not even clear how the weight of garbage lifted would be assessed or the billing system would work. Monitoring was currently done by the Chief Sanitary Inspector, via daily visits and on-site assessments; complaint cells have been setup which the public could use in the case of unsatisfactory service (and through elected representatives in the area). Similarly, there were no incentives for good performance built into the scheme.
2. Some (including the DMC) felt that the scale of the task was too ambitious, particularly the requirement for house collection which the municipality had never been able to provide. That the contractor had so far managed to provide primary collection to only 25 of target households was worrying; one suggestion was to reduce the target by half.

While accepting that the primary service was not yet adequate, the contractor did not want to see it deleted from the contract. Rather, he hoped that it would take off so that eventually katchra kundis on main roads and greenbelt areas would become obsolete.

3. No adequate disposal site had been allocated; the contractor was dumping in the same places used by the previous municipal service. The DMC said they were seeking a suitable site.
4. The fate of displaced municipal staff was another concern; the DMC planned to relocate them but many were still working in the area. It appeared that in planning the privatization the DMC had not paid due regard to the strong customary ties between municipal sweepers and households.
5. A question was raised as to why extra resources were not given direct by the community so that they could manage the service themselves; the DMC did not regard this as a realistic option for good results.
6. No community consultation was done by the contractor prior to starting the service, though a press conference was held. Some felt that this was an omission but the contractor argued that awareness-raising is a long term undertaking and could not be completed before the service began.
7. On the question of waste refuse and recycling, this did not form part of the contractor's work-plan; in fact he knew very little about it.

Generally, some participants were surprised that many of the problems had not been foreseen and dealt with at the planning stage.

Some NGO/CBO initiatives discussed:

A number of visual presentations were made to highlight the activities and potential of the informal sector (including NGOs) in solid waste management. Videos were also shown on informal sector recycling and solid waste problems in Karachi. A field visit was also made to see informal sector generation and a CBO initiative.

Kabaris in Karachi

Kabaris are large-scale waste dealers who operate from shops and godowns. There are approximately 1,000 in Karachi, and most specialize in just one type of waste which they buy at auctions or from middle dealers or import, and resell to recycling plants, locally or elsewhere in Pakistan. There are also some that do the recycling themselves.

Officially, informal and municipal solid waste activities are entirely separate. In practice, informal operators interact with the formal service at every stage of its operation, and much of the domestic waste removed reaches Kabaris and ultimately, the recycling industry. Overall, however waste from domestic sources represents only a small percentage of Kabaris business.

Many of these businesses are substantial and they have formed at least two Kabari Associations to safeguard their interests.

These are the Sher Shah Kabari Association and Anjuman Tahaffuz-e-Kabarian. They both focus on providing protection for members and lobbying with the government.

Gul Bahao and 'Safai Kamai' Bank

Nargis Latif is a passionate Karachi environmentalist who has mounted a vigorous campaign to promote environmental awareness and recycling at schools, through the radio and newspapers and via other promotional endeavors. She has worked extensively with school children, Girl Guides and house wives to increase awareness on solid waste.

Her most recent initiative is the 'Safai Kamai Bank' and her slogan is 'Garbage is Gold'.

Now one year old, the 'Safai Kamai Bank' operates every Tuesday from the Bazaar in Karachi's Kashmir Road. Here people can bring their dry garbage for sale on a per Kg basis, the price paid depends on the item. Items purchased include newspaper, other paper waste, cardboard, plastic bags (which itinerant waste buyers will not take), metal, glass and plastic mineral water bottles.

Regular customers can build up credit at the bank and when Rs. 500 is reached, they are given a gold coin – hence the slogan 'Garbage is Gold'. Alternatively, people can receive cash for each sale.

Pakistan Environment Welfare and Recycling Program (PEWARP)

An endeavor closely associated with Gul Bahao is the production of compost known as 'Haryali Khad' (Green Fertilizer). Community-based composting has previously been attempted in Karachi and many other places and is potentially important given the lack of commercial interest in organic waste, which forms a higher percentage of garbage in low-income communities. However, while there have been successes in community mobilization and production of compost, such schemes rarely flourish due to the lack of a market for the product.

Another local NGO, (PEWARP) has now taken up the idea and established a small production unit manufacturing three organic products from waste purchased from itinerant waste buyers at Karachi's huge subzi mandi (vegetable market). The vegetable waste is crushed and the liquid extract collected, which results in: liquid concentrate sold as a pesticide, dilute liquid sold as fertilizer, and solid residue known as 'Haryali Khad'.

The Haryali products are now being professionally packaged and produced to a standard composition and quality. PEWARP act as a wholesaler and market the products through nurseries; they also hope it will sell to farmers.

Shehri

This Karachi-based NGO, also known as 'Citizens for a Better Environment' is primarily concerned with the protection and conservation of the natural and built environment. Within this wide brief it has undertaken research on solid waste problems, especially of the municipal service and recently produced recommendations for improved neighborhood bin designs. SHEHRI also promotes awareness on solid waste management amongst the general public, via its publications.

Young Professionals Training Unit (YPTU), Dawood College, Karachi

The fellows of this unit are working on community motivation for better SWM in some low-income areas. Following a motivation campaign, CBOs in the project area appointed sweepers and one hundred houses now support them. With YPTU assistance they have also secured the services of a municipal vehicle. YPTU see community education as very important in promoting better SWM.

Karachi Administration Women Welfare Society (KAWWS)

KAWWS started as a residents' association and began its work in solid waste in 1988 in response to the lack of waste collection services in its area, which has low-to-middle-income residents. At the time the roads were unpaved and the population density was not very high. The Association put pressure on the municipality to provide a collection vehicle and slowly they responded; firstly with monthly collections, then weekly, and eventually daily.

Thereafter KAWWS established close contact with the crew and took a number of steps to improve the service.

Residents' contributions to the scheme began at Rs. 10 per month and now stand at Rs. 150. However, this fee covers not only solid waste services but also the management of local parks and civic amenities. Unfortunately, the scheme has foundered in recent times due to lack of municipal support, political interference and demographic change.

Though disappointed, KAWWS has not given up the battle for better services and is developing plans for a household collection scheme funded by residents.

Recommendations from Working Groups

- Municipality initiate pilot projects for formal-informal linkages and integration
- Prioritize elements of the integrated systems
- Municipality should auction the right to separate waste and develop the landfill site
- Develop public-private partnerships at the following levels:
 - Neighborhood
 - Secondary
 - Landfill (done in Sri Lanka?)
- Facilitate the informal sector through assistance with technology etc.
- Community mobilization should be linked to the secondary (municipal) system
- The municipality should promote source separation
- Promote dry/organic composting
- Initiate small projects:
 - Action research by NGOs
 - Monitor the private sector and clarify roles
- Enhance the capacity of municipal staff
- Improve finance generation and cost recovery

Community

- Users need to be consulted prior to any intervention
- Demand management should be facilitated through community groups
- Existing residents' committees to be involved in planning and managing services
- Implement local community mobilization
- Existing institutional arrangements should be integrated into SWM schemes
- Community roles and responsibilities should be clarified and communicated
- People should be encouraged to bury wet garbage at home and separate garbage at source into dry and wet components
- Women's participation should be promoted

Privatization

- Involve the private sector for efficiency gains
- Promote competition via bidding between private, formal and informal sectors
- Award contracts transparently only to genuine, competent contractors
- SWM to be linked to the rights of sponsorship Vs. advertisements
- Introduce user charges in the private sector contract
- Need more time before assessing the result of privatization
- Develop evaluation mechanisms for private sector services
- Appoint a third party to oversee private contracts
- Enforce accountability measures
- Identify which steps can be privatized
- Integrate the private sector and past municipal efforts

Informal Sector

- Focus on traditional vs. non-traditional methods of SWM
- Involve the informal sector in organizing dust bins and waste separation
- Encourage research by the informal sector
- Facilitate waste pickers at landfill sites

Management

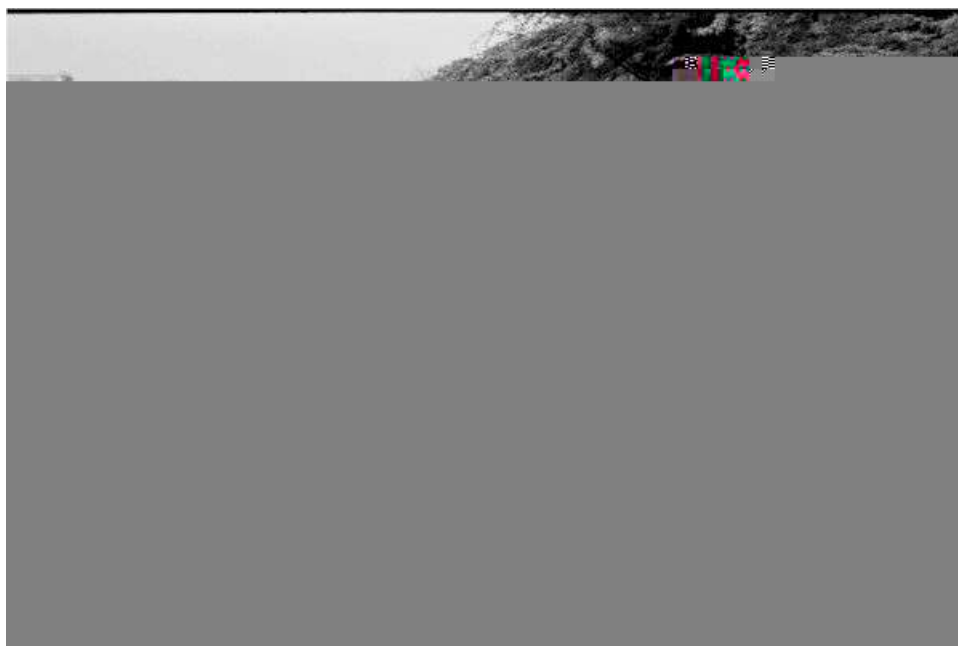
- Establish an environmental database
- Improve staff supervision
- Reduce the gap between existing and required capacity
- Improve vehicle maintenance
- Introduce waste separation and recycling
- Provide daily collection from dust bins
- Develop disposal sites

Technology / Process

- Use local technology if possible
- Mass awareness should be undertaken to ensure participation

Acronyms

CBO	Community Based Organization
DCET	Dawood College of Engineering & Tech.
DMC	District Municipal Committee
FBA	Federal B. Area
IUCN	International Union for Conservation of Nature
KAWWS	Karachi Administration Women Welfare Society
KMC	Karachi Metropolitan Corporation
LG&RD	Local Government & Rural Development
MC	Municipal Committee
NGO	Non Government Organization
NWFP	North Western Frontier Province
P&D	Planning & Development
PEWARP	Pakistan Environmental Welfare & Recycling Program
SKAA	Sindh Katchi Abadi Authority
SWM	Solid Waste Management
TOR	Terms Of Reference
UES	Urban Environmental Sanitation
UK	United Kingdom
UNDP	United Nations Development Programme
WEDC	Water Engineering Development Center
YPTU	Young Professionals Training Unit



List of Participants

Mr. Noman Ahmed
DCET, Karachi

Dr. Mansoor Ali
WEDC, UK

Mr. Irfan Saeed Alvi
Deputy Director Pak EPA, Islamabad

Mr. Farhan Anwar
SHEHRI, Karachi

Mr. Aly Ercelawn
DCET, Karachi

Mr. Ferozuddin
DCET, Karachi

Mr. Allah Bachayo Gabol
Town Committee Naushahero Feroze

Mr. M. Hanif
CBO Worker, Karachi

Capt. Qazi Kabeer
DMC East, Karachi

Mr. Abdul Khaliq
Sindh Katchi Abadis Authority, Karachi

Mr. Muhammad Humayun Khan
Ministry of Environment Local Governemnt &
Rural Development, Islamabad

Mr. Arshad Samad Khan
IUCN-SPCS Unit PE&D Department, Peshawar

Mr. Saleem Ullah Khan
DCET, Karachi

Mr. Umar Khan
District Municipal Corporation, Karachi

Mr. Muhammad Younus Khan
Young Professional Training Unit (DCET),
Karachi

Ms. Nargis Latif
Gul Bahao, Karachi

Mr. Shah Muhammad Misbah
Town Planning Department, Hyderabad

Mr. Naeem Akhtar Naeem
Ministry of Environment (LG&RD), Islamabad

Mr. Abdul Majid Narejo
Town Committee Mithi

Mr. Muhammad Nawaz
Environmental Protection Agency, Karachi

Dr. Aslam Pervaiz
DMC East, Karachi

Mr. Akber Ali Rana
Pakistan Environmental Organization, Kehkashan,
Karachi

Raufar Kumar Ravi
DCET, Karachi

Mr. Hadi Bux Shaikh
Municipal Committee
Tando Mohammad Khan (Hyderabad)

Ms. Sarah Siddiqi
Karachi Administration Women Welfare Society,
Karachi

Mr. Tasneem Ahmad Siddiqui
Sindh Katchi Abadis Authority, Karachi

Mr. Jawed Sultan
Sindh Katchi Abadis Authority, Karachi

Mr. Mohammad Hussain Syed
DMC Central, Karachi

Water & Sanitation Program -South Asia
Islamabad

Mr. Allah Javaya
Mr. Farrukh Ansar
Ms. Mehreen Hosain
Mr. Raja Rehan Arshad
Ms. Rahat Asad
Ms. Sara Fatima Azfar

Mr. Jeremy Collins
Consultant WSP-SA

Water and Sanitation Program - South Asia

The mission of the program is to help disadvantaged people gain sustained access to improved water and sanitation services. Its current Urban Environmental Sanitation (UES) strategy in Pakistan is focused on three areas:

- Policy development
- Development and promotion of good practice
- Dissemination of sectoral learning

In addition to the dialogue on policy development, current initiatives include compilation of a database of sector organizations and projects, and work on pilot projects for city-wide planning based on the “Strategic Sanitation Approach”.

SKAA

SKAA was established by the government of Sindh in 1987 to expedite the process of regularization and up-gradation of squatter settlements in Sindh. SKAA has so far taken up the process of regularization in over 200 settlements. Simultaneously, it has improved water and sanitation systems in 33 settlements by incurring expenditure of rupees 44.5 million. The basic approach of SKAA is based on principles of participation and full cost recovery.

DCET

The Department of Architecture and Planning at the Dawood College of Engineering and Technology, Karachi, has been promoting socially responsive professional education as its philosophy. The Department has also extended technical and professional advice to many municipal agencies and public sector institutions with the objective of fostering socially responsive development. Two of its constituent units namely the Urban Design Program and Karachi Mega City Institute have been actively supporting several urban planning and development projects for some years now.

For Further Information

An unabridged version of the proceedings is available at the address given below. If you have any comments, queries or suggestions concerning the workshop or the policy development process, please contact:

Raja Rehan Arshad
WSP-SA Team Leader
World Bank,
PO Box 1025,
Shahrah-e-Jamhuriat,
Ramna (G-5/1)
Islamabad, Pakistan

Tel: 051-819781-6, Fax 051-826362,
E-mail: sansar@worldbank.org