



# Report and Recommendation of the President to the Board of Directors

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Project Number: 37220  
November 2008

Proposed Multitranche Financing Facility and  
Technical Assistance Grant  
Islamic Republic of Pakistan: Sindh Cities  
Improvement Investment Program

## **CURRENCY EQUIVALENTS**

(as of 27 October 2008)

Currency Unit	–	Pakistan rupees (PRe/PRs)
PRe1.00	=	\$0.01228
\$1.00	=	PRs81.3500

## **ABBREVIATIONS**

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
AP	–	affected person
DNI	–	distribution network improvement
EARF	–	environmental assessment and review framework
EIRR	–	economic internal rate of return
FFA	–	framework financing agreement
FIRR	–	financial internal rate of return
GIS	–	geographic information system
GOS	–	government of Sindh
ICB	–	international competitive bidding
IEE	–	initial environmental examination
IPPMS	–	investment program performance monitoring system
LAA	–	land acquisition act
LAC	–	land acquisition collector
LAR	–	land acquisition and resettlement
LARDDR	–	land acquisition and resettlement due diligence report
LARF	–	land acquisition and resettlement framework
LARP	–	land acquisition and resettlement plan
LGD	–	local government department
LIBOR	–	London interbank offered rate
MDG	–	Millennium Development Goal
MFF	–	multitranchise financing facility
MGD	–	million gallons per day
MTDF	–	medium-term development framework
NCB	–	national competitive bidding
NSUSC	–	North Sindh Urban Services Corporation Limited
OCR	–	ordinary capital resources
P&DD	–	Planning and Development Department
PFR	–	periodic financing request
PHED	–	Public Health Engineering Department
PRSP	–	poverty reduction strategy paper
PSC	–	program steering committee
PSP	–	private sector participation
PSU	–	program support unit
SAMA	–	service and asset management agreement
SCIP	–	Sindh Cities Improvement Investment Program
SWM	–	solid waste management

TA	–	technical assistance
TMA	–	taluka municipal administration
USAID	–	United States Agency for International Development
USC	–	urban services corporation
WACC	–	weighted average cost of capital
WSP	–	Water and Sanitation Program
WSS	–	water supply and sanitation
WTP	–	willingness to pay
WWM	–	wastewater management

## NOTES

- (i) The fiscal year (FY) of the Government of Pakistan ends on 30 June. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2008 ends on 30 June 2008.
- (ii) In this report, “\$” refers to US dollars.

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## INVESTMENT PROGRAM SUMMARY

<b>Borrower</b>	Islamic Republic of Pakistan
<b>Classification</b>	Targeting classification: General intervention Sector: Water supply, sanitation, and waste management Subsector: Integrated Themes: Sustainable economic growth, capacity development, private sector development Subthemes: Developing urban areas, institutional development, public–private partnerships
<b>Environment Assessment</b>	Category B  Initial environmental examinations show positive net environmental benefits. An environmental assessment and review framework has been prepared to guide environmental assessment of subprojects during implementation.
<b>Investment Program Description</b>	<p>The Sindh Cities Improvement Investment Program (the Investment Program or SCIP) aims to improve water supply, wastewater management, and solid waste management (SWM) services in clusters of secondary cities in Sindh Province, thus enhancing the urban environment, public health, and economic opportunities for an estimated 4 million urban residents of participating secondary cities. This will be achieved through an integrated program of physical and nonphysical investments in institutional reforms and priority infrastructure rehabilitation and improvements. Urban services corporations (USCs), established as public limited companies by participating local governments to deliver the services, represent a core institutional reform. The Investment Program has four parts: (i) part A: urban planning, institutional development, and program implementation support for program execution and institutional reforms; (ii) part B: water supply and wastewater management improvements to boost service coverage, quality, and reliability through civil works and equipment provision; (iii) part C: SWM improvements comprising the provision of civil works and equipment required for the construction and operation of sanitary landfill facilities, solid waste collection equipment, and communal waste bins; and (iv) part D: operational and transition support funding to cover cash shortfalls in the newly established USCs in advance of planned tariff increases and greater cost recovery.</p> <p>Parts B and C will finance physical outputs including (i) increased connections to piped water supply and reduced system leakage; (ii) increased wastewater disposal and capacity for wastewater treatment; and (iii) development of sanitary landfills and increased access to solid waste collection.</p> <p>Parts A and D will finance non-physical outputs including (i) improved institutions and incentives for urban service delivery; (ii)</p>

capacity development for better system planning, operations and maintenance; (iii) enhanced cost recovery through metering, billing and collection tariffs; and (iv) increased efficiency through predictable recurrent financing and performance-based contracting and private sector participation.

### **Multitranche Finance Facility Modality**

The Government of Pakistan has requested the Asian Development Bank (ADB) to extend financing for the Investment Program through a multitranche financing facility (MFF). The requested MFF totals \$300 million to finance infrastructure investments, capacity development, operational funding shortfalls, and the Investment Program's implementation costs. The MFF modality is justified based on the following:

- (i) The MFF establishes a foundation for a 10-year partnership between ADB and the Government of Sindh (GOS) to revitalize Sindh's second-tier cities.
- (ii) It avoids the piecemeal approach of past urban projects by building a broad platform for engaging GOS on core reforms.
- (iii) The modality provides for logical sequencing of interrelated physical and nonphysical investments over the medium-term to support long-term GOS objectives for balanced urban development.
- (iv) It allows phasing of physical investments in new "town clusters" once institutional reforms are in place and USCs established.
- (v) Multiple tranches provide flexibility to adjust investment levels, with tranche amounts increasing over time as a corporate model is adopted and geographical coverage of USCs increases.
- (vi) The MFF allows piloting of approaches, then applying experience to subsequent tranches and town clusters for more efficient implementation.
- (vii) Financing on an as-needed basis can lower transaction costs.
- (viii) The MFF shifts focus to implementation, rather than repetitive processing tasks, while internalizing subproject preparation skills.
- (ix) It complements ADB's proposed MFF for urban development in Karachi, providing a balanced approach to province-wide urban development.

Conditions for an MFF are satisfied. The sector strategy and policy framework, including actionable reforms, investment program, and financing plan are in Appendix 3. Management and institutional reforms are front-loaded to establish a foundation for physical investment.

### **Rationale**

Sindh's second-tier cities are under increasing stress of population growth and urban poverty. The provision of urban infrastructure and services has not kept pace with the population. Inadequate planning and management of infrastructure services keeps costs high and quality low while impeding Sindh's economic competitiveness.

Deteriorating urban services add to business costs, damage the urban environment, diminish the quality of life, and discourage potential investment. Devolution reforms have had disappointing effect since 2001. While providing scope for more effective service provision, improvements are hindered by continuing overlaps and fragmentation of responsibilities between the taluka municipal administrations (TMAs) and provincial-level agencies. Alternative approaches to service provision, including infrastructure planning and construction, are needed to address the challenges facing Sindh's second-tier cities. Service delivery needs to be separated from system regulation and political interest. Service provision needs to be progressively placed on a commercial and self-sustaining basis, leveraging private sector expertise and incentive structures as appropriate.

### Impact and Outcome

The Investment Program's impact will be improved health and quality of life for an estimated 4 million residents in Sindh's participating secondary towns and improved economic competitiveness of the towns. The outcome will be enhanced quality, coverage, and reliability of water supply, wastewater, and SWM services for an estimated 570,000 households in participating cities, through reforms that include introducing well-managed, financially sustainable urban service providers and more effective urban planning, while creating a platform for increased private sector participation in the sector.

### Cost Estimates

The total cost of the Investment Program is estimated at \$400 million, of which \$300 million would be covered under the MFF. The estimated total needs for infrastructure services investment under the sector road map and investment program is an estimated \$2.3 billion for the period 2008–2030.

### Financing Plan

#### Sector Investment Plan

Source	Sector Investment Plan		Investment Program	
	2008–2030	2009–2018	2009–2018	2009–2018
	(\$ million)	(\$ million)	(\$ million)	(%)
Water Supply Infrastructure	950	150.0	150.0	16
Wastewater Management Infrastructure	980	150.0	150.0	15
Solid Waste Management	250	40.0	40.0	16
Institutional Reform and Development	95	60.0	60.0	63
<b>Total</b>	<b>2,275</b>	<b>400.0</b>	<b>400.0</b>	<b>18</b>

Source: Asian Development Bank estimates.

#### Investment Program Financing Plan

Source	Investment Program		Tranche 1	
	(\$ million)	(%)	(\$ million)	(%)
Asian Development Bank	300.0	75	38.0	76
Government	100.0	25	12.0	24
<b>Total</b>	<b>400.0</b>	<b>100</b>	<b>50.0</b>	<b>100</b>

Source: Asian Development Bank estimates.

The Investment Program is divided into five tranches, with tranche 1 covering eight subprojects. All of these subprojects meet the agreed selection criteria set out in the framework financing agreement (FFA) and have been reviewed and found acceptable by ADB.

<b>Tranche/Tentative Timing</b>	<b>Indicative Financing Plan by Tranches</b>	
	<b>ADB Financing</b>	<b>Government</b>
	<b>(\$ million)</b>	<b>(\$ million)</b>
Tranche 1 (2009–2012)	38.0	12.0
Tranche 2 (2010–2014)	50.0	16.0
Tranche 3 (2011–2015)	70.0	24.0
Tranche 4 (2013–2017)	75.0	25.0
Tranche 5 (2014–2018)	67.0	23.0
<b>Total</b>	<b>300.0</b>	<b>100.0</b>

Source: Asian Development Bank estimates.

### **Multitranche Financing Facility Amount and Terms**

An MFF of up to \$300 million equivalent will provide loans for (i) up to an aggregate of \$262 million equivalent from ADB's ordinary capital resources (OCR) under ADB's London interbank offered rate (LIBOR)-based lending facility, and (ii) up to \$38 million equivalent in special drawing rights from ADB's Special Funds resources. Each loan will be extended to finance projects subject to submission of related periodic financing requests (PFR) by the Government. The Government intends to finance the Program by submitting five PFRs. The first PFR amount is \$38 million. The last loan is expected to be utilized no later than 31 December 2018.

The OCR loans will have an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.15% per annum, and other terms and conditions set forth in the draft loan and project agreements as applicable. Each loan will be for a 24-year term, including a grace period of 4 years. The Special Funds resources under tranche 1 will have a 32-year term, including a grace period of 8 years, and with an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter.

The Government has options to choose between eligible currencies and the interest rate regime most suitable for each loan. ADB also provides flexibility in terms of repayment and interest swaps during the financing period. Repayment schedules can be structured for each loan to match the needs of each batch of subprojects with regard to their cost-recovery and sustainability profiles.

The Government will onlend to GOS at the same terms and conditions as those for ADB loans to the Government. GOS will bear the foreign exchange risk for all loans.

Financing may be made available provided the Investment Program is implemented in accordance with the general understandings and expectations upon which the MFF is based, as laid out in the FFA. Progress toward the expected outcomes and set out in the design

and monitoring framework and the action plan for reform will be part of the decision-making criteria and filters for continuing ADB support. Compliance with the safeguard requirements and social development policies, and with all other undertakings set forth in the FFA will also guide ADB's decision to continue financing under individual tranches.

<b>Period of Utilization</b>	Until 31 December 2018 (with the last PFR submission by 31 December 2016)
<b>Estimated Completion Date</b>	30 June 2018
<b>Executing Agency</b>	The Planning and Development Department (P&DD) of the GOS
<b>Implementation Arrangements</b>	<p>Program Support Unit (PSU) has been established to support overall Investment Program implementation; the PSU will promote urban reforms and roll-out the USC model to town clusters, beginning with the North Sindh Urban Services Corporation (NSUSC). The PSU will oversee submission of the periodic financing requests (PFR), report on and evaluate results, oversee safeguards compliance, coordinate among provincial agencies, prepare progress reports, monitor and evaluate, oversee safeguard requirements, and engage with the independent verifier to implement Part D funding for USC recurrent costs. An urban policy and strategic planning unit (the urban unit) will be established to provide urban planning and policy support for urban development in Sindh. The urban unit will collaborate with the PSU to champion reforms and roll-out the USC model to new town clusters. A Program Steering Committee (PSC), chaired by additional chief secretary (development), will provide policy direction and strategic oversight.</p> <p>USCs will be responsible for implementation of subprojects and managing services delivery within their coverage areas. Each USC will be headed by a managing director and professional management team to be recruited competitively from the open market. USCs will, among others, (i) prepare business plans and operating budgets, (ii) be responsible for the procurement process, (iii) conduct due diligence on subsequent tranche investment, (iii) ensure safeguards compliance, (iv) prepare PFRs for submission to the PSU, and (v) report on progress and measure results.</p>
<b>Implementation Plan</b>	A detailed implementation plan identifies specific tasks and time frames to establish project management structures, execute infrastructure subprojects and implement reforms. The draft facility administration manual in Supplementary Appendix A incorporates this plan to guide rapid start-up, then timely and effective implementation. This manual adopts a substantive, but concise, format intended to increase its use by the EA and USCs.

<b>Procurement</b>	All procurement under the MFF will be undertaken following ADB's <i>Procurement Guidelines</i> (2007, as amended from time to time). A procurement plan will be prepared for each subproject under the MFF.
<b>Consulting Services</b>	Consultants will be selected and engaged using ADB's quality- and cost-based selection procedures, consultant qualification selection and/or individual consultant selection procedures in accordance with ADB's <i>Guidelines on the Use of Consultants</i> (2007, as amended from time to time). Quality-based selection may be required where technical expertise is the overriding requirement. Where it can be reasonably justified, single-source selection may be necessary. Each respective entity—the PSU, urban unit, and USCs—will be responsible for consultant recruitment, as well as for supervising and monitoring consultants' work for its respective activities.
<b>Investment Program Benefits and Beneficiaries</b>	Investment Program benefits include (i) enhanced capacities for city planning, management, and urban service delivery; (ii) improved quality, continuity, and coverage of water supply, wastewater, and SWM services; and (iii) provision of priority water supply, wastewater, and SWM infrastructure. The Investment Program will (i) enhance managerial and technical capacity; (ii) improve outsourcing and introduction of performance-based management contracts; (iii) increase focus on cost recovery and enhanced service revenues; (iv) raise awareness and make explicit the linkages between levels of infrastructure investment, service delivery performance, and user charges; (v) improve urban service providers' financial planning, budgeting, monitoring, and reporting; (vi) increase customer-orientation and develop informed and responsible customers; and (vii) leverage private sector expertise to improve service delivery. By 2018, some 20 participating secondary towns with an estimated population of 4 million will benefit from improved services.
<b>Risks and Assumptions</b>	<p>Major potential risks include those related to (i) delays in subproject implementation; (ii) delays in government reform actions to replicate the USC model; (iii) bureaucratic constraints and weak coordination among GOS agencies whose support is necessary for NSUSC to operate effectively; (iv) possible lack of cooperation from civil society, nongovernment organizations, and TMA staff; (v) vertical programs of infrastructure investment that undermine system sustainability; (vi) delays in tariff increases; (vii) changes in the Sindh Local Government Ordinance or local government system; and (viii) possible subproject implementation delays due to civil unrest.</p> <p>Mitigation measures include (i) significant levels of program implementation support at provincial level and USC level; (ii) request for advance action to expedite the contracting for water supply works; (iii) seeking sector funds to jump-start the urban unit and public awareness campaign, the latter targeted at securing ministerial support for reforms; (iv) making clear the linkage between achieving reform actions, particularly tariff increases, and further</p>

extension of infrastructure finance; (v) advisory technical assistance support in these critical reform areas; (vi) an outreach program targeting TMA-deputed staff and effective contractual arrangements and incentives under service and asset management agreements; (vii) selection of a sufficiently robust corporate model; and (viii) selection of a flexible lending modality with longer time horizon to accommodate volatility and change.

### **Technical Assistance**

Technical assistance will be provided in association with the Investment Program to improve NSUSC efficiency and accountability under the first tranche. The total cost is estimated at \$2.9 million equivalent. ADB will provide \$2.5 million equivalent on a grant basis. Component A of the technical assistance will support NSUSC to improve performance and implement organizational changes, with focus on management information systems, improving outsourcing arrangements, and implementing public private partnership transactions. Component B will improve NSUSC accountability to customers and customer service by raising awareness of reforms, improving communication between NSUSC and customers, addressing concerns of low-income consumers, and introducing consumer monitoring of service delivery. The executing agency will be the Planning and Development Department of Sindh. NSUSC will be an implementing agency. International and national consultants hired through firms will be recruited in accordance with *Guidelines on the Use of Consultants* (2007, as amended from time to time) for the main components. A civil society organization will be contracted separately for the citizen report card activity.



## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed multitranche financing facility (MFF) to the Islamic Republic of Pakistan for the Sindh Cities Improvement Investment Program (the Investment Program or SCIP), and (ii) proposed technical assistance (TA) for Improving Efficiency and Public Accountability of North Sindh Urban Services Corporation Limited (NSUSC). The design and monitoring frameworks for the MFF and tranche 1 are in Appendix 1.

## II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

2. In its medium-term development framework (2005–2010), the Government of Pakistan has committed to making towns and cities more efficient and competitive to help accelerate national growth and productivity. The Government cites need for enhanced urban planning and management capabilities, stronger public-private partnerships, and integrated urban development. This includes balanced development and improving basic urban services across large, medium, and small cities to enhance their productivity and competitiveness, as well as to improve quality of life for their citizens. The Government has requested the Asian Development Bank (ADB) to help finance a part of a strategic and phased investment program targeting urban revitalization in second-tier towns of interior Sindh.<sup>1</sup>

### A. Performance Indicators and Analysis

3. Sindh is the second most populous province in Pakistan. It is becoming highly urbanized, with nearly half of its population (some 19 million) living in urban areas. While the vast majority of this urban population (about 70%) lives in Karachi or Hyderabad, many of the nearly 6 million people scattered across Sindh live in more than 20 secondary cities with urban populations exceeding 50,000. Economic growth in these secondary cities lags that of Karachi and cities in Punjab. When provincial figures are adjusted for Karachi, the relative stagnation in economic growth in Sindh's second-tier cities is clear. While the annual per capita income in Karachi is about \$2,000, the figure for secondary cities in Sindh hovers around \$200. That is far below the national average of \$925 per annum. Barriers to economic growth include, among others, poor water and power supplies, inadequate connectivity to Karachi, insufficient skilled labor, and political uncertainty. The implications for income generation and poverty levels are pronounced. In the absence of economic opportunity, reliable urban services, and a safe, secure, and predictable business environment, these secondary cities will continue to lose their youth to Karachi and fall behind their peer cities in Punjab.<sup>2</sup>

4. **Poverty Indicators.** Income poverty in Pakistan declined between 2001 and 2005 owing to strong provincial economic growth and increased pro-poor government spending. The poverty headcount ratio declined from 34.5% in FY2001 to 23.9% in FY2005, then to 22.3% in FY2006.<sup>3</sup> A large portion of the population remains vulnerable, however, and the income and expenditure gaps between the poor and wealthier strata (and especially the urban rich) have widened. While urban Sindh is the least deprived area nationally, this is largely due to the predominant affect of Karachi. One fourth of Sindh's urban areas fall into the category of high deprivation, which is indicative of the development gap between Karachi and Sindh's secondary towns. Urban poverty in Sindh is multifaceted, ranging from deficiencies in basic urban services

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<sup>1</sup> ADB. 2004. *Technical Assistance to the Islamic Republic of Pakistan for Preparing the Sindh Basic Urban Services Project*. Manila (TA 4534-PAK, approved on 23 December 2004, supported program preparation).

<sup>2</sup> Hyderabad and Sukkur rank among the least attractive places to do business in Pakistan based on recent business climate surveys.

<sup>3</sup> Ministry of Finance. 2007. *Pakistan Economic Survey 2007–2008*. Islamabad.

to unemployment. The poverty levels of participating towns range from 40% to 50%.<sup>4</sup> Significant disparities exist between more developed neighborhoods and the *katchi abadis* (or slum areas).

**5. National and Provincial-Level Urban Service Performance.** Effective urban infrastructure and services are prerequisites for sustainable economic growth, yet Pakistan's urban sector performance indicators have stagnated on the whole. Urban water supply coverage increased by only 1% during 2000 to 2004, after remaining at 95% nationwide over the prior decade. The number of household connections to piped water decreased from 60% in 1990 to 49% in 2004, reflecting both population growth and apparent flagging performance of government-managed water utilities. While access to improved sanitation rose in Pakistan's urban areas from 82% in 1990 to 92% in 2004, the proportion of households having sewerage connections declined from 45% to 40% over this same period. Solid waste management (SWM) services lag as well. Only 57% of urban households have access to garbage collection systems. Urban service delivery performance in interior Sindh compares poorly against these national indicators and, together with environmental conditions, is deteriorating (para. 7). Again, provincial figures can be misleading, as relatively better conditions in Karachi mask poorer performance in Sindh's secondary towns.

## **B. Key Problems and Opportunities**

6. Appendix 2 presents a problem tree analysis. The core problem is poor service delivery, particularly poor quality, continuity, and coverage of drinking water, sanitation, and SWM services. Ineffective institutional arrangements, distorted incentives, weak accountability, and poor governance are causal factors. Aggravating the problems are a limited appreciation for urbanization and its importance for economic growth and weak incentives to plan. Together, these contribute to widening gaps between the quality of life in Sindh's secondary towns and that in Karachi and between Sindh and the faster growing areas of Punjab. The sector road map and action plan for reform and investment in Appendix 3 elaborate on the challenges and opportunities.

### **1. Inadequate Services**

7. **Water Supply, Wastewater, and SWM.** Urban services in Sindh's secondary cities fall short against three basic targets of quality, continuity, and coverage. On average, about half of the urban population in Sindh Province outside Karachi has access to piped water, but the water is of poor quality and flows intermittently for only 2–4 hours a day. Water tariffs and collection efficiency are low, and limited data suggests cost recovery is minimal. Arsenic contamination is present at an alarming level in Sindh's groundwater aquifer.<sup>5</sup> Systems are so deficient that there is no reliable measure of how much water is sourced or delivered and the costs entailed. Access to sewerage and sanitary drainage (primarily open drains) varies significantly between towns, but averages around 60%.<sup>6</sup> Sanitary drainage is extremely limited; sewer lines are often blocked, causing hazardous ponding of sewage in neighborhoods. There is no sewage treatment in Sindh's secondary towns. SWM systems are generally nonexistent or rudimentary in urban centers outside Karachi. Less than 40% of the population is served by garbage collection systems, including some handled by small private operators. No sanitary landfills exist; solid waste collected is disposed of by burning or illegal dumping into open spaces or the

<sup>4</sup> The poverty level is measured as PRs749 per person per month (Sindh Poverty Reduction Strategy, 2003).

<sup>5</sup> Among northern Sindh towns, a UNICEF survey has found alarming rates in Khairpur District. Arsenic is also present in Shikarpur, which has no piped system and relies on groundwater for supply.

<sup>6</sup> Case studies of seven towns across Sindh under the TA for Preparing the Sindh Basic Urban Services Project found less than 10% of the population is served by underground drains.

drainage channels. This causes pollution and blocks the wastewater disposal network, exacerbating sanitation problems.

## 2. Weak Institutions, Incentives, Management, Accountability, and Planning

8. **Ineffective Institutions.** The absence of appropriate institutions for urban management and service delivery at *taluka* municipal administration<sup>7</sup> (TMA) level are among the core problems underlying urban service delivery and the deterioration of infrastructure in Sindh's secondary towns. Devolution reforms in 2001 transferred political and administrative powers over various services to elected local authorities, but financing, skilled management and staffing, and accountability mechanisms did not follow. The TMA structure in so-called "common districts" does not lend itself to the professionalized management of modern urban utilities for larger towns.<sup>8</sup> A thin layer of four managerial staff is tasked with overseeing TMA responsibilities in both rural and urban areas. These four positions are frequently vacant or under-filled with junior staff.<sup>9</sup> The further absence of mid-level, skilled staff means that front line service delivery is left largely to levels 1–3 staff, with limited supervision. These structural weaknesses are exacerbated by a 10-year hiring ban and the inherent weaknesses of the civil service systems to attract, retain, and incentivize staff with specific technical skills. Outside Karachi and Hyderabad, there are no systems for monitoring water quality, no maps of existing water supply and wastewater infrastructure, no meters to measure quantities of water produced, no accurate accounting of service delivery costs, or even an accurate count of houses connected.

9. **Disconnect between Infrastructure Construction and System Management.** Sindh Province is littered with nonfunctioning or partly operational, inappropriately designed or redundant water supply schemes.<sup>10</sup> Government investment levels have increased in recent years, and a steady stream of funding for infrastructure and service improvement has flowed to some TMAs through vertical programs, mostly implemented by the provincial-level Public Health Engineering Department (PHED), previously a wing of the local government department.<sup>11</sup> However, these assets have not improved service delivery due to (i) inappropriate projects selection, (ii) inappropriate designs, and (iii) insufficient attention to operation and maintenance requirements. The current system, whereby the PHED constructs infrastructure to be handed over to and maintained by the TMAs, incentivizes scheme construction and not service provision. It has contributed to a culture of disregard for customer needs and disinterest in operational imperatives, including cost measurement and recovery, asset inventorying, and systems mapping. There is, as a result, little transparency or accountability in service delivery.

10. **Weak Financial Management and Incentives for Cost Recovery.** At province level, policy frameworks are not well established. Lack of political commitment for cost recovery undermines financial sustainability. Low tariffs and poor collection efficiencies for urban services, in turn, reflect the poor quality of service offered and poor financial management of service providers. User charges must be increased and collection efficiencies improved for sustainable services. However, increases must follow visible improvements in service quality.

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<sup>7</sup> A *taluka* is a unit of local government that covers several towns and villages. Karachi is the only so-called "city district" government in Sindh. All other municipalities are organized as taluka municipal administrations (TMAs) within "common districts." Under the Sindh Local Government Ordinance, these TMAs are responsible for municipal services and regulations. Municipal services include water supply, sanitation, solid waste, and drainage systems.

<sup>8</sup> Owing to their smaller size, none of the secondary towns in Sindh have water authorities or boards.

<sup>9</sup> A review of TMA staff in 2007 found that over 90% of finance officer positions (level 17) were either vacant or underfilled with grade 11 accounts officers; some 40% of the infrastructure and services positions were vacant. The fifth budgeted position, the planning officer, has never been filled in any TMA owing to staffing constraints.

<sup>10</sup> Ironically, these schemes often sit alongside still functional infrastructure built decades or even a century ago.

<sup>11</sup> In May 2008 the Public Health Engineering Wing was reorganized as a Department in Sindh Province.

11. Public trust in service providers must be rebuilt. Entire towns, such as Larkana and Shikarpur, have opted out of public piped-water supply systems development, preferring far less efficient, but more reliable, self-provision from household pumping schemes. Cost recovery against operations and maintenance for water supply varies (but is typically below 30%) and it is far lower for wastewater management. The difference has to be made up through a government subsidy. The exact size of this subsidy is difficult to determine, given the absence of data on what it costs to provide water supply, wastewater, and SWM services. Local government officials find it difficult to increase (or even to set) tariffs, and direct involvement of *taluka nazims* in service provision inevitably leads to undercharging.<sup>12</sup> There is neither bulk nor individual metering in Sindh's secondary towns. User fees are typically charged at a flat rate. There is no calculation of tariff rates necessary to cover cash operating costs, operations, and maintenance, and eventually debt service, depreciation, and a share of future capital expenditure.

12. **Poor Planning and Weak Appreciation for Urbanization as a Force for Economic Growth.** These problems are compounded by the inadequate urban planning systems, which have resulted in haphazard and unplanned growth in town areas. While urban planning functions have been devolved to the TMAs, no planning staff has been assigned and TMAs are unable to generate the vision, strategies, plans, and associated actions to stimulate and manage effective urban growth and thus support economic development and improved quality of life. At province level, there has been too little focus on the role of urbanization in supporting economic growth, job creation, and reduced regional disparities. A provincial focal point for strategizing and planning urban regeneration is needed.

### C. Prior External Assistance and Lessons

13. **External Assistance.** ADB assistance to water supply and sanitation (WSS) and other urban development in Pakistan to date totals over \$1.2 billion across 16 projects and about 30 TA projects. However, this program will be the first major assistance for secondary towns in Sindh Province since the \$22 million loan for the Hyderabad Water Supply and Sewerage Project<sup>13</sup> approved in 1976. It follows other ADB support for WSS and the urban sector in Punjab, North-West Frontier Province, and Karachi (generally implemented with mixed results). The Investment Program complements ongoing and proposed support to Karachi and responds to a Government of Sindh (GOS) commitment to regionally balanced development.

14. Other development partners assisting Pakistan's urban sector include the World Bank; the governments of Japan, Kuwait, Netherlands, and United Kingdom; United Nations organizations; and the World Bank's multipartner Water and Sanitation Program (WSP). While each has tended to focus on particular cities or provinces, the Investment Program's design has benefited from information-sharing with the World Bank, the Department for International Development of the United Kingdom initiatives in Punjab Province, and WSP initiatives in North-West Frontier Province. Within Sindh, Japan International Cooperation Agency is providing advisory services and/or finance to improve water supply, sewerage, and transport, including a master plan for water supply and sewerage in Karachi. WSP has supported WSS reforms and benchmarking, the United States Agency for International Development (USAID) and United Nations Children's Fund (UNICEF) have province-wide sanitation programs (although focused primarily on rural communities), and USAID's *Districts that Work Program* proposes

<sup>12</sup> *Taluka nazims* (which are chief elected local officials) in North Sindh recognize this problem and want to distance their offices from direct provision.

<sup>13</sup> ADB's Operations Evaluation Department assessed this project "partly successful" after significant reductions in scope and protracted delays.

infrastructure support for select TMAs in water supply and sanitation.<sup>14</sup> Appendix 4 lists development partner assistance to the urban sector since 2000.

15. **Lessons Observed and Incorporated.** The Investment Program design takes into account lessons from previous ADB loans, other donor interventions, and the Government's own programs.<sup>15</sup> The Operations Evaluation Department has assessed ADB's urban sector lending as weak, citing limited ability to "turn physical outputs into outcomes." Contributing factors cited include (i) financial and management weakness of urban authorities; (ii) poor sequencing of infrastructure and institutional reforms, the former typically preceding the latter; (iii) insufficient attention to distortions from rent-seeking behavior; and (iv) too little innovation and private sector participation.<sup>16</sup> The Investment Program design directly addresses these issues by providing a given TMA a sound alternative to professionally manage urban services delivery through a jointly held company. The new company will help to ring-fence finances, maintain higher standards for corporate governance and transparency, and access private sector expertise. Fully consistent with these lessons, the Investment Program goes beyond institutional strengthening components to ensure the key institutional reform is in place upfront.

16. The Investment Program also addresses these issues by (i) adopting a phased approach under an MFF, allowing time for reform to take root and roll out to new areas; (ii) putting institutional reforms in advance of infrastructure, thus better aligning incentives to service delivery results; (iii) targeting a small number of priority secondary towns, geographically clustered and agreed to collaborate through a single implementing agency, the jointly held corporate utility; (iv) focusing on only two urban subsectors; (v) targeting quick wins through a few tranche 1 demonstration subprojects; and (vi) avoiding the institutional imperative to be all things to all people.<sup>17</sup> Supplementary Appendix B elaborates on lessons learned.

## D. Rationale

17. **Rationale for Investment Program.** Sindh's second-tier cities are under increasing stress of population growth and continuing urban poverty. Provision of urban infrastructure and services has not kept pace with this population growth. Inadequate planning and infrastructure services management keep costs high and quality low while impeding these towns' economic competitiveness. Insufficient and unreliable urban services (i) add to business and household costs, (ii) damage the urban environment and diminish the quality of life, and (iii) decrease the attractiveness of these cities to potential investment (thus contributing to a downward spiral of development). The poor performance of local governments in delivering services also reduces their credibility and adversely affects their ability to perform other municipal functions.

18. The devolution reforms of 2001 transferred political and administrative power to elected local authorities and provided an opportunity for more effective service provision. Nevertheless, service delivery improvements are hindered by continuing overlaps and fragmentation of

<sup>14</sup> Such investment supported by development partners poses challenges for establishing urban services corporations. These development partner-supported vertical programs also need to be brought under the planning and implementation umbrella of the service provider.

<sup>15</sup> GOS has cited local government department review that found about 700 of over 1,000 Public Health Engineering-constructed schemes to be inoperable, owing primarily to operations and maintenance problems or TMA refusal to accept the schemes.

<sup>16</sup> ADB. 2005. *Sector Assistance Program Evaluation for the Social Sectors in Pakistan*. Manila.

<sup>17</sup> As an example, the imperative for hygiene education is clear. Evidence shows that hand washing with soap can reduce diarrhea risk by nearly 50%, and hygiene promotion may be the single most cost-effective means of preventing disease in developing countries. Rather than appending a hygiene education component and adding unnecessary complexity, the Investment Program will focus on service delivery but seek parallel financing with partners specializing in hygiene promotion in schools.

responsibilities between the TMAs and provincial-level agencies. In some urban areas, local government management has been weakened since devolution. Alternative approaches to service provision, including infrastructure planning and construction, are needed to address the challenges facing Sindh's second-tier cities. Service delivery needs to be separated from system regulation and political interest. Service provision needs to be progressively placed on a commercial and self-sustaining basis, leveraging private sector expertise and incentive structures as appropriate.

19. SCIP is a 10-year, \$400 million program under a \$300 million ADB-financed MFF to finance basic urban infrastructure improvements in Sindh's secondary towns through (i) establishment of local government-owned, professionally managed urban services corporations (USCs); (ii) support for urban sector reforms and capacity development; and (iii) priority investment in water supply, wastewater, and solid waste management infrastructure. The Investment Program offers so-called "clusters" of local governments a new means to organize urban services delivery by drawing on a provision of the Sindh Local Government Ordinance allowing for TMAs to jointly establish and own a regional utility corporation. This collaborative approach targets geographically clustered TMAs and takes advantage of economies of scale by aggregating TMAs' shared vision for improved service delivery. Two or three USCs, to be developed sequentially under the Investment Program and incorporated under the Companies Ordinance 1984, will have (i) professional management, (ii) more efficient administration and sound financial management systems, (iii) sound corporate governance, (iv) commitment to cost recovery, (v) enhanced accountability, and (vi) greater customer focus. The USCs will be supported by various agreements and guidelines that clearly establish the roles, responsibilities, and obligations of the participating TMAs, the USCs, the provincial government, and other stakeholders. A financing mechanism will be established to fund cash shortfalls arising from the gap between costs to deliver urban services and what citizens will pay for these services. Over time, this gap should narrow as services improve, trust builds, and operating efficiencies increase.

20. Through these institutional reforms, the Investment Program targets significant improvements in service delivery, beginning with demonstration areas aimed at restoring trust in piped-water services with 24/7 delivery of potable water. Across participating towns, better service providers should bring significantly improved quality and quantity of piped-water access, far higher levels of wastewater treatment, and systematic collection and proper final disposal of solid waste to break the cycle of trash that clogs drains and leads to flooded communities. The present state of operations and service data makes setting service standards and performance targets difficult. However, under the Investment Program, generating baseline data and mapping existing systems will be a priority to enable optimum investment and informed operational decisions. As information becomes available, performance targets will be agreed between the USCs and TMAs, documented in service agreements, linked to tariff and financing requirements, and monitored through benchmarking exercises. Higher standards for accountability, transparency, and financial efficiency are expected, and nonperformance in this regard will be defined as failure.

21. **Selection of MFF Modality.** The MFF modality was selected, as it sets a solid foundation for long-term partnership between ADB and GOS to revitalize Sindh's second-tier cities. The modality is well suited to the Investment Program as it avoids the piecemeal approach of past urban sector projects and establishes a sufficiently broad platform to engage substantively with GOS on fundamental reforms. It allows for (i) logical sequencing of interrelated physical, and nonphysical investments over a 10-year period to support GOS' long-term objectives for balanced urban development; (ii) sequencing of significant public sector and urban service reform initiatives that require actions over a period of years; (iii) phasing of

investments to support subprojects in new “town clusters” as they organize USCs; (iv) flexibility in levels of investment, with tranche amounts increasing over time as reforms take hold, the corporate model is adopted, and geographical coverage increases; (v) flexibility in timing of reforms against a road map for priority policy actions while ensuring the pace of infrastructure investment incentivizes institutional change; (vi) testing of new ideas and application of this experience to other town clusters during subsequent phases, thus enhancing implementation efficiency; (vii) expedited implementation should reforms and loan disbursements proceed ahead of plan; and (viii) financing on an as-needed basis to reduce transaction costs. Finally, the MMF modality also complements ADB’s proposed investment support to Karachi, thus providing a more balanced approach to province-wide urban development in Sindh.

22. **Sector Road Map and Investment Program.** A set of institutional and financial reform actions, sequenced with targeted consultancy and priority subproject investments, are required for this step-change in urban strategy and planning at provincial level and in services delivery at local level (Appendix 3). Under the Investment Program, GOS has agreed with ADB on a road map of practical, well-sequenced steps to bring about institutional, operational, financial, and regulatory reforms and service orientation reforms to ensure a receptive environment for infrastructure investment.

### III. THE PROPOSED INVESTMENT PROGRAM

#### A. Impact and Outcome

23. The impact of the Investment Program will be improved health and quality of life for an estimated 4,000,000 residents in the participating secondary<sup>18</sup> towns in Sindh and improved economic competitiveness of those towns. The outcome of the Investment Program will be enhanced quality, coverage, and reliability of water supply, wastewater, and SWM services for an estimated 570,000 households in the participating towns.

#### B. Outputs

24. To achieve these outcomes, the Investment Program will support a comprehensive reform program that includes introducing more effective urban planning, well managed and financially sustainable urban service providers, and increased private sector participation. These reforms will be complemented by priority investments in water supply, wastewater, and SWM improvements. The Investment Program comprises four parts. Part A supports the establishment of professionalized urban service providers, urban planning capacity, and technical backstopping for program implementation. Parts B and C will finance targeted infrastructure improvements in water supply and wastewater and in SWM, respectively. Part D provides revenue shortfall support for the newly established USCs. Parts B, C, and D are designed to complement the institutional development and reforms aimed at improving service delivery. Appendix 5 details these physical and non-physical outputs planned under Tranche 1.

25. The core reform under the Investment Program is the delegated management of water supply, wastewater, and SWM services to professional management under contractual agreements. Starting in northern Sindh, the Investment Program will support formation and operationalization of USCs (each jointly established under the Companies Ordinance 1984 by a cluster of TMAs) to deliver these services to specified coverage areas comprising the former urban local council areas. Service provision will be delegated to three USCs by clusters of TMAs through service and asset management agreements (SAMAs) that clearly define

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<sup>18</sup> Secondary towns for purposes of the Investment Program refers to those towns with populations between 50,000 and 1 million.

respective roles and responsibilities while specifying service targets, standards, and agreed investment and service charge levels. The USCs will be accountable to their respective boards (which will include some TMA representatives) for their performance as autonomous entities with a focus on performance and customer service. NSUSC has been incorporated to serve the first cluster of six TMAs comprising Khairpur, Larkana, New Sukkur, Rohri, Shikarpur, and Sukkur.<sup>19</sup> Associated service agreements have been drafted and are under negotiation. The Investment Program will support these actions and arrangements in NSUSC and future USCs, including to engage the necessary management expertise.

### **1. Part A: Urban Planning on Institutional Development, and Program Implementation Support**

26. Part A will provide technical and management support to the program support unit (PSU) and the urban policy and strategic planning unit (the urban unit), two separate but complementary units in the Sindh Planning and Development Department (P&DD). The PSU is tasked with the Investment Program's execution and specific reform activities. The urban unit will provide overall guidance on urban policy and planning plus province-wide reforms to support more effective urbanization. Part A will provide support to the PSU for (i) executing the reform agenda under the program, including rolling out the regional USC concept to other city clusters; (ii) subproject appraisal and support on safeguards; and (iii) monitoring and evaluating the Investment Program. Support will be provided under part A to the urban unit for urban policy, strategic regional and town planning, and information systems. As a focal point for SCIP-related reforms, the PSU will support the TMAs in adjusting to their new role as shareholders of the USCs and parties to the SAMAs. Through the PSU and urban unit, the SCIP will support the TMAs to monitor USCs and develop town planning capacity.

27. Technical and management support will be provided to the USCs in planning, operational systems, investment programming and budgeting, and system operation and maintenance. This will include developing business plans to set out how the USCs will meet their obligations under the SAMAs and to be used as a basis for the release of Investment Program funds. Consultancy support will also be provided to the USCs and their capital works units for the Investment Program's implementation, including design and such contract-related matters as document preparation, procurement packaging, tendering, awarding, and contract supervision. Assistance will be provided to the USCs to facilitate private sector participation through performance-based management contracts for water and waste management services. Part A will also include (i) provision of computers, office equipment, and vehicles for the PSU, urban unit, and USCs to support the Investment Program's execution and subsequent operations; and (ii) training for the PSU, urban unit, TMAs, and USCs in a range of administrative, management, and technical aspects of strategic planning, service planning, and operations.

28. **Tranche 1 and Subsequent Tranches.** Part A financing for non-physical outputs under tranche 1 focuses on the operationalization of the PSU and NSUSC, establishment of the urban unit, and building a strong platform from which to implement the reform program and infrastructure works. Under subsequent tranches, part A financing will continue to support the PSU, urban unit and USCs, with more emphasis on capacity development for the new USCs. Investment in capacity development at provincial and USC levels under the early tranches should enable the proportion of financing under part A to reduce overtime.

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<sup>19</sup> Factors influencing the selection of urban areas in these TMAs included population (Sukkur and Larkana are the third and fourth largest towns in Sindh), proximity to one another (all within 90-minute drive), strategic location along the National Trade Corridor, receptive political leadership, and willingness to cooperate together and improve urban service delivery systems.

## 2. Part B: Water Supply and Wastewater Management Improvements

29. Part B will be implemented by the USCs and focuses on water supply and wastewater management, including system mapping and planning; source identification, development, improvement, and augmentation; raw water transmission, storage, and treatment; treatment plant rehabilitation; treated water storage, transmission, and distribution; distribution network and service connection improvement; leak detection and reduction; bulk and individual water metering; water quality monitoring; drainage and sewerage network improvements; and wastewater treatment plant rehabilitation and construction.

30. **Tranche 1.** Under the first tranche, part B finances physical investments in (i) water supply system augmentation and rehabilitation (source development, treatment, storage, and transmission) in the TMAs of Khairpur, New Sukkur, Rohri, and Sukkur; (ii) pilot distribution network improvement (DNI) schemes in specific urban council areas in Khairpur, New Sukkur, Rohri, and Sukkur; (iii) groundwater monitoring in Larkana and Shikarpur; (iv) urgent improvements to wastewater management systems in Khairpur and Rohri; and (v) small-scale investments in drainage and sewerage networks and associated facilities through an allocation of loan funds for wastewater improvement works in tranche 1 cluster towns, subject to selection criteria in the FFA.

31. **Subsequent Tranches 2–5.** Under the subsequent tranches, part B will finance physical investments in similar water and wastewater infrastructure, including more comprehensive investment in wastewater works. Subsequent investments will be guided by further mapping and planning work under tranche 1. Tranche 2 investments will focus on expanding investment and consolidating reforms in northern Sindh towns, before shifting to new town clusters and USCs under tranches 3–5. Nawabshah and Mirpurkhas are the most likely anchor towns for future town clusters in mid and south Sindh.

## 3. Part C: Solid Waste Management Improvements

32. Part C will also be implemented by USCs and focuses on SWM, including investments in primary and secondary storage and collection, waste reduction, recycling, reuse and recovery (including incineration where appropriate), treatment, and final sanitary disposal.

33. **Tranche 1.** Under the first tranche, part C finances physical investments in (i) construction of four landfill facilities in Khairpur, Larkana, and Shikarpur, with a common facility in Rohri serving New Sukkur, Rohri, and Sukkur; (ii) procurement of specialized solid waste collection and disposal equipment; and (iii) provision of improved communal bins for waste storage.

34. **Subsequent Tranches 2–5.** Under the subsequent tranches, part C will finance similar investments in collection, final disposal and management of solid waste. During the second tranche, NSUSC will expand its coverage to other north Sindh towns, with investment in additional sanitary landfills and collection systems. Subsequent tranches will build on the results of tranche 1, particularly the introduction of private sector participation in SWM.

## 4. Part D: Operational and Transition Support Funding

35. Part D provides financing for (i) operational support funding intended to bridge the short-to-medium term operational cash shortfalls of the USCs with GOS grant funds, and (ii) transition support funding to bridge the short-term operational cash shortfalls of the USCs with GOS loan

funds. The choice of mix between grant and loan funding for the USCs will be at GOS' discretion.<sup>20</sup>

**36. Tranche 1 and Subsequent Tranches.** The estimated financing requirement under part D in tranche 1 is \$8 million. Financing under tranche 2 and subsequent tranches will continue for NSUSC through FY2017, but in decreasing amounts. Funding under part D will be available for new USCs, subject to the criteria and agreed operational funding guidelines. Funding of about \$30 million from part D may be required for operational support of three USCs over the Investment Program period.

### C. Special Features

**37. Establishment of Regional Urban Services Corporations.** The Investment Program proposes a progressive, two-stage reform process for improving municipal services and taking advantage of economies of scale. As a first step, the participating, geographically clustered TMAs would join together to form a corporatized operating utility, a USC, under the Companies Ordinance 1984. The USC will aggregate the TMAs' urban water supply, wastewater, and SWM operations into a single corporation to achieve economies of scale and to share the overhead costs of professional management.<sup>21</sup> Professional management will be competitively recruited from the market and tasked to improve service delivery. Incentives will be better aligned with performance objectives, and compensation systems will be designed to reward results. USC finances will be ring-fenced, rigorously audited, and not intermixed with TMA financial accounts, thus allowing management to better track service delivery costs and revenues. Under the USC model, the disconnect between asset creation and asset management will be addressed, as existing system components will be inventoried and their performance assessed before deciding on where, how much, and when to invest. This institutional reform will help to break the costly cycle of asset creation and rapid deterioration. Properly corporatized utilities, governed under an independent board of directors and able to act in accordance with sound commercial principles, should ensure focus on cost recovery to achieve financial sustainability, particularly in water supply. Supplementary Appendix C elaborates on NSUSC organization and legal structure.

**38. Service and Asset Management Agreements.** The introduction of SAMAs between TMAs and the USCs is at the core of the Investment Program's institutional reforms. The USCs will enter into SAMAs with each of their participating TMAs to provide water, wastewater, and SWM services and manage the relevant TMA assets in their specified urban areas.<sup>22</sup> These public-public service agreements would set out performance indicators and reporting requirements, as appropriate given systems data available. Such agreements would help clarify roles and responsibilities during the first stage of reform and improve services by focusing management and current expenditure on readily achievable improvements to operations and maintenance. These SAMAs will provide the USCs the right to use all assets—infrastructure, associated land, and mobile plant and equipment—as required to deliver the contracted services.<sup>23</sup> These agreements represent a first step toward better incentivized, performance-based management contracting agreements that assume greater private sector involvement under second-stage reforms. They are the connective tissue that links the various elements necessary for improved service delivery. The SAMAs represent the vehicle by which the USC and TMAs agree on a coherent plan for desired operating results that is linked to identified

<sup>20</sup> The appropriate timing and use of loan funding will depend upon urban services' revenue generating capacity and their potential to generate surplus funds for debt repayment.

<sup>21</sup> This refers to operations in former urban local councils.

<sup>22</sup> Coverage areas will be former urban local councils. Rural or village-based water and sanitation programs will remain under their current management arrangements by TMA staff not deputed to the USCs.

<sup>23</sup> The TMAs will remain the owners of new and existing assets in water supply, wastewater, and SWM.

operating priorities, levels of capital investment, operating budget, and, most important, agreed increases in user charges. Supplementary Appendix D contains a draft SAMA.

**39. Operational and Transition Support Funding Mechanisms.** These funding mechanisms aim to bridge the gap between operational costs and operational revenues in a manner that encourages financial transparency, operational accountability, and fiscal discipline. The mechanisms will help GOS clearly to identify, measure, and, over time, reduce the fiscal burden of supporting municipal services delivery. Operational support funding is intended to bridge the operational cash shortfalls of USC operations with grant funds when user charges are unlikely to be sufficient to repay the funding, as typically is the case of wastewater and SWM services. Transition support funding aims to bridge USCs' short-term operational cash shortfalls with loan funds, subsequently to be repaid through USCs' revenues from user charges.<sup>24</sup> Operational support funding will be linked to understandings between the TMAs and the USCs on tariff enhancement.<sup>25</sup> The two funding mechanisms will provide GOS a flexible option to ensure that the investments made through the Investment Program are financially sustainable. This will help USCs to realize the full economic life of their infrastructure, delaying the need for asset replacement. At GOS level, the operational support funding will be channeled through an escrow account arrangement, guided by an escrow agreement, and overseen by an independent verifier<sup>26</sup> to ensure timely, predictable, and accountable funding to the USCs. The guidelines for the operational and transition support funding are in Supplementary Appendix E.

**40. Stage-Two Reforms and Public-Private Partnerships through Management Contracts.** First-stage reforms will establish the USCs with more professional management and access to skilled staff. It will be a substantial improvement over the typical water and sanitation authority model and will begin service improvement. Over time, however, there will likely be increased pressure to reduce USC autonomy (e.g., pressure to hire unqualified staff or not to collect user charges). This suggests that improvements in service delivery under a corporatization model, in some contexts, may only be modest and not sustainable without further reforms to better align incentives with service delivery. Performance-based management contracts or lease affermage arrangements with qualified private operators are ways to further incentivize results. Establishment of USCs and further advisory support on private sector participation under the Investment Program will help pave the way for second-stage reforms, including introduction of more comprehensive performance-based management contracts in SWM and water services and appropriate systems for regulation. Such performance-based contracts will further separate TMAs from day-to-day service provision. This will allow local and provincial governments to shift their focus to regulatory and monitoring functions while private operators focus on professional management of water and solid waste operations, including to recover user charges and deliver results against contracted targets.

## **D. Investment Plan**

**41.** Sector investment needs are estimated at \$2.3 billion through 2030. The medium-term estimate is at \$1.0 billion through 2018, of which the Investment Program provides \$400 million

<sup>24</sup> GOS had indicated a preference to provide USCs grant financing at the start. Transition support funding provides GOS an option that it may avail itself of as tariff revenues, particularly for water supply, increase to levels that can support debt repayment.

<sup>25</sup> Such understandings will be included in SAMAs, with principles being (i) tariffs should increase with inflation, (ii) tariff increases above the rate of inflation should be linked to improved services, and (iii) average tariffs should increase over time to levels that cover the full costs of operations and maintenance. A Tripartite Operational Support and Capital Investment Financing Agreement among GOS, the USC, and each TMA will guide funding operations and complement the SAMAs. This will be a grant agreement under tranche 1.

<sup>26</sup> The independent verifier will be a firm contracted by GOS under part A against agreed criteria.

equivalent (Table 1). The detailed cost estimates and financing plan for Tranche 1 are in Appendix 6.

**Table 1: Investment Program, 2008–2030**

Investment Program Component	(\$ million)			
	Sector Investment Plan 2008–2030	Sector Investment Plan, Medium Term 2008–2018	Investment Program 2008–2018	% Share of Investment Plan
A Urban Planning, Institutional Development, and Program Implementation Support	95	30	20	67
B Water Supply and Wastewater Management Improvement	1,930	830	300	36
C Solid Waste Management Improvement	250 <sup>b</sup>	100	40	40
D Operational and Transition Support		40	40	100
<b>Total Investment Program</b>	<b>2,275</b>	<b>1,000</b>	<b>400</b>	<b>40</b>
<b>Financing Sources</b>				
Asian Development Bank			300	75
Government <sup>a</sup>			100	25

<sup>a</sup> The local governments will additionally finance salaries and pension benefits of staff deputed to the urban services corporations and other operating costs as may be agreed.

<sup>b</sup> Operational support combined under institutional development component.

Source: Asian Development Bank estimates.

## E. Financing Plan

42. To finance the Investment Program, the Government has requested up to \$300 million equivalent through an MFF, comprising up to \$262 million equivalent from ordinary capital resources (OCR) and \$38 million equivalent from Special Funds resources, in accordance with ADB policy.<sup>27</sup> This represents 75% of the Investment Program's total cost. The Government will provide counterpart financing to cover (i) remuneration of counterpart staff, (ii) land acquisition, (iii) civil works, (iv) surveys and data gathering, (v) taxes and duties, and (vi) other miscellaneous costs. The financing plan for the Investment Program is in Table 2.

43. The Government has also requested ADB to consider providing up to \$112 million equivalent from its Asian Development Fund (ADF) resources for subsequent tranches. It is understood that any additional ADF financing will be accompanied by a corresponding reduction in the OCR financing available, so that in any event the total available amount under the MFF will not exceed \$300 million equivalent. This additional allocation will be subject to (i) the general availability of ADF resources, (ii) Pakistan's access to such resources pursuant to ADB's *Graduation Policy* (1998) and the requirements of the ADF donors, and (iii) the availability of such resources to Pakistan pursuant to ADB's *Policy on Performance-Based Allocation for Asian Development Fund Resources* (2001).

44. The MFF will consist of individual loans to finance a range of subprojects and components under the Investment Program, subject to the Government's submitting related periodic financing requests (PFRs) and execution of the related loan and project agreements. The Government and GOS has entered into a framework financing agreement (FFA) with ADB and are required to comply with its requirements. Pursuant to the FFA, the Government has submitted to ADB the first PFR in a total amount of \$38 million equivalent from ADF. The minimum amount of subsequent PFRs will be \$25 million.

<sup>27</sup> ADB. 2008. *Mainstreaming the Multitranchise Financing Facility*. Manila.

45. ADB will use its OCR to finance selected subprojects under parts B, C, and D for a maximum amount of \$262 million equivalent. All provisions of ordinary loan regulations applicable to ADB's London inter-bank offered rate (LIBOR)-based loans will apply to each loan, subject to modifications, if any, that may be included under any loan and project agreements. Each loan will be for a 24-year term, including a grace period of 4 years, with an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.15% per annum, as well as such other terms and conditions as agreed in the FFA and loan regulations and further supplemented in the legal agreements. The Government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB. The Government will relend the proceeds of such loans to GOS on the same financial terms and conditions as those of the ADB loans.

46. Parts A and D; selected water supply, wastewater management, and SWM subprojects under parts B and C; and project design and supervision under all investment subprojects, amounting to up to \$38 million in tranche 1, will be eligible for funding through ADF resources.<sup>28</sup> In the event that ADB will provide additional ADF financing as described in para. 43, such additional ADF resources will only be used for eligible expenditures. The Government will make the proceeds of the loan available to GOS upon terms and conditions satisfactory to ADB. Except as ADB may otherwise agree, the terms and conditions will include interest at the rate of 1% per annum during the grace period and 1.5% per annum thereafter, a repayment period of 32 years, and a grace period of 8 years. GOS will bear the foreign exchange risk of the OCR and ADF loans. The financing plan for the Investment Program and for tranche 1 is in Table 2.

**Table 2: Financing Plan**  
(\$ million)

Source	Investment Program		Tranche 1	
	Amount	%	Amount	%
ADB Ordinary Capital Resources	262.0 <sup>a</sup>	65.5	0.0	0.0
ADB Asian Development Fund	38.0	9.5	38.0	76.0
Government	100.0	25.0	12.0	24.0
<b>Total</b>	<b>400.0</b>	<b>100.0</b>	<b>50.0</b>	<b>100.0</b>

ADB = Asian Development Bank.

<sup>a</sup> The allocation for ordinary capital resources will be reduced should ADB provide additional Asian Development Fund financing.

Source: Asian Development Bank estimates.

47. Financing may be made available provided the Investment Program is implemented in accordance with the general understandings and expectations on which the MFF is based, as laid out in the FFA. Progress toward the expected outcomes and set out in the design and monitoring framework and the action plan for reform will be part of the decision-making criteria and filters for continuing ADB support. Compliance with the safeguards requirements and social development policies, as well as with all other undertakings set forth in the FFA will also guide ADB's decision to continue financing under individual tranches.

## F. Implementation Arrangements

### 1. Investment Program Management

48. P&DD will be the Executing Agency (EA). GOS has established a PSU to support implementation and take overall responsibility for the Investment Program including to (i)

<sup>28</sup> Subprojects with priority to be financed by ADF resources include (i) under part B, pilot distribution network improvements for water supply in priority zones and wastewater improvements; and (ii) under part C, improvements in primary and secondary solid waste collection and storage.

promote urban and related sector reforms as agreed in the urban sector road map and design and monitoring framework; (ii) support rollout of the USC model to new town clusters; (iii) assume responsibility for the preparation of the PFR; (iv) facilitate interdepartmental and provincial coordination; (v) carry out program monitoring and evaluation through the investment program performance monitoring system (IPPMS); (vi) prepare quarterly and annual progress reports; (vii) ensure the quality of social and environmental safeguards documentation prepared by the implementing agencies; and (viii) engage an independent verifier<sup>29</sup> to assess USC and TMA compliance with Investment Program-related agreements. P&DD will also establish an urban unit within 6 months of the effectiveness of the first tranche. The urban unit will provide strategic urban planning and policy support for urban development in Sindh. In the context of the Investment Program, the PSU and urban unit will work together as change managers, supporting rollout of the USC model to new town clusters. Implementation arrangements are diagrammed in Appendix 7. The design of program management, capacity building, and implementation support is described in Appendix 8. The EA will establish one or more regional offices as needed to support Investment Program implementation and facilitate TMA interaction with the USCs.

49. The SCIP's program director, the PSU head,<sup>30</sup> and the head of the urban unit will be recruited by P&DD through competitive processes acceptable to ADB and criteria mutually agreed between GOS and ADB. The urban unit head recruitment process will be open to government and market applicants. The PSU and urban unit heads will be supported by highly qualified professional and support staff recruited through competitive processes acceptable to ADB, and against criteria mutually agreed between Sindh and ADB.<sup>31</sup> The PSU staff will include specialists in municipal services engineering, municipal finance, program implementation, procurement, monitoring and evaluation, urban development, and information technology. The urban unit staff will include specialists in urban policy and economics, regional and urban planning, statistics and mapping, and information technology. The SCIP program director will be responsible to ensure that the Investment Program's implementation is consistent with its environmental and social safeguards frameworks.

50. The PSC will provide policy direction and strategic oversight and serve as a focal point for interagency coordination on Investment Program-related matters. PSU will include representatives from provincial government, district government, participating TMAs and from civil society. The chairperson may invite other persons, as necessary, to attend PSC meetings. The PSC will meet at least quarterly. The PSC will, among other responsibilities, (i) advise on key sector reform milestones, (ii) review annual and quarterly performance reports on reform and implementation progress of the Investment Program, and (iii) advise on or make policy-level decisions required to facilitate timely program execution.

51. The EA will also facilitate establishment of the USCs to be incorporated under the Companies Ordinance 1984, with all participating TMAs as shareholders comprising the general body of the corporation.<sup>32</sup> Each USC will have a board of directors which will include (i) the *taluka nazims* of the TMAs forming the shareholders of the corporation; (ii) provincial government representation comprising the SCIP program director; a representative from the provincial finance department; and district coordination officers; (iii) the managing director of the

<sup>29</sup> Findings of the independent verifier will be provided simultaneously to GOS, NSUSC, and ADB, and they will be made public on the NSUSC website.

<sup>30</sup> The existing PSU head, the SCIP program director, was selected through such a competitive process. Successors, if any, will be similarly recruited.

<sup>31</sup> The staff for each unit will comprise five full-time specialists under loan financing, and three to four incremental staff from GOS.

<sup>32</sup> Each USC will be established prior to loan negotiations for any tranche intended to finance its operations or investments.

USC; and (iv) at least 35% of the total Board members will be independent directors, selected against agreed skills-based criteria and in accordance with a process acceptable to ADB. The independent directors will include representatives from the business community, and at least one third will be women.<sup>33</sup> The managing director of the USC will have experience managing service delivery and other relevant qualifications to be agreed upon between ADB, and GOS. The USC managing director will be recruited from the open market and on a competitive basis acceptable to ADB.

52. The USC will be responsible for the day-to-day management of urban services provision, including on-the-job training of deputed TMA staff in utility operations, and will implement all water supply, sanitation, and SWM construction and rehabilitation work, including the subprojects, in the coverage areas. The USC will also (i) be responsible for the procurement process, including the award and implementation of contracts related to water supply, sanitation, and SWM subprojects; (ii) prepare annual plans and budgets for submission to its board; (iii) provide immediate oversight for environmental and social safeguards related to the subprojects; and (iv) prepare periodic financing requests with respect to the relevant subprojects.

53. P&DD, through the PSU, will be responsible for day-to-day implementation of the Investment Program's support for spatial and town planning and capacity building for participating TMAs while working in close collaboration with the regional office(s) at TMA-level, the local government department, and the urban unit.

54. P&DD will be responsible for establishing the operational and transition support funding mechanisms. These funds will be operated as separate escrow accounts in which ADB loan proceeds and GOS contributions will be deposited in advance for each financial year. Since these funds will support the operational deficits of the USCs, GOS will release the monies based on monthly invoices issued by USCs, duly examined by the independent verifier, and recommended to the GOS for payment.

## **2. Subproject Preparation, Appraisal, and Approval**

55. **Cluster Formation and Subproject Selection and Preparation.** The road map prepared for the urban sector in Sindh, along with the prioritization of investments within this road map, forms the basis for inclusion of infrastructure subprojects under parts B and C of the Investment Program. While the type of subprojects likely to be included under the second and subsequent tranches of the Investment Program have been identified in program formulation, the beneficiary city clusters and exact nature of subprojects have yet to be determined. Implementation priorities may need to be adjusted to meet changing development challenges. The PSU, in collaboration with the urban unit, will be responsible for assisting in further cluster formation (Box 1). The NSUSC and subsequent USCs will be responsible for the identification and preparation of subprojects proposed for funding in the second and subsequent tranches, in accordance with the provisions of the urban sector road map, Investment Program objectives, and good engineering practice.<sup>34</sup> Cluster formation and all the subprojects proposed for funding under the second and subsequent tranches must meet the subproject selection criteria set out in Schedule 4 to the FFA and adhere to environmental criteria presented in the environmental assessment and review framework and relevant safeguards. ADB will also review additional

<sup>33</sup> The skills-based selection criteria for the six independent directors will seek inclusion of qualified women for at least one third of the six independent directors positions.

<sup>34</sup> Three likely clusters are Mirpurkhas, Nawabshah, and Sukkur.

subprojects identified for funding under the second and subsequent tranches to ensure their compliance with the provisions of the FFA.

**Box 1: Selection Criteria for Town Clusters**

The Investment Program will be rolled-out to additional clusters of towns in phased and strategic manner, timing investment with introduction of management capacity to deliver services. New clusters considered for infrastructure financing will meet the following criteria:

- (i) The cluster will have an anchor town, together providing a critical mass for efficient operation of an Urban Services Corporation.
- (ii) The cluster's anchor town will be strategically located near transport links, and, owing to proximity to natural and industrial resources, have capacity to generate economic growth and jobs.
- (iii) Cluster towns will have jointly incorporated into urban services corporation under the Companies Ordinance 1984.
- (iv) Cluster towns will have agreed to a package of institutional reforms aimed at the effective and efficient management of urban services.

"Anchor towns" are defined as contiguous urban areas having urban population in excess of 150,000. Other towns within 150 km of the anchor town, having urban populations in excess of 50,000, may join the cluster. For inclusion in the program, the cluster should include an aggregate urban population of more than 350,000. Neither Karachi nor Hyderabad is eligible.  
Source: Asian Development Bank.

56. **Subproject Appraisal and Approval and Submission of PFRs.** The PSU will be responsible for detailed appraisal of the subprojects with the assistance of the program management consultants. The PSU will prepare a summary subproject appraisal report based on the feasibility studies carried out by the NSUSC and subsequent USCs with the assistance of their respective staff and consultants. Feasibility studies will include the rationale for each subproject, the scope of work, a technical description and analysis, the cost estimates and financing plan, an environmental assessment, a resettlement plan, an indigenous peoples development plan (as necessary), and the implementation arrangements along with financial, economic, and institutional analyses. All summary subproject appraisal reports will be sent to ADB for review and approval in a format agreed by GOS and ADB. If necessary, ADB may advise the EA to modify the subproject appraisal reports. Following ADB approval, and subject to any modifications and measures required by ADB, GOS will prepare PFRs for ADB financing. PFRs will be formally submitted to ADB for further processing through the Government.

### 3. Implementation Schedule and Period

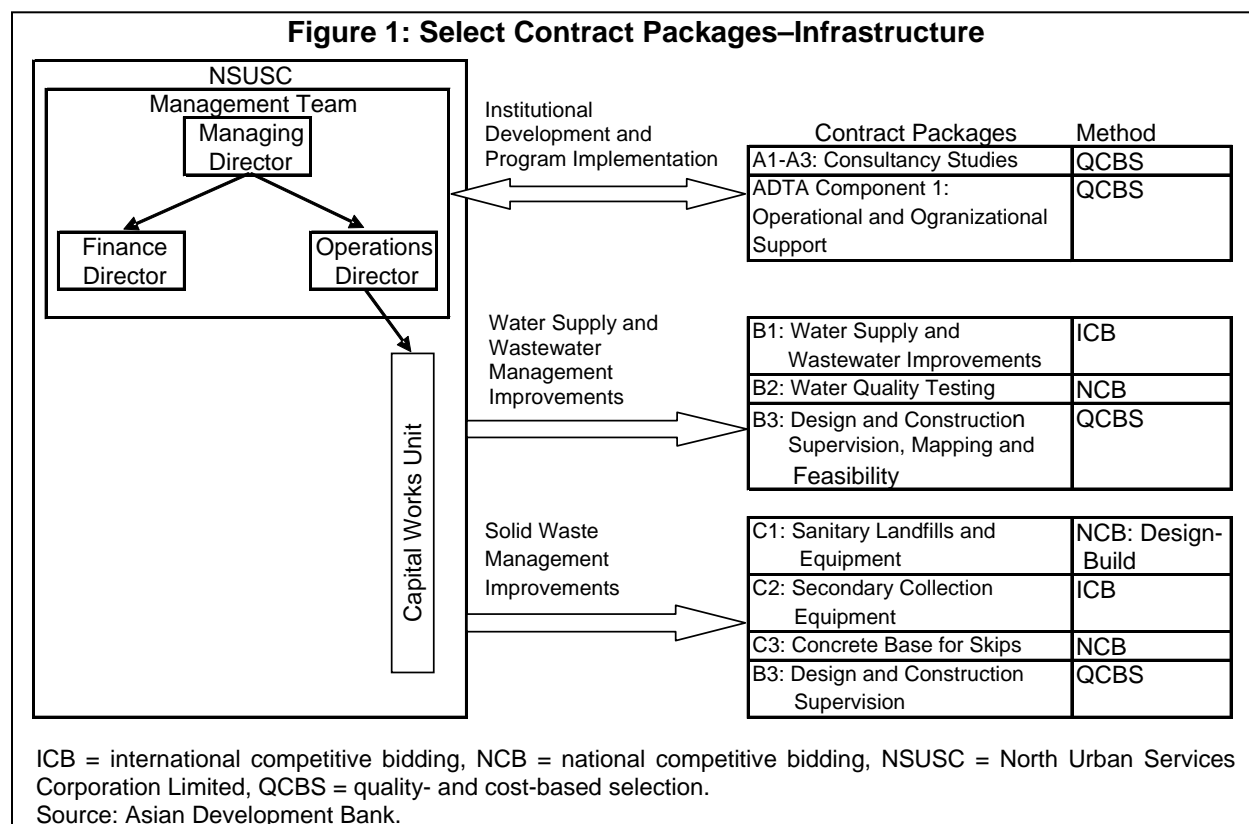
57. The overall implementation period for the Investment Program is 10 years, through 30 June 2018. The Investment Program constitutes an essential component of the overall investment plan for the sector that is set out in the urban sector road map. Implementation of subprojects is proposed in five tranches over the implementation period. The first tranche comprises eight subprojects. The subprojects included under the first tranche have been selected on the basis of their relative priority under the Investment Program, their readiness for implementation, and their representative character in the context of the overall Investment Program. It is anticipated that the first tranche will be implemented between January 2009 and June 2012. Approval of the second and subsequent tranches will depend on (i) their state of readiness, and (ii) GOS' compliance with the reform milestones set out in the reform action plan. The implementation schedule for the MFF is in Appendix 9.

### 4. Procurement

58. Procurement financed from the ADB loans under the MFF will be carried out in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time).

International competitive bidding (ICB) procedure will be followed for civil works contracts estimated to cost \$5 million or more. Civil works contracts estimated to cost less than \$5 million will be procured under national competitive bidding (NCB).<sup>35</sup> Single-stage two-envelope bidding procedure with post-qualification will be adopted for all ICB and NCB civil works contracts under the Investment Program. ADB has reviewed Pakistan's standard bidding documents and procurement procedures that are used for NCB (civil works and goods) and found them to be consistent with ADB requirements. Water supply and wastewater contracts that may involve civil works combined with supply and installation of equipment and goods will be considered as civil works contracts, regardless of the proportion of costs associated with equipment or goods. Appendix 10 contains a procurement plan for the first tranche, and the figure below highlights NSUSC's main contract packages under the first tranche.

59. ICB procedures will be used to procure goods and services estimated to cost \$1,000,000 or more. NCB procedures will be followed for procurement of goods and services estimated to cost less than \$1,000,000. For specialized equipment, such as proprietary software and small materials contracts valued at less than \$100,000, ADB's shopping procedures may be followed.



## 5. Consulting Services

60. Consultants will be selected and engaged using ADB's quality- and cost-based selection procedures, consultant qualification selection, and/or individual consultant selection procedures in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). Quality-based selection may be required where the technical expertise is the overriding requirement. Where it can be reasonably justified, single-source selection may be necessary.

<sup>35</sup> Government of Sindh tendering procedures.

Outline terms of reference for the teams of consultants to support all aspects of Investment Program execution are in Supplementary Appendix F.

61. Each respective entity, the PSU, the urban unit, and the NSUSC or other USCs, will be responsible for processing consultant recruitment, as well as for supervising and monitoring consultants' work. Logistical support will be provided to the consultants by the PSU, the urban unit and/or NSUSC and other USCs. Outputs will be reviewed and shared among the various entities, as appropriate. An indicative procurement plan for the Investment Program and a detailed procurement plan for the first tranche subprojects are in Annex 3 of the PFR.

## 6. Anticorruption Policy and Governance Measures

62. ADB's *Anticorruption Policy* (1998, as amended to date) was explained to and discussed with the Government and GOS. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Investment Program. To support these efforts, relevant provisions of ADB's *Anticorruption Policy* are included in the loan regulations and the bidding documents for the Investment Program. In particular, all contracts financed by ADB in connection with the Investment Program will include provisions specifying the right of ADB to audit and examine the records and accounts of GOS, NSUSC and other USCs, and of all contractors, suppliers, consultants, and other service providers as they relate to the Investment Program.

63. Good governance in municipal services requires, among other things, (i) information, skills, and autonomy to practice sound management; (ii) delinking tariffs and staffing from political processes that keep user charges low, service unsustainable, consumers unempowered, and utilities inefficient; (iii) rigorous engineering, mapping, and asset management (and not just building); (iv) freedom from non-merit-based human resource practices, which, together with poor information systems and political influence, allow so-called "ghost" workers to flourish; (v) curtailing distorted incentives that reward asset creation rather than service delivery and customer satisfaction; (vi) discouraging mediocrity and acceptance of intermittent supplies and non-potable, nonrevenue water as the norm, because solving these problems would curtail rent-seeking opportunities for those who understand how to work the systems to their advantage; (vii) closing the disconnect between operations and planning and construction to enhance accountability for long-term performance of infrastructure assets; (viii) introducing contractual arrangements and market forces to clearly define roles and responsibilities, and to better align service provider incentives with performance requirements; (ix) helping customers understand that cost-recovery tariffs covering operations and, over time, capital investment are essential to eliminate rent-seeking middlemen and hold service providers more accountable to the consumer; and, finally, (x) discouraging "vertical" programs which, unless channeled appropriately through the USCs, will undermine progress toward sustainable urban services and revitalized secondary cities.<sup>36</sup>

64. In the context of anticorruption and good governance, the Investment Program aims to increase GOS' public accountability and its service delivery institutions<sup>37</sup> while reducing the risk of corruption by, among other things, (i) introducing USCs as autonomous public limited companies able to competitively hire qualified staff (including accountants) and ring-fence their

<sup>36</sup> ADB. 2003. *Asian Water Supplies, Reaching the Urban Poor*. Manila (Chapter 13).

<sup>37</sup> With respect to increased accountability for service delivery, the attached technical assistance (para. 77) will support NSUSC to establish transparent and accessible public and consumer grievance redress systems. It will support development of a citizen report card system. The findings from the surveys will be disseminated to the public, and forums will be arranged to provide feedback to NSUSC senior management.

finances; (ii) introducing boards of directors with skills-based, independent nominees; (iii) eliminating the disconnect between asset creation and service outcomes by ensuring the USCs, not other line agencies or entities, are responsible for infrastructure development; and (iv) introducing contractual relationships between the stakeholders, including SAMAs and financing agreements. To further buttress the Investment Program reforms, TA will help NSUSC and GOS to (i) establish systems to monitor service delivery, and promote consumer awareness and provider responsiveness; (ii) tackle the serious operational challenges of data management, nonrevenue water, and illegal connections; (iii) improve existing outsourcing contracts; and (iv) leverage private sector resources to incentivize better service delivery.

65. GOS, through the PSU, urban unit, NSUSC, and subsequent USCs as formed, will disclose basic information concerning activities and progress of the Investment Program, as appropriate, including progress reports on sector reform actions, procurement-related information, financial statements, and reports on physical progress and outcomes. With regard to procurement, lists of participating bidders, names of winning bidders, basic details of the bidding procedures adopted, contract values, and lists of goods and services procured will be disclosed. Consideration will be given to adopting e-tendering processes for selected procurement to enhance fair, transparent, and efficient bidding procedures. Information will be disseminated widely on the relevant websites and at relevant office locations, including by posting to bulletin boards at offices of the participating TMAs, the regional offices of the PSU, and NSUSC customer service units at town level.

## **7. Disbursement Arrangements**

66. Each PFR will result in a separate loan agreement, which will describe the detailed disbursement arrangements agreed between the Government and ADB. The individual loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time).

67. To ensure the timely release of loan proceeds and to expedite project implementation, immediately after the effectiveness of each tranche, two project imprest accounts will be established at National Bank of Pakistan: one for P&DD and PSU to cover eligible expenditures under parts A and D of the Investment Program, and one for NSUSC in the first tranche (then one for each USC under the subsequent tranches) to cover eligible expenditures under parts A, B, and C. Disbursement arrangements are diagrammed in Supplementary Appendix A. In connection with the P&DD's imprest account, P&DD will establish a separate escrow account at National Bank of Pakistan, with an escrow arrangement and independent verification mechanism that are additional arrangements to manage the funds specifically for Part D, as elaborated in Supplementary Appendix E. The imprest accounts will be established, managed, replenished, and liquidated in accordance with ADB's *Loan Disbursement Handbook* and the agreed detailed arrangements. The total amount to be deposited into the imprest accounts will not exceed the estimated ADB share of eligible project expenditures to be financed through the imprest accounts for the next 6 months, or 10% of the related loan amount, whichever is lower. The statement of expenditures procedure may be used for reimbursement of eligible expenditures for the Investment Program and to liquidate advances provided into the imprest accounts. Any individual payment to be reimbursed or liquidated under the statement of expenditures procedure will not exceed \$100,000. The loan proceeds may also be disbursed directly to the consultants and contractors under the direct payment procedure.

## **8. Advance Contracting and Retroactive Financing**

68. To expedite construction, the Government has requested, and ADB has approved, advance contracting and retroactive financing for civil works, goods, and consulting services, including the recruitment of consultants for feasibility studies, detailed engineering designs, and preparation of bidding documents for subprojects and associated civil works.

69. The Government and NSUSC (other USCs) were (will be) informed that, for expenses incurred under advance contracting to be eligible for ADB's retroactive financing, such procedures (including advertising) must comply with ADB's *Procurement Guidelines* and *Guidelines on the Use of Consultants*. Once the loan becomes effective, up to 20% of the amount may be used to finance civil works, equipment, and consulting services expenditures incurred pursuant to advance contracting during the period not exceeding 12 months prior to signing the corresponding individual loan agreement under the MFF. Alternatively, the Government and USCs may opt for advance contracting without retroactive financing, in which case the procurement procedures completed under advance contracting do not conclude with the award of contract until after the loan becomes effective.

## **9. Program Performance Monitoring and Evaluation Report**

70. GoS through the PSU will establish an IPPMS acceptable to ADB within 3 months of the effectiveness of the first loan under the MFF. The IPPMS will help monitor and evaluate the performance of the Investment Program, as well as of subprojects under each loan. It will incorporate a set of performance monitoring indicators relating to outputs and outcomes in the DMF, including service delivery performance, physical implementation, institutional reform and capacity-development milestones. The PSU will develop baseline data for each of the selected indicators and conduct annual surveys with the assistance of consultants, and update ADB on the progress against each indicator. For subprojects procured under the turnkey and design-build-operate modalities, key performance indicators satisfactory to ADB will be developed during the preparation of requests for proposals and draft contract documents for each subproject.

71. The PSU will prepare quarterly progress reports on the Investment Program, including progress against the above performance monitoring indicators, to be submitted to ADB within 30 days from the quarter's close. The reports will incorporate the information provided by each of the USCs (through its board).<sup>38</sup> The reports will discuss progress made during the period of review, changes if any on implementation schedule, problems or difficulties encountered and remedial actions taken, and work to be undertaken in the coming quarter. The USCs will also be responsible for providing information as required to the independent verifier.

## **10. Investment Program Review**

72. ADB, GOS, and the USCs will conduct quarterly review of the implementation of each individual tranche. The review will discuss the progress of the individual tranche and any changes to implementation arrangements or remedial measures needing to be undertaken toward achieving the objectives of the subprojects and overall Investment Program.

73. A midterm review of each individual tranche will be undertaken by ADB, GOS, and the USCs. It will include reviewing a summary of contracts awards and disbursements,

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<sup>38</sup> These targets will be reflected in each USC's annual work plan and budget and serve as the basis for monitoring progress.

implementation progress including progress against service delivery performance, reform, institutional development, and capacity building milestones. The midterm review will also identify problems or weaknesses in implementation arrangements and agree on any changes needed. A similar midterm review of the Investment Program by ADB, GOS, and the USCs will be undertaken in the fifth year from the date of ADB's approving the MFF.

74. GOS will submit to ADB of a subprogram completion report within 3 months of physical completion of the subprogram, and an Investment Program completion report within 3 months of physical completion of the Investment Program. These reports shall provide detailed evaluation of the subprograms and the Investment Program, respectively, covering the design; costs; contractors' and consultants' performance; social, environmental, and economic impacts; economic rate of return; and other details for each subproject and the Investment Program, as may be requested by ADB.

#### **11. Project Review, Accounts, and Audits**

75. The PSU,<sup>39</sup> urban unit, and USCs will maintain separate records and accounts adequate to identify financing resources received and expenditures made under the MFF, including expenditures for works, equipment, and services financed out of the loan proceeds and local funds. Each USC should have a full set of financial statements. These project accounts and related financial statements will be audited annually in accordance with sound auditing standards by auditors acceptable to ADB. GOS will submit annual audited reports (including separate audit opinions on use of the imprest account and the statement and expenditure procedures) and audited financial statements to ADB within 6 months after the end of each fiscal year.

### **IV. TECHNICAL ASSISTANCE**

76. TA in the amount of \$2,500,000 will be financed from ADB's Technical Assistance Special Fund to support (i) NSUSC in achieving performance improvement and implementing organizational changes required for sustainable service provision; and (ii) public awareness and outreach, public monitoring of services, and customer care systems. The TA aims to increase the efficiency and effectiveness of water supply, wastewater, and SWM services delivered by NSUSC to its customers. P&DD will be the EA for the TA, and its components will be implemented by NSUSC and P&DD. Details on the TA and cost estimates are in Appendix 11.

77. The TA has two parts. Component A supplements the Investment Program's assistance to NSUSC for achieving technical and operational improvements and implementing organizational changes specifically to (i) assist with information gathering, (ii) implement operational improvement programs, (iii) improve outsourcing arrangements, and (iv) develop and implement public-private partnership transactions. Component B supports (i) customer awareness of reforms in water supply, wastewater, and SWM services; (ii) communications between service providers and customers; (iii) public monitoring of service delivery; (iv) accountability of service providers to the public; and (v) development of a customer care system.

78. Component A will require 42 person-months of international and 100 person-months of national consulting services. Component B will require 2 person-months of international and 20 person-months of national consulting services, plus 315 person-months of customer relations staff and IT support. The TA will be implemented over 44 months from April 2009. International

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<sup>39</sup> Any regional offices of the PSU should maintain separate accounts.

and national consulting firms and individuals will be engaged following ADB's *Guidelines on the Use of Consultants*.

## **V. PROGRAM INVESTMENT BENEFITS, IMPACTS, AND RISKS**

### **A. Economic and Financial Analyses**

79. An economic analysis was prepared for each of the proposed first tranche investments in water supply, wastewater, and SWM (Appendix 12). The gross economic benefits of the subprojects and the first tranche program were evaluated based on willingness-to-pay (WTP) analysis. Based on a recent survey,<sup>40</sup> the mean WTP was calculated at PRs566 per month for service charge and PRs3,620 for one-time connection. The evaluated economic costs of the subprojects include (i) operating costs for the service provision after implementing subprojects, and (ii) capital costs of subprojects. The economic internal rate of return (EIRR) values for the subprojects range from 14% to 22% for water supply and wastewater improvements and 18% to 44% for SWM improvements.

80. Financial viability of NSUSC was evaluated through a financial model and in accordance with ADB guidelines.<sup>41</sup> Currently, the provision of water, wastewater, and SWM services is financially unsustainable. Collected tariffs cover a small fraction of operating costs, and the estimated loss in FY2006 for the subject towns in the first tranche is more than PRs130 million. The Investment Program aims to first achieve significant improvements in service, making it easier to justify tariff increases necessary to achieve cost recovery. The NSUSC financial model indicates a financial internal rate of return (FIRR) of 5% for NSUSC over a 10-year projection period (2008–2018). The financial return reflects the gradual increase in average tariffs as services improve and user fees are introduced or raised. The NSUSC operating revenues are projected to improve, and it is able to cover operating costs by FY2017. However, NSUSC still has to rely on GOS subsidies for TMA-deputed staff costs. The Investment Program is expected to achieve financial sustainability in water supply services over 3 years. Wastewater and SWM will take longer, depending upon tariffs and any future tax-based cost recovery. The financial analysis is in Appendix 13 and Supplementary Appendix G.

### **B. Financial Management Assessment**

81. The financial management assessment revealed weak financial management at TMA level, where the responsibility for basic urban services resides. The Investment Program supports establishing USCs and financial management reforms at corporate level to address the impact of these weaknesses on service provision. Financial management arrangements for the Investment Program aim to create obligations for a higher level of transparency and accountability.<sup>42</sup> These obligations include those arising from incorporation under the Companies Ordinance 1984, delegating functions of services delivery under SAMAs, obligating predictable flows of operations and maintenance financing under tripartite operational support funding agreements, and professional oversight of operational support funds by an independent verifier. The Investment Program and supporting TA assist the design of operating procedures, financial safeguards, and monitoring systems, and they finance skilled technical specialists. The

<sup>40</sup> Gallup Pakistan. 2008. Willingness to Pay Survey. Islamabad. Selection of 864 households for the WTP survey used a wealth stratification based on census data.

<sup>41</sup> ADB. 2005. *Financial Management and Analysis of Projects*. Manila

<sup>42</sup> USC multiple reporting obligations include (i) statutory obligations, (ii) contractual obligations to TMAs, (iii) independent verification, and (iv) reporting obligations under the Investment Program. Financial management and reporting obligations cover, among others, (i) USC financial performance; (ii) disbursements from transition and operations support funding mechanisms; (iii) disbursement of capital expenditure funds; and (iv) subproject preparation, implementation, and progress monitoring.

internal financial management systems for the USCs will conform to best practice design for utility companies. Part A of the Investment Program will support development of financial management systems in USCs. Overall, the major risks are adequately mitigated under the Investment Program, and adequate funding and guidance will be provided to construct financial management systems on a fundamentally sound corporate base. The summary financial management assessment is in Supplementary Appendix H.

### C. Summary of Benefits, Poverty Reduction, and Social Development

82. The population of the Investment Program cluster TMAs, estimated at 4 million persons, will enjoy sustainable benefits from the Investment Program through enhanced capacities for city planning, management, and urban service delivery. Specifically, they will benefit from improved quality, continuity, and coverage of water supply, wastewater, and SWM services. Residents of some 20 secondary towns in Sindh will enjoy the benefits of enhanced living conditions and improved health as their basic urban services are upgraded and access to them expanded. Benefits from the first tranche include (i) an estimated 18,000 new or rehabilitated water supply connections under DNI zones targeting potable, continuous service (representing a 55% increase over current registered connections); (ii) a 45% increase in treated water availability; (iii) priority fixes for drainage and sewerage problems; and (iv) secondary collection capacity built to handle over 90% of the waste generation in each of the participating towns. Table 3 highlights selected tranche 1 benefits. Less tangible benefits include (i) improved financial planning, budgeting, and information systems (including system maps and inventories, the building blocks for good utility management); (ii) greater customer orientation and more informed, responsible consumers; and (iii) increased performance orientation as the corporate structure affords deputed TMA staff the necessary physical resources and technical supervision to do their jobs well.

**Table 3: Investment Program Benefits (Tranche 1)**

Item	2008–2009	2012–2013
Households with Piped Connections (%)	37	52
Number Households with Potable Water > 20 hours day in DNI zones	none	18,000
Treated Water Available (cubic meters per day)	none	83,646
Households with Access to Solid Waste Collection (%)	37	90
Waste Collected (%)	46	95
Number Sanitary Landfills in Interior Sindh	none	4

DNI = distribution network improvement.

Source: Asian Development Bank estimates.

83. As the summary poverty reduction and strategy in Appendix 14 highlights, many households in Sindh's secondary town areas have low incomes and many have no formal connection to piped network services.<sup>43</sup> These households represent a major consumer group and opportunity for the USCs. The Investment Program will support the development of service delivery strategies for low-income consumers which can include reducing barriers to connection, using small-scale service providers, adopting pro-poor tariffs, targeting customer outreach, and other innovative approaches (Supplementary Appendix I). A specially staffed low-income consumer unit in NSUSC will initiate these strategies in North Sindh.

84. The Investment Program will have a particularly positive impact on women and children in the USC coverage areas. As household managers and caregivers, women are the primary users of these basic urban services. The Investment Program will finance advisory services to

<sup>43</sup> Of 864 households recently surveyed by Gallup Pakistan in North Sindh, 38% had no piped connection. New Sukkur lags even further behind, with 73% of those surveyed being unconnected.

develop gender-sensitive customer outreach and public accountability mechanisms. USC outreach to customers at town level will be designed to reach women in their communities and in their homes. A Gender Action Plan will guide mainstreaming these concerns for inclusion and empowerment. There is also provision for one third of the USC independent board members to be women. The Gender Action Plan is in Supplementary Appendix J.

#### **D. Social and Environmental Safeguards**

85. **Social Safeguards.** The Investment Program will minimize resettlement impacts by prioritizing rehabilitation and optimizing work within existing facilities. New construction is proposed on vacant government land where feasible. To ensure compliance with Government and ADB policies and requirements on involuntary resettlement, a land acquisition and resettlement framework (LARF) has been prepared in accordance with ADB's *Policy on Involuntary Resettlement* (1995), the applicable laws and regulations of Pakistan and Sindh Province, and the operational procedures for MFF processing. The LARF will guide the implementation of subprojects, outlining the objectives, policy principles, procedures for land acquisition (if required), compensation, and other assistance measures for affected persons. A summary LARF is in Appendix 15, and the full LARF is in Supplementary Appendix K. Land acquisition and resettlement plans (LARPs) for subprojects in tranche 1 is expected to have non-significant impacts and the tranche is categorized as B; short LARPs have been prepared accordingly. Appraisal of successive PFRs will require preparation of LARPs for all subprojects with land acquisition and resettlement issues, to be presented for ADB approval with submission of the PFR. The subprojects in the first tranche of the MFF will have no impact on indigenous peoples.

86. **Environmental Safeguards.** The provision of potable piped-water supply plus wastewater and SWM improvements will improve the environment in each participating town. The design involves simple, appropriate, low-cost technology and does not pose any significant adverse environmental consequences. The Investment Program has been categorized as B for the purposes of environmental safeguards. Potential negative environmental impacts for each project are mainly short-term in nature during the construction period and can be easily minimized by the proposed mitigation measures and environmentally sound engineering and construction practices. An environmental assessment and review framework (EARF) prepared following ADB procedures<sup>44</sup> is in Supplementary Appendix L. For each PFR, the USCs will prepare initial environmental examinations (IEEs) or environmental impact assessments for each subproject or for groups of similar subprojects in the same subsector, as appropriate. The IEEs for the first tranche show no significant adverse environmental impacts (Supplementary Appendix M). As these IEEs, including environment management plans, were prepared based on field reconnaissance survey and secondary reports, they will be improved during the detailed engineering design stage. ADB's review and clearance of the revised subproject IEE, including the environment management plan, will be a condition precedent for release of relevant tender documents.

87. Environmental subproject selection criteria ensure that the Investment Program will not have significant negative environmental impacts and will have no impacts on environmentally sensitive areas. Impacts that are potentially significant and/or irreversible will be avoided. Potential negative environmental impacts of typical subprojects are expected to be mostly localized and temporary. These impacts can largely be avoided through proper subproject design (particularly site selection) or through appropriate choice of water and wastewater

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<sup>44</sup> The EARF follows the environmental assessment and review procedures in ADB's *Environmental Assessment Guidelines* (2003).

treatment technologies and process design parameters. Alternatively, they can be mitigated through proper implementation of mitigation measures and environmental management. The EARF will help to ensure compliance with applicable government and ADB environmental requirements and guide the design and implementation of future subprojects. The safeguards cell of each USC will have an environmental safeguard specialist who, with assistance from an international environmental consultant, will apply the EARF. Training will be conducted by the international consultant to pertinent USC, PSU, and TMA staff.

## **E. Risks and Mitigating Measures**

88. The Investment Program faces a number of risks in implementation, but the key risks have been discussed with the Government and mitigation measures agreed.

### **89. Implementation Delays Due to Weak Capacity of New and Existing Institutions.**

The Investment Program will finance teams of advisors to support the provincial PSU and urban unit and the USCs. Each USC will be staffed with appropriate senior management and technical supervisors, competitively recruited from the open market, in addition to deputed TMA personnel who bring their institutional memory. Risks of delays in first tranche program implementation are mitigated through upfront grant support from ADB's Water Financing Partnership Facility to (i) expedite contracting for water supply and sanitation works, and (ii) design a public awareness campaign to sustain public and political momentum for reforms. Beyond this start-up period, attached advisory TA will help operationalize NSUSC and support service delivery improvements.

90. **Delays in Government Reform Actions to Replicate the USC Model.** These include potential political interference in the functions of the USCs and their boards. These risks have been mitigated in part through extensive dialogue with the Government since 2006 on the fundamental reforms under the Investment Program. The risk will be further mitigated through (i) linkage between achieving milestones in the reform action plan and subsequent financing request approvals, (ii) ADB's close supervision and continued dialogue with the highest levels of GOS on implementation, and (iii) targeted attached advisory TA support in these critical reform areas.

91. **Continued Vertical Funding of Capital Investments in NSUSC Coverage Areas.**<sup>45</sup> A major risk to the Investment Program is continued, ad hoc so-called "vertical" investment under various federal, provincial, and donor-supported programs that frequently results in low-grade infrastructure assets, inadequately coordinated with the subsequent operator, without adequate provision for operation and maintenance, and not factored into any tariff setting. Such investments are unsustainable. This type of funding would undermine the USCs and continue to financially burden the Government. These risks will need to be mitigated through a three-pronged approach: (i) continued dialogue with federal, provincial, and local governments, and donor partners; (ii) developing within the USC the capacity to effectively harness vertical funds; and (iii) GOS' notification of the USC as a single point of accountability for delivering the relevant services to agreed coverage areas by routing any related government or development partner-supported project proposal through the USC.<sup>46</sup>

<sup>45</sup> Vertical funding refers to provincial line agency or federally driven infrastructure investment in USC coverage areas that is not part of the local planning process. Such investments typically fall outside any planning for operation and maintenance or sustainability.

<sup>46</sup> This notification is to be provided as a condition precedent to any financing under the Investment Program, preferably as a condition precedent to loan negotiations.

92. **Weak Coordination Among GOS Agencies Whose Support is Necessary for USCs to Operate Effectively.** This includes resistance from provincial line agencies that will no longer have the construction mandate in USC coverage areas. The risk of weak coordination will be addressed through inclusion of PSU-supervised regional offices at town level to liaise on a daily basis between NSUSC, the TMAs, and other provincial authorities. In addition, incentive schemes will be established to recognize cooperative action between key TMA staff, and other line agency staff, and the relevant USC, based on USC performance against its business plan. Provincial line agencies, including the departments of Finance, Local Government, and Public Health Engineering, will be on the PSC that is chaired by P&DD and charged with ensuring, among other things, high-level interagency coordination.

93. **Lack of Interest by Private Sector Professionals and Firms Willing to Work in the Program Areas.** The Investment Program assumes professional managers and candidates for independent board members can be attracted to work in or with a USC in interior Sindh. This risk is mitigated by employing a professional recruitment firm to design the job description, compensation and incentive package, and employment contract. The risk is considered manageable given that there are examples of successful commercial operations in interior Sindh, and given recent success by the Government of Punjab in recruiting on a competitive basis managing directors for its water and sanitation authorities.

94. **Resistance from TMA Staff Deputed to USCs.** There is risk of poor cooperation from TMA staff to be deputed to the USCs from the TMA. This will be addressed by the proper design and consultation on the SAMAs to address conditions of deputed staff employment. These consultations will allay any concerns on pension rights and demonstrate the potential advantages of USC employment, including incentivized pay, training, more assured resources, and growth opportunities. The risk of nonperformance of TMA staff deputed to USCs is mitigated by provisions allowing for the USCs to transfer the staff back to the TMA after a probationary period.

95. **Resistance by Political Leadership, Government Officials, or Customers to Increases in User Charges.** There is agreement on the need for cost recovery in service delivery, which is to be achieved as services are improved and trust rebuilt. WTP surveys suggest the public is willing to pay for improved service. This risk will be mitigated by clear articulation of these principles in the SAMAs, through continued advocacy by NSUSC and the PSU, with support of tariff structuring advisors, and through the public awareness program under the attached advisory TA. Concerns of low-income consumers will be addressed by a special unit with dedicated staff.<sup>47</sup> There is binding assurance that restricts SCIP financing under subsequent tranches to those TMAs that have increased their tariffs to levels agreed in the USC business plans and consistent with WTP survey data and the independent verifier assessment. Government acceptance of these terms signals joint agreement on this essential condition for sustainability.

96. **Changes in the Sindh Local Government Ordinance or Local Government System.** The Investment Program has been designed to withstand possible changes in the local government system by adopting a corporate structure and organization under the Companies Ordinance 1984. The USCs, as public limited companies with appropriate successor in interest provisions, are considered sufficiently robust to withstand changes in federal or provincial law. The reliance on professional management and corporate boards with independent directors

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<sup>47</sup> Concerns from civil society over the perceived commercialization of urban service provision will be addressed through these outreach programs and public awareness activities. Adopting the pilot introduction of 24/7 service delivery in DNI zones should also address these concerns.

should also support continuity of program implementation as the local governance system evolves.

97. **Subproject Implementation Delays Due to Political Instability and Potential Civil Unrest.** The MFF structure, with its 10-year program period and flexible timing of loan tranches, means that the SCIP can adapt better to changes in the political and security environment. Pakistan and Sindh's sustained economic growth and resilience in the midterm is key to mitigating such risks, and ADB has been working closely with the Government on the necessary policy and structural reforms.<sup>48</sup> Strong support by local political leaders and opinion makers, however, will be the more important factor mitigating such risks. Thus, during Investment Program preparation, explicit support from political leadership was obtained.

98. **Governance Risks.** Financial and operational management arrangements under the Investment Program are unique in seeking to create obligations for greater transparency and accountability. Organizing service providers under the Companies Ordinance 1984 mandates more timely, transparent, and independently audited financial information; managerial autonomy; and sound board governance. The SAMAs articulate roles and responsibilities, and they set performance targets. The Tripartite Operational Support and Capital Investment Financing Agreements and operational support funding mechanism, together with the independent verifier function, obligate predictable financing flows for operations and investment. The Investment Program mitigates governance and operational risk through these contractual obligations, professional and independent oversight mechanisms (complemented by citizen satisfaction surveys under the attached advisory TA and under the proposed Sindh Growth and Rural Revitalization Program), and strengthening of the monitoring and evaluation wing of P&DD. Finally, at the corporate level under tranche 1, the Investment Program and related TA will support enhanced operating procedures, financial safeguards, monitoring systems, and corporate governance training. Overall, key risks are adequately mitigated under the Investment Program, with specific funding and guidance to ensure that the new urban service providers are rooted in a fundamentally sound corporate base.

## VI. ASSURANCES

### A. Specific Assurances

99. The Government and GOS have agreed to the following specific assurances, in addition to the standard assurances, which will be incorporated in the FFA and the individual loan agreements as applicable, subject to any amendments to be mutually agreed upon by the Government and ADB:

- (i) The Government and GOS will ensure timely implementation of the agreed reforms set forth in the Strategic Action Plan for Reform and Investment, which is part of the urban sector road map and Investment Program.
- (ii) The Government and GOS will ensure that ADB is kept informed on policies and programs related to municipal services in the secondary towns of Sindh and other policies and programs that will materially affect the financial viability of each subproject under the Investment Program.
- (iii) Prior to any intervention related to water supply, wastewater, and solid waste management infrastructure and services in a particular town cluster under the Investment Program, GOS will ensure the timely incorporation of the relevant

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<sup>48</sup> These programs include the Accelerating Economic Transformation Program and the proposed Sindh Growth and Rural Revitalization Program.

- USCs pursuant to the Companies Ordinance 1984, as may be amended from time to time and allow the USC to operate as a limited liability company.
- (iv) Prior to any intervention related to water supply, wastewater, and solid waste management infrastructure and services in a particular town cluster under the Investment Program, GOS will issue the necessary notification(s) to allow USCs to effectively plan, design, construct, operate, manage, and maintain all water supply, wastewater, and solid waste management infrastructure and services, in their respective coverage areas. The coverage areas will be the areas to be agreed upon between the GOS, the relevant TMAs and USCs, to the satisfaction of ADB.
  - (v) GOS will provide the necessary resources needed to ensure that (a) the USCs established under the Investment Program are effective, sustainable vehicles for the delivery of water supply, wastewater, and solid waste management services, and (b) the facilities constructed under the Investment Program will continue to be in good condition during and after the completion of the Investment Program.
  - (vi) GOS will ensure that the participating TMAs increase their tariffs to customers receiving improved services and that the increase will be to appropriate levels, taking into consideration general willingness-to-pay survey(s) from reputed firm(s) acceptable to ADB, and the real cost of delivering the improved service as assessed by the independent verifier.
  - (vii) GOS will ensure that the USCs have adequate enforcement mechanism to effectively collect service fees and penalize defaulters in order to improve the collection efficiency, deter non-payment and ensure sustainability of USC operations.
  - (viii) GOS will provide the USCs with timely assistance and support to ensure that the USCs are able to effectively carry out their entire obligations to be set out under the SAMAs, which will be entered into between the relevant TMAs and the relevant USCs.
  - (ix) GOS will provide the necessary resources needed to ensure that the TMAs participating in the Investment Program are adequately staffed.
  - (x) The Government and GOS will, and will cause the USCs, to ensure that all subprojects and town clusters are selected in accordance with the agreed criteria set out in the Schedule 4 of the FFA and other applicable requirements and guidelines for subproject implementation. The Government and GOS will monitor the implementation of subprojects up through the completion of each subproject.
  - (xi) The Government and GOS will, and will cause USCs to, ensure that (a) all land and rights-of-way required for any subproject under the Investment Program are made available in a timely manner, including the requirement for allocation in the annual budget for the financing of land acquisition and related resettlement costs under the Investment Program; (b) upon completion of the detailed design and detailed measurement survey, the resettlement plans under the Investment Program will be prepared in full consultation with the affected people and in accordance with the LARF agreed upon between GOS and ADB and will be promptly disclosed to the affected people; (c) any reports on the implementation of the resettlement plan to be prepared by an external monitoring and evaluation agency will be submitted to ADB on periodic basis, and (d) the entire involuntary resettlement activities under the Investment Program will be carried out in accordance with the LARF and resettlement plans agreed upon between GOS and ADB, the relevant national and local policies on resettlement and rehabilitation, and ADB's *Involuntary Resettlement Policy* (1995).
  - (xii) Prior to issuance of notice for mobilization for civil works activities under a subproject, GOS will ensure that (a) the LARP has been disclosed to the affected

- people and submitted to ADB for review and approval, (b) the negotiations on the resettlement entitlements with the affected people have been completed, and (c) the affected people have been satisfactorily compensated for their loss through cash payment or land replacement or other forms of agreed entitlement.
- (xiii) In the event of any changes to the agreed LARPs, including on the agreed compensation to the affected people, GOS will inform ADB and update the LARPs accordingly, and submit the updated resettlement plans to ADB for review and approval.
  - (xiv) The Government and GOS will, and will cause USC's to, ensure that the design, construction, operation, and implementation of all subproject facilities are carried out in accordance with ADB's *Environment Policy* (2002), and the Government's Environmental Protection Act, 1997. Any adverse environmental impacts arising from the construction, operation, and implementation of subproject facilities will be minimized by implementing the environmental mitigation and management measures and other recommendations specified in the EARF and initial environmental examinations/environmental impact assessments, as applicable. Subproject assessment will be conducted in accordance with the EARF, which has been prepared based on the Government's environmental requirements and ADB's *Environment Policy* (2002). Any change in subproject scope will be classified and environmental assessment conducted in accordance with the EARF. In addition, the Government and GOS will, and will cause USC's to, ensure that the environmental management and monitoring plan will be strictly implemented. The Government, GOS, USC's, and ADB will also review progress in the implementation of the environmental management and monitoring plan covering the subprojects financed under the loan prior to processing the follow-up loans. The Government and GOS will, and will cause the USC's to, submit to ADB annual monitoring reports on subprojects' environmental performance in accordance with the EARF.
  - (xv) The Government and GOS will, and will cause USC's to, implement the gender action plan prepared under the Investment Program to encourage gender-balanced consultation and participation in Investment Program planning and implementation, including representation of qualified women on the USC's' Boards of Directors. GOS will, and will also cause USC's to, monitor the subproject effects on women during implementation of each subproject, including, where relevant, with gender-disaggregated data collected pursuant to the monitoring and evaluation system referred to in the IPPMS and the gender action plan.
  - (xvi) The Government and GOS will, and will cause USC's to, ensure that (a) there is no differential payment between men and women for work of equal value, and (b) civil works contractors do not employ child labor in the construction and maintenance activities in accordance with the relevant laws and regulations of the Government.
  - (xvii) The Government and GOS will ensure the availability and timely release of counterpart funding for the timely implementation of the subprojects under the Investment Program.

## **VII. RECOMMENDATION**

100. I am satisfied that the proposed multitranche financing facility would comply with the Articles of Agreement of the Asian Development Bank and recommend that the Board approve:

- (i) the provision of loans under the multitranche financing facility in an aggregate principal amount not exceeding \$300,000,000 equivalent (the facility amount) to the Islamic Republic of Pakistan for the Sindh Cities Improvement Investment Program comprising:
  - (a) loans in various currencies not exceeding the equivalent of \$150,000,000 in Special Drawing Rights from the Special Funds resources, with interest and other terms to be determined in accordance with the then applicable policies relating to Special Funds resources, subject to the conditions set out in paragraph 43 of this report; and
  - (b) loans in an aggregate amount not exceeding the balance of the facility amount from ADB's ordinary capital resources, with interest and other terms to be determined in accordance with the ADB's LIBOR-based lending facility; subject to such other terms and conditions as are substantially in accordance with those set forth in the Framework Financing Agreement presented to the Board; and
- (ii) the provision of technical assistance not exceeding the equivalent of \$2,500,000 to the Government of Pakistan for Improving Efficiency and Accountability of North Sindh Urban Services Corporation Limited.

Haruhiko Kuroda  
President

12 November 2008

## DESIGN AND MONITORING FRAMEWORK

Table A1.1: Multitranche Financing Facility

Design Summary	Performance Targets and/or Indicators	Data Sources and /or Reporting Mechanisms	Assumptions and Risks
<b>Impact</b> <ul style="list-style-type: none"> <li>Improved health, quality of life in and economic competitiveness of participating towns</li> </ul>	<ul style="list-style-type: none"> <li>Increase in per capita monthly income by 2018 in interior Sindh<sup>a</sup></li> <li>Percentage of children under 5 years old suffering from diarrhea in last 30 days reduced from 19% in urban areas of Sindh (excluding Karachi and Hyderabad) in FY2005 to &lt;10% by 2018</li> </ul>	<ul style="list-style-type: none"> <li>Multiple Indicators Cluster Survey—Pakistan</li> <li>Pakistan Standard of Living and Measurement Survey</li> </ul>	<b>Assumption</b> <ul style="list-style-type: none"> <li>Political and economic stability prevails</li> </ul> <b>Risk</b> <ul style="list-style-type: none"> <li>Interior Sindh towns adversely affected by broader economic shocks or civil unrest</li> </ul>
<b>Outcome</b> <ul style="list-style-type: none"> <li>Increased quality, reliability, and coverage of water supply, wastewater, and solid waste management services in participating towns</li> </ul>	<ul style="list-style-type: none"> <li>Population of participating towns served by household water connections increased from approximately 55% in 2008 to 80% in 2018</li> <li>Average hours per day of water supply increased from 2 to 4 hours in 2008 to &gt;12 hours in 2018</li> <li>Wastewater treated increased from &lt;5% in 2008 to 40% by 2018</li> <li>Household access to solid waste management (SWM) services increased to 80% by 2018</li> </ul>	<ul style="list-style-type: none"> <li>Pakistan Standard of Living and Measurement Survey</li> <li>Benchmarking data</li> <li>Citizen “report cards”</li> </ul>	<b>Assumptions</b> <ul style="list-style-type: none"> <li>Government of Sindh (GOS) remains committed to clear delineation of roles and responsibilities for urban service provision.</li> <li>Properly staffed and empowered institutions are able to effectively deliver, operate, and manage urban services.</li> <li>Households want and are willing to pay for improved urban services.</li> </ul> <b>Risks</b> <ul style="list-style-type: none"> <li>GOS does not allow urban services corporations (USCs) proper oversight over infrastructure in coverage areas.</li> <li>Weak coordination among government departments and with USCs undermines USC operations.</li> </ul>
<b>Outputs</b> <b>Part A: Improved Urban Service Management and Planning</b>  A.1 Creation of effective and sustainable urban services providers  A.2 Urban policy and strategic planning unit (urban unit) sustainable; program	<ul style="list-style-type: none"> <li>Establishment of sustainable urban service corporations</li> <li>Full operation and maintenance cost recovery of water services through user charges</li> <li>Performance-based contracts between USCs and private operators identified</li> <li>Urban unit functioning, operational, fully staffed,</li> </ul>	<ul style="list-style-type: none"> <li>Benchmarking data</li> <li>Citizen “report cards”</li> <li>Audited financial statements of USCs</li> <li>Independent verifier report</li> <li>Quarterly progress reports</li> <li>Quarterly progress reports</li> </ul>	<b>Assumptions</b> <ul style="list-style-type: none"> <li>Suitable institutional reforms are implemented and an effective corporate body established for the management and operations of urban services.</li> <li>Private sector will increase and maintain interest in private sector participation in Sindh.</li> <li>Willingness of GOS to partner with private sector</li> <li>There is the political will to implement reforms.</li> </ul> <b>Risks</b> <ul style="list-style-type: none"> <li>Interdepartmental coordination and support is</li> </ul>

Design Summary	Performance Targets and/or Indicators	Data Sources and /or Reporting Mechanisms	Assumptions and Risks
<p>support unit sustainable throughout investment program implementation, providing effective support to local government department and <i>taluka</i> municipal administrations (TMAs)</p> <p><b>Part B: Investments in Water Supply and Wastewater Management Improvements</b></p> <p>B.1 Rehabilitation and expansion of existing piped-water supply systems, water works, and treatment facilities in participating towns; groundwater quality monitoring system developed in participating towns</p> <p>B.2 Rehabilitation and expansion of sewerage and drainage networks and wastewater treatment completed in participating towns</p> <p><b>Part C: Investments in Solid Waste Management Improvements</b></p> <p>C.1 Development of sanitary landfills and provision of secondary collection (including equipment and services)</p>	<p>and sustainable in 2018</p> <ul style="list-style-type: none"> <li>• Implementation of the strategic urban vision and planning processes for participating towns by 2018</li> <li>• Accurate (digitized) maps for each TMA publicly available and being used</li> <li>• Planning officials posted and urban plans developed at city-level for major secondary towns</li> </ul> <ul style="list-style-type: none"> <li>• Connected households with water meters increases from 0% in 2008 to &gt;80% by 2018.</li> <li>• Reduced system leakage; unaccounted for water from &gt;40% to &lt;25% by 2018</li> </ul> <ul style="list-style-type: none"> <li>• At least 80% of households connected to underground sewers or covered drains by 2018</li> <li>• Percentage of wastewater treated in project towns increased from &lt;5% to &gt;40% by 2018</li> </ul> <ul style="list-style-type: none"> <li>• Sanitary landfills are operational, sustainable and under private sector arrangement</li> <li>• At least 80% of households with access to secondary collection of solid waste by 2018</li> </ul>	<ul style="list-style-type: none"> <li>• Citizen “report cards”</li> </ul> <ul style="list-style-type: none"> <li>• Quarterly progress reports</li> <li>• Benchmarking data</li> <li>• Citizen “report cards”</li> </ul> <ul style="list-style-type: none"> <li>• Quarterly progress reports</li> <li>• Benchmarking data</li> <li>• Citizen “report cards”</li> </ul>	<p>not forthcoming.</p> <ul style="list-style-type: none"> <li>• Political support for reform is withdrawn.</li> <li>• Appropriately qualified staff cannot be found or retained in TMA.</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• There is the political will to manage development.</li> <li>• Trust in municipal service provision can be restored.</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Political support for planning is withdrawn.</li> <li>• Appropriately qualified staff cannot be found or retained in TMA.</li> <li>• Rising energy costs increase cost of pumped systems.</li> </ul> <p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Suitable land can be acquired.</li> <li>• Private sector will increase and maintain interest in SWM outsourcing.</li> <li>• Willingness of Government to associate with private sector</li> </ul> <p><b>Risk</b></p> <ul style="list-style-type: none"> <li>• Poor enforcement of sanitation laws</li> </ul>

Activities and Milestones	Inputs
<p><b>A.1 Creation of effective urban services corporations</b></p> <ul style="list-style-type: none"> <li>• Incorporation of requisite USC prior to periodic financing request</li> <li>• Recruitment of key managers to the USC within 3 months of incorporation</li> <li>• Establishment of safeguards cell within 3 months of the effectiveness of the loan tranche</li> </ul> <p><b>A.2 PSU and urban policy and strategic planning unit (urban unit)</b></p> <ul style="list-style-type: none"> <li>• Program support unit (PSU) maintained until Sindh Cities Improvement Investment Program (SCIP) ends</li> <li>• Urban policy and strategic planning unit (urban unit) maintained, staffed, and functioning beyond SCIP's end</li> <li>• Local government department supported for TMA planning and liaison with USCs</li> <li>• Community mapping and digitized mapping/GIS initiated for participating towns by year 1 of tranche start</li> <li>• City visions for participating towns by year 3 of tranche start</li> <li>• Technical training and capacity of TMA staff plus filling planning officers positions for participating towns completed by year 2 of tranche start</li> </ul> <p><b>A.3 Performance-based contracts with private sector pursued</b></p> <ul style="list-style-type: none"> <li>• Advisory support for private sector participation initiated by year 2 of tranche start</li> <li>• Options identified under advisory support prepared by year 3 of tranche start</li> <li>• Increase in number and effectiveness of outsourcing and/or management contract arrangements in water supply functions and solid waste management by year 4 of tranche start</li> </ul> <p><b>B.1 Rehabilitation and expansion of existing piped-water supply systems, water works, and treatment facilities in the participating towns</b></p> <ul style="list-style-type: none"> <li>• Timely land acquisition and implementation of resettlement plans</li> <li>• Design/build contract for subprojects package by month 6 of tranche start</li> <li>• Rehabilitated and new facilities constructed, commissioned, and made operational in phases between month 12 and month 36</li> </ul> <p><b>B.2 Rehabilitation and expansion of sewerage and drainage networks and wastewater treatment completed in the participating towns</b></p> <ul style="list-style-type: none"> <li>• Timely land acquisition and implementation of resettlement plans</li> <li>• Design/build contract for subproject package by month 12 of tranche start</li> <li>• Rehabilitated and new facilities constructed, commissioned, and made operational in phases between month 24 and month 48</li> </ul> <p><b>C.1 Development of sanitary landfills and provision of secondary collection (including equipment and services)</b></p> <ul style="list-style-type: none"> <li>• Timely land acquisition and implementation of resettlement plans</li> <li>• Contracts for design/build of tranche landfill sites and for procurement of equipment tendered by month 6 and commenced by month 9</li> <li>• Equipment for tranche procured and made operational in packages between month 15 (collection equipment) and month 30 (landfill equipment)</li> <li>• Landfills for tranche completed, commissioned, and made operational between month 24 and month 30</li> <li>• Creation of any land acquisition and resettlement grievance committees by subproject implementation</li> </ul>	<ul style="list-style-type: none"> <li>• ADB Total: \$300 million from OCR: (\$262 million) and ADF: (\$38 million)</li> <li>• Government: \$100 million</li> </ul>

ADB = Asian Development Bank, ADF = Asian Development Fund, GIS = geographic information system, GOS = Government of Sindh, OCR = ordinary capital resources, PSU = program support unit, SCIP = Sindh Cities Improvement Investment Program, SWM = solid waste management, TMA = taluka municipal administration, USC = urban service corporation.

<sup>a</sup> Awaiting information from multiple indicators cluster survey currently under preparation before setting indicator.

Table A1.2: Tranche 1

Design Summary	Performance Targets and/or Indicators	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b></p> <ul style="list-style-type: none"> <li>Improved health, quality of life in and economic competitiveness of participating towns</li> </ul>	<ul style="list-style-type: none"> <li>Increase in per capita monthly income by 2018 in interior Sindh<sup>a</sup></li> <li>Percentage of children under 5 years old suffering from diarrhea in last 30 days reduced from 19% in urban areas of Sindh (excluding Karachi and Hyderabad) in FY2005 to &lt;10% by 2018</li> </ul>	<ul style="list-style-type: none"> <li>Multiple Indicators Cluster Survey—Pakistan</li> <li>Pakistan Standard of Living and Measurement Survey</li> </ul>	<p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>Political and economic stability prevails</li> </ul> <p><b>Risk</b></p> <ul style="list-style-type: none"> <li>Interior Sindh towns adversely affected by broader economic shocks or civil unrest</li> </ul>
<p><b>Outcome</b></p> <ul style="list-style-type: none"> <li>Increased quality, reliability, and coverage of water supply, wastewater, and solid waste management services in participating towns</li> </ul>	<ul style="list-style-type: none"> <li>Population of participating towns served by household water connections increased on average from approximately 37% in 2008 to 52% in 2013</li> <li>Average hours per day of water supply increased from about 3 hours in 2008 to more than 6 hours in 2013, and over 20 hours for 18,000 households in DNI zones</li> <li>Drainage and knock-on water quality benefits for 100,000 households by 2013</li> <li>Household access to solid waste management (SWM) services increased on average to 80% by 2013 in participating towns</li> </ul>	<ul style="list-style-type: none"> <li>Pakistan Standard of Living and Measurement Survey</li> <li>Baseline and follow-up surveys</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Government of Sindh (GOS) remains committed to clear delineation of roles and responsibilities for urban service provision.</li> <li>Properly staffed and empowered institutions are able to effectively deliver, operate, and manage urban services.</li> <li>Households want and are willing to pay for improved urban services.</li> </ul> <p><b>Risk</b></p> <ul style="list-style-type: none"> <li>GOS does not allow urban services corporations (USCs) proper oversight over infrastructure in coverage areas.</li> </ul>
<p><b>Outputs</b></p> <p><b>Part A: Improved Urban Service Management and Planning</b></p> <p>A.1 Creation of effective and sustainable urban services providers</p>	<ul style="list-style-type: none"> <li>Establishment of sustainable North Sindh Urban Services Corporation</li> <li>Performance-based contracts between NSUSC and private operators for SWM</li> <li>Partial operation and maintenance cost recovery of water services through user charges, with household monthly water user charge set at relevant willingness-to-pay figure<sup>b</sup></li> <li>Average percentage of connected households paying water bill in participating towns increases from 39% in 2008 to 67% in 2013</li> </ul>	<ul style="list-style-type: none"> <li>Benchmarking data</li> <li>Citizen “report cards”</li> <li>Audited financial statements of USCs</li> <li>Independent verifier report</li> <li>Quarterly progress reports</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Suitable institutional reforms are implemented and an effective corporate body established for the management and operations of urban services.</li> <li>Private sector will increase and maintain interest in private sector participation in Sindh.</li> <li>Willingness of GOS to associate with private sector</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>Lack of political will at both central and local level to adopt reforms</li> <li>Interdepartmental coordination and support is not forthcoming.</li> <li>Appropriately qualified staff cannot be found or</li> </ul>

Design Summary	Performance Targets and/or Indicators	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
<p>A.2 Establishment of urban policy and strategic planning unit (urban unit)</p> <p>A.3 Effective support facility for Taluka Municipal Administration Planning</p>	<ul style="list-style-type: none"> <li>• Urban unit functioning, operational, fully staffed, and sustainable in 2009</li> <li>• Adoption of strategic urban vision and planning processes for interior Sindh by 2011</li> <li>• Accurate (digitized) maps for each participating town in North Sindh publicly available and used by 2013</li> <li>• Planning officials posted by 2010 and urban plans developed at town-level for Sukkur and Larkana by 2011</li> </ul>	<ul style="list-style-type: none"> <li>• Quarterly progress reports</li> <li>• Citizen "report cards"</li> <li>• Quarterly progress reports</li> <li>• Citizen "report cards"</li> </ul>	<p>retained in TMA.</p>
<p><b>Part B: Investments in Water Supply and Wastewater Management Improvements</b></p>			
<p>B.1 Rehabilitation and expansion of existing piped-water supply systems, water works, and treatment facilities in participating towns; groundwater quality monitoring system developed in Shikarpur and Larkana</p> <p>B.2 Rehabilitation and expansion of sewerage and drainage networks and wastewater treatment completed in participating towns; shifting sewage outflow in Rohri</p>	<ul style="list-style-type: none"> <li>• Connected households increase on average from about 37% in 2008 to 52% by 2013 in participating towns</li> <li>• Over 18,000 households with access to potable water available &gt;20 hours day in 6 distribution network improvement (DNI) zones by 2013</li> <li>• Over 27,500 households in Khairpur with improved sewage flow and wastewater stabilization; 6,000 households in Rohri with improved water supply at intake</li> </ul>		<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Suitable land can be acquired as planned.</li> <li>• Private sector will increase and maintain interest in SWM outsourcing in Sindh</li> <li>• Willingness of Government to associate with private sector</li> <li>• Trust in municipal service provision can be restored.</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Poor enforcement of sanitation laws</li> <li>• Rising energy costs increase cost of pumped systems</li> </ul>
<p><b>Part C: Investments in Solid Waste Management Improvements</b></p>			
<p>C.1 Development of sanitary landfills and provision of secondary collection (including equipment and services)</p>	<ul style="list-style-type: none"> <li>• Sanitary landfills are operational, sustainable, and under private sector arrangement</li> <li>• At least 80% of households with access to secondary collection of solid waste by 2013</li> </ul>		

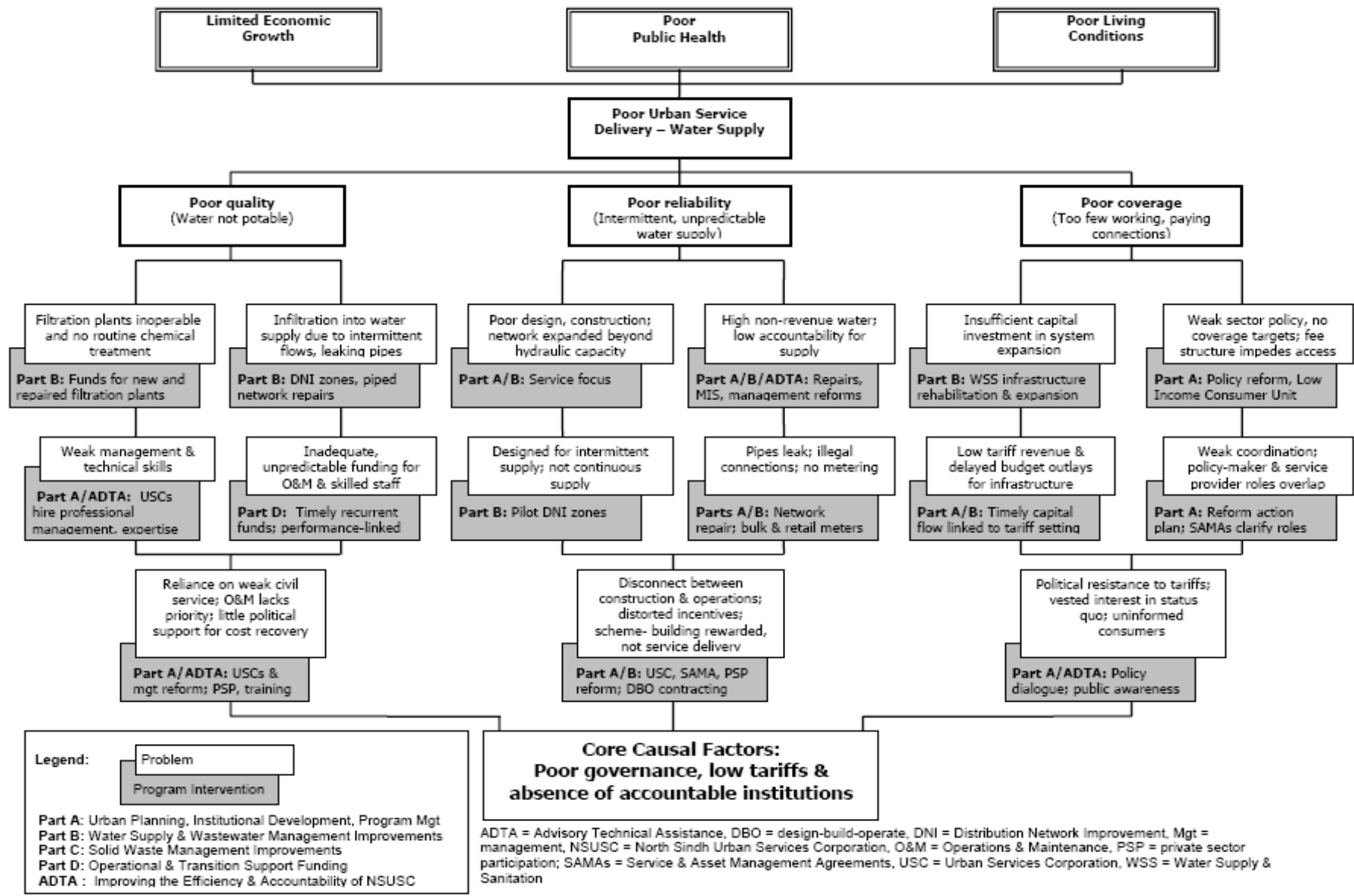
Activities and Milestones	Inputs
<p><b>A.1 Creation of effective urban services corporations</b></p> <ul style="list-style-type: none"> <li>• Incorporate North Sindh Urban Services Corporation (NSUSC)</li> <li>• Recruit managing director and initial board of directors by February 2009</li> <li>• Recruit other key managers to NSUSC by March 2009</li> <li>• Establishment of Safeguards Cell within 3 months of the effectiveness of the loan tranche</li> </ul> <p><b>A.2 Establishment of PSU and urban policy and strategic planning unit (urban unit)</b></p> <ul style="list-style-type: none"> <li>• Establish program support unit (PSU) by May 2008</li> <li>• Staff and operationalize urban unit within 6 months of the effectiveness of first tranche</li> </ul> <p><b>A.3 Effective support facility for TMA Planning</b></p> <ul style="list-style-type: none"> <li>• Community-mapping and digitized mapping/GIS initiated by year 2</li> <li>• City visions for tranche 1 towns in year 3</li> <li>• Technical training and capacity of TMA staff and recruitment of planning officers for Khairpur, Larkana, Shikarpur, and Sukkur completed in year 2</li> </ul> <p><b>A.4 Performance-based contracts with private sector pursued</b></p> <ul style="list-style-type: none"> <li>• Advisory support for private sector participation (PSP) initiated in year 2</li> <li>• Options identified under advisory support prepared by year 3</li> <li>• Increase in number and effectiveness of outsourcing and/or management contract arrangements in water supply functions and solid waste management between year 1 and year 4</li> </ul> <p><b>B.1 Rehabilitation and expansion of existing piped-water supply systems, water works, and treatment facilities in the participating towns</b></p> <ul style="list-style-type: none"> <li>• Construction contract for priority tranche 1 subproject package by month 2</li> <li>• Construction contract for tranche 1 subproject package by month 6</li> <li>• Rehabilitated and new facilities constructed, commissioned, and made operational in phases between month 12 and month 36</li> </ul> <p><b>B.2 Rehabilitation and expansion of sewerage and drainage networks and wastewater treatment completed in the participating towns</b></p> <ul style="list-style-type: none"> <li>• Contract for tranche 1 subproject package by month 12</li> <li>• Rehabilitated and new facilities constructed, commissioned, and made operational in phases between month 24 and month 48</li> </ul> <p><b>C.1 Development of sanitary landfills and provision of secondary collection (including equipment and services)</b></p> <ul style="list-style-type: none"> <li>• Timely land acquisition and implementation of resettlement plans by month 6</li> <li>• Contracts for design/build of tranche 1 landfill sites and for procurement of equipment tendered by month 6 and commenced by month 9</li> <li>• Equipment for tranche 1 procured and made operational between month 15 (collection equipment) and month 30 (landfill equipment)</li> <li>• Landfills for tranche 1 completed, commissioned, and made operational between month 24 and month 30</li> <li>• Creation of any land acquisition and resettlement grievance committees by month 6</li> </ul> <p><b>Advisory Technical Assistance—Improving efficiency and public accountability of NSUSC</b></p> <ul style="list-style-type: none"> <li>• Establish technical and financial information baselines for water supply, wastewater, and SWM operations by month 12; continue data collection through month 42</li> <li>• Initiate and complete operations improvement programs by months 12 and 42</li> <li>• Review and amend existing outsourcing contracts, prepare and initiate new model outsourcing contract for NSUSC use by month 12 for SWM and month 18 for water supply and sanitation</li> <li>• Identify PSP options to improve water services and landfill operations by month 12</li> <li>• PSP transactions for landfill operations between months 18–42</li> <li>• Customer awareness and public outreach campaign implemented by month 6</li> <li>• Citizen report cards system initiated by month 18</li> <li>• Computerized customer complaints center established within NSUSC by month 18</li> </ul>	<ul style="list-style-type: none"> <li>• ADB: \$38 million from ADF</li> <li>• Government: \$12.0 million</li> <li>• Advisory technical assistance: \$2.9 million from ADB Special Funds: \$2.5 million counterpart from NSUSC and GOS: \$0.4 million</li> </ul>

ADB = Asian Development Bank, ADF = Asian Development Fund, DNI = distribution network improvement, GIS = geographic information system, GOS = Government of Sindh, NSUSC = North Sindh Urban Services Corporation, OCR = ordinary capital resources, PSP = private sector participation, PSU = program support unit, SWM = solid waste management, TMA = taluka municipal administration, USC = urban services corporation.

<sup>a</sup> Awaiting information from multiple indicators cluster survey.

<sup>b</sup> Willingness-to-pay figures to be derived from Gallup Pakistan 2008 study.

# PROBLEM TREE ANALYSIS



Source: Asian Development Bank.

## ROAD MAP AND ACTION PLAN FOR REFORM

### A. Strategic Context

1. Pakistan is the most urbanized country in South Asia, with an urban population expected to be half of the total population by 2015. There is an urgent need to revitalize urban centers in Pakistan to improve living standards and provide more competitive platforms for economic growth. At present, Pakistan's cities and towns, including the secondary towns in Sindh, are constrained by weak local government capacity; insufficient focus on cost recovery and own-source revenue generation; inadequate infrastructure; absent or inefficient municipal service providers; and a lack of urban management and planning systems. Inasmuch as Pakistan envisions cities as engines of national growth, centers of economic activity and knowledge, and focal points for cultural change, the Asian Development Bank (ADB) considers urban development a strategic priority. Investment in the urban sector in Sindh draws on ADB's demonstrated capacity in infrastructure development and its ability to catalyze public-private partnerships in service delivery. The multitranche financing facility modality affords scope for a programmatic, long-term approach to revitalizing cities, guided by road maps for critical sector and institutional reforms. The Sindh Cities Improvement Investment Program (SCIP or the Investment Program) is fully consistent with ADB's forward assistance program that supports urban service delivery, sustainable basic infrastructure, improved urban transport systems, and strengthened governance and institutions for better municipal management.<sup>1</sup> A core strategic objective of ADB assistance is to promote efficient, effective, and customer-focused service providers with incentives and capacity to improve quality, continuity, and coverage of infrastructure services.

### B. Road Map

2. The vision for the urban sector is accelerated national growth and productivity through more efficient and competitive cities and towns. Municipalities in Sindh should have

- (i) well-managed utilities;
- (ii) sound financial management;
- (iii) proper regulatory and oversight arrangements; and
- (iv) measurable, targeted, and sustainable subsidies where they are necessary.

3. The Investment Program seeks to improve the quality, coverage, and reliability of water supply, wastewater management, and solid waste management (SWM) services for an estimated 4 million residents in participating secondary cities in Sindh Province. Enhanced financial sustainability of these services is essential. Under the Investment Program, service providers will have clear roles and strengthened lines of accountability, be reoriented toward cost recovery and sustainability, and be incentivized to perform. The following underpins the urban sector road map:

- (i) **Sustainability.** Focus on the institutional context and on service delivery, with infrastructure development seen in this context.
- (ii) **Efficiency.** Seek efficiency by leveraging economies of scale through establishing regional utilities and clustering local governments, introducing private sector participation, effective outsourcing, and management contracts.

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<sup>1</sup> The country partnership strategy is under preparation.

- (iii) **Accountability.** Pursue corporate models and markets, including service compacts and contracts; costs and performance benchmarking; and ensuring information flow to customers to strengthen accountability of service providers.
- (iv) **Strategic Approaches.** Look for opportunities to tap geographic and regional resources, such as trade links, transportation corridors, and business clusters.
- (v) **Finance.** Ensure asset investment is linked to strategies for maintenance and cost recovery.

## C. Policy Framework

4. The Investment Program is anchored within a holistic and integrated service delivery reform agenda, comprising (i) an enabling policy framework for service delivery reform, (ii) effective institutions and professional management, and (iii) sustainable financing of urban service provision. The strategic action plan for reform and investment is in Table A3.1. These key reform milestones will trigger the release of the first, second and subsequent tranches of the investment loan. Together, the Investment Program and sequenced institutional reforms seek to transform service delivery in urban Sindh in two-stages (Box A3.1).

### Box A3.1: Two-Stage Reform Process

The Investment Program proposes a progressive, two-stage reform process. During the first stage, participating cluster *taluka* municipal administrations (TMAs) join together to form a corporatized operating utility to take full responsibility for water supply, wastewater, and solid waste management systems. These urban services corporations (USCs) will aggregate water, wastewater, and solid waste management operations of all participating TMAs into a single institution to take advantage of economies of scale and to share the overhead costs of professional management. Incentivized agreements will be put into place between the TMAs and USCs, then further developed with more private sector involvement under second-stage reforms and introduction of performance-based management contracting. The USCs are transition arrangements before introducing more comprehensive public-private partnerships with technically qualified private operators from Pakistan's business community—teamed up with international operator expertise—to provide a more robust solution to the challenge of service delivery and infrastructure development.

Source: Asian Development Bank.

## D. Investment Program

5. **Overview.** The Investment Program aims to improve water supply, wastewater management, and SWM services to clusters of secondary cities in Sindh (Box A3.2). This, in turn, will improve the urban environment, public health, and economic opportunities for an estimated 4 million urban residents of Sindh's second-tier cities. This will be achieved through an integrated program of institutional reforms and investments in priority infrastructure rehabilitation and improvements. The key institutional reform is the establishment of USCs, as public limited companies, by participating local governments. The Investment Program has four parts: (i) urban planning, institutional development, and program management; (ii) water supply and wastewater management improvements; (iii) SWM improvements; and (iv) operational and transition support funding to cover cash shortfalls in the newly established USCs in advance of tariff increases and increased cost recovery.

**Table A3.1: Sindh Cities Improvement Investment Program Action Plan for Reform and Investment<sup>a</sup>  
Water Supply and Sanitation (WSS) and Solid Waste Management (SWM)**

Issues	Time Frame <sup>b</sup>	Agency	Actions
<b>Strategy 1: Establish Corporate Structure and Systems for Improved Corporate Governance</b>			
Management structure for delivering services weak; corporate governance systems absent	Q4 (2008)	P&DD, TMAs	NSUSC established under Companies Ordinance 1984, followed by subsequent USCs established prior to future financing requests
	Q4 (2008)	TMAs	Shareholders agreement signed, including provisions for good corporate governance
	Q1 (2009)	NSUSC/TMAs/GOS	Service and asset management agreements (SAMAs) signed and tripartite financing agreement(s) signed
	Q1 (2009)	NSUCS/P&DD	Skills-based, independent directors introduced to NSUSC Board
	Q4 (2008)–Q1 (2009)	P&DD/NSUSC	Recruitment of key management from market on competitive basis, including managing director plus directors of operations and of finance
	Q1–Q2 (2009)	NSUSC	Business planning process introduced; NSUSC business plan approved by board and initiated
	Q1–Q2 (2009)	P&DD, LGD	Ensure taluka municipal officers, taluka officers infrastructure, regulation, and finance are in place, at adequate grade level, in SCIP-participating TMAs
	Q1–Q2 (2009)	P&DD, TMA	Ensure TMA offices have computer and internet connectivity for communication with NSUSC and GOS
	Q2–Q3 (2009)	NSUSC	Board Charter approved by NSUSC Board
	Q2–Q3 (2009)	NSUSC	Corporate board, management, and staff code of ethics introduced
Q2 (2010)–Q1 (2011)	P&DD/TMAs	Confirm mid-Sindh town cluster for third tranche financing; incorporate second urban services corporation	
<b>Strategy 2: Improve Financial Performance</b>			
Concrete actions to improve financial management and performance	Q1–Q2 (2009)	P&DD	Establish operational and transition support funding mechanism; escrow account set up, financing agreement signed with NSUSC; funding mechanism operational
	Q1–Q3 (2009)	NSUSC, TMA	Financial accounts separated out from TMAs
	Q2–Q4 (2009)	NSUSC	Introduce financial systems, including accounting (as per Companies Ordinance), updated customer database and improved billing and collection systems; improve and expand outsourcing of billing and collections
	Q2–Q4 (2009)	NSUSC, TMAs	Update customer registration and regularize existing connections
	Q3 (2009)	NSUSC	Begin metering at source and of bulk supplies
	Q3 (2009)	NSUSC	Begin metering large commercial customers
	Q2 (2010)	NSUSC	Begin metering individual households, starting with distribution network improvement zones
	Q1 (2010)	TMAs	Taluka councils initiate first round of tariff increases, subject to service improvements
<b>Strategy 3: Establish Professional Management Structure and Business Processes</b>			
Essential to ensure focus on and capacity for service delivery, operation and maintenance, and preservation of assets	Q1–Q2(2009)	NSUSC	Exercise management autonomy, authority to spend against agreed budgets, and performance measured against incentivized targets
	Q1–Q3 (2009)	NSUSC	Deputation of selected TMA staff to NSUSC and SAMA effectiveness in 6 first-tranche TMAs
	Q1–Q2 (2009)	NSUSC	Contract international consultant and/or operator to advise NSUSC
	Q1–Q2 (2009)	NSUSC	Capital works and safeguard units established and staffed within 3 months of loan effective date
	Q1–Q2 (2009)	NSUSC	Recruitment of technical managers (5) and assistant managers for finance (3)
	Q1–Q4 (2009)	NSUSC	Establish transparent and streamlined business processes
	Q1–Q3 (2009)	NSUSC	Establish decentralized offices and/or customer relations units in each participating town
	Q2–Q4 (2009)	NSUSC	Build staff capacity—create job descriptions, design and initiate training to revamp skills mix
	Q2–Q4 (2009)	NSUSC	Design and introduce performance incentives; linkage of bonuses to performance
Q1 (2010)	NSUSC	Initiate continuous improvement benchmarking for NSUSC and other USCs	

Issues	Time frame	Agency	Actions
<b>Strategy 4: Reform Legal and Regulatory Environment</b>			
Legal and regulatory environment still has significant gaps.	Q1–Q3(2009)	TMAAs, GOS	Provide enforcement powers to NSUSC to collect payments and disconnect nonpaying customers, with transparent and stepwise process
	Q3 (2009)	P&DD, LGD, GOS	Provincial public-private partnership rules (under Sindh Local Government Ordinance) revised and improved to support public-private partnerships in WSS and SWM, in coordination with public-private partnership reforms under proposed Sindh Growth and Rural Revitalization Program.
	Q4 (2009)	P&DD, LGD, GOS	Revise and adopt provincial drinking water policy
	Q4 (2009)	P&DD/PSU, LGD, GOS	Prepare and adopt implementing guidelines for provincial water and sanitation and SWM policies to support sustainable, professionalized urban systems
	Q3 (2009)–Q1 (2010)	P&DD, PSU	Conduct study on WSS and SWM regulatory framework needs; recommend way forward
	Q4 (2010)	P&DD, LGD, GOS	Following on study, establish regulatory framework to advise and monitor user charges and standards with objective of cost recovery, sustainable WSS, and SWM services expansion
<b>Strategy 5: Promote Public Accountability and Informed and Responsible Urban Services Customers</b>			
Creating an informed, responsible, and proactive customer base is essential to bottom-up demand for better services.	Q2–Q3 (2009)	NSUSC	Establish customer care and grievance redress unit
	Q1 (2009)	NSUSC	Customer Advisory Committee established to advise USC board on matters related to community needs and community-level service delivery
	Q2–Q3 (2009)	NSUSC	Establish customer liaison network involving each participating TMA for readily accessible customer service, in conjunction with civil society organizations as needed
	Q1 (2009)	NSUSC	Initiate public awareness and outreach campaign
	Q4 (2009)	NSUSC, P&DD/PSU	Develop web-based public information system and information-sharing strategy for citizen's report card and performance benchmarking results, SAMAs and monitoring results, relevant outsourcing contracts, etc.
	Q1 (2010)	P&DD/PSU, LGD	Introduce citizen's report card for WSS and SWM services for participating TMAs
<b>Strategy 6: Optimize Results from Private Sector Provision and Partnerships</b>			
Optimal involvement of the private sector is essential to maximize efficiency.	Q2 (2009)	NSUSC	Initiate improved effectiveness of SWM outsourcing contracts as they come up for renewal.
	Q2 (2009)	NSUSC	Initiate improved effectiveness of billing and collections contracts as any come up for renewal.
	Q2 (2009)–Q1 (2010)	P&DD, NSUSC	Assess private sector participation options for construction and for operations through design-build-operate arrangements, management contracts, or lease arrangements for SWM and WSS
	Q4 (2011)	NSUSC	Initiate performance-based management contract(s) for sanitary landfill operations (either integrated or secondary and final disposal combined) with private sector operator
	Q2 (2011)	NSUSC	Initiate transaction process for performance-based management contract or lease arrangement for WSS
	(2013)	NSUSC	Initiate performance-based management contract or lease arrangement for WSS
<b>Strategy 7: Improve Infrastructure for Better Coverage, Quality, and Reliability of Services</b>			
Strategic infrastructure investments, coupled with reforms, to expand system to meet growing demand	Q1 (2009)–Q2 (2012)	NSUSC	Water source, treatment, and distribution improvements
		NSUSC	Wastewater, sewerage, and drainage improvements
		NSUSC	Secondary collection improvements and sanitary landfill development

Urban Planning			
Issues	Time Frame	Agency	Actions
<b>Strategy 1: Establish Institutional Focal Point at Provincial Level</b>			
	Q2 (2009)	P&DD	Operationalize urban policy and strategic planning unit; recruit urban unit head
	Q2–Q3 (2009)	P&DD	Recruit urban unit staff budgeted under SCIP
	Q2 (2009)	P&DD	Notify Government technical committee to review urban economic development and urban investments in Sindh.
	Q2 (2009)	P&DD	Notify Sindh working group and advisory committee on urban planning and development to include government, private sector, research institutions, and civil society organizations
	Q2–Q3 (2009)	P&DD	Prepare business plan for Urban Policy & Strategic Planning Unit, including public communication and information-sharing strategy
	Q2 (2009)	P&DD	Establish working relationship with the National Planning Commission and the urban unit-Punjab.
<b>Strategy 2: Increase TMA Capacity for Urban Planning</b>			
	Q3 (2009)	P&DD, LGD	Taluka officers-Planning appointed in Sukkur and Larkana; develop prioritized schedule for posting additional staff to district headquarter towns with urban populations > 200,000
	Q4 (2009)	P&DD, LGD	Taluka officers-Planning appointed in participating district headquarter towns with urban populations >200,000 as per prioritized schedule
<b>Strategy 3: Develop and Implement Tools for Urban Policy Making and Strategic Planning</b>			
	Q2 (2009)	P&DD	Establish urban unit website
	Q3 (2009)	P&DD, LGD	Provide Government comments on and revisions to urban sector assessment drafted under PPTA 4534; post to urban unit website
	Q4 (2009)	P&DD	Complete urban data and policy review to identify gaps and prepare work plan to fill gaps
	Q1 (2010)	P&DD	Initiate economic regeneration study to assess potential of and develop strategy for revitalizing secondary cities, including economic, resource, and strategic SWOT analyses of key urban clusters
	Q3 (2009)–Q2 (2011)	P&DD	Develop integrated data and mapping system for policy setting, planning, and public information for urban sector in Sindh, drawing on existing government data and linking these management information and geographic information systems (MIS/GIS) to urban unit website
	Q4 (2009)	P&DD, LGD	Undertake strategic master plan preparation studies—commencing with Sukkur, then Larkana
	Q1 (2010)	P&DD, LGD	Develop program for urban services infrastructure mapping in larger secondary towns, drawing on NSUSC mapping under SCIP
	Q4 (2011)–Q2 (2012)	P&DD, LGD	Develop and implement simplified zoning system in pilot town

GOS = Government of Sindh, LGD = local government department, NSUSC = North Sindh Urban Services Corporation, P&DD = Planning and Development Department, PSU = program support unit, Q = quarter, SAMA = service and management agreement, SCIP = Sindh Cities Improvement Investment Program, SWM = solid waste management, TMA = taluka municipal administration, USC = urban service corporation, WSS = water supply and sanitation.

<sup>a</sup> Action plan will be updated and expanded as appropriate with rollout of reforms throughout Sindh Province and as further reform needs emerge.

<sup>b</sup> Time frame expressed on calendar-year basis. Action plan initiatives to be replicated for each urban services corporation as it emerges in subsequent tranches.

Source: Asian Development Bank.

**Box A3.2: Targeting Town Clusters**

The Investment Program targets town “clusters” with an aggregate population of at least 350,000 persons. These clusters of cities and towns provide economies of scale for improving service provision not present in individual TMAs or towns. The first of these clusters is the North Sindh Cluster with an aggregate 2008 urban population of about 1.6 million. There are at least two or three other potential clusters—each with aggregate populations of between 500,000 and 1,000,000—that may be supported in subsequent phases of the Investment Program, including the Nawabshah and Mirpurkhas town clusters in mid and south Sindh. By the fourth tranche, at least three clusters will be simultaneously supported.

Source: Asian Development Bank.

6. The proposed Investment Program totals \$400 million equivalent over a period of 10 years, of which the ADB contribution would be an investment loan of \$300 million. The investment loan will be managed through a multitranche financing facility arrangement comprising up to five tranches, depending on the pace of institutional reforms and status of subproject preparation. Each tranche will be not less than \$25 million equivalent. Investment types and sequencing are described in Table A3.2.

**Table A3.2: Subprojects by Tranche – Indicative Schedule**  
(\$ million)

Subsector	Subproject	Cost <sup>a</sup>
<b>A. First Tranche (2009–2012)</b>		
<b>Part/Subproject Number</b>		
A/1	Consultant support for Planning and Development Department (P&DD) for program implementation, future tranche preparation; institutional reform and development; strategic urban planning; and private sector participation, studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc; and independent verifier function	4.1
A/2	Consultant support for NSUSC operations, capital works implementation, future subproject preparation, studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.	2.1
B/3	Water supply improvements in Khairpur, New Sukkur, Rohri, and Sukkur, including 6 water distribution network improvement (DNI) zones; water quality testing in Larkana and Shikarpur; and detailed engineering design and construction supervision	13.7
B/4	Wastewater improvements in Khairpur, New Sukkur, Rohri, and Sukkur, including detailed engineering design and construction supervision	2.3
B/5	Mapping and planning work for water supply and sanitation network management and expansions	0.5
C/6	Solid waste management improvements—sanitary landfill disposal works; landfill equipment in Khairpur, Larkana, Shikarpur, and for Sukkur area landfill at Rohri, including detailed engineering design and construction supervision	3.3
C/7	Secondary collection system—skip-hoist system for Khairpur, Larkana, New Sukkur, Rohri, and Sukkur, including concrete bases for skips	3.0
D/8	Operational and transition support funding	8.0
	Interest during implementation	1.0
	<b>Subtotal (A)</b>	<b>38.0</b>
<b>B. Second Tranche (2010–2014)</b>		
A/1	Consultancy support for P&DD for program implementation and future loan project preparation, institutional development, strategic urban planning, private sector participation, and creation of urban services corporation (USC) for second cluster towns; studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.; and independent verifier function	1.3
A/2	Consultancy support for USC operations, capital works implementation, future subproject preparation, studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.	2.7
B/3-B/5	Phase 2 of water supply improvements for north Sindh cluster towns, including Jacobabad; Sukkur intake improvement works; other water supply improvements, including source augmentation, transmission, and distribution network extensions and DNI zones; wastewater improvements, including wastewater treatment and final disposal, in North Sindh cluster towns, including Jacobabad and other nearby centers; water quality testing, mapping and planning, engineering design, and construction supervision	34.0
C/6- C/7	Landfill development and collection equipment for Jacobabad and other north Sindh towns; expansion of first tranche landfills; secondary collection equipment and related infrastructure; engineering design and supervision	5.0
D/8	Operational and transition support funding	7.0
	<b>Subtotal (B)</b>	<b>50.0</b>

<b>C. Third Tranche (2011–2015)</b>		
A/1	Consultancy assistance for program implementation and future loan project preparation, institutional reform and development, strategic urban planning, private sector participation, and creation of USC for third cluster towns; studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.; and independent verifier function	1.3
A/2	Consultancy assistance for USC operations, capital works implementation, future subproject preparation, studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.	2.7
B/3-B/5	Water supply improvements, including source augmentation, transmission and distribution network extensions and DNI zones, wastewater management improvements including wastewater treatment and final disposal in second cluster towns and in north Sindh cluster; water quality testing, mapping and planning, engineering design and construction supervision	48.0
C/6-	Landfill development and collection equipment for second cluster towns; expansion of first tranche landfills;	
C/7	secondary collection equipment and related infrastructure; engineering design and supervision	7.0
D/8	Operational and transition support funding	11.0
	<b>Subtotal (C)</b>	<b>70.0</b>
<b>D. Fourth Tranche (2013–2017)</b>		
A/1	Consultancy assistance for program implementation and future subproject preparation, institutional reform and development, strategic urban planning, and private sector participation, including creating of USC for fourth cluster towns; studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.; and independent verifier function	1.0
A/2	Consultancy assistance for USC operations, capital works implementation, future subproject preparation, studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.	2.0
B/3-B/5	Water supply improvements, including source augmentation, transmission and distribution network extensions and DNI zones, wastewater management improvements including wastewater treatment and final disposal in third cluster towns and in second and north Sindh cluster towns; water quality testing, mapping and planning, engineering design and construction supervision	55.5
C/6-	Landfill development and collection equipment for third cluster towns; expansion of previous cluster town	
C/7	landfills; secondary collection equipment and related infrastructure; engineering design and supervision	7.0
D/8	Operational and transition support funding	9.5
	<b>Subtotal (D)</b>	<b>75.0</b>
<b>E. Fifth Tranche (2014–2018)</b>		
A/1	Consultancy assistance for program implementation and future loan project preparation; institutional reform and development; strategic urban planning; private sector participation; studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.; and independent verifier function	1.0
A/2	Consultancy assistance for USC operations, capital works implementation, future subproject preparation, studies, training and orientation, computers, equipment, office furniture, fixtures, vehicles, etc.	2.0
B/3-B/5	Water supply improvements, including source augmentation, transmission and distribution network extensions and DNI zones, wastewater management improvements including wastewater treatment and final disposal in fourth cluster towns and in third, second and north Sindh cluster towns; water quality testing, mapping and planning; and engineering design and construction supervision	56.0
C/6-	Landfill development and collection equipment for third cluster towns; expansion of previous cluster town	
C/7	landfills; secondary collection equipment and related infrastructure; and engineering design and supervision	4.0
D/8	Operational and transition support funding	4.0
	<b>Subtotal (E)</b>	<b>67.0</b>
	<b>Total</b>	<b>300.0</b>

DNI = distribution network improvement, NSUSC = North Sindh Urban Services Corporation, P&DD = Planning and Development Department, USC = urban service corporation.

<sup>a</sup> Tranche 1 costs include contingencies and excludes taxes; excludes interest during implementation in tranches 2–5. Source: Asian Development Bank.

## E. Service Provision Targets and Financing Plan

7. Targets for service provision are summarized in Table A3.3.

**Table A3.3: Service Provision Targets**

Item	2008	2018	2030
<b>Water Supply</b>			
% population served by household water supply connections	<55%	80%	>90%
Average number of hours supply per day	2–4	10–12	18–24
% water delivered of potable quality	<10%	30%	70%
% unaccounted for water	>50%	40%–50%	<30%
Cost recovery as % of operation and maintenance for water services	<30%	70%	>90%
<b>Wastewater Management</b>			
Served by underground sewerage or covered drainage	<20%	50%	>85%
Wastewater treated	<5%	40%–50%	>85%
<b>Solid Waste Management (SWM)</b>			
% of households with covered bins	0%	50%	>95%
% waste generated collected	<50%	70%	>95%
% waste generated disposed to landfill sites	0%	70%	>95%
Cost recovery as % of operation and maintenance for SWM services	<10%	50%	>95%

<sup>a</sup> Charged as a percentage.

Source: Asian Development Bank estimates.

8. Based on these targets, and on the incremental costs of service provision derived from current unit costs of construction, sector plan investment costs have been derived to provide an estimate of the investments required. The costs are based on (i) elevating service levels for those already served to acceptable levels, (ii) addressing the service backlog in terms of serving those currently unserved, and (iii) serving future urban populations. Table A3.4 shows estimated investments required for the medium (2008–2018) and long-term (2019–2030).

**Table A3.4: Sector Investment Plan**

(\$ million, constant prices)

Item	2008–2018	2019–2030	2008–2030
Water Supply Infrastructure	400	550	950
Wastewater Management Infrastructure	430	550	980
Solid Waste Management	100	150	250
Sector Institutional Reform and Development <sup>a</sup>	70	25	95
<b>Total Urban Sector Investment</b>	<b>1,000</b>	<b>1,275</b>	<b>2,275</b>

<sup>a</sup> Includes funding for recurrent expense through operational and transition support.

Source: Asian Development Bank estimates.

9. The urban sector in Sindh will require an estimated \$2.28 billion equivalent for infrastructure investment in water supply, wastewater, and SWM through 2030, including some \$1.0 billion through 2018. The Investment Program provides funding for priority elements of this Investment Plan, targeting clusters of secondary cities that (i) are positioned for growth, (ii) demonstrate a commitment to reform, and (iii) are prepared to work together as a cluster to generate economies of scale in service provision. Based on historical patterns of expenditure and recent government budgetary projections, likely levels of sector investments in the short- to medium-term are in Table A3.5. ADB expects to finance about 30% of the overall requirements in these secondary cities through the Investment Program.

**Table A3.5: Sector Financing Plan 2008–2018 and ADB Investment Program Indicative Allocation**  
(\$ million, constant prices)

<b>Investment Plan Component</b>	<b>Sector Investment Plan Needs 2008–2018</b>	<b>Investment Program 2008–2018</b>	<b>ADB Share of Investment Program</b>	<b>ADB Share as % of Sector Investment Plan</b>
Institutional Reform and Development <sup>a</sup>	30	20	20	67
Water Supply and Wastewater Infrastructure	830	300	220	27
Solid Waste Management Infrastructure	100	40	30	30
Operational and Transition Support Funding <sup>b</sup>	40	40	30	75
<b>Total</b>	<b>1,000</b>	<b>400</b>	<b>300</b>	<b>30</b>

ADB=Asian Development Bank.

<sup>a</sup> Including implementation support for the Investment Program.

<sup>b</sup> Estimated for urban services corporations under the Investment Program. Excludes local government's funding for costs of staff deputed to the USCs, estimated at over \$1.5 million annually under the first tranche.

Source: Asian Development Bank estimates.

EXTERNAL ASSISTANCE TO THE SECTOR<sup>a</sup>

Description	Amount (\$ mn)	Approved
<b>A. LOANS</b>		
<b>I. Asian Development Bank</b>		
Loan 1854-PAK (SF): NWFP Urban Development Sector Project	21.00	2001
Loan 1950-PAK (SF): Punjab Community Water Supply and Sanitation	50.00	2002
Loan 2047/2048/2049-PAK: Sindh Devolved Social Services Program	220.00	2003
Loan 2060/2061-PAK(SF): Southern Punjab Basic Urban Services	90.00	2003
Loan 2144/2145-PAK: Punjab Devolved Social Services Program	150.00	2004
Loan 2153-PAK: Multisector Rehabilitation and Improvement for Azad Jammu and Kashmir	57.00	2004
Loan 2202/2203/2204-PAK: Balochistan Devolved Social Services Program	200.00	2005
Loan 2211/2212-PAK (SF): Rawalpindi Environmental Improvement	60.00	2005
Loan 2229/-PAK (SF): TA Loan for Megacity Development	10.00	2006
<b>Subtotal (Asian Development Bank)</b>	<b>858.00</b>	
<b>II. World Bank</b>		
Punjab Municipal Services Improvement Project	50.00	2006
<b>Subtotal (World Bank)</b>	<b>50.00</b>	
<b>Subtotal (A)</b>	<b>908.00</b>	
<b>B. GRANTS</b>		
<b>I. Asian Development Bank</b>		
TA No 3802-PAK: Southern Punjab Basic Services	0.80	2001
TA No. 4098-PAK: Rawalpindi Environmental Improvement	0.35	2003
TA No. 4183-PAK: Punjab Devolved Social Services Sector Development	0.64	2003
TA No. 4356-PAK: Balochistan Devolved Social Services Program	0.40	2004
TA No. 4407-PAK: Sindh Devolved Social Services Program	0.12	2002
TA No. 4432-PAK: Capacity Building for Environmental Management in Sindh	0.50	2004
TA No. 4534-01/02-PAK: Sindh Basic Urban Services	1.28	2004/07
TA No. 4578-PAK: Mega City Development Project	0.15	2005
TA No. 4606-PAK: North-West Frontier Province Devolved Social Services	0.45	2005
TA No. 4753-PAK: Mega City Sustainable Development Project	1.00	2005
TA No. 4841-PAK: Second Sindh Devolved Social Services Program	0.60	2006
<b>Subtotal (Asian Development Bank)</b>	<b>6.29</b>	
<b>II. Japan</b>		
Project for the Retrieval of Sewage and Drainage System in Lahore City	11.14	2005
Development Study on Karachi Water Supply and Wastewater Masterplan	3.94	2006
Capacity Building for Solid Waste Management	0.67	2006
Water Supply Project in Faisalabad	47.04	2008
<b>Subtotal (Japan)</b>	<b>62.79</b>	
<b>III. United Kingdom</b>		
Faisalabad Area Upgrading Project	8.0	2001
<b>Subtotal (United Kingdom)</b>	<b>8.0</b>	
<b>IV. United States</b>		
USAID Districts That Work	26.00	2006
Pakistan Safe Drinking Water and Hygiene Promotion Project	16.70	2006
<b>Subtotal (USAID)</b>	<b>42.70</b>	
<b>V. Water and Sanitation Programme (WSP)</b>		
KWSB Institutional Reforms and Consumer and Accountability Mechanisms	1.00	2005
Supporting Local Government and SMEs for Improved WSS Service	0.80	2005
Develop Monitoring and Evaluation Systems for Urban WSS Sector 1	0.60	2005
Building accountability of service providers and policy-makers	0.40	2005
Reform Communications for Urban WSS Sector 1	0.20	2006
<b>Subtotal (WSP)</b>	<b>3.00</b>	
<b>Subtotal (B)</b>	<b>122.78</b>	
<b>Total</b>	<b>1,030.78</b>	

KWSP = Karachi Water Sewerage Board, NWFP = North-West Frontier Province, SME = small and medium enterprise, USAID = United States Agency for International Development, WSS= water supply and sanitation.

<sup>a</sup> External assistance to the urban sector since 2000.

Source: Asian Development Bank.

## DESCRIPTION OF PHYSICAL AND NONPHYSICAL OUTPUTS

**Table A5.1 Tranche 1 Subproject Description**

Description	
<b>Part A: Urban Planning, Institutional Development and Program Implementation Support</b>	
1	Support to the Planning and Development Department for urban planning, institutional development and program implementation: <ul style="list-style-type: none"> <li>(i) execution of the action plan for reform and investment;</li> <li>(ii) identification and development of new town clusters and urban services corporations;</li> <li>(iii) subproject appraisal and assistance on safeguards compliance;</li> <li>(iv) establishment of the regional office(s) of the program support unit to facilitate implementation;</li> <li>(v) establishment and oversight of independent verifier function;</li> <li>(vi) monitoring and evaluation of Investment Program;</li> <li>(vii) urban policy and strategic and regional planning;</li> <li>(viii) mapping and municipal management information systems development;</li> <li>(ix) town and spatial planning capacity development;</li> <li>(x) surveys, studies, training and orientation tours; and</li> <li>(xi) provision of computers, office furniture, equipment, and vehicles.</li> </ul>
2	Support to North Sindh Urban Services Corporation (NSUSC) for operations, subproject implementation, and urban services reform: <ul style="list-style-type: none"> <li>(i) technical, financial, and organizational management;</li> <li>(ii) subproject implementation, including engineering design, contract packaging, tendering, and contract supervision;</li> <li>(iii) identifying and preparing subprojects;</li> <li>(iv) enhanced private sector participation;</li> <li>(v) financial management systems, and other operating systems;</li> <li>(vi) surveys, studies, training, and orientation tours; and</li> <li>(vii) provision of computers, office furniture, equipment, and vehicles.</li> </ul>
<b>Part B: Water Supply and Wastewater Management Improvements</b> (Details in Table A5.2)	
3	Support to NSUSC for water supply improvements: <ul style="list-style-type: none"> <li>(i) <b>Khairpur, New Sukkur, Rohri and Sukkur.</b> Construction, rehabilitation, and augmentation of source works, treatment plants, storage, transmission and distribution systems, pilot distribution network improvement zones, bulk and retail metering, leakage detection, and back-up power supply.</li> <li>(ii) <b>Larkana and Shikarpur.</b> Systematic program of groundwater quality monitoring.</li> <li>(iii) Engineering design and construction supervision, including feasibility studies and subproject preparation.</li> </ul>
4	Support to NSUSC for wastewater management improvements: <ul style="list-style-type: none"> <li>(i) <b>Rohri.</b> Sanitation and drainage improvements through diversion of wastewater outfall, provision of interceptors, and pump station rehabilitation.</li> <li>(ii) <b>Khairpur.</b> Sanitation and drainage improvements, including covered drains, pumping stations, and wastewater stabilization ponds.</li> <li>(iii) <b>Khairpur, Larkana, New Sukkur, Rohri, Shikarpur, and Sukkur.</b> Investments in wastewater networks, system rehabilitation and tertiary drainage.</li> <li>(iv) Engineering design and construction supervision, including feasibility studies and subproject preparation.</li> </ul>
5	Support to NSUSC for water supply and wastewater mapping, planning, studies and measurement equipment.
<b>Part C: Solid Waste Management Improvements</b> (Details in Table A5.2)	
6	Sanitary landfill development, and provision of associated landfill equipment for Khairpur, Larkana, and Shikarpur and for a combined facility serving New Sukkur, Rohri, and Sukkur; and engineering design and construction supervision, including feasibility studies and subproject preparation.
7	Secondary collection investment to include equipment and related infrastructure for Khairpur, Larkana, New Sukkur, Rohri, Shikarpur and Sukkur.
<b>Part D: Operational Support Funding</b>	
8	Operational support funding covering operating cash flow shortfalls of NSUSC.

Table A5.2: Detailed Description of Outputs under Tranche 1 - Parts B and C

Subproject No./Bid Package No.	Description of Tranche 1 Investments under Parts B and C	Estimated Base Cost <sup>a</sup> (\$ million)
<b>Sukkur and New Sukkur Water Supply</b>		
3/B1	<b>Two distribution network improvement (DNI) zones (Sukkur)</b> —Replacement of distribution network, household connections, installation of domestic and commercial meters and associated investment in transmission lines. Designed to provide 6,000 customers with 24/7 potable water supply.	1.05
3/B1	<b>DNI zone (New Sukkur)</b> —Replacement of distribution network, household connections, installation of domestic and commercial meters and associated investment in transmission lines. Designed to provide 3,000 customers with 24/7 potable water supply.	1.02
3/B1	<b>Diesel generators</b> —10 standby diesel generator sets of different capacities totaling about 4,000 kilovolt-ampere output	0.67
3/B1	<b>Installation of interconnection pipes (Sukkur)</b> —Installation of 6-inch mild steel pipe to connect low-pressure area of Soomra Mohalla to elevated reservoir at Adam Shah Hill. Replacement of one 18-inch mild steel main feeding elevated reservoir at Islamia College.	0.17
3/B1	<b>Replacement of water mains (Sukkur)</b> —Replacement of existing leaking and dilapidated 16-inch and 12-inch mains. Replacement of various smaller distribution lines.	0.25
3/B1	<b>Replacement of water mains (New Sukkur)</b> —Replacement of existing leaking and dilapidated 16-inch and 12-inch mains. Replacement of smaller distribution lines.	0.33
3/B1	<b>Overhead tank for DNI zone (New Sukkur)</b> —125,000 gallons elevated reservoir to supply DNI zone	0.30
3/B1	<b>Leak detection works</b> —Leak detection program to reduce water losses	0.14
3/B1	<b>Rehabilitation of Bunder Road treatment plant</b> —Rehabilitation of structures, replacement of filter media, replacement of indicators and gauges, fixing leaks around the 5 million gallons per day (MGD) capacity water treatment plant, installation of gas chlorination equipment	0.20
3/B1	<b>Rehabilitation of Numai Shah treatment plant</b> —Rehabilitation of structures, replacement of filter media, replacement of indicators and gauges, fixing leaks around the 3.5 MGD capacity water treatment plant, desludging of sedimentation tanks, desilting, provision of geomembrane, alum dosing and chlorination equipment	0.72
3/B1	<b>Rehabilitation of Airport Road treatment plant</b> —Desilting, alum dosing and chlorination equipment, installation of new 3 MGD rapid gravity filter, replacement of inlet and supply pumping stations	3.52
3/B1	<b>Bulk water meters</b> —12 bulk water meters at treatment plants and key points in system	0.10
3/B3	<b>Engineering design, construction supervision, and feasibility</b>	0.61
<b>Rohri Water Supply</b>		
3/B1	<b>Replacement of water mains</b> —Replacement of existing leaking and dilapidated mains	0.08
3/B1	<b>DNI zone (Rohri)</b> —Replacement of distribution network, household connections, installation of domestic and commercial meters and associated investment in transmission lines. Designed to provide 3,000 customers with 24/7 potable water supply.	0.66
3/B1	<b>Tubewells</b> —15 tubewells with total capacity of 2.7 MGD, installation, pumping machinery and transmission line	0.51
3/B1	<b>Bulk water meters</b> —6 bulk water meters at treatment plants and key points in system	0.05
3/B3	<b>Engineering design and procurement oversight</b>	0.09
<b>Khairpur Water Supply</b>		
3/B1	<b>2 DNI zones</b> —Replacement of distribution network, household connections, installation of domestic and commercial meters in the zone, plus associated investment in transmission lines. Designed to provide 6,000 customers with 24/7 potable water supply.	2.08
3/B1	<b>Rehabilitation of existing overhead tanks</b>	0.08
3/B1	<b>Replacement of old and leaking mains</b> —Replacement of existing leaking mains	0.37
3/B1	<b>Rehabilitation of existing Khaki Shah water treatment plant</b> —Lining of inlet channel, desludging of sedimentation basins, rehabilitation of slow sand filters and pumping stations. 1.5 MGD capacity.	0.31
3/B1	<b>Installation of rapid sand filters at Khaki Shah water treatment plant</b> —2.5 MGD capacity	0.37
3/B1	<b>Bulk water meters</b> —8 bulk water meters at treatment plants and key system points.	0.07

<b>Subproject No./Bid Package No.</b>	<b>Description of Tranche 1 Investments under Parts B and C</b>	<b>Estimated Base Cost<sup>a</sup> (\$ million)</b>
3/B3	<b>Engineering design, construction supervision, and feasibility</b>	0.24
<b>Miscellaneous Works and Studies</b>		
3/B1	<b>Insertion meters</b> —Purchase of 4 insertion meters for measuring the flows in the network	0.14
5/B3	<b>Optimal approaches review and feasibility study of investments</b> —To resolve problem of impact of low river flow season on water availability at Sukkur current intake	0.15
5/B3	<b>Network mapping</b> —Sukkur, New Sukkur, Khairpur and Rohri	0.04
5/B2	<b>Groundwater testing for Larkana and Shikarpur</b>	0.17
<b>Rohri Wastewater Management</b>		
4/B1	<b>Installation of new pumping station</b>	0.10
4/B1	<b>Laying of new sewers</b> —700 meters of 12-inch sewer and 1,500 meters of 24-inch sewer	0.11
4/B1	<b>Shifting city sewage to Nara Canal</b> —Installation of a rising main and covered drains	0.64
4/B1	<b>New disposal pump house</b>	0.08
4/B1	<b>Funds for miscellaneous wastewater management improvements in tranche 1</b>	0.04
4/B3	<b>Engineering design and construction supervision</b>	0.08
<b>Khairpur Wastewater Management</b>		
4/B1	<b>Replacement of blocked sewers with covered drains</b>	0.18
4/B1	<b>Rebuilding of 3 pumping stations</b>	0.14
4/B1	<b>Rehabilitation and expansion of stabilization ponds</b>	0.10
4/B3	<b>Engineering design, construction supervision, and feasibility</b>	0.03
<b>Miscellaneous Works and Studies</b>		
5/B3	<b>Environmental monitoring and mitigation</b> —Water works and wastewater management	0.10
5/B3	<b>Preparation of strategic sanitation plans</b> —For Sukkur, New Sukkur, Khairpur, Rohri, and Shikarpur	0.16
5/B1	<b>Funds allocated for miscellaneous wastewater works in tranche1</b>	1.03
<b>Sukkur, New Sukkur, and Rohri Solid Waste Management</b>		
6/C1	<b>Sukkur Cluster landfill</b> —Land, construction, all equipment and cells sufficient for first 2 years of operations	1.09
7/C2 - C3	<b>Sukkur secondary collection</b> —15 skip hoist vehicles, 105 skips, 90 platforms for skips	0.66
7/C2/C3	<b>New Sukkur secondary collection</b> —5 skip hoist vehicles, 35 skips, 30 skip platforms	0.22
7/C2/C3	<b>Rohri secondary collection</b> —3 skip hoist vehicles, 21 skips, 18 platforms for skips	0.13
6 - 7/B3	<b>Engineering design and construction supervision</b>	0.11
<b>Khairpur Solid Waste Management</b>		
6/C1	<b>Khairpur landfill</b> —Land, construction, all equipment and cells sufficient for first 2 years of operations	0.78
7/C2 - C3	<b>Khairpur secondary collection</b> —8 skip hoist vehicles, 56 skips, 48 platforms for skips	0.35
6 and 7/B3	<b>Engineering design and construction supervision</b>	0.07
<b>Shikarpur Solid Waste Management</b>		
6/C1	<b>Shikarpur landfill</b> —Land, construction, all equipment and cells sufficient for first 2 years of operations	0.71
7/C2 - C3	<b>Shikarpur secondary collection</b> —9 skip hoist vehicles, 63 skips, 54 skip platforms	0.40
6 - 7/B3	<b>Engineering design and construction supervision</b>	0.07
<b>Larkana Solid Waste Management</b>		
6/C1	<b>Larkana landfill</b> —land, construction, all equipment and cells sufficient for first 2 years of operations	0.79
7/C2 -C3	<b>Larkana secondary collection</b> —19 skip hoist vehicles, 133 skips, 114 skip platforms	0.84
6 - 7/B3	<b>Engineering design and construction supervision</b>	0.10
<b>Miscellaneous Solid Waste Management</b>		
6/B3	<b>Environmental monitoring and mitigation</b>	0.10

DNI = distribution network improvement, MGD = million gallons per day.

<sup>a</sup> Excludes physical and price contingencies.

Source: Asian Development Bank estimates.

## DETAILED COST ESTIMATES AND FINANCING PLAN

**Table A6.1: Tranche 1**  
(\$ million)

Item	Total	ADB		Government	
		Total	%	Total	%
<b>A. Base Cost<sup>a</sup></b>					
1. Land Acquisition	0.39	0.00	0	0.39	100
2. Civil Works <sup>b</sup>	11.49	8.76	76	2.73	24
3. Mechanical, Equipment and Materials	5.92	5.92	100	0.00	0
4. Detailed Engineering Design, Mapping and Feasibility Studies	1.95	1.95	100	0.00	0
5. Consultancy—Program Management and Capacity Development	3.80	3.80	100	0.00	0
6. Incremental Administration	0.77	0.00	0	0.77	100
7. Recurrent—Operational Support Funding	8.00	8.00	100	0.00	0
<b>Subtotal (A)</b>	<b>32.32</b>	<b>28.43</b>	<b>88</b>	<b>3.89</b>	<b>12</b>
B. Taxes and Duties <sup>c</sup>	6.10	0.00	0	6.10	100
C. Contingencies <sup>d</sup>	10.59	8.58	81	2.01	19
D. Interest During Implementation <sup>e</sup>	0.99	0.99	100	0.00	0
<b>Total</b>	<b>50.00</b>	<b>38.00</b>	<b>76</b>	<b>12.00</b>	<b>24</b>

ADB = Asian Development Bank, ADF = Asian Development Fund.

<sup>a</sup> Base costs are calculated with foreign exchange rate as of 31 July 2008.

<sup>b</sup> ADB share of civil works represents 76% of base cost excluding taxes and duties; share of total expenditure for civil works is 65% as reflected in the allocation and withdrawal table in Schedule 3 of the Loan Agreement.

<sup>c</sup> Figure includes taxes and duties on contingent amounts.

<sup>d</sup> Exclusive of taxes. Physical contingencies comprise 5% on civil works, and between 5%-10% on office furniture/furnishing and some training costs. Price contingencies comprise inflation rates in (i) local currency starting at 8% in 2008, 14.1% in 2009, 10% in 2010; 7% in 2011, and 6.5% in 2012; and (ii) foreign currency starting at 6.8% in 2008, 0.7% in 2009, 1.4% in 2010, 0.4% in 2011 and 0.5% in 2012.

<sup>e</sup> Financial charges assume average rate of 1.375%.

Source: Asian Development Bank.

Table A6.2: Detailed Cost Estimates By Implementation Agency For Tranche 1

Investment	Total for Tranche 1	NSUSC							NSUSC Subtotal	P&DD			
		Sukkur	New Sukkur	Rohri	Khairpur	Shikarpur	Larkana	Corporate		PSU	Urban Unit	P&DD Subtotal	
<b>Investment Costs <sup>a</sup></b>													
<b>A. Urban Planning, Institutional Development, and Program Implementation Support</b>													
1. Equipment, furniture and vehicles													
a. Computers and office equipment	0.14	-	-	-	-	-	-	-	0.070	0.07	0.04	0.03	0.07
b. Office furniture and fixtures	0.19	-	-	-	-	-	-	-	0.110	0.11	0.05	0.03	0.08
c. Vehicles	0.26	-	-	-	-	-	-	-	0.181	0.18	0.06	0.02	0.08
2. Program management support													
a. Program support consultants (Firm/QCBS)	2.44	-	-	-	-	-	-	-	1.221	1.22	0.78	0.44	1.22
b. Program support consultants (Individual/ICS)	1.13	-	-	-	-	-	-	-	-	-	0.73	0.40	1.13
c. Independent verifier (Firm/QCBS)	0.21	-	-	-	-	-	-	-	-	-	0.21	-	0.21
d. Studies, trainings and orientation	0.62	-	-	-	-	-	-	-	0.200	0.20	0.18	0.24	0.42
e. Consultant overheads	0.65	-	-	-	-	-	-	-	0.270	0.27	0.25	0.13	0.38
f. Incremental staff and overhead	0.96	-	-	-	-	-	-	-	-	-	0.72	0.24	0.96
<b>Subtotal (A)</b>	<b>6.60</b>	-	-	-	-	-	-	-	<b>2.052</b>	<b>2.05</b>	<b>3.02</b>	<b>1.53</b>	<b>4.55</b>
<b>B. Urban Water Supply and Wastewater Improvements</b>													
1. Water supply <sup>b</sup>	13.65	2.516	6.253	1.416	3.469	-	-	-	-	13.65	-	-	-
2. Groundwater quality testing	0.17	-	-	-	-	0.086	0.086	-	-	0.17	-	-	-
3. Wastewater management	2.52	-	-	1.041	0.451	-	-	1.032	-	2.52	-	-	-
4. Mapping, measurement, studies and sanitation planning													
a. Water supply system mapping, studies and insertion meters	0.33	0.190	-	0.002	0.002	-	-	0.136	-	0.33	-	-	-
b. Wastewater system mapping and strategic sanitation plans	0.16	0.040	-	0.040	0.040	0.040	-	-	-	0.16	-	-	-
<b>Subtotal (B)</b>	<b>16.84</b>	<b>2.746</b>	<b>6.253</b>	<b>2.499</b>	<b>3.962</b>	<b>0.126</b>	<b>0.086</b>	<b>1.168</b>	<b>16.84</b>		-	-	-
<b>C. Solid Waste Management Improvements</b>													
1. Landfill costs <sup>b, c</sup>	3.24	0.823	-	-	0.826	0.755	0.838	-	-	3.24	-	-	-
2. Secondary collection	2.85	0.716	0.249	0.156	0.389	0.436	0.903	-	-	2.85	-	-	-
<b>Subtotal (C)</b>	<b>6.09</b>	<b>1.539</b>	<b>0.249</b>	<b>0.156</b>	<b>1.215</b>	<b>1.191</b>	<b>1.741</b>	<b>-</b>	<b>6.09</b>		-	-	-
<b>D. Operational and Transition Support (D)</b>													
Interest during implementation	8.00								8.000	8.00			
<b>Total Project Base Cost (A+B+C+D)</b>	<b>38.52</b>	<b>4.285</b>	<b>6.502</b>	<b>2.655</b>	<b>5.177</b>	<b>1.317</b>	<b>1.827</b>	<b>11.220</b>	<b>32.98</b>		<b>3.02</b>	<b>1.53</b>	<b>4.55</b>
Physical and Price Contingencies <sup>d</sup>	11.48												
<b>Total Project Cost</b>	<b>50.00</b>												

ICS = individual consultant selection, NSUSC = North Sindh Urban Services Corporation, PSU = program support unit, QCBS = quality- and cost-based selection, urban unit = urban policy and strategic planning unit.

<sup>a</sup> Amounts include taxes and duties.

<sup>b</sup> Amounts include engineering design, construction supervision costs and environmental monitoring and mitigation.

<sup>c</sup> Sanitary landfill cost under Sukkur City represents cost of area landfill serving Sukkur City, New Sukkur and Rohri. Land fill cost estimate includes land acquisition.

<sup>d</sup> Physical and price contingencies includes taxes and duties.

Source: Asian Development Bank estimates.

## SUMMARY OF INVESTMENT PROGRAM MANAGEMENT AND CAPACITY DEVELOPMENT

### A. Background

1. Sound project management arrangements and reforms are essential nonphysical investments for efficient and timely delivery of outputs and outcomes from the Sindh Cities Improvement Investment Program (the Investment Program). Physical investments in infrastructure alone are not sufficient to deliver the Investment Program objectives. The Urban Planning, Institutional Development, and Program Implementation component (part A) will assist with project execution functions, promoting reforms, and developing national capacity. Together with the support for engineering design and construction supervision under parts B and C, the Investment Program will assist with (i) implementation of the first-tranche investments; (ii) due diligence on, and preparation of, second and subsequent tranche investments; and (iii) urban sector planning, sector and institutional reforms, and results measurement. This nonphysical investment—the program management, capacity development, and implementation support—is essential to the Investment Program. It backstops and guides the Government and urban services corporation (USC) efforts to end the vicious cycle of weak planning, management, and infrastructure that leads to failed urban services delivery.

2. The teams of consultants contracted through firms and individually will assist the Investment Program's execution at the provincial and USC levels. They will support (i) the program support unit (PSU) and the urban policy and strategic planning unit (urban unit), both within the Planning and Development Department (P&DD), at provincial level, and (ii) the USCs. At provincial level, individual national consultants will be contracted on a full-time basis under the PSU and the urban unit. These individual specialists, together with permanent government staff, will form core, full-time teams in each unit. These full-time teams will be guided by advisory consultants, comprising international and national experts, hired under a firm tasked to flexibly support the provincial government in executing the Investment Program. The core implementing arms, the USCs, will have permanent professional senior management and technical supervisors, recruited from the market, to implement the infrastructure subprojects and operate the systems.<sup>1</sup> Under the first tranche, North Sindh Urban Services Corporation (NSUSC) will have three levels of management or supervisory staff for this function. The arrangements for the first tranche are outlined below. In subsequent tranches, the level of consultant inputs will decrease as capacity is developed in the PSU, urban unit, and USCs.

### B. Key Tasks of Advisory and Support Teams

3. Program management support will provide the Government of Sindh and the USCs with the necessary resources to, among other things,
- (i) execute agreed institutional and sector reforms in the Investment Program's strategic action plan and raise the profile of the urban sector in Sindh;
  - (ii) establish and operationalize USCs;
  - (iii) prepare detail or reference designs and implement first-tranche subprojects while ensuring compliance with Asian Development Bank (ADB) safeguards and other requirements;
  - (iv) roll out reforms, the USC model, and investments to new town clusters;

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<sup>1</sup> These market recruits will be augmented by deputed TMA staff who have been working in the USC urban coverage areas.

- (v) prepare preliminary subproject designs and subsequent loan tranche periodic financing requests (PFRs) in conjunction with engineering design consultants and the construction supervision and feasibility consulting team;
- (vi) introduce public-private partnerships for more effective service delivery; and
- (vii) monitor and evaluate the Investment Program's results.

4. Support for capacity development will cut across these three organizations. The advisory teams will provide on-the-job and more formal group training throughout to PSU, USC, urban unit, and relevant provincial, district and taluka-based staffing order to, among other things,

- (i) develop provincial-level capacity to promote economic growth, coordinate urban investment, improve urban planning, and promote regulatory and tariff reforms;
- (ii) develop district and local level capacity for urban planning;
- (iii) orient talukas in their new roles as NSUSC shareholders;
- (iv) further develop NSUSC manager and staff capacity for utility operations and management, including financial management and controls;
- (v) develop NSUSC and PSU capacity for due diligence, including subproject identification, preliminary design, and economic and financial evaluation;
- (vi) develop NSUSC capacity for procurement of works and service contracts and PSU and urban unit capacity for services contracts; and
- (vii) develop PSU and NSUSC capacity for safeguards compliance, results monitoring, and program evaluation.

5. The program management, capacity building, and subproject implementation assistance put the Government of Sindh (GOS) and NSUSC at the core of executing their respective components while providing qualified, full-time national and intermittent international expertise as support. A contingent amount will be allocated for the PSU, urban unit, and NSUSC to facilitate engaging additional expertise according to need, thus allowing enhanced flexibility consistent with the Investment Program's focus on innovation and change management. In addition, support will be provided to NSUSC for subproject design and construction supervision, mapping and feasibility studies, and preliminary design and subproject preparation. The managers of the three implementing units—the PSU program director, the urban unit head, and NSUSC's managing director—will oversee these advisory and support teams.

## **B. Program Support Unit**

6. The PSU will be supported by a firm providing intermittent support comprising 24 person-months of international expertise and 60 person-months of national expertise. The firm will support the GOS staff and a team of 9 individually contracted national consultants to be embedded in the PSU on a full-time basis. Individual consultant support will total 396 person-months. These consultants will support the PSU to (i) implement the reform program, including rolling out the investments to new town clusters; (ii) prepare the periodic financing requests; (iii) ensure compliance with ADB safeguards; and (iv) monitor and evaluate the Investment Program's result. Consulting teams and their relationships to PSU staff are set out in Figure A7.1. Outline terms of reference are in Supplementary Appendix F.

## **C. Support to the Urban Policy and Strategic Planning Unit (Urban Unit)**

7. The urban unit will be supported by a firm providing intermittent support comprising 18 person-months of international expertise and 16 person months of national expertise. The firm will support the GOS staff and a team of five individually contracted national consultants to be embedded in the urban unit on a full-time basis. Individual consultant support will total 220

person-months. These consultants will support the urban unit to establish a process for province-wide urban development, including to develop an urban planning process, develop urban policies, compile and manage urban knowledge and information, and promote reforms, including those included in the Investment Program's reform action plan. Consulting teams and their relationships to urban unit staff are set out in Figure A7.2.

#### **D. Support to the North Sindh Urban Services Corporation**

8. The NSUSC will be supported by a firm providing intermittent support comprising 41 person-months of international expertise and 49 person-months of national expertise. The firm will support the professional staff of NSUSC, reporting to the managing director. The firm will support (i) utility systems' technical and financial operations, as well as human resource management; (ii) preliminary design and implementation for tranche 1 subprojects, including to supervise and monitor detailed design and construction of facilities created under the Investment Program; (iii) feasibility studies for tranche 2 subprojects, including economic and financial evaluations of subprojects; (iv) ongoing compliance with ADB's safeguard policies; and (v) processing of consultant recruitment. Consulting teams and their relationships to NSUSC's management are set out in Figure A7.3.

#### **E. Independent Verification Function**

9. A firm will be responsible for verification of NSUSC performance against targets set in the business plan, random audits of NSUSC funding requests and NSUSC operations, authorization of payments from the operational and transition support fund, and related technical and financial auditing tasks. This assistance will entail 14 person-months of intermittent support over the first-tranche period.

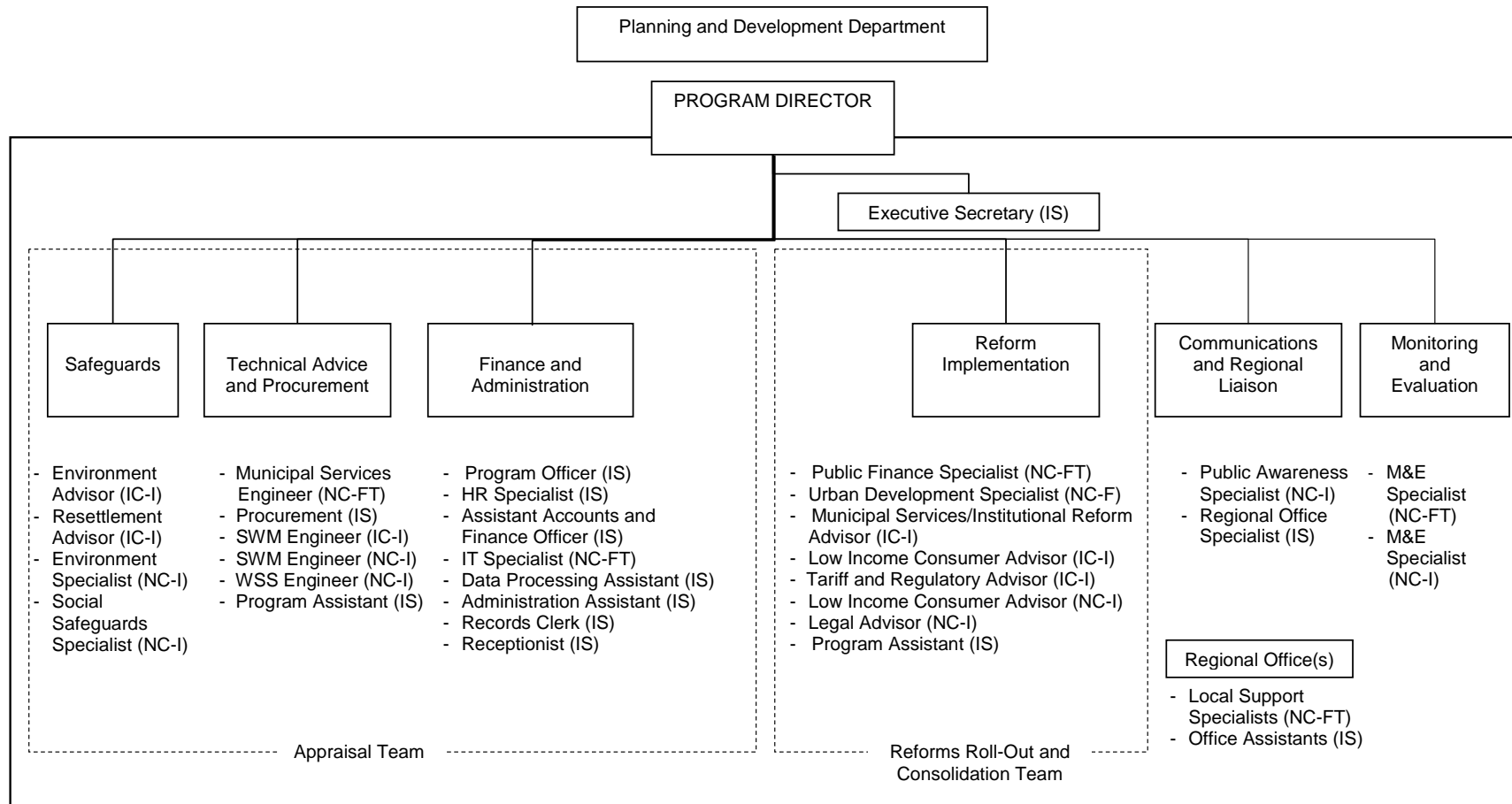
#### **F. Capacity Building, Training, and Study Tours**

10. Specific requirements will be determined during early stages of tranche 1 implementation. Training will be provided for NSUSC's board of directors and key staff, GOS officials and staff involved with the Investment Program's execution, as well as TMA and district government officials and staff. Orientation tours will be supported where value can be obtained from exposure to similar service delivery models.

#### **G. Engineering Design, Construction Supervision, and Feasibility Consultants**

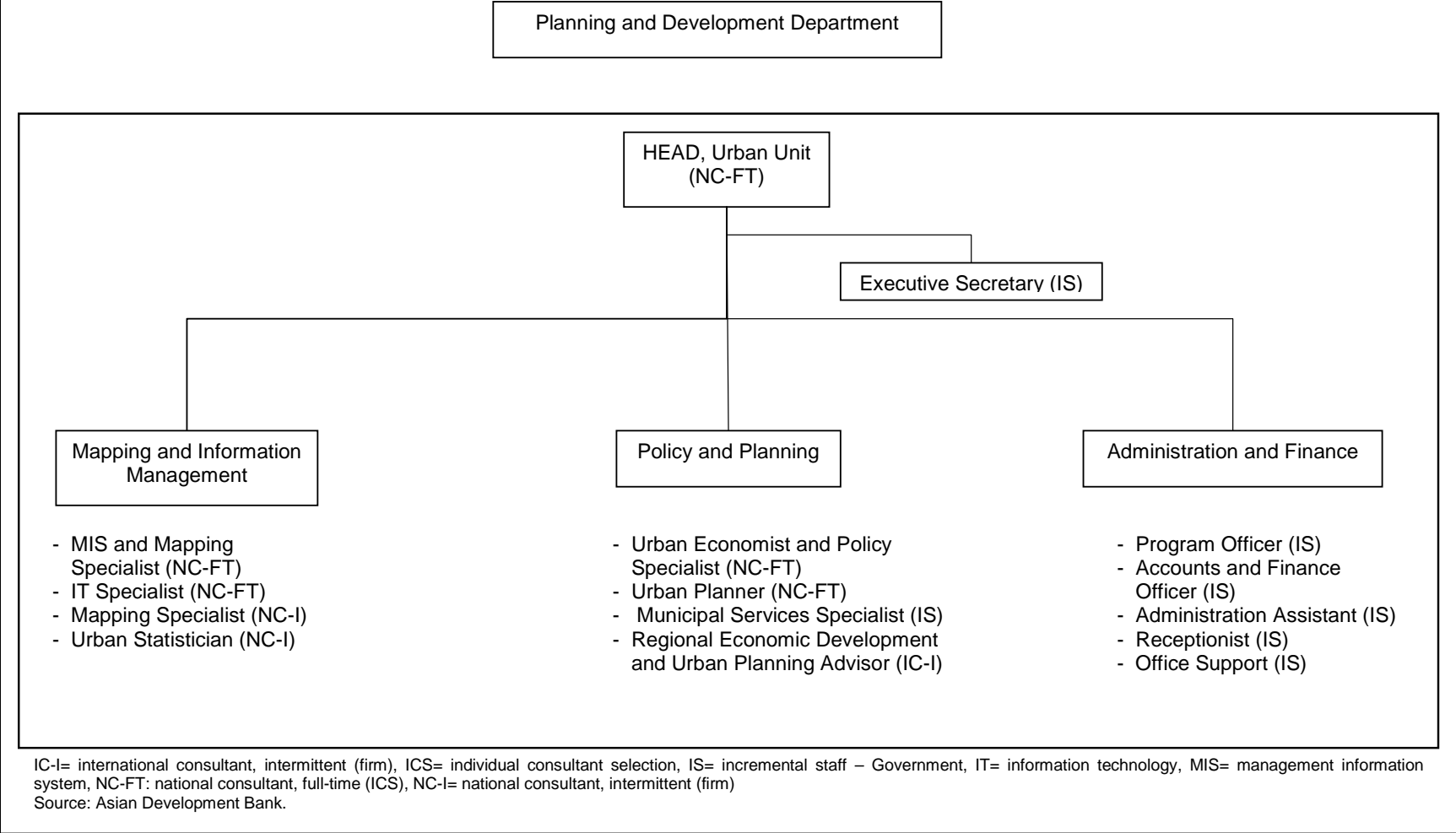
11. The scope of work for the engineering design, construction supervision, and feasibility consultants comprises (i) detailed designs for tranche 1 subprojects, (ii) preparing tender documents for tranche 1 subprojects, (iii) supervising the construction of tranche 1 subprojects, (iv) conducting mapping and preparing feasibility studies and master plans, and (v) preliminary design and feasibility analysis for tranche 2 subprojects. The consulting firm will be contracted by NSUSC. NSUSC will outsource technical tasks that it cannot yet undertake effectively to the consulting firm. NSUSC's capital works unit and its support consultants will supervise and verify the work of the consulting firm to ensure consistency with NSUSC and ADB requirements.

**Figure A7.1: Implementation Support - Program Support Unit**

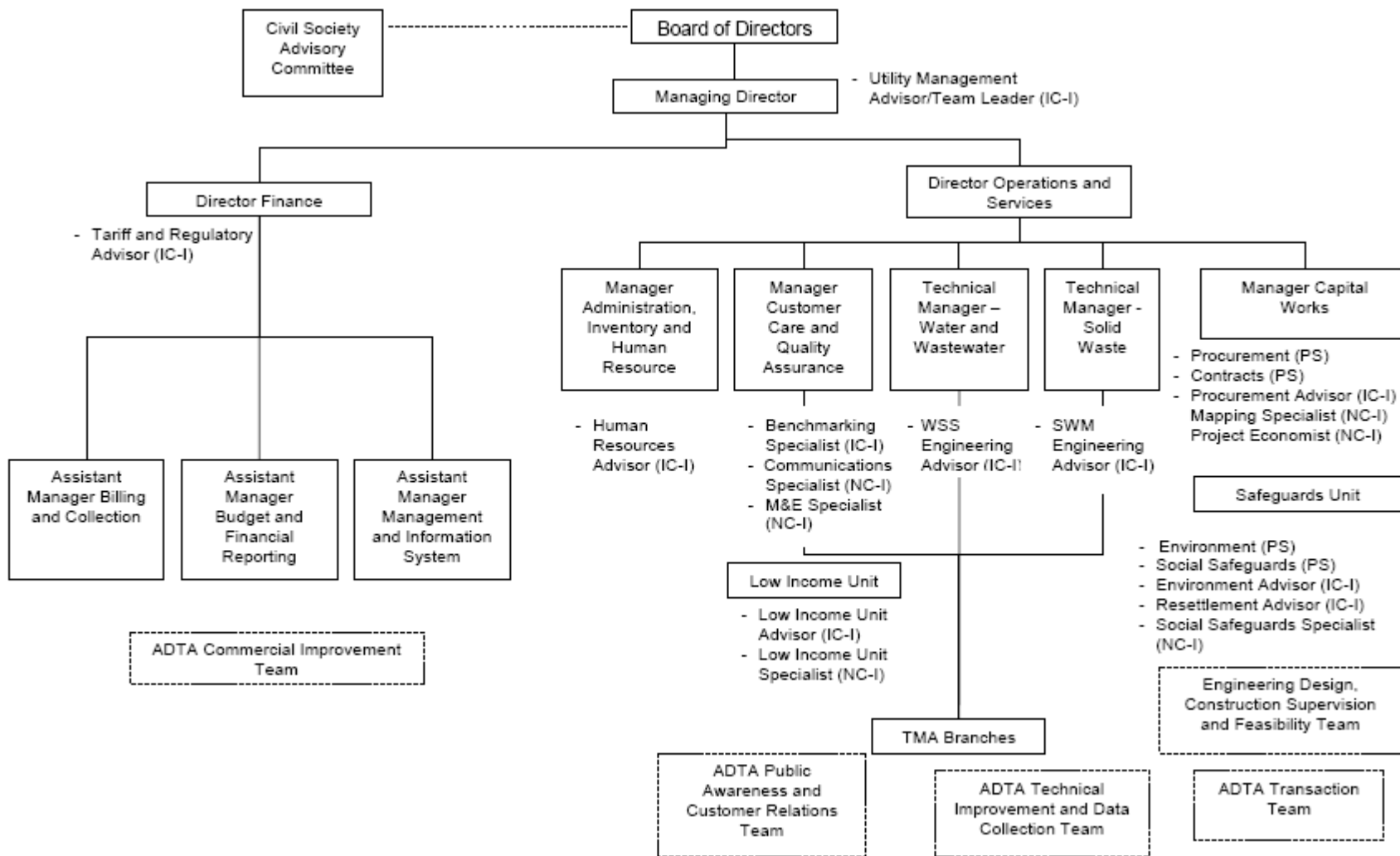


ADB= Asian Development Bank, HQ= ADB headquarters, IC-I= international consultant, intermittent (firm), ICS= individual consultant selection, IS= incremental staff-Government, IT= information technology, M&E = monitoring and evaluation, NC-FT= national consultant, full-time (ICS), NC-I= national consultant, intermittent (firm), RO = regional office.  
 Source: Asian Development Bank.

**Figure A7.2: Implementation Support – Urban Policy and Strategic Planning Unit**



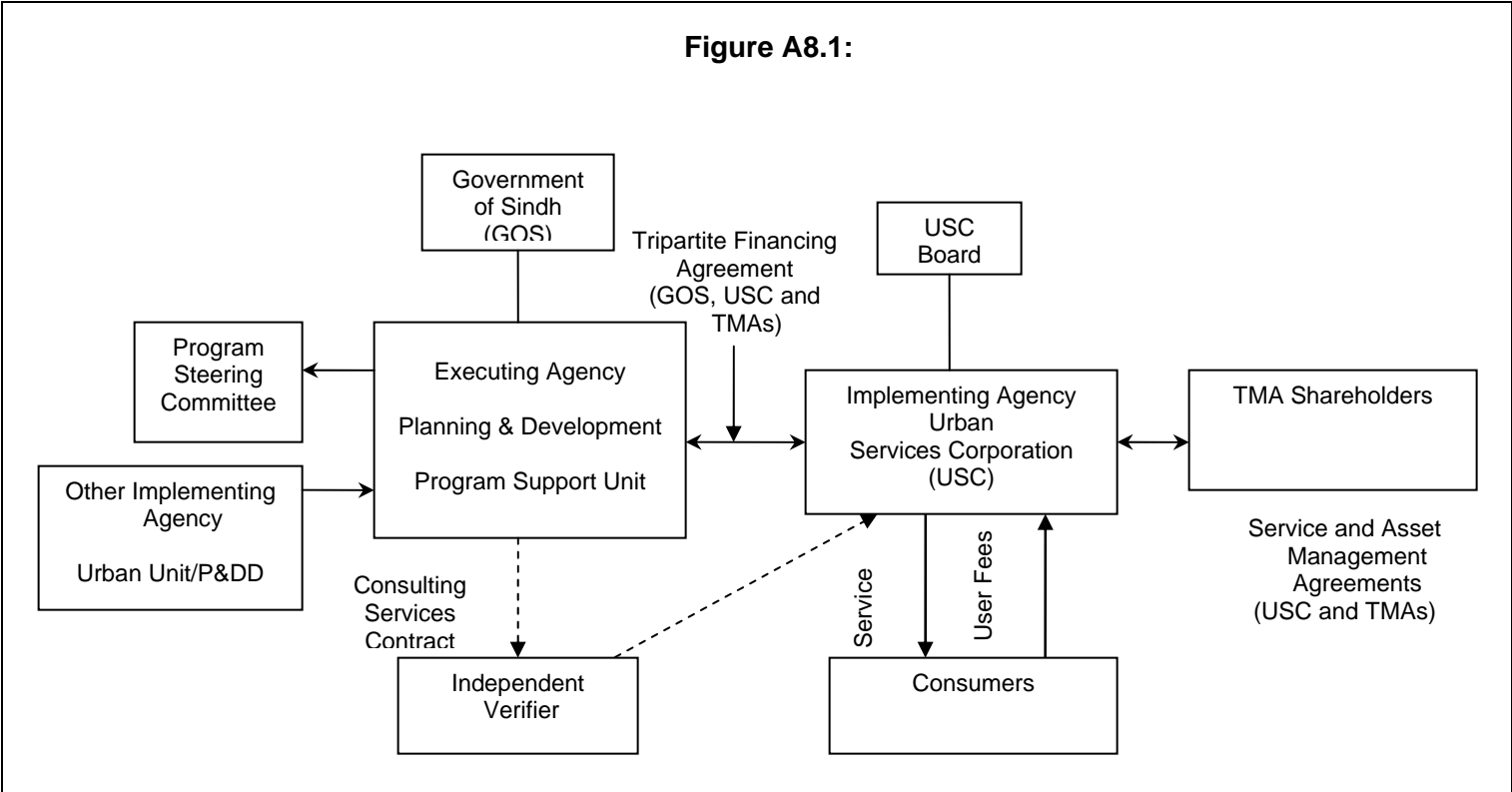
**Figure A7.3: Implementation Support – North Sindh Urban Services Corporation Limited**

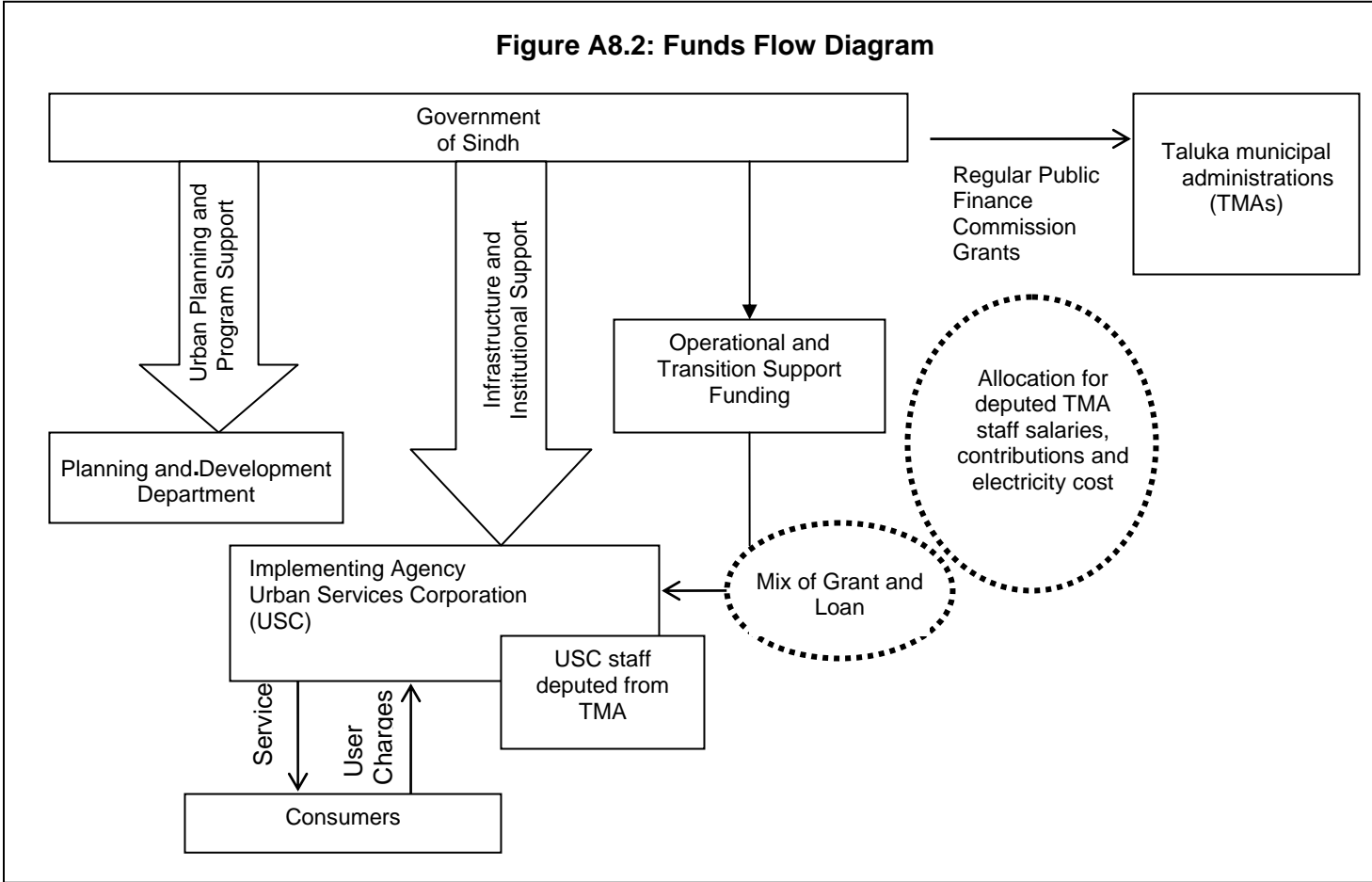


ADTA= advisory technical assistance, IC-I= international consultant, intermittent (firm), M&E = monitoring and evaluation, NC-I= national consultant, intermittent (firm), PS = professional staff.  
 Source: Asian Development Bank.

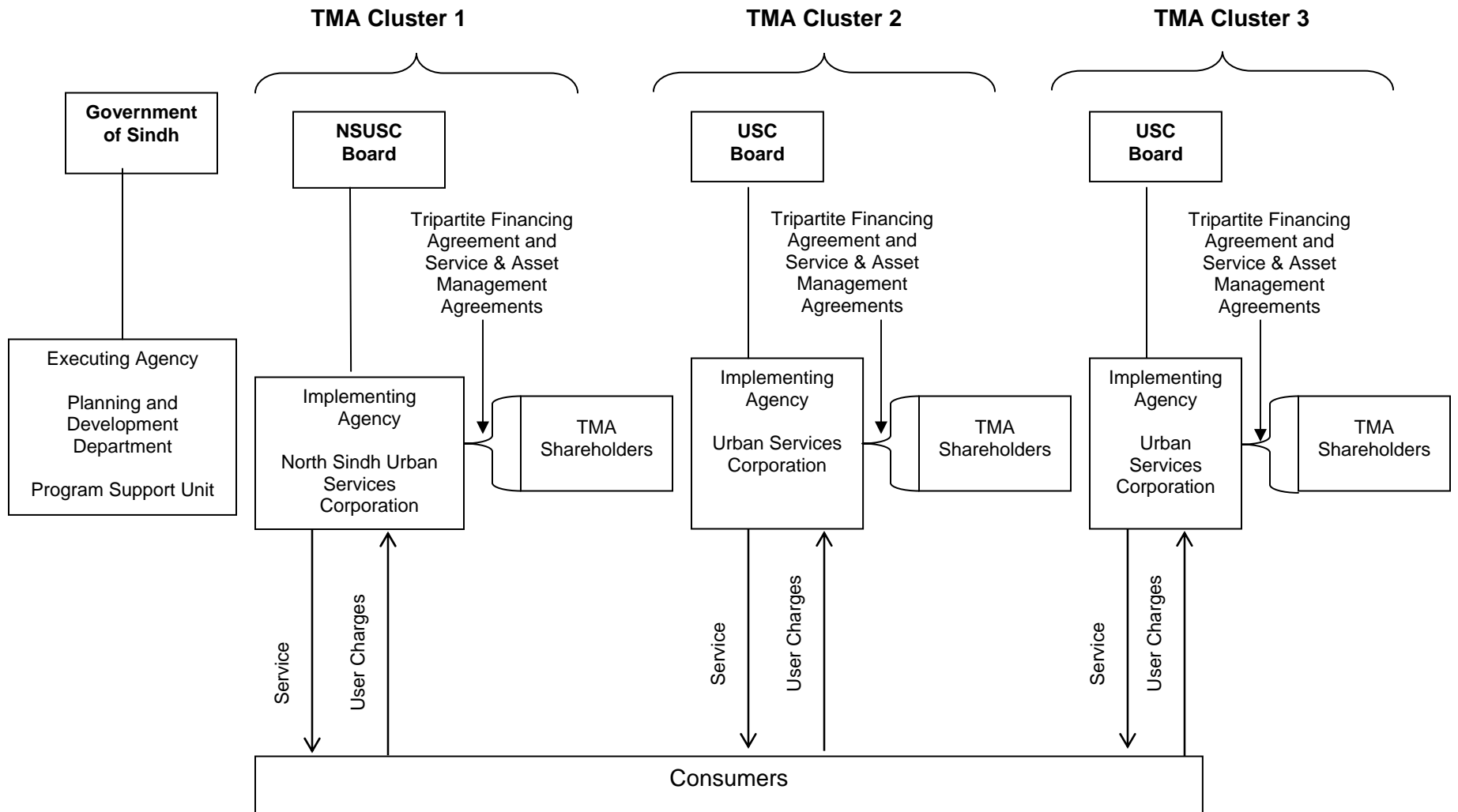
**IMPLEMENTATION ARRANGEMENTS**

**Figure A8.1:**





**Figure A8.3: Proposed Implementation Arrangement for Subsequent Tranches**



NSUSC = North Urban Services Corporation, TMA = taluka municipal administration, USC = urban services corporation.







## PROCUREMENT PLAN –TRANCHE 1

### Table A10.1: Project Information

Project Information	
Country	Pakistan
Name of Borrower	Islamic Republic of Pakistan
Project Name	MFF: Sindh Cities Improvement Investment Program
Loan Reference	TBD
Date of Effectiveness	TBD
Project Cost Estimate	Up to \$50.0 million
Of which Committed	Up to \$38 million
Executing Agency	Planning and Development Department, Government of Sindh
Approval Date of Original Procurement Plan	TBD
Approval of most recent Procurement Plan	Not applicable
Publication for Local Advertisements	TBD
Period Covered by this Plan	18 months from Original Procurement Plan Approval Date

MFF= multitranches financing facility; TBD = to be determined.

Source: Asian Development Bank

### Table A10.2: Procurement Threshold, Goods and Related Services, Works, Supply and Installation of Works

Procurement Method	Threshold
International Competitive Bidding Works	\$5,000,000 and above
International Competitive Bidding Equipment Supply and Installation	\$1,000,000 and above
National Competitive Bidding Works <sup>a</sup>	<b>Below \$5,000,000</b>
National Competitive Bidding Goods/ Supply and Installation	Below \$1,000,000
Shopping Goods	Below \$100,000

<sup>a</sup> The province's standard procurement procedures acceptable to Asian Development Bank will be followed for national competitive bidding (NCB) civil works and supply contracts subject to the provisions in the NCB Annex attached hereto.

### Table A10.3: Procurement Threshold–Consulting Services

Procurement Method	Threshold
Quality- and Cost-Based Selection	<b>Full Technical Proposal (above \$600,000)</b> Simplified Technical Proposal (less than \$600,000, but at least \$200,000)
Consultants Qualifications Selection	<b>Below \$200,000</b>

1. Except as the Asian Development Bank may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the Investment Program.

### Table A10.4: ADB Prior or Post Review

Procurement of Goods and Works		
Procurement Method	Prior or Post	Comments
International Competitive Bidding Works	Prior	
International Competitive Bidding Goods	Prior	
National Competitive Bidding Works	Prior	First use, then after post
National Competitive Bidding Goods	Prior	First use, then after post
Shopping for Works	Post	
Shopping for Goods	Post	
Recruitment of Consulting Firms		
Quality- and Cost-Based Selection	Prior	
Consultants Qualifications Selection	Prior	
Recruitment of Individual Consultants		
Individual Consultants	Prior	

**Table A10.5: Indicative Procurement Packages under the First Periodic Financing Request**

Bid Package No.	Contract Description	Base Cost (\$ million)	Method	Expected Date of Advertisement	Prior Review (Y/N)	Procurement Type
Part A: Urban Planning, Institutional Development and Program Implementation Support						
A1	Consultant support for PSU and urban unit, including studies	1.46	QCBS	December 2008	Y	Consulting services
A2	Consultant support to NSUSC, including studies	1.49	QCBS	December 2008	Y	Consulting services
A3	Consultant support for independent verification	0.21	QCBS	December 2008	Y	Consulting services
Various	Consultant support for PSU and urban unit	1.27	ICS	Various	Y	Consulting services
Various	Studies and trainings for PSU and urban unit	0.41	QCBS/CQS	Various	Y	Consulting services
Various	Studies and trainings for NSUSC	0.20	QCBS/CQS	Various	Y	Consulting services
Various	Computers, equipment, office fixtures, etc. for PSU and urban unit	0.23	Shopping	Various	N	Equipment
Various	Computers, equipment, office fixtures, etc. for NSUSC	0.35	Shopping	Various	N	Equipment
Part B: Water Supply and Wastewater Management						
B1	Water supply and wastewater improvements in Sukkur, New Sukkur, Rohri, Khairpur, Shikarpur and Larkana	15.39 <sup>a</sup>	ICB; Ad Measurement	March 2009	Y	Works and equipment
B2	Water quality testing in Larkana and Shikarpur	0.17	NCB	May 2009	Y	Services
B3	Engineering design, construction supervision, preliminary design and subproject preparation, and feasibility studies to include (i) mapping and planning work; and (ii) Sukkur Intake – Options and Feasibility	1.58	QCBS	December 2008	Y	Consulting services
Part C: Solid Waste Management						
C1	Sanitary landfill disposal works, landfill equipment Larkana, Shikarpur, Khairpur and for Sukkur area landfill at Rohri	3.06	NCB; Design/Build	March 2009	Y	Works and equipment
C2	Secondary collection equipment – Skip hoist system for Sukkur, New Sukkur, Rohri, Khairpur, Shikarpur and Larkana	2.23	ICB	June 2009	Y	Equipment
C3	Concrete base for skips for Sukkur, New Sukkur, Rohri, Khairpur, Shikarpur and Larkana	0.37	NCB	June 2009	Y	Works and equipment
With B3	Engineering design, construction supervision, and subproject preparation	0.45	QCBS	December 2008	Y	Consulting services

CQS = consultant's qualification selection; ICB = international competitive bidding, ICS = individual consultant system; NCB = national competitive bidding, QCBS = quality- and cost-based selection; SWM = solid waste management, Y/N = yes/no.

<sup>a</sup> Portion of this amount up to \$600,000 for priority works in line with approval of advance action and on a retroactive basis.

Source: Asian Development Bank.

## **TECHNICAL ASSISTANCE ON IMPROVING EFFICIENCY AND ACCOUNTABILITY OF NORTH SINDH URBAN SERVICES CORPORATION LIMITED**

### **A. Background**

1. This technical assistance (TA) will support reform initiatives under the Sindh Cities Improvement Investment Program (the Investment Program or SCIP) and assist the newly formed North Sindh Urban Services Corporation (NSUSC) to become a more efficient, accountable service provider. The TA has two integral components. Component A will develop the technical, operational, and organizational capacity of NSUSC to deliver sustainable water supply, wastewater, and solid waste management (SWM) services. Component B will support public awareness and outreach, public monitoring of services, and customer relations. The TA is consistent with the Pakistan country strategy and program (update) 2006–2008<sup>1</sup> that supports urban sector interventions focusing on institutional reform and improvement in service delivery.

### **B. Impact and Outcome**

2. The TA aims to boost the efficiency and effectiveness of water supply, wastewater, and SWM services delivered by NSUSC while also increasing its accountability to its customers.

3. The outcomes under component A include (i) technical and financial information baselines and improved information on water supply, wastewater, and SWM systems; (ii) enhanced technical capacity of NSUSC staff; (iii) improved NSUSC technical and financial performance; (iv) increased and more effective outsourcing arrangements; and (v) increased public-private partnerships in water services and landfill operations.

4. The outcomes under component B include (i) customer awareness and understanding of SCIP-supported reforms in urban service delivery, (ii) increased communication between NSUSC and its customers, (iii) transparent public monitoring of service delivery, (iv) enhanced accountability of NSUSC to its customers, and (v) development of a customer relations system within NSUSC.

### **C. Methodologies and Key Activities**

#### **1. Component A: Technical, Operational, and Organizational Support to NSUSC**

5. Part A of the Investment Program supports NSUSC's basic technical, planning, and financial capacity. Component A supplements this by further developing technical, operational, and organizational capacity to increase NSUSC's efficiency and prepare for second-stage reforms.

6. Component A will support initiating and implementing information-gathering programs required under SCIP's service and asset management agreements and necessary for NSUSC's effective operation. These are directed to (i) developing baselines for, among other things, nonrevenue water, network pressures, number of connected customers, percentage of solid waste collected, and composition of waste; (ii) designing and implementing improvement programs in technical operations, commercial operations, and customer service;<sup>2</sup> (iii) assisting

<sup>1</sup> ADB. 2006. *Pakistan: Country Strategy and Program (Update)*. Manila.

<sup>2</sup> Programs would target, among others, nonrevenue water reduction, leakage detection, regularization of illegal connections and improvement in customer complaint response times.

NSUSC to manage and improve outsourcing contracts and develop improved outsourcing models; (iv) providing hands-on training to NSUSC staff in skills required for operational improvement programs; and (v) reviewing public-private partnership options for landfill operations and water services provision, including to recommend preferred options and build consensus for implementation.

## **2. Component B: Public Awareness and Outreach, Public Monitoring, and Customer Relations**

7. Citizens' participation is integral to reforming water supply, wastewater, and SWM services under SCIP. The TA component will develop an institutionalized system of public awareness and outreach, public monitoring, and customer relations to improve NSUSC's effectiveness and accountability to its customers. The TA will build on consultations and public awareness activities carried out with nongovernmental and civil society organizations and stakeholders during the preparation phase. Component B includes support for (i) public awareness and communication activities, (ii) citizen report card surveys, and (iii) a computerized customer relations and complaints redress system. NSUSC customer relations units will be established in each *taluka*. Staffing of the units and customer relations management will be provided for a period of 2 years under the TA. These activities will be subsequently subsumed within NSUSC's operational costs as NSUSC develops. The public outreach and customer relations activities will identify specific communication needs for both men and women, as well as policies for NSUSC to pursue for increasing low-income households' access to improved services.

### **D. Cost and Financing**

8. The total cost of the TA is estimated at \$2,900,000, with \$2,500,000 equivalent from the Technical Assistance Special Fund and \$400,000 in counterpart financing from the Government and NSUSC. Component A costs total \$1,885,000, while those for component B come to \$490,000, and \$125,000 is budgeted for contingencies. The counterpart contributions include office facilities, utilities, administrative support, counterpart staff, secretarial support, supplies, local transportation, and miscellaneous training costs. Table A11 summarizes the costs.

### **E. Implementation Arrangements**

9. The Planning and Development Department (P&DD) will be the Executing Agency for the TA. NSUSC will be the Implementing Agency responsible for component A, while P&DD and NSUSC will be responsible for implementing their respective activities under component B. The SCIP's program support unit within P&DD will oversee the citizen report card subcomponent.

10. The TA will be implemented over 44 months from April 2009, with inputs from international and national consultants hired through a firm for each of the two components. A civil society organization will be contracted separately for the citizen report card activity under component B. The planned level of effort for component A is 142 person-months, comprising 42 person-months of international inputs and 100 person-months of national inputs. The planned level of effort for Component B is 337 person-months in total, comprising 22 person-months of advisory inputs (primarily national), 312 person-months of customer complaints staff, and 3 person-months of information technology support.

**Table A11: Cost Estimates**

Item	Cost (\$ '000)
<b>I. Asian Development Bank Financing<sup>a</sup></b>	
<b>A. Component A</b>	
1. Consultants	
a. Remuneration and Per Diem	
i. International Consultants	1,113
ii. National Consultants	705
b. Local and International Travel	52
2. Training, Seminars – Workshops and Conferences	10
3. Miscellaneous Costs <sup>b</sup>	5
<b>Subtotal (Component A)</b>	<b>1,885</b>
<b>B. Component B</b>	
1. Consultants	
a. Remuneration and Per Diem	
i. International Consultant	18
ii. National Consultants	179
b. Local and International Travel	38
c. Reports and Communications	5
2. Equipment <sup>c</sup>	42
3. Training, Seminars – Workshops and Conferences	
a. Public Awareness Campaigns and Activities	47
b. Training <sup>d</sup>	14
5. Surveys	63
6. Miscellaneous Administration and Support Costs <sup>e</sup>	84
<b>Subtotal (Component B)</b>	<b>490</b>
<b>D. Contingencies</b>	<b>125</b>
<b>Subtotal Asian Development Bank Financing</b>	<b>2,500</b>
<b>II. Government Financing<sup>f</sup></b>	
1. Office Accommodation and Transport	150
2. Remuneration and Per Diem of Counterpart Staff	250
<b>Subtotal Government Financing</b>	<b>400</b>
<b>Total</b>	<b>2,900</b>

<sup>a</sup> Financed from Special Funds resources.

<sup>b</sup> Includes costs for reports, communication, and translation.

<sup>c</sup> Computers, network connections, and software buying for customer relations units.

<sup>d</sup> Training for complaint handlers.

<sup>e</sup> Includes rental and utility costs of customer relations units in each Taluka municipal administration and North Sindh Urban Services Corporation (NSUSC).

<sup>f</sup> Counterpart funds to be provided by Planning and Development Department and NSUSC.

Source: Asian Development Bank estimates.

11. The consultants will be recruited in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). Before the start of services, the consultants will prepare a TA implementation plan that includes a timetable for deliverables. The consultants shall submit quarterly and annual reports. Equipment purchased under the TA will be procured by NSUSC under shopping procedures and in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). The outline terms of reference are in Supplementary Appendix F.

## ECONOMIC ANALYSIS

### A. Objectives of the Program

1. The objective of the Sindh Cities Improvement Investment Program (the Investment Program) is to improve the quality, coverage, and reliability of water supply, wastewater management (WWM), and solid waste management (SWM) services in participating secondary cities. The Investment Program targets this outcome through a combination of institutional and sector reforms, capacity development, and priority infrastructure investments.

### B. Identification of Problems

2. *Taluka* municipal administrations (TMAs) are responsible for municipal services and regulations. Municipal services include, among others, water supply, WWM, and SWM. However, the TMAs lack sufficient organization, capacity, and resources to deliver such services effectively. The provision of water supply, WWM, and SWM services in Sindh secondary cities is chaotic. There are no organized water supply and WWM authorities, no systems for monitoring quality of service, and no maps of existing infrastructure. Data on service coverage for the urban populations outside Karachi is poor, but piped-water access is estimated at less than 50% and the piped water is frequently contaminated. Similarly, access to sewerage or drainage (primarily open drains) varies considerably, but it averages around 60%. Less than 40% of households are served by SWM systems, and there are no sanitary landfills. Cost recovery averages about 30% of operating and maintenance costs for water supply in first-tranche towns, and it is negligible for WWM and SWM.

### C. Economic Rationale

3. Under the current infrastructure provision arrangements, investing in physical infrastructure will not bring the desired service improvements. Physical investments not accompanied by reforms only feed a vicious cycle of inadequate service provision. Due to the limited capacity of the public sector, municipal service reforms need to (i) create an enabling environment for efficient service provision by the private sector; (ii) promote accountability for service delivery, not simply scheme construction; (iii) introduce a service-focused management model; (iv) address key technical weaknesses in the delivery systems; and (v) be politically acceptable.

4. **Public Sector Intervention.** Based on these criteria, the initial model developed for the Investment Program is a public limited corporation, formed under the Companies Ordinance Act 1984 and owned by the participating local governments. Under tranche 1, the North Sindh Urban Services Corporation (NSUSC) will provide water supply, WWM, and SWM services initially to a cluster of six participating TMAs. NSUSC senior management and technical supervisors will be recruited competitively from the market.

5. The corporate model introduces a higher level of accountability for providing urban services. While greater private sector participation (PSP) could incentivize more efficient service delivery, a first-stage public sector reform is necessitated by the limited capacity to manage PSP, varying political receptivity to PSP, absence of reliable data to assess and price risk, and embryonic nature of the private sector in urban services. The Investment Program's attached technical assistance will support PSP transactions to incentivize improved service provision, particularly in urban water supply and SWM.

6. **Aggregation and Multiple Ownership.** The benefits of grouping several TMAs into a single organization for urban service provision include economies of scale, sharing the cost of professional management and systems, and balancing the interests among participants. Similarly, multiple ownership can temper politically motivated decisions, help professionalize management, and improve transparency and corporate governance. Participating local governments have expressed support for aggregating as shareholders in a common urban services corporation. Perceived advantages include better defined TMA roles under contractual agreements and a convenient venue for TMA joint action. As the service and asset management agreements (SAMAs) are designed to accommodate individual town requirements, based on TMA commitment to reforms, this allows for more performance-based allocation of resources and discourages free-rider behavior from TMAs less willing to reform.

7. The economic benefits of subsector investments were evaluated for the water supply, WWM, and SWM subsectors. For each participating TMA, the economic benefits were evaluated only for those subsectors that will benefit from additional investment in that particular TMA. Likely benefits, costs, and the calculated economic internal rate of return (EIRR) from subsector interventions for each town are described below.

#### D. Alternative Analysis

8. Alternative subprojects were considered in each subsector and in each town. In all cases of water supply and WWM subprojects, the alternatives were rehabilitation of existing infrastructure or building of new infrastructure. Rehabilitating existing infrastructure was regarded as the least-cost approach.

9. Alternatives to sanitary landfills include incineration, hydrolysis, digestion, and gas plasma. These alternatives are technically too complex and their capital cost too high. Two alternative solid waste secondary collection systems were reviewed: skip hoist vehicles and a mixed fleet of tractor-trailers, trucks, and loaders. While the capital cost of skip hoist vehicles is higher, they were chosen because they (i) avoid double handling of waste, which is a key technical requirement; (ii) can make more trips per day since they have higher average speed and much shorter loading time; (iii) are more reliable than tractor-trailers when traveling longer distances; and (iv) require less staff to operate. Overall, lower operating costs offset the increased capital costs.

#### E. Methodology

10. The economic analysis is based on Asian Development Bank (ADB) guidelines, including the *Guidelines for Economic Analysis of Projects* (1997); *Handbook for the Analysis of Water Supply Projects – Guidelines, Handbooks and Manuals* (1999); and *ERD Technical Note 23: Good Practices for Estimating Reliable Willingness-to-Pay Values in the Water Supply and Sanitation Sector* (2007).

11. The economic analysis examined subsector investments in water supply, WWM, and SWM by TMA in tranche 1. Investments were evaluated over a 15 to 20-year period depending on asset life. Costs and benefits are forecast in 2008 prices. The analysis combines the Rohri water supply and wastewater investments, as wastewater improvements have significant impact on the quality of the raw water source for Rohri.

12. For each subsector investment, the EIRR was calculated for the net stream of economic benefits. The net economic benefit was calculated by subtracting the economic costs from the

gross economic benefits of the subprojects. Economic net present values were calculated by discounting at 12%.

## F. Gross Economic Benefits

13. The contingent valuation method was used to evaluate the gross economic benefits. This method was used since the willingness-to-pay figures capture the whole spectrum of benefits derived by the consumers from urban service improvements. To calculate the gross economic benefits, the willingness-to-pay figure for each of the improved services was multiplied by the number of consumers benefiting from these services.

14. Willingness-to-pay values cover four main types of service provided: (i) 24/7 water supply in pilot distribution network improvement (DNI) zones (monthly service and one-time connection fee); (ii) regular but intermittent water supply service, with improved water quality in the existing parts of the water supply network; (iii) wastewater services; and (iv) SWM services. The estimated willingness to pay for 24/7 water supply service in the DNI zones was calculated at PRs566 per month using regression analysis based on a 2008 survey.<sup>1</sup> The willingness-to-pay values for improved water service in the old network was estimated at PRs175 per month based on the respondents' answers in a survey regarding provision of less-improved services. The WWM and SWM willingness-to-pay values were estimated at PRs100 and PRs80, respectively, based on social surveys in 12 Sindh secondary towns in 2006.

15. The number of customers benefiting from the improved services is equivalent to the number of customers assumed in the financial model (Appendix 13) during the tranche 1 period. Unauthorized water supply customers were estimated to be 40% of the starting authorized water supply customers.<sup>2</sup> The gross economic benefit values are in Supplementary Appendix G.

## G. Economic Costs

16. All costs used in the analysis were actual real economic costs. The economic operating costs of providing the service are assumed to be the benefits customers derive from that service. The economic operating costs are based on nominal financial costs used in the financial model deflated to 2008 prices. The real costs were converted to border parity prices using a conversion factor of 0.75 for labor and 0.9 for other operating costs. The economic capital costs are based on the financial capital costs used in the investment plan, and exclude all price contingencies, interest costs, taxes, and duties. Details on economic costs are in Supplementary Appendix G. The details of capital expenditure are in Appendix 6.

## H. Results of the Economic Analysis

17. Table A12.1 summarizes the results of the economic analysis.

<sup>1</sup> Gallup Pakistan. 2008. *Willingness-to-Pay Survey*. Pakistan. The study covers 864 households and commercial enterprises in Larkana, New Sukkur, Rohri, and Sukkur City. Estimates for WWM and SWM are based on social surveys undertaken by PPTA 4534-PAK: Sindh Basic Urban Services Corporation (Nippon Koei) and TA 4432-PAK: Capacity Building for Environmental Management in Sindh (Halcrow) covering 12 towns, including 5 of 6 first-tranche towns. Commercial willingness to pay for water supply and WWM is assumed twice as high as the domestic willingness to pay.

<sup>2</sup> Based on the assumption that nonrevenue water is 50%, with 30% technical losses and 20% commercial losses. Authorized and unauthorized consumption are estimated at 50% and 20%, respectively, of water produced. Unauthorized customers are estimated at 40% of authorized customers.

**Table A12.1: Summary of Economic Viability**

<b>Subsector Investment</b>	<b>Net Present Value<sup>a</sup></b>	
	<b>(PRs million)</b>	<b>EIRR (%)</b>
Khairpur Water Supply	93.63	21.7
Khairpur WWM	11.24	20.3
Khairpur SWM	19.27	18.3
Larkana SWM	153.82	43.5
Shikarpur SWM	22.89	20.3
Rohri Water Supply and WWM	11.23	14.4
Sukkur and New Sukkur Water Supply	42.69	14.2
Sukkur, New Sukkur and Rohri SWM	107.34	31.5

EIRR = economic internal rate of return, SWM = solid waste management, WWM = wastewater management.

<sup>a</sup> Net present value of net economic benefits discounted at 12%

Source: Asian Development Bank estimates.

18. Overall, the economic analysis indicates that all of the investments are economically viable, each having a positive EIRR even in the worst-case sensitivity analysis scenario. Larkana SWM and Sukkur, New Sukkur, and Rohri SWM have high EIRRs due to significant economies of scale, since they serve more than one TMA. Khairpur water supply and Shikarpur SWM EIRR values are robust overall, and they remain above the 12% threshold even in the worst-case scenario. Sukkur and New Sukkur water supply, Khairpur WWM, Khairpur SWM, and Rohri water supply and WWM have positive EIRRs, but these are more sensitive to fluctuations in revenue. The results of the sensitivity analysis are in Supplementary Appendix G.

#### **I. Distribution of Benefits**

19. The improvements in all three services will benefit the whole of the urban population in the six participating TMAs. Predictable flows of quality water supply, improved wastewater management, and increased solid water collection will have positive impacts on the health of the population, quality of life, and economic prospects in the TMAs. Both the Investment Program and attached advisory technical assistance include components to support service improvements for low-income customers. The USCs will have units tasked to design pro-poor subsidies that will enable all classes of customers to avail of the improved service levels in the DNI zones. Outside these pilot zones, water supply will be supplied at regular times to the consumers and for longer duration. This water will be of higher quality since it will be filtered and disinfected. While some contamination is inevitable due to intermittence of supply, the cost of household treatment will be reduced. This improvement will result in time savings, improved health, and lower coping costs. It is estimated that some households spend about PRs400 monthly on alternative water supplies, including for pumps, electricity, and water filtration.

21. The reforms under the Investment Program are expected to have a positive effect on the TMA staff transferred to NSUSC. The deputation will allow for a transition without widespread retrenchment. The staffing of NSUSC can be rationalized over time through attrition. Deputed TMA staff will benefit from the incentive-based pay in NSUSC, as will selected TMA staff that maintain liaison role with NSUSC (as planned under the compensation design). There will be benefits as well from opportunities for training and knowledge transfer.

## FINANCIAL ANALYSIS

### A. Introduction

1. The financial analysis was prepared in accordance with Asian Development Bank (ADB) guidelines.<sup>1</sup> It examined the financial performance of North Sindh Urban Services Corporation (NSUSC), the core implementing agency and the urban services operator under the first tranche. The analysis includes projections of NSUSC's financial position, calculation of the operational and transition support funding requirement, and calculation of the financial internal rate of return (FIRR).

### B. Current Situation

2. The accounting systems at the *taluka* level are weak. Financial information on costs of delivering water supply, wastewater management (WWM), and solid waste management (SWM) services provided by taluka municipal administrations (TMAs)<sup>2</sup> is limited. Most expenses are not properly recorded or segregated by service. Tariff revenue covers less than 3% of operating costs in first-tranche TMAs. The average annual cash shortfall for FY2003 to FY2006 was PRs185 million, largely comprising staff costs.<sup>3</sup> The current structure of TMAs' urban services provision is not financially viable. Supplementary Appendix M elaborates on financial management concerns at the TMA level.

### C. Methodology and Core Assumptions

3. The financial analysis, expressed in local currency and nominal prices, uses an accrual accounting-based financial model of NSUSC. The model calculates NSUSC's projected income, cash flows, and balance sheets. It estimates an FIRR for operations in first-tranche towns over the Investment Program's 10-year period, from FY2009 to FY2018. The financial model assumes NSUSC is responsible for operation, repair, and maintenance costs of the municipal assets, and it includes depreciation on municipal assets.<sup>4</sup> Capital investment and operating costs are adjusted for inflation. The assumptions used for modeling NSUSC operations in each subsector are detailed in Supplementary Appendix G.

4. The model assumes inflation of 13% in FY2009, gradually decreasing to 6%. Household water consumption is assumed at 136 liters per capita per day, which is consistent with average water consumption in the region. Current monthly tariffs of PRs10–PRs30 are retained for those customers not residing in a distribution network improvement (DNI) zone. Those customers with significantly improved service in the DNI zones are assumed to pay upwards of PRs250–PRs300 per month once improved services commence. The assumed tariffs for DNI zones remain lower than estimated willingness-to-pay values in Sindh, and they are comparable to actual costs of water from alternative sources. Collection rates are based on actual performance but are assumed to improve over time. Similarly, nonrevenue water is assumed initially at 50% and to gradually decrease to 20% by FY2018. Electricity cost is calculated according to water delivered, pumping pressure, and a unit cost of PRs7 per kilowatt-hour. The model assumes

<sup>1</sup> ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

<sup>2</sup> First-tranche TMAs comprise Khairpur, Larkana, New Sukkur, Rohri, Shikarpur, and Sukkur City. During program preparation, 12 TMAs were examined.

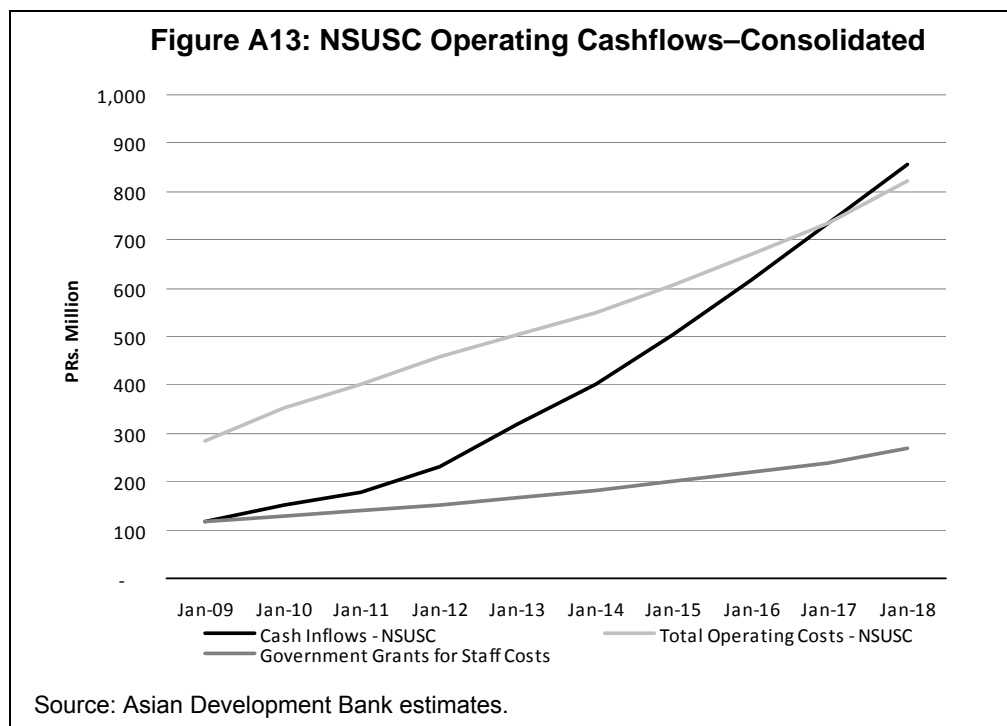
<sup>3</sup> Electricity costs are reportedly high, but billing lacks transparency. Given the absence of proper financial accounting systems for expenses other than staff, the amount of this expense is significantly understated.

<sup>4</sup> Under the service and asset management agreements to be signed between NSUSC and each TMA, the TMA retains ownership of existing and new assets, while NSUSC will manage them.

wastewater generation at 70% of water consumed, and it introduces a modest wastewater tariff of PRs50 per month starting from FY2012. Waste generation is estimated at 0.54 kg per capita per day. The model assumes introduction of a modest tariff at PRs50 per month from FY2013 that is timed for full operation of a collection and disposal system.

#### D. Results of Financial Projections for NSUSC

5. NSUSC's projected net loss before depreciation over the period ending with FY2012 is PRs776 million (\$10 million), but NSUSC performance gradually improves as tariff revenue increases with improved services (such as by the introduction of DNI zones under tranche 1).<sup>5</sup> NSUSC is expected to cover its operating cash outflows from its own tariff revenues by FY2017 (Figure A13), assuming the Government covers deputed TMA staff costs.<sup>6</sup> Cash flow coverage for water supply services is reached in FY2013. Cash flow coverage for SWM and WWM is much lower. NSUSC will require continuing subsidies to cover WWM and SWM services so long as tariffs lag behind cost recovery levels. A summary of NSUSC income and cash flow statements is in Supplementary Appendix G.



#### E. Operations and Transition Support Funding

6. The model estimates NSUSC will require funding of about PRs618 million (\$8 million) under part D of the Investment Program during its initial operating period from FY2009–FY2012. Over the remaining 7 years and four tranches, the projected cash shortfall is PRs1.3 billion (\$17 million). NSUSC is expected not to require any operations and transition support funding from FY2017 onward. Continuing grants from the Government of Sindh for deputed TMA staff costs

<sup>5</sup> NSUSC revenues include the annual government grant for deputed TMA staff salaries and benefits, which ranges from PRs117 million to PRs270 million (\$1.5 million to \$3.5 million) over the 10-year projection period.

<sup>6</sup> Deputed TMA staff totals over 1800 persons, primarily street sweepers and staff in grade 5 or below.

are assumed in these projections. Overall operating performance can be substantially improved over these projections if NSUSC can rationalize deputed TMA staff numbers and the skills mix, particularly in SWM. Of over 1,800 current municipal service employees, some 75% are sweepers and account for about three quarters of the deputed TMA staff expense.

## F. Financial Internal Rate of Return (FIRR)

7. Basic assumptions used in computing the FIRR are as follow: (i) project investment costs are derived from estimated costs less price contingencies and interest during construction; (ii) capital expenditures are recorded at the time they are incurred; (iii) interest and depreciation are excluded; (iv) real operating cash flows are used; and (v) residual value of asset additions in 2018 are regarded as a benefit. The calculated FIRR for NSUSC is 5.2% (Supplementary Appendix G). This is higher than the weighted average cost of capital (WACC) of 3.92% (Table A13.1). The calculated FIRR values for various scenarios are as follow: (i) 4.18% with a 10% decrease in revenue, (ii) 4.32% with a 10% increase in costs, and (iii) 3.58% with a combined 10% decrease in revenue and 10% increase in costs. Overall, the Investment Program is projected to be financially viable at proposed tariff levels and under most scenarios.

**Table A13.1: Weighted Average Cost of Capital (WACC) Calculations**

Item	OCR	ADF	Government
Amount (\$ million)	262.0	38.0	100.0
Weighting	65.5%	9.5%	25.0%
Nominal Cost	4.4% <sup>a</sup>	1.4% <sup>b</sup>	14.7% <sup>c</sup>
Inflation	1.2% <sup>d</sup>	1.2%	7.5% <sup>e</sup>
Real Cost	3.2%	0.2%	7.2%
Weighted Component of WACC	2.1%	0.0%	1.8%
WACC	3.9%		

ADF = Asian Development Fund, OCR = ordinary capital resources.

<sup>a</sup> London interbank offered rate US dollar 10-year rate of 4.21% plus spread of 20 basis points.

<sup>b</sup> Average interest rate based on loan conditions for ADF.

<sup>c</sup> Karachi interbank offered rate 3-year bond rate.

<sup>d</sup> Average international cost escalation forecasts by ADB for 2006–2010.

<sup>e</sup> Average domestic cost escalation forecasts by ADB for 2006–2010.

Source: Asian Development Bank estimates.

## G. Tariff Assumptions and Affordability

### 1. Tariff Assumptions

8. Tariff assumptions are based on existing tariff schedules and on data from a recent water supply willingness-to-pay (WTP) survey conducted in Khairpur, New Sukkur, Rohri, and Sukkur.<sup>7</sup> Regression analysis of the data set found a mean WTP of PRs566 per month and a mean WTP for a one-time connection charge of PRs3,620.

9. The model assumes a tariff of PRs250–PRs300 per month for water supply to households in DNI zones. (Table A13.2). The existing tariff (PRs10 to PRs30 per month) was

<sup>7</sup> The 2008 willingness-to-pay survey covered households and commercial establishments. The survey followed the guidance set out in ADB. 2007. *ERD Technical Note No. 23, Good Practices for Estimating Willingness-to-Pay Values in the Water and Sanitation Sector*. Manila.

used for household connections outside the pilot DNI zones. Tariff assumptions for wastewater and solid waste management services are based on socioeconomic surveys.<sup>8</sup>

**Table A13.2: Tariffs for Improved Services**

TMA	DNI Zone Water Supply Tariff (PRs/month)		Wastewater Tariff (PRs/month)		SWM Tariff (PRs/month)
	Domestic	Commercial	Domestic	Commercial	All Customers
Sukkur	300	600	50	100	50
New Sukkur	250	500	50	100	50
Khairpur	250	500	50	100	50
Rohri	250	500	50	100	50
Larkana	No Service	No Service	50	100	50
Shikarpur	No Service	No Service	50	100	50

SWM = solid waste management, TMA = Taluka municipal administration; DNI = distribution network improvement.

Source: Asian Development Bank estimates.

## 2. Affordability Analysis

10. Applying the proposed water, sewerage, and solid waste management tariffs, the percentage of average monthly expenditure on these services was assessed with reference to household incomes. Based on the available information, the median household income in urban areas of tranche 1 TMAs is estimated at PRs8,241 per month. At the start of the Investment Program, the expected monthly charge for water will range from PRs10 to PRs30 per month (with no charge for other services), or 0.12% to 0.36% of household income. In fiscal year 2012, the highest expected monthly bill, if all three services were included, would be PRs400 per month, which equates to 4.8% of median household income. This is below the generally accepted benchmark of 5% for affordability of utility services. Findings from the recent WTP survey, however, do show some variance in WTP levels between TMAs, necessitating user charge schemes tailored to TMAs' needs. The WTP survey also highlighted, though, that some households in North Sindh pay in excess of PRs350<sup>9</sup> per month for self-provision of water from wells and other sources, with Sukkur City households surveyed bearing monthly expenses of about PRs525 for access to water sourced from wells. The Investment Program will support establishment of a low-income consumer unit within NSUSC to focus on adapting pricing schemes and service provision to the needs of the urban poor.

<sup>8</sup> ADB. 2004. *Technical Assistance to the Islamic Republic of Pakistan for Capacity Building for Environmental Management in Sindh*. Manila (TA 4432-PAK, approved on 12 November). No tariffs are currently charged for WWM or SWM by the municipality.

<sup>9</sup> Cost calculations include pump installation, power costs, and repairs and maintenance.

## SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

**Country/Project Title:** Pakistan/Sindh Cities Improvement Investment Program

Lending/Financing  
Modality:

Multitranches Financing Facility

Department/  
Division:

Central and West Asia Department/  
Social Sectors Division

### I. POVERTY ANALYSIS AND STRATEGY

#### A. Linkages to the National Poverty Reduction Strategy and Country Partnership Strategy

Sindh Cities Improvement Investment Program (SCIP) is a 10-year, \$300 million program under a multitranches financing facility to fund basic urban infrastructure improvements in Sindh's secondary towns through (i) establishing local government-owned, professionally managed urban services corporations; (ii) support for urban sector reforms and capacity development; and (iii) priority investment in water supply, wastewater, and solid waste management (SWM) infrastructure. The investments, along with institutional reforms and capacity development to improve service delivery, are consistent with the poverty reduction strategies of the Government of Pakistan and the Asian Development Bank (ADB). The country's Poverty Reduction Strategy Paper (PRSP 2003),<sup>a</sup> the 2005 Medium-Term Development Framework (MTDF 2005–2010), the Vision 2030 approved in 2007, and the upcoming PRSP II together identify accelerating economic growth, improving governance and devolution, human development, and targeting the poor and vulnerable as key to poverty reduction efforts. Improved water, sanitation, and health are recognized as core elements of human development. The MTDF prioritizes investments in several areas, including balanced rural and urban development, upgrading physical infrastructure, achievement of the Millennium Development Goals (MDGs), and supporting private sector development. All these are relevant for the SCIP. The PRSP-II draft summary document confirms its alignment to this MTDF. The PRSP II itself "presents a strategy to ensure that the growth is broad-based and leads to effective poverty reduction." It focuses on (i) public-private partnerships for infrastructure development, (ii) urban and rural infrastructure as engines of growth, and (iii) improved service delivery. Again, all are relevant to the SCIP.

ADB is finalizing a new country partnership strategy (2008–2012) focused on (i) reforms and investment in major infrastructure sectors, (ii) second generation reforms to strengthen governance and services to promote structural change, (iii) development of the urban and rural economy for balanced development, and (iv) effective implementation for development effectiveness and results. SCIP is fully consistent with this new strategy, as it introduces reforms, capacity development, and priority infrastructure investment while adhering to Government of Sindh's and national poverty reduction priorities. Improvements in water supply, wastewater, and SWM infrastructure and services will positively influence health, education, social, economic, and environment outcomes. These are critical to achieving poverty reduction. Improved services will positively affect the health of young children, who disproportionately suffer from life-threatening water- and sanitation-related diseases and benefit women whose time is spent caring for the sick and collecting water for households. The improved living environment will enhance the quality of life of all residents, having wider impacts on public and environmental health.

#### B. Poverty Analysis

**Targeting Classification:** General intervention

##### 1. Key Issues

Sindh Province is Pakistan's second largest economy and second most populous province after Punjab. Its population is about 36 million, and, since 2003, it has recorded average growth of about 7.0%.<sup>b</sup> The poverty headcount ratio has declined from 31% in FY2002 to about 20% in FY2007. Another source indicates poverty in Pakistan has declined from 34.5% in 2001 to 23.9% in 2005<sup>c</sup> in the wake of overall economic growth and increased pro-poor government spending. However, 70% of the population remains vulnerable to poverty in the long run. The income and expenditure gaps between the poor and the wealthier strata have widened considerably. Poverty in Pakistan is now recognized not simply as an income-related phenomena but also being reflected in deprivation of key quality of life opportunities as well as feelings of vulnerability and powerlessness. The poor tend to have larger households and less access to essential assets and services, including electricity, water supply and sanitation, and cooking gas. Poverty is clearly associated with landlessness and small land holdings, as well as lack of literacy and educational attainment.

Large-scale migration to Karachi has resulted in Sindh having the highest urban population, at nearly 50%, compared to 33% for Pakistan as a whole. The evaluation of Sindh's constraints, opportunities, and development strategies needs to take into account the urban-rural divide in the province.

While urban Sindh, as a whole, is the least deprived area nationally, it is estimated that one fourth of these urban areas of Sindh fall into the category of high deprivation (from a scale of low-medium-high).<sup>d</sup> This is indicative of the gap in development between Karachi (where 60% of the urban population lives) and other urban centers. Urban poverty in the subproject towns is

multifaceted, ranging from lack of employment to deficiencies in basic urban services, to substandard housing. The poverty levels of towns in the program areas are around 40%–50%.<sup>e</sup> Significant disparity exists between more developed neighborhoods and the so-called *katchi abadis* (or slum areas).

The Investment Program will contribute to improved health and quality of life for the population of Sindh, in line with MDG targets for access to improved water supply and sanitation. MDG7 (target 10) aims to halve, by 2015, the proportion of people without access to safe drinking water and basic sanitation. SCIP aims to improve quality, continuity, and coverage of water supply, wastewater, and SWM services by incentivizing and supporting effective management and sustainable financing of urban services providers. The Investment Program will have an indirect impact on poverty reduction and will support institutional reforms for improving the enabling environment for pro-poor growth, social development, and good governance. The targeting classification is deemed to be a general intervention.

## 2. Design Features

Pro-poor elements of the service provision are to be agreed between the *taluka* municipal administrations (TMAs) and the TMA-owned urban services corporation (USC) and will be set out in the service and asset management agreements between each TMA and the USC. SCIP aims to create proper incentives for improved basic urban services delivery and to establish a sustainable approach for providing these services. Pro-poor measures to be adopted include:

- (i) aiming for 80% coverage in poor communities and other service areas in general;
- (ii) establishing a specialized low-income consumer unit to expand access to the urban poor;
- (iii) establishing mechanisms (subsidies, exemptions, or payments in installments) to ensure poor, disabled, or vulnerable households are not excluded from access by an inability to pay one-off, upfront connection charges;
- (iv) setting up mechanisms for holding the service provider accountable for service delivery to the poor;
- (v) developing a transparent method for setting connection fees and tariffs; and
- (vi) ensuring consumers have a voice in service delivery through a properly designed complaint system.

## C. Poverty Impact Analysis for Policy-Based Lending

n/a

## II. SOCIAL ANALYSIS AND STRATEGY

### A. Findings of Social Analysis

It is estimated SCIP will eventually cover a population of around 4 million in some 20 TMAs. The first tranche of the program will cover the urban population of a cluster of cities in interior Sindh—Khairpur, Larkana, New Sukkur, Rohri, Shikarpur, and Sukkur—estimated to be approximately 1,222,400 (based on the 1998 population census and with 3.2% per annum population growth from 1998–2008). The population is ethnically diverse. It is dominated by Sindhi, followed by Baluch, Urdu-speaking Muhajors, and Punjabis. The remaining population is made up of religious minorities, including upper class Hindus (Lohana, Bania, and Thakurs), schedule cast Hindus (Bheel, Meghwar, and Kolhi), and Christians. Poverty is widespread. Most of the people living below the poverty line are landless, unemployed, and have very limited access to basic services.

According to Government statistics (footnote c), about 34% of the population in the program cities has access to tap water supplies (varying from 18% to 73%) and around 77% has access to flushing latrines (varying from 57% to 92%). However, these water supplies are intermittent (only 2–3 hours of service per day) and unsafe for drinking. Around 70% of the urban population of Sindh (including Karachi and Hyderabad) has access to underground sewerage and covered drainage systems (footnote c). In most participating towns, however, open drains are used to carry wastewater, including human excrement, at lane level. At main streets sewers carry wastewater up to sewage pumping stations. However, these systems suffer from poor maintenance and are often blocked up with garbage. Only 38% of the urban population of Sindh (including Karachi and Hyderabad) is served by municipal SWM services, a further 23% is served by privately run services, while the remaining 39% have no service.

A social audit measuring the impact of decentralization on social services found only 23% of all respondents in urban and rural areas of Sindh were satisfied with government water supply. A project preparatory technical assistance socioeconomic survey found that 82% of respondents in *katchi abadis* and 41% of respondents in *pacci abadis* (or better-off areas) in Khairpur were dissatisfied with the current water supply. Ninety-one percent of households from *katchi abadis* and 84% of households from *pacci abadis* in this area were dissatisfied with the current sewerage system. Over 90% of all households were dissatisfied with the SWM service. Surveyed households demonstrated a willingness to pay both initial contributions and monthly charges for water supply, wastewater, and SWM services.

### B. Consultation and Participation

1. Provide a summary of the consultation and participation process during the project preparation.

Stakeholder consultations were held throughout the design stage in a total of 14 TMAs. At provincial level, several workshops were held with provincial government departments, local government officials, community stakeholders, and nongovernment organizations. At taluka level, focus group discussions involved representatives of schools; labor, women, and religious groups; and the business sector. The meetings were held to share information and solicit advice on reforms and investments and as to how SCIP can address their interests. A socioeconomic survey helped to augment information collected during consultations, including willingness to pay for services. This consultation and survey covered seven TMAs across interior

Sindh (Badin, Dadu, Islamkot, Khairpur, Mithi, Nausharo Feroz, and Sanghar), areas considered for initial project-financed improvements earlier in the design cycle. A stakeholder identification and consultation process was simultaneously carried out under TA 4432-PAK: Capacity Building for Environmental Management in Sindh to develop broad consensus on policies and tariff-setting for water, sanitation, and SWM services. Six TMAs were covered, and their case studies assess the water and sanitation situation in Sindh's interior cities. Support for investment and reforms in these services were welcomed by the public in Johi, Larkana, Mirpurkhas, New Sukkur, Shikarpur, Sukkur TMA, and Umerkot.

As project preparation developed and the current design of SCIP emerged, additional consultations were held in North Sindh and tranche 1 towns. Taluka councils were consulted multiple times and passed resolutions to participate in SCIP. Public consultations indicate broad support for the combination of reforms and investment. Further willingness-to-pay surveying was done in 2008 following ADB guidelines.

2. What level of consultation and participation (C&P) is envisaged during the project implementation and monitoring?  
 Information sharing     Consultation     Collaborative decision making     Empowerment

A program for public awareness and outreach will be carried out under SCIP. A strategy for public awareness, customer monitoring, and customer care will be developed and implemented. For safeguards requirements, consultations will be carried out as set out under the safeguard plans and frameworks. Stakeholder consultations will be carried out for subsequent tranches of the multitranche financing facility.

3. Was a C&P plan prepared?  Yes     No

There is no C&P plan, as development of consultation and participation activities will be carried out under component B of the advisory technical assistance on public awareness. This will include further discussions with nongovernment and civil society organizations and other stakeholders.

### C. Gender and Development

#### 1. Key Issues

Pakistan ranks very low in the Gender Development Index of 2008 (152 out of 156 countries), and significant social and economic gender inequalities exist. Women are disproportionately affected by unemployment, earn lower wages, generally have no control or consent over the money they earn, and have limited access to credit. Despite women's legal right to own and inherit property, few women have access and control over these resources. Female literacy in Pakistan is around 38% compared with 65% for men. Only 35% of females have completed primary education or higher, compared to 56% of men (footnote c). Labor force participation rates for all ages are 51% for men, compared to 29% for women. Participation rates for men and women from age 30 to 50 are about 97% and 52%, respectively.<sup>1</sup> Seventy-three percent of urban expectant women had prenatal checkups, and only 38% of urban mothers had a postnatal consultation within 6 weeks after delivery.

Primary and secondary data have been analyzed to assess the status of women in interior Sindh towns. This shows gender gaps in employment, income, education and decision making. Women, particularly in low-income communities, face multifaceted poverty. While women in program towns are involved in a range of economic activities, including cotton picking, wheat threshing, sugarcane cutting, teaching, and employment in office jobs, they work primarily as homemakers. They spend several hours a day fetching, carrying, and storing water for household chores and domestic tasks, including preparing meals, washing clothes, cleaning the house and latrines, etc. For this reason, poor quality water and unreliable delivery of water supply services directly impact women. Lack of adequate sanitation facilities and garbage disposal services also place extra burden on women. The high incidence of water- and sanitation-related disease negatively impacts on women who are responsible for nursing sick family members.

The program will directly and indirectly benefit men and women in the participating towns of Sindh Province. Improvements in the quality, coverage, and reliability of water supply, sewerage, and SWM services will have a particularly positive impact on women in program areas. As women are the primary users of these basic urban services, gender concerns will be mainstreamed in the customer complaint mechanisms; community outreach and consultations; public accountability mechanisms; and urban service company governance. Women are key to raising awareness of safe hygiene practices, as they are responsible for domestic duties and for developing safe and hygienic habits of children. A gender action plan will guide this mainstreaming.

2. **Key Actions.** Measures included in the design to promote gender equality and women's empowerment—access to and use of relevant services, resources, assets, or opportunities and participation in decision-making process:

- Gender plan     Other actions/measures     No action/measure

A gender action plan has been prepared which sets out the key areas for mainstreaming gender into the program.

### III. SOCIAL SAFEGUARD ISSUES AND OTHER SOCIAL RISKS

Issue	Significant/ Limited/ No Impact	Strategy to Address Issue	Plan or Other Measures Included in Design
<b>Involuntary Resettlement</b>	Limited Impact	Subprojects are not anticipated to have significant land acquisition and resettlement (LAR) impacts. A land acquisition and resettlement	<input type="checkbox"/> Full Plan

		framework (LARF) has been prepared. Under tranche 1, short land acquisition and resettlement plans (LARPs) have been prepared for three landfill sites and a due diligence report for a fourth site. No LAR impacts are anticipated for the water supply and wastewater subprojects under tranche 1.  Specific LAR impacts of tranche 2–5 subprojects are not yet known, but they will be similar to those in tranche 1. The LARF will be relevant to all subsequent tranches. Appraisal of successive periodic financing requests (PFRs) will require preparation of LARPs for all subprojects with LAR impacts.	<input checked="" type="checkbox"/> Short Plan <input checked="" type="checkbox"/> LARF <input type="checkbox"/> No Action
<b>Indigenous Peoples</b>	No Impact	ADB's Policy on Indigenous Peoples will not be triggered by the program. Tribal communities existing outside the cultural and legal mainstream of Pakistan society are not present in the SCIP areas. Religious minorities (Hindu upper and scheduled castes and Christians) are present in program areas, but are not anticipated to be negatively impacted.	<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input type="checkbox"/> Indigenous Peoples Framework <input checked="" type="checkbox"/> No Action
<b>Labor</b> <input checked="" type="checkbox"/> Core labor standards	No Impact	Civil works contracts will adhere to applicable labor laws and regulations. Loan assurances include provisions against differential payment between men and women for work of equal value and against child labor.	<input type="checkbox"/> Plan <input checked="" type="checkbox"/> Other Action <input type="checkbox"/> No Action
<b>Affordability</b>	No Impact	Households are already paying significant amounts for water supply from alternative sources to piped systems. Socioeconomic surveys demonstrate households are willing to pay significantly more than current tariffs for improved service. Willingness to pay will be monitored. A low-income consumer unit will develop strategies for affordability. Introduction of properly managed piped-water systems will be more cost-effective and affordable over time.	<input checked="" type="checkbox"/> Action <input type="checkbox"/> No Action
<b>Other Risks and/or Vulnerabilities</b>	Limited Impact	Political instability and civil unrest in Sindh Province may hinder timeliness of the Investment Program's implementation. The multitranche financing facility modality provides some flexibility in investment timing to accommodate such risks.	<input type="checkbox"/> Plan <input type="checkbox"/> Other Action <input checked="" type="checkbox"/> No Action
<b>IV. MONITORING AND EVALUATION</b>			
Are social indicators included in the design and monitoring framework to facilitate monitoring of social development activities and/or social impacts during project implementation? <input type="checkbox"/> x Yes <input type="checkbox"/> No			

<sup>a</sup> Government of Pakistan. 2003. *Poverty Reduction Strategy Paper*. Islamabad

<sup>b</sup> Sindh's recent economic performance closely tracks the overall performance of Pakistan. While the latest provincial growth data is not available. Sindh's economy has been impacted by the same adverse international and domestic factors affecting the national economy.

<sup>c</sup> Government of Pakistan. 2005. *Pakistan Social and Living Standards Measurement Survey 2004-2005 Provincial/District*. Islamabad.

<sup>d</sup> Jamal, Harron, Amir Jahan Khan, Imran Ashraf Toor, and Naveed Amir. 2003. *Mapping the Spatial Deprivation in Pakistan*. Islamabad.

<sup>e</sup> The poverty level is measured as PRs749 per person per month.

<sup>f</sup> Government of Pakistan. 2006. *Labor Force Survey 2005-2006*. Islamabad.

## SUMMARY LAND ACQUISITION AND RESETTLEMENT FRAMEWORK

### A. Background

1. The Sindh Cities Improvement Investment Program (SCIP or the Investment Program) is financed by the Asian Development Bank (ADB) through a multitranche financing facility (MFF). Each tranche of the MFF includes several subprojects to support the improvement of urban service delivery in selected towns of Sindh Province. The MFF appraisal will include the appraisal of the first loan tranche supporting urban planning, institutional reforms, program implementation support, plus complementary water supply, wastewater, and solid waste infrastructure investments in the urban areas of Khairpur, Larkana, New Sukkur, Rohri, Shikarpur, and Sukkur.

2. The sanitary landfill subprojects under tranche 1 are anticipated to have non-severe land acquisition and resettlement (LAR) impacts. Three short land acquisition and resettlement plans (LARPs) and one land acquisition and resettlement due diligence report (LARDDR) have been prepared for three sites. No LAR impacts are anticipated for the water supply and wastewater subprojects under tranche 1. The potential LAR impact of subprojects under tranches 2–5 cannot as yet be ascertained. However, subprojects will be similar to those in tranche 1 and subject to the provisions of the LARF prepared for the Investment Program. ADB's *Policy on Indigenous Peoples* (1998) will not be triggered by the Investment Program.

### B. General Procedures

3. LAR measures under the Investment Program will follow the applicable laws and regulations of Pakistan and Sindh Province, as well as ADB's *Involuntary Resettlement Policy* (1995) and *Operations Manual (OM) Section F2/OP & BP 2006*. The appraisal of the MFF and each tranche and the approval of each subproject with LAR impacts will require preparation of the following documents:

- (i) The LARF for the MFF applicable to all subprojects. The existing LARF will be reviewed, if necessary, updated, and resubmitted for ADB and the Government's approval as a condition to approve each new tranche under the MFF.
- (ii) The initial poverty and social assessment for each of the Investment Program's tranches, indicating if LAR impacts are likely to occur, their type, likely magnitude, and whether any indigenous peoples may be affected.
- (iii) For each subproject under a tranche requiring LAR, either a LARDDR or a LARP based on detailed design. The LARDDR, to be prepared for subprojects where the ADB policy on involuntary resettlement will not be triggered (para. 5), will provide detailed information on how land has been acquired. The LARP, to be prepared when the ADB policy on involuntary resettlement is triggered, will detail the compensation and/or rehabilitation plan to be implemented before civil works begin.

4. As per ADB policy and practice, the MFF, each tranche appraisal, and the approval of the start of a subproject's civil works will be based on the following LAR-related conditionalities:

- (i) The MFF and first-tranche appraisal: Conditional to the preparation of (a) a LARF for the MFF acceptable to ADB, and (b) separate LARPs and/or due diligence reports for all subprojects requiring LAR included in tranche 1.
- (ii) Following tranche appraisals: Conditional to (a) review and/or update LARF (if necessary), and (b) preparation for each project with LAR of a LARP and/or LARDDR fitting the revised LARF.

- (iii) Provision of notice to proceed to the subproject contractors: Conditional to the full implementation of the LARP for each relevant subproject. Such a condition will be clearly explained in the text of the civil works contract, including satisfactory rehabilitation of all private, communal, and public infrastructures that may be damaged during the course of the subproject's implementation.

### **C. Land Acquisition Modalities and Application of ADB Policy**

5. There are two modes for land acquisition available under the Investment Program:
  - (i) **Mode 1:** acquisition of unoccupied Government-owned land for a negotiated price or agreed transfer arrangements between the parties concerned; and
  - (ii) **Mode 2:** involuntary land acquisition under the Land Acquisition Act, 1894, through the provincial Board of Revenue and/or the district's land acquisition collector (LAC) concerned.
6. Mode 1 is adopted for the acquisition of land for facilities and neither requires the right of eminent domain nor triggers ADB's *Involuntary Resettlement Policy*. Mode 2 is subject to the preparation and implementation of LARPs as required under ADB policy and indicated in section D.
7. Based on the above, ADB will approve the selection of subprojects with land acquired under mode 1 based on a LARDDR clearly documenting (i) government ownership of the land; and (ii) evidence that the acquired plot is not rented, encroached, or encumbered.

### **D. LARP Preparation and Implementation**

8. Project-specific resettlement issues have been addressed to assist non-titled persons and bridge the gap between existing practice and the main guidelines of the ADB policy on involuntary resettlement. To reconcile inconsistencies between the Pakistan Land Acquisition Act of 1894 and the ADB policy, the Government of Sindh has drafted a LARF for the Investment Program guiding the preparation and implementation of LARPs. It ensures compensation at replacement cost of all adverse impacts and the provision of subsidies or allowances for affected households that may be relocated, suffer business losses, or be vulnerable or severely affected.
9. **LARF Eligibility and Entitlements.** The LARF determines the eligibility and entitlement of affected persons (APs), as outlined in the entitlement matrix in Table A15.

**Table A15: Entitlement Matrix**

Assets Lost	Specification	Affected Persons	Compensation entitlements
Residential and/or commercial land		Owner (legal and/or legalizable)	<ul style="list-style-type: none"> <li>▪ Cash compensation at replacement cost plus 15% compulsory acquisition surcharge free of taxes, registration and transfer costs; or</li> <li>▪ Land for land compensation through provision of plots of comparable value and location as lost asset.</li> </ul>
		Renter and/or leaseholder	<ul style="list-style-type: none"> <li>▪ Cash compensation equivalent to 3 months rent or value proportionate to duration of remaining lease.</li> </ul>
		Encroacher	<ul style="list-style-type: none"> <li>▪ Self-relocation allowance covering 1 year of agricultural income; or</li> <li>▪ Provision of a plot (in property or leased) in public resettlement area.</li> </ul>
Agricultural land, including cultivable land and uncultivable wasteland	All land losses irrespective of impact severity	Owner	<ul style="list-style-type: none"> <li>▪ Cash compensation at replacement cost plus 15% compulsory acquisition surcharge, free of taxes, of registration and transfer costs; or</li> <li>▪ Land for land compensation through provision with plots of equal value and productivity as lost asset.</li> </ul>
		Sharecropper and/or tenant (registered or not)	<ul style="list-style-type: none"> <li>▪ Cash compensation equal to market value of share of lost harvests: two if permanent, one if temporary loss.</li> </ul>
		Lease tenant (registered or not)	<ul style="list-style-type: none"> <li>▪ Cash equivalent of market value of gross yield of lost land for the remaining lease years (up to maximum of 3 years).</li> </ul>
		Encroacher	<ul style="list-style-type: none"> <li>▪ Rehabilitation allowance equal to market value of harvest of lost land for 1 year (<i>rabi</i> and <i>kharif</i>) in addition to standard crop compensation.</li> </ul>
	Additional provision for severe impacts (> 10% of cultivable land lost)	Owner and/or lease tenant	<ul style="list-style-type: none"> <li>▪ One severe impact allowance equal to market value of harvest of lost land for 1 year (<i>rabi</i> and <i>kharif</i>) plus standard crop compensation.</li> </ul>
		Sharecrop tenant	<ul style="list-style-type: none"> <li>▪ One severe impact allowance equal to market value of share of one harvest.</li> </ul>
		Encroacher	<ul style="list-style-type: none"> <li>▪ One severe impact allowance equal to the market value of gross harvest of the lost land for 1 year (<i>rabi</i> and <i>kharif</i>).</li> </ul>
Residential, commercial structures		Owner of structure, including encroacher	<ul style="list-style-type: none"> <li>▪ Cash compensation at full replacement cost for affected structure and other fixed assets free of salvageable materials, depreciation, transaction cost, and transportation cost; or, if partial loss, full cash assistance to restore remaining structure.</li> </ul>
		Renter and/or leaseholder	<ul style="list-style-type: none"> <li>▪ Cash compensation equivalent to 3 months rent or value proportionate to duration of remaining lease.</li> </ul>
Community Assets			<ul style="list-style-type: none"> <li>▪ Rehabilitation, substitution, or cash compensation at full replacement cost of affected structures and utilities.</li> </ul>
Businesses		All APs so affected	<ul style="list-style-type: none"> <li>▪ Cash compensation equal to 6 months of income; or, if temporary, cash compensation equal to income during interruption period.</li> </ul>
Employment		All APs so affected	<ul style="list-style-type: none"> <li>▪ Indemnity for lost wages for the period of business interruption up to a maximum of 3 months.</li> </ul>
Crops	Affected crops	Cultivator of crop	<ul style="list-style-type: none"> <li>▪ Crop compensation in cash at full market rate for 1 year of agricultural income (both <i>rabi</i> and <i>kharif</i> harvests); if sharecrop tenancy, compensated according to shares</li> </ul>
Trees	All affected trees	Cultivator household	<ul style="list-style-type: none"> <li>▪ Fruit trees: compensation to reflect income replacement. Wood trees: compensation to reflect market value of tree's wood content.</li> </ul>

Assets Lost	Specification	Affected Persons	Compensation entitlements
Relocation	Transport and transition costs	All APs to be relocated	<ul style="list-style-type: none"> <li>▪ Provision of allowances to cover transport costs on actual cost basis at current market rates.</li> </ul>
Vulnerable AP livelihood		Poor and/or widows households	<ul style="list-style-type: none"> <li>▪ Lump sum assistance allowance in cash, if AP's vulnerability is exacerbated due to project impact.</li> </ul>
Unidentified Losses	Unanticipated impacts	All APs	<ul style="list-style-type: none"> <li>▪ Dealt with as appropriate during subproject implementation according to the Asian Development Bank policy.</li> </ul>

AP = affected person,

Source: Asian Development Bank.

10. **Institutional Responsibilities.** As the Investment Program's Executing Agency, Sindh's Planning and Development Department (P&DD) will have responsibility for overall strategy, technical appraisal, and provision of counterpart finances, including LAR finances. P&DD will oversee the subprojects' compliance with the LARF through a program support unit (PSU). Concerning land acquisition and resettlement, the PSU will be entrusted with tranche appraisal coordination, interagency liaison, internal monitoring, and finance administration. LARP preparation functions will be initiated by PSU until each urban services corporation (USC) is sufficiently established. Land acquisition and resettlement tasks within the PSU will be carried out by a qualified safeguards officer, reporting to the PSU program director. Under the first tranche of the Investment Program, the North Sindh Urban Services Company (NSUSC) will be established, and in the context of the Investment Program, will function as an implementing agency.<sup>1</sup>

11. When NSUSC capacity for LAR is sufficiently established,<sup>2</sup> NSUSC will assume from the PSU the LAR implementation tasks under Parts B and C of the Investment Program, including social and environmental safeguards tasks assigned to a safeguards cell within NSUSC or another USC. The safeguards cell will be responsible for the preparation and implementation of all LAR-related tasks, including updating the LARF (if needed), preparing and implementing the LARPs, carrying out liaison functions with the district revenue offices and other relevant government offices, handling first-instance compliance and grievances, and delivering all compensation and assistance for non-land, crops, or trees losses to the APs. The district officer (revenue), as the LAC, and local-level revenue staff (*Mukhtiarkar* at the taluka level and *Tapardar* at the *tapa* level) verify and validate LARPs and compensation rates and deliver to the APs compensation for land, crop, and tree losses. Various provincial government line agencies determine compensation rates different from land. The office of the *taluka nazim* will play a coordinating role and the elected taluka councilors will represent the rights of the local citizens on grievance committees.

12. **Disclosure and Public Consultation.** APs as well as relevant government agencies will be involved in consultations on APs' needs and preferences for compensation or rehabilitation measures. Key information in the LARF, including the entitlement matrix, will be translated into Sindhi and disclosed to APs in the NSUSC, other USC, TMA, and local unions council offices. A Sindhi information pamphlet summarizing the LARP will be provided to all APs requiring translation. An information pamphlet summarizing the LARF in Sindhi will be made available to the communities.

<sup>1</sup> Under subsequent Investment Program tranches, similar urban services corporations (USCs) will be established and will assume the same responsibilities for LAR.

<sup>2</sup> The NSUSC safeguards cell will be set up within the initial 3 months of loan effectiveness and supported intermittently by an international resettlement consultant. Social and environmental safeguards tasks will be assigned to this safeguards cell under the capital works unit, comprising two permanent staff experienced in land acquisition and resettlement and environmental protection.

13. **Grievance Procedure.** Initially, an aggrieved AP will address the safeguards cell of NSUSC or other USC, whose officers will strive for an informal settlement within 10 days from lodging of the complaint. If the complaint cannot be settled, the grievance will be referred to the Grievance Committee comprising the Mukhtiarkar and Tapadar of the relevant taluka and tapa, the elected taluka councilor of the respective tapa, the Taluka officer infrastructure and services of the concerned TMA, the social safeguards officer of the safeguards cell of NSUSC or other USC, as well as the social safeguards consultant hired under the Investment Program. Within 30 days the committee will discuss the matter and refer land and crop compensation related grievances to the LAC and/or district officer (revenue), or grievances pertaining to all other types of assets and incomes to the NSUSC or other USC safeguards cell, and obtain a resolution. If the complaint still remains unresolved, it can be re-lodged by the AP within 1 month of the LAC or safeguards cell decision with the Grievance Committee, which refers it to the management of NSUSC, or subsequent USC. The AP must produce all relevant documents supporting his or her claim. The Management of NSUSC or other USC, will rule on the issue(s) within 21 days of its re-lodging with the Grievance Committee. The NSUSC's or other USC's decision must be in compliance with the provisions of the LARF. If the grievance redress mechanism fails to satisfy the aggrieved AP, he or she can submit the case to the appropriate court of law as set out in sections 18 to 22 of the Land Acquisition Act (1894).

14. **Monitoring and Evaluation.** NSUSC, or subsequent USC, assisted by the design and supervision consultant, will monitor LARP implementation internally and report to ADB in quarterly project implementation reports. An external monitoring organization will be tasked with external monitoring (once, if subproject LARP implementation is under 6 months, biannually otherwise) as well as post-project evaluation. It will provide external monitoring reports as well as an evaluation report to the USC, P&DD's program support unit, and ADB.

15. **Finances and Schedules.** The LARF mandates that each LARP will provide a detailed budget and a schedule linking LAR tasks and disbursement of compensation with the initiation of civil works.

#### **E. Indigenous Peoples Issues**

16. Indigenous people, i.e. tribal communities, existing outside the cultural and legal mainstream of Pakistan society, are not present in the area of the Investment Program. Therefore, the ADB Policy on Indigenous People will not be triggered by the subprojects under the Investment Program.

#### **F. Specific Land Acquisition and Resettlement Plans**

17. LARPs for tranche 1 have been prepared for the sanitary landfill sites at Khairpur, Rohri, and Shikarpur. An LARDDR has been prepared for the landfill site at Larkana.