



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

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Project Number: 39305  
September 2009

Proposed Sector Development Program Loans and  
Technical Assistance Grant  
People's Republic of Bangladesh: Urban Public and  
Environmental Health Sector Development Program

Asian Development Bank



## CURRENCY EQUIVALENTS

(as of 2 September 2009)

Currency Unit	–	taka (Tk)
Tk1.00	=	\$0.01448
\$1.00	=	Tk69.06

## ABBREVIATIONS

ADB	–	Asian Development Bank
BCS	–	Bangladesh Civil Services
CCPIU	–	city corporation program implementation unit
CDM	–	clean development mechanism
EIRR	–	economic internal rate of return
ICB	–	international competitive bidding
IPDP	–	indigenous peoples development plan
LGD	–	Local Government Division
MDG	–	Millennium Development Goal
MOEF	–	Ministry of Environment and Forests
MOF	–	Ministry of Finance
MOFDM	–	Ministry of Food and Disaster Management
MOHFW	–	Ministry of Health and Family Welfare
MOI	–	Ministry of Industry
MOLGRDC	–	Ministry of Local Government, Rural Development and Cooperatives
MSWM	–	municipal solid waste management
NCB	–	national competitive bidding
NGO	–	nongovernment organization
NPSC	–	national program steering committee
NUPEHC	–	national urban public and environmental health committee
PHC	–	primary health care
PSP	–	private sector participation
SDP	–	sector development program
STS	–	Secondary and/or small transfer station
TA	–	technical assistance
UGIIP	–	Urban Governance and Infrastructure Improvement Project
ULB	–	urban local body
UPEHSDP	–	Urban Public and Environment Health Sector Development Program
UPEH	–	urban public and environmental health
UPEHU	–	urban public and environmental health unit
UPHCP	–	Urban Primary Health Care Project

## NOTES

- (i) The fiscal year (FY) of the Government and its agencies ends on 30 June. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2009 ends on 30 June 2009.
- (ii) In this report, "\$" refers to US dollars.

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## LOAN AND PROGRAM SUMMARY

<b>Borrower</b>	People's Republic of Bangladesh
<b>Classification</b>	<p>Targeting classification: Targeted intervention (Millennium Development Goals)</p> <p>Sector (subsectors): Water supply and other municipal infrastructure and services (waste management, urban sector development, health programs, health systems)</p> <p>Themes (subthemes): <b>Social development</b> (human development), environmental sustainability (environmental policy and legislation), capacity development (institutional development), gender equity (gender equity in human capabilities)</p> <p>Climate change: Climate change mitigation</p> <p>Location impact: Urban (high)</p> <p>Partnerships: World Health Organization for technical collaboration</p>
<b>Environment Assessment</b>	Category B. An initial environmental examination for the project loan and an environment assessment of the policy actions under the program loan were undertaken.
<b>Rationale</b>	<p>Rapidly urbanizing Bangladesh has one of the highest population densities in the world. Crowded and poor hygienic living conditions have increased the vulnerability of urban poor people to economic shocks from ill-health. A burgeoning urban population is only going to make the situation for public and environmental health more challenging. Urban local bodies that are mandated to provide public and environmental health-related services have limited institutional and financial capacities. Nationally, the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (MOLGRDC) needs to take a stronger stewardship role in urban public and environmental health (UPEH). The Government of Bangladesh needs to make use of various instruments at its disposal—such as regulations, taxation, information, and investments—to address the growing challenges of UPEH with the help of the private sector and civil society.</p> <p>A sector development program (SDP) is proposed to address a wide range of complex but interlinked UPEH challenges. The Asian Development Bank (ADB) in many ways is uniquely placed to help the Government address these daunting multidimensional challenges. The SDP builds on more than a decade of ADB's strong engagement in urban development in Bangladesh, and makes a concerted effort to mainstream valuable lessons learned and good practices which have evolved from ADB-supported projects, such as urban governance and infrastructure improvement projects and urban primary health care projects.</p>
<b>Program Impacts and Description</b>	The overall impact of the Urban Public and Environmental Health Sector Development Program (UPEHSDP) is to improve the public and environmental health conditions in the urban areas of

Bangladesh, particularly in the six city corporations (Barisal, Chittagong, Dhaka, Khulna, Rajshahi, and Sylhet). The successful implementation of the UPEHSDP will help reduce child mortality and morbidity by reducing the prevalence of waterborne and food-related diseases, increase productivity by reducing overall morbidity, and improve the quality of life of urban inhabitants. UPEHSDP will improve the health status of the poor in urban areas and assist Bangladesh to make progress on the Millennium Development Goals (MDGs) relating to child and maternal health care and communicable diseases (MDGs 4, 5, and 6), and improve urban sanitation (MDG 7). The program and project loans under the UPEHSDP are designed to complement each other in achieving progress towards these key goals.

## **The Program Loan**

### **Outcomes**

The reforms under the program loan will help achieve the sustainable provision and operation of improved public and environmental health services in urban areas, including the six city corporations and the *pourashavas* (towns other than six city corporations). The reforms include (i) strengthening institutional arrangements, (ii) improving financial sustainability, (iii) improving public and environmental health service delivery, and (iv) strengthening governance and management.

### **Loan Amount and Terms**

The Government has requested a loan equivalent to SDR 44,895,000 (\$70 million equivalent) from ADB's Special Funds resources (Asian Development Fund) to help finance the program. The loan will have a term of 24 years, including a grace period of 8 years, with an annual interest charge of 1.0% per annum during the grace period and 1.5% per annum thereafter.

Policy measures are expected to generate cost savings of \$326 million, which is much higher than the estimated program budget adjustment costs and compensatory measures of about \$70 million.

### **Estimated Program Completion Date**

The program implementation period is from December 2009 to December 2016.

### **Tranches**

The loan proceeds will be available for withdrawal in three tranches—\$30 million, \$20 million, and \$20 million equivalent—upon compliance with the agreed conditions for first, second, and third tranches respectively. The first tranche will be released upon loan effectiveness or shortly thereafter, subject to compliance with all first tranche conditions (expected before 31 December 2009); the second tranche will be released upon compliance with the second tranche release conditions (expected before 31 December 2011); and the third tranche upon compliance with the third tranche release conditions (expected before 31 December 2013). The tranche release conditions are set out in the policy matrix (Appendix 4).

<b>Executing Agencies</b>	<p>The executing agencies will be the Finance Division of the Ministry of Finance and the LGD of the MOLGRDC. The city corporations of Barisal, Chittagong, Dhaka, Khulna, Rajshahi, and Sylhet will be the implementing agencies for certain activities as specified in the policy matrix.</p>
<b>Implementation Arrangements</b>	<p>The national urban public and environmental health committee chaired by the minister of the MOLGRDC will meet at least once a year to provide overall stewardship, enable strong interministerial coordination, and ensure greater involvement in and ownership of the UPEHSDP by mayors of the six city corporations. The national program steering committee to be chaired by the secretary of the LGD will ensure that policies and programs concerning UPEH are coordinated and program impediments resolved. The urban public and environmental health unit (UPEHU), to be established under the LGD, will be the secretariat to the national program steering committee. The program director of at least joint secretary rank will head the UPEHU and will be assisted by three deputy program directors of deputy secretary level for (i) program implementation (on deputation, preferably from the Bangladesh Civil Services [BCS] administration cadre), (ii) financial management and municipal finance (on deputation, preferably from BCS audit and accounts cadre), and (iii) policy reform and capacity development (on deputation, preferably from the BCS economic cadre). The UPEHU will be responsible for day-to-day UPEHSDP implementation. Additional technical policy personnel will be seconded from ministries, including the Ministry of Health and Family Welfare, Ministry of Environment and Forests, Ministry of Food and Disaster Management, as appropriate, or hired from the market. The city corporation UPEH coordination committees will be chaired by the city corporation mayors.</p> <p>The chief executive officers of the city corporations will be the program managers. Ward UPEH coordination committees will be chaired by local commissioners/councilors and co-chaired by zonal health and/or conservancy officers (where available) and female commissioners/councilors, with a membership that represents all local stakeholders, including informal settlers. City corporation program implementation units (CCPIUs) will be established in each of the six city corporations. The CCPIUs will consist of city corporation staff concerned with public and environmental health, including the conservancy officer and the health officer, and personnel recruited by the UPEHU and assigned to the CCPIU, including a procurement specialist, an accountant, and a civil engineer. Technical personnel from the consultant teams will also be assigned to work with the CCPIU staff to help implement subprojects and to transfer implementation capabilities to the CCPIU team.</p>
<b>Procurement</b>	<p>The loan proceeds will be used to finance the foreign exchange cost (excluding local duties and taxes) of items produced and procured in ADB member countries, excluding ineligible items and imports</p>

financed by other bilateral and multilateral sources.

### **Counterpart Funds**

The Government will use the counterpart funds generated by the program loan, under arrangements satisfactory to ADB, to support sector reforms and meet the adjustment costs associated with the loan.

### **The Project Loan**

#### **Outcomes**

The project will improve access to and use of effective, efficient, and sustainable quality UPEH systems and practices in the six city corporations of Barisal, Chittagong, Dhaka, Khulna, Rajshahi, and Sylhet. It will strengthen sustainable UPEH systems with improved municipal solid waste and medical waste management, food safety, and capacity of the LGD and city corporations for public and environment health.

#### **Outputs**

The project will cover the six city corporations, which cover 34% of all urban areas in Bangladesh as per the 2001 census (10.3 million population in the six city corporations out of the total urban population of 31.0 million).

**Component A: Solid Waste Management.** The solid waste management component will have two subcomponents: (i) municipal solid waste management, and (ii) medical waste management. The municipal solid waste management component complements the establishment of a national strategy and planning framework under the program loan, with infrastructure investments to improve the efficiency of municipal solid waste management services including primary collection for urban poor, secondary collection and transportation, and integrated waste treatment facilities. The component also includes, among others, educational campaigns to encourage the 3Rs (reduce, reuse, and recycle) and source segregation of waste.

**Component B: Food Safety.** Under the food safety component, two subcomponents will be supported by the project: (i) food laboratories and a training center, and (ii) modern slaughterhouses. Two food laboratories will be constructed, one each in Dhaka and Chittagong. The Dhaka laboratory will have an additional training center component. Modern slaughterhouses will be established in each of the six city corporations for preparation and processing of standard quality meat and meat products and other economic by-products.

**Component C: Program Management, Institutional Support, and Capacity Development.** This component will consist of three subcomponents: (i) program management and implementation support, (ii) financial management and municipal finances strengthening, and (iii) policy reform and capacity development support. Subcomponent (i) will assist the UPEHU in implementing, monitoring, and supervising the program. Subcomponent (ii) will

strengthen financial management and municipal finances of the city corporations. Subcomponent (iii) will support policy reforms, behavior change communication, and pro-poor surveys.

## **Project Investment Plan**

The project is estimated to cost \$80 million (including the contribution of the Government), including taxes, duties, interest charges on the ADB loan, and physical and price contingencies.

## **Financing Plan**

ADB will provide SDR 38,482,000 (\$60 million equivalent), which is 75% of the total project cost. The Government will finance the equivalent of \$20 million, or 25% of the total project cost, including taxes and duties, resettlement costs, land acquisition, remuneration for counterpart staff, office accommodation, part of the civil works, and other miscellaneous costs. ADB will finance the costs of civil works, safeguard compliance, consulting services, training and capacity development, project operations and maintenance, and financial charges during implementation.

The financing plan of the Program and the Project are as follows:

<b>Financing Plan</b> (\$ million)				
<b>Source</b>	<b>Program</b>		<b>Project</b>	
	<b>Total</b>	<b>%</b>	<b>Total</b>	<b>%</b>
Asian Development Bank <sup>a</sup>	70.0	100	60.0	75
Government of Bangladesh			20.0	25
<b>Total</b>	<b>70.0</b>	<b>100</b>	<b>80.0</b>	<b>100</b>

<sup>a</sup> Asian Development Fund.

Source: Asian Development Bank estimates.

## **Cost Estimates**

The Project is estimated to cost \$80.0 million, including taxes and duties of \$1.7 million.

## **Loan Amount and Terms**

The loan will have a term of 32 years, including a grace period of 8 years and an interest charge of 1.0% per annum during the grace period and 1.5% per annum thereafter. The Government will contribute the equivalent of \$20 million as counterpart funds for land acquisition, taxes and duties, part of civil works, and recurrent costs.

## **Period of Utilization**

December 2009 to June 2017

## **Estimated Project Completion Date**

December 2016

## **Executing Agency**

Local Government Division of the Ministry of Local Government, Rural Development and Cooperatives

## **Implementation Arrangements**

The LGD of the MOLGRDC will be the Executing Agency for the Project. The implementing agencies will be the six city corporations. The UPEHU, national program steering committee, the national urban public and environmental health committee, and CCPIUs

established under the Program will undertake their respective roles and functions in respect of the Project. The investment projects under the SDP and the required technical and management assistance for these projects will continue to be supported through project funding.

## **Procurement**

Procurement of all goods and services to be financed under the Project will be carried out in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). All civil works contracts estimated to cost the equivalent of \$1 million or more will be procured through international competitive bidding. Civil works contracts estimated to cost less than \$1 million will be procured using national competitive bidding (NCB). To the extent practicable, goods will be grouped into procurement packages larger than \$500,000 to be suitable for international competitive bidding procedures. Goods that cannot be grouped into larger contracts and are estimated to cost less than \$500,000 per contract will be procured through NCB. A third-party, pre-shipment inspection provision will be adopted to ensure quality of goods and equipment. NCB procedures applicable to the Project are specified in the Government's *Public Procurement Rules 2008*, (once the Public Procurement Rules 2008 in English are formally adopted) and the procurement plan. Miscellaneous minor goods expected to cost less than the equivalent of \$100,000 will be purchased using shopping procedures. NCB packages valued at more than \$100,000 each will be subject to prior review by ADB.

## **Consulting Services**

Consultants will be selected and engaged under the Project in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). Three international consultant firms will be engaged following ADB's quality- and cost-based selection procedures. An international consulting firm will be engaged as the design supervision and construction consultants (52 person-months of international and 308 person-months of national experts). One international consulting firm will be engaged as financial management and municipal finance consultants (15 person-months of international and 178 person-months of national experts). For policy and miscellaneous capacity development support, one international consultant firm will be engaged as program support consultants (12 person-months of international and 114 person-months of national experts).

## **Program and Project Benefits and Beneficiaries**

The UPEHSDP will contribute to human development through improvements in the living conditions of residents in the project cities. This will be through investments and policy reforms to improve public and environmental health, citizen participation, and pro-poor targeting. The program component introduces specific pro-poor strategies including the issuance of entitlement cards. The project component will improve municipal solid waste and medical waste management and food safety in the project cities, benefiting both poor and non-poor. Solid waste management investments

include community-based primary collection services in urban poor areas. A community participation plan aims to enhance citizen involvement in project activities through service delivery alliance—a multistakeholder group consisting of civil society representatives, resource organizations, nongovernment organizations, community-based organizations, and private sector providers. The community participation plan will create local awareness campaigns to educate and inform the poor on health and hygiene, and proactively include waste pickers into project activities as part of the waste pickers training program. A gender action plan will mainstream gender throughout the program and project investments and enhance participation and capacity of women in UPEH initiatives. The project component supports MDGs, specifically reduction of child mortality (MDG 4), improving maternal health (MDG 5), combating malaria and other diseases (MDG 6), and ensuring environmental sustainability (MDG 7).

## **Risks and Assumptions**

Public and environmental health challenges are complex and daunting arising from rapid urbanization in a country where urban density is one of the highest in the world and where urban basic services need much improvement. The scale of challenges and the resources that are required to deal with them are immense. Political support might waver, as the outputs relating to public and environmental health are less tangible than when building roads and drains. These risks will be addressed through institutional reforms, participatory approaches and behavior change communication interventions.

The purpose of better interministerial coordination by the LGD is to access the core skills, knowledge, and professional staff of other line ministries so as to support and enable city corporations to effectively implement their mandates relating to public and environmental health. This is also to assist the LGD fulfill its role of providing national stewardship to city corporations and *pourashavas* (town other than the six city corporations). However, the interministerial coordination issues are always very sensitive and lead to territorial and jurisdictional tensions. This could lead to unwarranted tensions and distraction from the primary purpose of these coordination committees, i.e., improving the quality of life of urban inhabitants. This risk will have to be proactively addressed by the LGD by ensuring that (i) any apprehensions of the line ministries are addressed—the ministry that has a lead role continues to provide the lead on the issue—and, (ii) through regular interaction and coordination, no duplication takes place.

The other significant risk of the UPEHSDP is that, being a new program, the initial set-up required for establishing the UPEHU followed by hiring of various consultant firms normally take a long time. This would not only delay program implementation but also has the potential to delay the Program due to weak procurement and financial management systems. This will be addressed through

bridging technical assistance support explained further below.

**Technical Assistance**

The UPEHSDP by nature has greater challenges than either a pure program or a pure project, as it has both a policy reforms component (program) and an investment component (project). These two components require a diverse skills base. For the policy reforms component, expertise in policy, law, regulation, and municipal finances is required; the investment component will require engineering, procurement, financial management and audit, project performance monitoring, and information management skills. Both policy reforms and investment components will require specialists in solid waste, medical waste, food and water safety, and slaughterhouses. The technical assistance is an effort to mitigate the start-up delay risks, and enable the Project to start on a sound foundation.

The technical assistance will provide (i) expert procurement support to help the LGD and UPEHU hire the three consultant packages in a timely manner; (ii) expert institutional and financial management support to set up procedures and processes to strengthen financial management systems of the UPEHU and CCPIUs, and mitigate financial risks; (iii) expert support in municipal financing, institutional development, financial management, solid and medical waste, clean development mechanism, food and water safety, private sector participation, pro-poor targeting, citizens' participation, and gender mainstreaming for policy reform support; (iv) engineering design support in waste management and food safety to support the implementation of the investment component; and (v) limited support for training and local study tours.

# BANGLADESH URBAN PUBLIC AND ENVIRONMENTAL HEALTH SECTOR DEVELOPMENT PROGRAM



- Project Area
- National Capital
- Divisional Headquarters
- District Headquarters
- Town/Village
- National Highway
- Other Road

- Railway
  - River
  - District Boundary
  - Divisional Boundary
  - International Boundary
- Boundaries are not necessarily authoritative.



## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed program loan; and (ii) proposed project loan, both to Bangladesh, for the Urban Public and Environmental Health Sector Development Program. The report also describes proposed technical assistance (TA) for Capacity Development of Urban Public and Environmental Health, and if the Board approves the proposed loans, I, acting under the authority delegated to me by the Board, will approve the TA. The design and monitoring framework for the sector development program (SDP) is in Appendix 1.

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

### A. Sector Description and Performance

2. **Urbanization and the Urban Poor.** With a density of 2,756 people per square kilometer (km<sup>2</sup>) in urban areas and 843 people per km<sup>2</sup> overall, Bangladesh is the most densely populated country in the world (excluding a few city-states),<sup>1</sup> and also has the seventh-largest population. Bangladesh is urbanizing at a rapid pace and the country's urban population is expected to reach 89.5 million (from 39.5 million in 2005) by 2030.<sup>2</sup> The number of urban poor people has increased from 7 million in 1985 to 12 million in 1999,<sup>3</sup> and, according to one estimate, by 2020 the urban poor figure could be as high as 40%–60% of the urban population.<sup>4</sup> Recent surveys have found much higher infant and under-5 child mortality in the urban slums than in the urban non-slums.<sup>5</sup> The child illness and mortality indicators in urban areas are almost the same as in rural areas<sup>6</sup> and are much worse among the urban poor than among the rural poor. For example, the infant mortality rate in the poorest quintile in rural areas was 87.5 per 1,000 births, while in the poorest quintile of urban areas it was 111.9 per 1,000 live births; prevalence of acute respiratory infection is higher among the urban poor than the rural poor; and severe stunting among urban poor children is higher than among the rural poor children (Appendix 2 and Supplementary Appendix A).<sup>7</sup>

3. **Living Conditions and Ill-Health.** The reasons for the poor health of the urban poor are weak public and environmental health services, poor sanitation, poor nutrition, overcrowding and unhygienic living conditions, poverty, and lack of affordable primary health care (PHC) services, among others. About one-fifth of the disease burden in Bangladesh is associated with environmental factors. Two of the top three causes of death and sickness are respiratory illness and diarrheal diseases. Both of these are strongly associated with environmental factors and have significant impacts on the health of children. The urban populations in Bangladesh live in crowded and highly polluted environments resulting in high prevalence of bronchial asthma and other respiratory diseases. Poor sanitation, water pollution, and inadequate supply of drinking water have resulted in the persistence of communicable diseases, including diarrhea (dysentery,

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<sup>1</sup> National Institute of Population Research and Training. 2009. *Demographic and Health Survey, 2007*. Bangladesh. As per the latest survey estimates (2008), the population density is 1,001 per km<sup>2</sup>.

<sup>2</sup> National Institute of Population Research and Training (NIPORT) et al. 2008. *Bangladesh Urban Health Survey, 2006*. Bangladesh.

<sup>3</sup> Bangladesh Bureau of Statistics. 2003. *Report on the Household Income and Expenditure Survey*. Dhaka, Bangladesh.

<sup>4</sup> Anam S. 1993. *Staying Alive: Urban Poor in Bangladesh*. Dhaka: United Nations Children's Fund (UNICEF).

<sup>5</sup> The under-5 mortality rate for urban slums is 80.7 per 1,000 live births, which is more than double the rate in non-slum areas of 31.0 per 1,000 live births (footnote 2).

<sup>6</sup> National Institute of Population Research and Training. 2005. *Demographic and Health Survey 2004*. Dhaka.

<sup>7</sup> Gwatkin D.R. et al. 2007. *Socio-Economic Differentials in Health, Nutrition and Population: Bangladesh*. Health Nutrition and Population. Washington, DC: World Bank.

shigellosis, amoebiasis, giardiasis, etc.), gastroenteritis, skin diseases (scabies, ringworm, etc.), and respiratory tract infections (pneumonia).

4. **Urban Public and Environmental Health Mandates with Urban Local Bodies.** The local government ordinances entrust the urban local bodies (ULBs) with massive public and environmental health mandates, which include, among other things, waste management, sanitation, drinking water, food safety, and PHC delivery (Supplementary Appendix B). However, there is limited institutional and technical support at the national level for city corporations and *pourashavas* (towns other than the city corporations) to implement the public and environmental health mandates effectively. Likewise, the institutional capabilities within city corporation health and conservancy departments are weak. As the urban areas in Bangladesh continue to grow rapidly, urban public and environmental health (UPEH) issues are becoming bigger and more complex. Appropriate national institutional arrangements are necessary to provide stewardship to (i) ensure adequate attention is given to public and environmental health issues, (ii) set standards, and (iii) provide technical and financial support to the city corporations and *pourashavas*. Similarly, the institutional capabilities of city corporations to manage these complex public and environmental health challenges also need to be strengthened.

5. **Municipal Finances.** The resources allocated within the city corporations to public and environmental health aspects are inadequate. Most of the city corporations and *pourashavas* depend heavily on central grants to meet their local financial needs, as municipal finances are weak. Municipal financing is dominated by one tax source—property or holding tax—which contributes nearly two-thirds of total municipal revenue receipts. Even the full potential of property or holding tax collection is not fully realized as regular assessment is not done. Uncollected tax arrears, both from private and public taxpayers, are significant. As a result, it becomes difficult for city corporations and *pourashavas* to provide essential services and even pay staff salaries. Potential sources of revenue within the city corporations and *pourashavas* need to be realized so that the ULBs have additional revenue to meet growing urban and environmental health challenges. Financial management and budgeting in city corporations is also weak, and there is very little consistency in accounting practices. For sustainable public and environmental health initiatives, it is necessary to strengthen municipal finances and municipal financial management systems (Supplementary Appendix C).

6. **Legal Framework to Enable Public and Environmental Health and Need for Coordinated Effort.** The local government ordinances require the framing of rules and bylaws to make, among other things, public and environmental health provisions effective. As there is no national statute with regard to solid waste management (collection, disposal, and management), making rules under the provisions of the city corporations and *pourashava* ordinances may, for the time being, fill the gap which exists. There are innumerable laws governed by various national ministries that deal with public and environmental health, the implementation of which directly or indirectly falls under the purview of city corporations and *pourashavas*. To make these laws more effective, coordinated efforts are required among the different ministries at both national and ULB level (Supplementary Appendix D).

7. **Solid waste Management.** According to the National Policy for Safe Water Supply and Sanitation 1998, city corporations and *pourashavas* are responsible for solid waste collection, disposal, and management, and they are to set tariffs, enforce bylaws, and appoint staff. The amount of solid waste generated by the urban areas has expanded rapidly in recent years.<sup>8</sup> Although more than two-thirds of urban non-slum households dispose of their garbage through

<sup>8</sup> The challenge of solid waste management will become enormous by 2020, when the demand for removal of solid waste will rise to about 50,000 tons (t)/day from the present figure of about 15,000 t/day.

door-to-door collection (41%) or in a bin outside their house (27%), secondary waste collection and transportation remain major weaknesses in municipal solid waste management (Supplementary Appendix E). However, most slum households (58%) dispose of solid waste in open spaces, where primary collection also poses a major challenge. Few city corporations and *pourashavas* have solid waste sanitary landfills and only about half of the solid waste generated in urban areas is collected.<sup>9</sup> Unsanitary landfills contribute significantly to greenhouse gas emissions. In addition to direct adverse impacts on public and environmental health, the growing and uncontrolled disposal of solid waste contributes to increasing contamination of surface and groundwater. There is no national policy, strategy, or guideline for domestic, commercial, and industrial solid waste disposal. With respect to policy and regulatory actions, the city corporations and *pourashavas* need to adopt bylaws and improve capacity to plan and monitor the performance of solid waste services.

8. **Medical Waste Management.** About 36,000 tons of medical waste is generated every year in Bangladesh. Out of this, approximately 7,200 tons is hazardous (Supplementary Appendix F).<sup>10</sup> Various studies documented that medical waste management in government and nongovernment hospitals, clinics, and diagnostic laboratories is very poor.<sup>11</sup> There is no provision for proper segregation and collection of waste in the health care facilities,<sup>12</sup> and there is a shortage of equipment and materials required for the disposal of medical wastes. The wastes are frequently dumped in the dustbin, inside and outside hospital premises, or on the ground within the hospital premises, and they then become public waste. The Government has recently promulgated the Medical Waste (Management and Processing) Rules under the Bangladesh Environment Conservation Act, 1995. Under these rules, city corporations and *pourashavas* are responsible for the external transportation of general waste, treatment of hazardous waste, and provision of land for the proper and final disposal of medical waste. City corporations and *pourashavas* are to make provisions for collection, transportation, and proper disposal of medical waste, set tariffs, and adopt supporting bylaws to enforce the Medical Waste (Management and Processing) Rules. City corporations urgently need support to improve medical waste management systems to fulfill the mandates prescribed under the rules.

9. **Food and Water Safety.** Food contamination and adulteration with dangerous substances, colors, and chemicals are widespread in Bangladesh (Supplementary Appendix G). There are limited laboratories with the proper equipment, chemicals, and trained analysts or technicians to support detection of contamination and adulteration. City corporations and *pourashavas* are responsible for controlling food contamination and adulteration in their respective jurisdictions. Sanitary inspectors are employed to inspect food manufacturing, processing, and selling premises, as well as to collect food samples. There are too few sanitary inspectors—the foundation of the food safety system—(only 68 nationally to cover 6 city corporations and 309 *pourashavas*) and they are too poorly trained (there is no formal sanitary inspector training program or certificate of competency). There is only one food laboratory at Dhaka City Corporation, and it has inadequate equipment and chemicals, and is understaffed.

10. Unhygienic animal slaughter, handling, and transportation are significant problems in all city corporations and *pourashavas*. Animals are slaughtered in open places adjacent to wet

<sup>9</sup> Asian Development Bank (ADB). 2009. *Urban Sector and Water Supply and Sanitation in Bangladesh: An Exploratory Evaluation of the Programs of ADB and Other Aid Agencies*. Manila.

<sup>10</sup> World Bank. 2002. *Health Facility Waste Management Study in Bangladesh*. Dhaka.

<sup>11</sup> Directorate General of Hospital Services. Director (Hospitals and Clinics). 2006. *Medical Waste: Risk Assessment, Financial Analysis and Correlates*. Dhaka.

<sup>12</sup> Bangladesh generates approximately 0.78 kilograms (kg) per bed per day of medical waste. Of this, nonhazardous waste is 0.64 kg per bed per day (82%), infectious waste is 0.11 kg per bed per day (14%), and the sharp waste is 0.03 kg per bed per day (4%).

markets or on the roadside in areas without proper facilities, sanitation, or drainage. Meat production and marketing is not organized and is conducted in various places in the city without municipal control, supervision, or veterinary inspection of live animals or carcasses. All city corporations need to organize, supervise, and control the slaughtering of animals, production of meat and meat products, and the utilization and processing of by-products.

11. Water safety is another important issue. Although access to piped water has increased, the quality and safety of water supplied at the end-user point needs significant improvement through regular water testing and feedback to providers. The Department of Public Health Engineering is responsible for providing safe water to the population and having laboratories for testing water and testing the levels of arsenic and other hazardous substances in water. However, more samples need to be collected and checked at regular intervals.

12. **Urban Primary Health Care.** Bangladesh is one of the few countries in Asia that has significant public investments in urban PHC (through the Urban Primary Health Care Project [UPHCP]).<sup>13</sup> However, public investments need to be increased to match the rising demand. Moreover, the current project modes of investments need to be converted slowly into programs. The national project management unit and the city corporation project implementing units constituted under the Project need to be institutionalized. Part of the municipal revenue budget also needs to be allocated to the provision of essential PHC to the very poor urban residents.

13. **Gender and Development.** Despite recent gains in the role of women in economic and social development in Bangladesh, women still remain particularly vulnerable to poverty. In relation to solid waste, it is women who are mostly responsible for managing household waste, and who are mostly engaged in informal waste picking and recycling activities for livelihood dependence. Few women are involved in key decision-making efforts locally and within city corporations. Opportunities exist to equip women with proper training and equipment to become employed in the formal waste collection and recycling process and in other sectors in food safety and hospital waste management. This would ensure more stable employment as well as safer and healthier work conditions. More efforts are also needed to improve the role of women in local project planning and decision making.

## **B. Key Issues and Opportunities**

14. **Key Issues.** UPEH encompasses multisector and multidimensional interventions (Appendix 2). To maximize the development impact of health outcomes in urban areas, a comprehensive and concerted effort is required to (i) strengthen municipal public and environmental health governance (including institutions, policy, legal and regulatory framework, and financial capacity); (ii) strengthen food and water safety, and improve solid waste (including medical waste) management; and (iii) expand access to urban public, environmental, and PHC services, especially for the poor. Key crosscutting themes would be (i) mainstreaming private sector participation (PSP) to improve effectiveness and efficiencies and ensure value for money of public and environmental health interventions; (ii) ensuring that public expenditures address the public and environmental health priority needs of the urban poor; and (iii) that the proposed interventions are gender sensitive. The key issues are (i) the multisector nature of public and environmental health in the increasingly complex urban physical space; (ii) prioritizing investments that balance preventive, promotive, and public and environmental health care needs of the urban poor; (iii) ensuring the existence of strong institutional, policy, legal, and

<sup>13</sup> ADB. 2005. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Asian Development Fund Grant to the People's Republic of Bangladesh for the Second Urban Primary Health Care Project*. Manila.

regulatory environments for enforcing good public and environmental health practices; and (iv) building on the strengths of the private sector.

**15. Multidimensional Approach.** Governments have various instruments to enforce the “public and environmental health good,” which include taxation, regulation, investments, and use of information. The traditional pure investment approach to UPEH challenges is costly and less effective in the absence of strong institutions and effective regulation and taxation regimes. Strong taxation can have multiple benefits: it can be a deterrent to unwanted behavior (for example, dumping waste in public space), encourage better practices (recycling of waste), and improve municipal finances. Laws and regulations can prohibit practices that are detrimental to the public good, such as dumping hazardous wastes (medical wastes) by largely profit-making enterprises (e.g., private hospitals). With the availability of modern technology at affordable prices (cell phones, the internet, television, radio, and news media), the power of information has increased dramatically. However, the public sector has been slow in harnessing this power to fulfill its mandates. Well designed and targeted information campaigns have high potential to galvanize public opinion, and enable citizens' cooperation for issues that are considered to be public goods.

**16.** Taxation, laws, regulation, and information campaigns can prevent practices that otherwise impose heavy burdens on the public sector. Raising tax revenues, using information campaigns, and enforcing laws and regulations require a very efficient public sector, both at national and local levels. Nationally, the Government of Bangladesh needs to provide stewardship; locally, the ULBs need to assert their authority to discharge the responsibilities enshrined in the laws. The UPEH challenges that Bangladesh faces are massive. To address these challenges effectively, there is clearly need for significant enhancement of sustainable institutional strengthening both nationally and at the ULB level. UPEH also needs significantly increased financing of the critical subsectors, which needs to be addressed through a sustainable municipal financial framework. The approach should be to assess various gaps in regulation (legal) and enforcement, use taxation and other incentives (policy gaps) to promote better public and environmental health, and assess the effectiveness of various information dissemination mechanisms to promote public and environmental health in urban areas. Given the multidimensional nature of the issue, an SDP approach has been proposed.

**17. Focusing on Key Gaps.** Prevention and promotion are more cost-effective than treatment after onset of disease in ensuring desired health outcomes. However, prevention and promotion of health involves multisector approaches, including provision of sanitation and drinking water; ensuring environmental health, food safety, and hygiene (including safe disposal of solid and health care wastes); and health education. A number of development partners are providing support for different aspects, but the greater focus is on providing drinking water and sanitation (toilets and sewerage) (Appendix 3). The investments under this project will focus on critical investment gaps and hence limits to solid waste management and food safety. The Program, however, focuses on more significant gaps relating to institutions, municipal finances, policy, laws, regulations, and information dissemination. To bring all these interlinked interventions synergistically together, the national stewardship of the Local Government Division (LGD) for UPEH needs to be strengthened. This is one of the most important gaps that the Urban Public and Environment Health Sector Development Program (UPEHSDP) will address, and it will support this by creating an urban public and environmental health unit (UPEHU) under the LGD.

**18. Learning from Past Experiences and Scaling-Up Good Practices.** The innovative PSP developed under the UPHCP can be further scaled up and utilized in the efficient delivery

of other UPEH services. Similarly, pro-poor targeting through a PSP framework implemented under the UPHCP can also be further scaled up. Under the Urban Governance and Infrastructure Improvement Project (UGIIP),<sup>14</sup> the Government has introduced performance-based intergovernmental grant transfers in selected *pourashavas*, and these have proved effective in creating incentives for the *pourashavas* to improve their revenue generation and governance. Similarly, the practices to increase citizens' involvement in UGIIPs have also proved to be successful (Supplementary Appendix H). The SDP endeavors to mainstream these practices nationally through systematic programmatic interventions. The observations, lessons learned, and recommendations from the sector assistance program evaluation have also assisted in the design of the Program (footnote 9).

**19. Mainstreaming Private Sector Participation.** Various organizational and fiscal constraints have made ULBs ill-equipped to effectively manage municipal solid waste. A well-structured PSP for municipal solid waste management (MSWM) can bring private finances for modernizing MSWM, increase efficiencies of MSWM, enable cost saving and raise productivity, and improve the quality of services. However, ULBs need to change their role from that of a service provider to that of a services facilitator, simplify bureaucratic processes within traditional MSWM, and enable performance-based PSP (Supplementary Appendix I).

**20. Making Public Expenditure Work for the Poor.** A concentrated effort is needed to increase access to public and environmental health services by the poor and marginalized sectors of the urban population. The major challenge in reaching the urban poor is that there is no systematic identification of these people. Hence, the main challenge is to develop policies to systematically identify the urban poor, with the next challenge being to provide the identified urban poor with entitlement cards so that they can access targeted public services and subsidies. Under the UPHCP, various nongovernment organizations (NGOs) engaged to provide PHC services conduct household surveys to identify and provide entitlement cards to the urban poor.<sup>15</sup> These successful experiences need to be reviewed and mainstreamed.

**21. Alignment with Strategy 2020.** The long-term strategic framework 2008–2020 (Strategy 2020)<sup>16</sup> of the Asian Development Bank (ADB) highlights the years of neglect and insufficient investment in infrastructure that has led to overcrowded, unsanitary, unhealthy living conditions in the region's large cities. Strategy 2020 states that ADB will be investing in water, sanitation, and waste-management systems to improve public health. In addition, Strategy 2020 commits to reducing the carbon footprint of Asia's cities, among others, by supporting municipal planning and addressing a range of environmental problems resulting from rapid urbanization including water pollution, improving systems for solid waste management, and reducing urban waste. The proposed SDP is fully aligned with Strategy 2020 by improving UPEH through strengthening the national stewardship role; developing capacities and institutional framework; and supporting right policies, regulations, and effective investments in waste management and food safety.

**22. Country Operations Business Plan.** The UPEHSDP is consistent with ADB's country operations business plan 2009–2011<sup>17</sup> which proposes that ADB continue supporting investments and policy and institutional reforms in key sectors including urban infrastructure

<sup>14</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the People's Republic of Bangladesh for the Urban Governance and Infrastructure Improvement Project*. Manila.

<sup>15</sup> For more information visit <http://www.adb.org/Health/contracting-BAN.asp>

<sup>16</sup> ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020*. Manila.

<sup>17</sup> ADB. 2008. *Bangladesh: Country Operations Business Plan 2009–2011*. Manila

(urban health, water supply, and transport). The UPEHSDP will contribute to human development through improvements in the living conditions of residents in the project cities. This will be through investments and policy reforms to improve public and environmental health. The project loan will improve solid waste management and food safety in the project cities, benefiting both poor and non-poor. Solid waste management investments include integrated waste management for the urban poor. Improving pro-poor targeting is one of the policy reform areas under the program loan.

### III. THE PROPOSED SECTOR DEVELOPMENT PROGRAM

#### A. Impact and Outcome

23. The overall impact of the SDP is to improve the public and environmental health conditions in the urban areas in six city corporations (Barisal, Chittagong, Dhaka, Khulna, Rajshahi, and Sylhet) and in *pourashavas*. The successful implementation of the SDP will (i) help reduce child mortality and morbidity by reducing the prevalence of waterborne and food-related diseases, (ii) increase productivity by reducing overall morbidity, and (iii) improve the quality of life of urban citizens. The ensuing program will improve the health status of the poor in urban areas and assist Bangladesh make progress on the Millennium Development Goals (MDGs) relating to child and maternal health care and communicable diseases (MDGs 4, 5, and 6), and improve urban sanitation (MDG 7). The program and project loans under the SDP are designed to complement each other in achieving progress towards these key goals.

#### B. The Program Loan

##### 1. Outcomes

24. The reforms under the program loan will help achieve the sustainable provision and operation of improved public and environmental health services in the urban areas, including the six city corporations and the *pourashavas*. The reforms include (i) strengthening institutional arrangements, (ii) improving financial sustainability, (iii) improving public and environmental health service delivery, and (iv) strengthening governance and management. Appendix 4 presents the policy matrix of the Program along with the strategic goals, key targets, and process for each output.

##### a. Strengthening Institutional Arrangements

25. **Policy Reform Area 1.1: Establishing the Urban Public and Environmental Health Unit.** A unit for UPEH will be established under the LGD to provide national stewardship and coordination to (i) ensure that adequate attention is given to public and environmental health issues; (ii) improve coordination among the different ministries, departments, and divisions that have activities relating to UPEH in the city corporations and *pourashavas*; (iii) mobilize and direct resources to city corporations and *pourashavas* for public and environmental health; and (iv) ensure enabling policy, legal, fiscal, and institutional mechanisms exist to strengthen public and environmental health in urban areas.

26. **Policy Reform Area 1.2: Establishing a National Urban Public and Environmental Health Committee.** Prevention and promotion of health involves multisector approaches, including provision of sanitation and drinking water, ensuring environmental health, food safety, and hygiene, safe disposal of solid and health care wastes, and health education. The mandates for these essential health functions are fragmented between various departments of the Government and between the public and private sectors. A more coherent approach is

required to ensure that the various entities involved in providing public and environmental health coordinate their activities. To avoid duplication of committees and achieve desired outcomes, the existing National Urban Primary Health Care Coordination Committee will become broadly based under the national urban public and environmental health committee (NUPEHC). It will cover public and environmental issues by inducting additional members from the Ministry of Environment and Forests (MOEF), Ministry of Establishment, Ministry of Finance (MOF), Ministry of Industry (MOI), Ministry of Women and Children Affairs, and Ministry of Food and Disaster Management (MOFDM) and their departments that are responsible for taking action to support good health and regulate and control unhealthy conditions. The NUPEHC will meet at least annually.<sup>18</sup>

**27. Policy Reform Area 1.3: Strengthening Health and Conservancy Departments of City Corporations.** The program will support review, reorganization, and strengthening of the city corporation health and conservancy departments to better match the institutional capabilities to deal with complex and challenging mandates given to the city corporations. The restructuring will take into consideration the need for capacities and skills for contracting and managing PSPs for public and environmental health services specific to these departments.

#### **b. Improving Financial Sustainability**

**28. Policy Reform Area 2.1: Improving Municipal Finances.** Municipal finance reforms will be undertaken to ensure that scaling-up of public and environmental health interventions by city corporations is done sustainable way. This will be achieved by introducing measures to improve the financial management of ULBs, improve their tax revenues, and diversify the revenue sources. The first step will be to improve the collection of outstanding holding tax (holding tax includes property, electricity, water, and conservancy taxes), followed by updating holding tax assessments, and then rationalizing tax collection to account for the commercialization and industrialization of urban areas. The LGD will issue guidelines to the city corporations to accelerate collection of outstanding holding taxes, update assessment of holding taxes, and introduce an industry, commercial, and institutional tariff based on earnings and municipal services provided. The LGD will also provide guidelines for city corporations to modernize and computerize financial management systems.

**29. Policy Reform Area 2.2: Introducing Performance-Based Targeted Grant Mechanisms.** Performance-based transfers to *pourashavas* under the UGIIP have succeeded in improving governance and management of *pourashavas*, including increased tax collection and improved citizen participation. The program will support the augmentation of block grants to the city corporations and *pourashavas* through performance-based grant mechanisms, among other things, to link increased UPEH block grants to increased city corporation and *pourashava* holding tax collection and to increased allocation of city corporation and *pourashava* resources to public and environmental health in their respective areas. The LGD will prepare revised procedures for block grant allocations to city corporations and *pourashavas* to provide allocations for public and environmental health.<sup>19</sup>

<sup>18</sup> Under the ongoing UPHCP, a national urban primary health care coordination committee was established, chaired by the minister of the MOLGRDC.

<sup>19</sup> The Government mechanism for the central support to city corporations and *pourashavas* is through block grants and grants-in-aid from the LGD. The grants-in-aid are for specific activities under the development budget; block grants are for general budgetary support.

### c. Improving Public and Environmental Health Service Delivery

30. **Policy Reform Area 3.1: Strengthening Solid waste Management.** The program will support the preparation of a strategy which (i) establishes objectives, goals, and targets; (ii) drives up standards evenly across the whole country; and (iii) establishes planning guidelines to instruct and guide implementation of solid waste management. The LGD will establish a technical committee with representation from other ministerial bodies responsible for aspects of waste management, such as the Department of Environment of the MOEF, the Ministry of Health and Family Welfare (MOHFW), MOFDM, and MOI, to oversee the preparation of the National Waste Reduce, Reuse and Recycle (3R) Strategy and to put forward the final document for subsequent adoption. It will then issue planning guidelines which provide a comprehensive framework under which city corporations and *pourashavas* are to improve waste management and implement the National Waste Reduce, Reuse and Recycle (3R) Strategy. The program will also support setting apart land for sanitary landfill sites, and construct the facilities.

31. **Policy Reform Area 3.2: Strengthening Medical Waste Management.** The Government adopted the Medical Waste (Management and Processing) Rules under the Bangladesh Environment Conservation Act, 1995. The LGD will issue guidelines to city corporations and *pourashavas* for the implementation of the Medical Waste (Management and Processing) Rules, which mandate city corporations and *pourashavas* for medical waste collection, transportation, and safe disposal. City corporations and *pourashavas* will prepare medical waste management action plans in accordance with the LGD instructions. All city corporations will set apart land for medical waste treatment and disposal, and construct the facilities.

32. **Policy Outcome 3.3: Strengthening Food and Water Safety.** The National Food Safety Advisory Council, chaired by the minister of Local Government, Rural Development and Cooperatives (MOLGRDC) as provided in the Pure Foods Rules, 1967, as amended in 2005, will convey and meet at least once a year and take actions as per National Food Safety Advisory Council mandates. The LGD will constitute a technical committee with representatives from the MOFDM, Department of Environment of MOEF, and MOHFW to prepare guidelines for the sanitary slaughter of animals at the city corporation and *pourashava* level in accordance with the provisions of Animal Slaughter (Restriction) and Meat Control Act, 1957. The LGD will issue these guidelines and advise city corporations on the requirements to modernize the slaughter of animals and the handling of meat products. The LGD will advise city corporations to develop a water safety plan to be verified annually by the Department of Public Health Engineering. It will issue an order specifying the number of drinking water samples to be tested by the Department of Public Health Engineering by unit population and the testing parameters and standards.

33. **Policy Reform Area 3.4: Strengthening Primary Health Care Financing.** The program will support effective implementation of the urban PHC sustainability fund. The sustainability fund provides for funds which are raised through user fees at contracted-out PHC facilities and through PSP to be deposited into designated accounts. The funds are to be used by city corporations to enhance the long-term sustainability of health care provision. In addition, a one-time deposit equivalent to 1% of the annual revenue budget of the city corporation will be deposited towards the sustainability fund by city corporations.

34. **Policy Reform Area 3.5: Strengthening the Legal Framework for UPEH.** The program will support enactment of bylaws that will change public behavior towards

environmental public goods and encourage more appropriate attitudes. This will include preparing model bylaws and enacting rules that can change public behavior towards environmental public goods and encourage 3Rs (reduce, reuse and recycle). Rules, bylaws, regulations, and other legal measures will be supported by the Program to make national ordinances and laws relating to public and environmental health more effective locally and to enable city corporations and *pourashavas* to implement their public and environmental health mandates more effectively. The LGD, in cooperation with the MOFDM, MOEF, MOHFW, and MOI, will prepare and provide sample bylaws, rules, and guidelines (as appropriate) on food safety, solid waste and medical waste disposal, and environmental health to city corporations and *pourashavas* to enable them to effectively deliver their public and environmental health mandates.

#### **d. Strengthening Governance and Management**

**35. Policy Reform Area 4.1: Enabling Private Sector Participation in UPEH.** The program will enable PSP by supporting development of appropriate guidelines for PSP in UPEH by tapping into related PSP experiences of the LGD in the delivery of PHC services and city corporation experiences elsewhere. City corporations have an adequate enabling framework for private sector engagement in infrastructure and service delivery. However, this has not been properly accessed to improve the efficiency and effectiveness of service delivery. Clear guidelines will enable city corporations and *pourashavas* to expand the use of PSP for improving UPEH service delivery. The investment projects have been prepared within a PSP framework and designed to produce revenue for the city corporations or to reduce expenditure to the minimum necessary, while expanding services.

**36. Policy Reform Area 4.2: Improving Citizens' Participation in the Delivery of UPEH Services.** A variety of successful innovations enabling citizens' participation in the delivery of urban services have been introduced through the UGIIP in selected *pourashavas*. The Program will support review of these successful innovations to develop appropriate guidelines for greater participation of citizens in the delivery of UPEH services by city corporations.

**37. Policy Reform Area 4.3: Improving Pro-Poor Targeting.** Poverty reduction has been the focus of development programs in Bangladesh and measures need to be established to enable the poor to receive services targeted to support them. In the rural areas, this is accomplished with vulnerable group development cards distributed by the union council chair, and similar systems need to be in place in the urban areas. The program will support identification of the poor and very poor in the six city corporations. The LGD will constitute a technical working group to develop procedures and guidelines for city corporations to identify the poor in their locality and for pro-poor targeting. The experiences gained in pro-poor targeting under the UPHCP will be reviewed by the working group. The LGD will provide guidelines to the city corporations for the issuance of entitlement cards to the identified very poor, and introduce maternal and health care for the very poor in the six city corporations.

## **2. Financing Plan**

**38.** The Government has requested a loan of SDR 44,895,000 (\$70 million equivalent) from ADB's Special Funds resources (Asian Development Fund) to help finance the program. The loan will have an amortization period of 24 years, including a grace period of 8 years, with an annual interest charge of 1% per annum during the grace period and 1.5% per annum thereafter. The loan proceeds will be available for withdrawal in three tranches (\$30 million, \$20

million, and \$20 million) equivalent upon compliance with the agreed tranche conditions as set out in the policy matrix (Appendix 4).

39. In determining the amount of the program loan, the following factors were considered: (i) the relative importance of UPEH in terms of public spending, (ii) the scope and strength of the reform package in UPEH, and (iii) the short- and medium-term costs of the reforms and the benefits and cost savings that would result from implementing the reform package (Appendix 4). The loan amount covers part of the adjustment costs for the measures included in the policy matrix of the UPEHSDP (Supplementary Appendix J).<sup>20</sup>

### 3. Program Management

40. **Program Implementation Arrangements.** The executing agencies will be the Finance Division of the MOF and the LGD of the MOLGRDC. The six city corporations will be the implementing agencies. The organizational chart indicating the program management and implementing structure is set out in Appendix 5 and Supplementary Appendix K. The NUPEHC chaired by the minister of the MOLGRDC will have representatives from the MOF; the Ministry of Establishment; MOHFW; MOEF; MOFDM; Ministry of Fisheries and Livestock; Ministry of Law, Justice and Parliamentary Affairs; mayors of city corporations; representatives of NGOs; and private sector representatives involved in public and environmental health.<sup>21</sup> The NUPEHC will meet at least once a year to provide overall stewardship, enable strong interministerial coordination, and ensure greater involvement in and ownership of the UPEHSDP by mayors of the six city corporations. For UPEHSDP implementation, the apex body will be the national program steering committee (NPSC) to be chaired by the secretary of the LGD. The NPSC will meet three times in the first 2 years of the UPEHSDP implementation, and twice a year in the remaining years, to review and approve budgets and guide the implementation of the UPEHSDP. The NPSC will ensure that policies and programs concerning UPEH are coordinated and program impediments resolved. The NPSC will have representation from the ministries and ULBs represented in the NPSC. The UPEHU will be the secretariat to the NPSC.

41. An UPEHU will be established under the LGD to provide program support. The program director of at least joint secretary rank will head the UPEHU and will be assisted by three deputy program directors of deputy secretary rank for (i) program implementation (on deputation, preferably from the Bangladesh Civil Services [BCS] administration cadre), (ii) financial management and municipal finance (on deputation, preferably from the BCS audit and accounts cadre), and (iii) policy reform and capacity development (on deputation, preferably from the BCS economic cadre). UPEHU will employ women to the extent possible, as per the gender action plan (Supplementary Appendix L). Additional technical policy personnel will be seconded from ministries, including the MOHFW, MOEF, MOFDM, and other ministries, as appropriate, or hired from the market. A representative from Implementation Monitoring and Evaluation Division will be involved in the monitoring and evaluation. The UPEHU will be responsible for day-to-day UPEHSDP implementation involving (i) detailed program planning and scheduling; (ii) support of city corporation program implementing units in procurement of goods and works; (iii) recruitment and supervision of international and national consultants, other technical assistance (including necessary assistance for potential clean development mechanism [CDM] activities), and training; program accounting, including arranging for necessary audits; (iv) disbursement of funds,

<sup>20</sup> Policy measures are expected to generate cost savings of \$326.1 million, which is much higher than the estimated program budget adjustment costs and compensatory measures of about \$70.0 million. In annual terms, a net savings of about \$85.1 million will be realized, compared with the LGD total recurrent budget of \$89.3 million in FY2008.

<sup>21</sup> Representatives of development partners supporting UPEH may be invited as observers.

including timely submission of withdrawal applications; (v) management of the imprest account; and (vi) reporting to ADB on program progress. The UPEHU will be supported under the development budget during its initial years of operation under the UPEHSDP. However, from FY2017 the expenditure on core civil servant positions to the UPEHU will be financed from the Government's recurrent budget.

42. The city corporation UPEH coordination committees will be chaired by the mayor. A ward UPEH coordination committee will be chaired by local commissioners/councilors and co-chaired by zonal health and/or conservancy officers (where available) and female commissioners/councilors, with a membership that represents all local stakeholders, including informal settlers. The chief executive officer will be the program manager assisted by the city corporation health officer (deputy program manager) and the city corporation conservancy officer (deputy program manager). City corporation program implementation units (CCPIUs) will be established in each of the six city corporations. Each CCPIU will comprise personnel recruited by the UPEHU, and will include the following: program officer, conservancy officer, food safety officer, procurement specialist, accountant, safeguard and community mobilization officer, information technology officer, and assistant civil engineer. Each city corporation will also assign technical personnel from the consultant teams to work with CCPIU staff to help implement subprojects and to transfer implementation capabilities to the CCPIU.

43. Consultants from three firms (program support consultancy, design supervision and construction consultancy, and financial management and municipal finance consultancy) to be hired under the UPEHSDP will provide policy and program support on aspects relating to solid waste management, medical waste, food and water safety, institutional reforms, municipal finance reforms, strengthening pro-poor targeting and citizens' participation, among other things. The UPEHU will also anchor potential technical assistance support from bilateral and multilateral development partners including the World Health Organization, the Food and Agriculture Organization, and the Japan International Cooperation Agency in the areas of water safety and solid waste management. All technical working groups constituted by the LGD as per the policy matrix will have female representation to the extent possible.

44. **Implementation Period.** The program implementation period is from December 2009 to December 2016. The Government will have to complete all conditions for the first tranche before its release, which is expected by December 2009. The second tranche release is expected before December 2011, and the third tranche is expected to be released before December 2013. Details of the tranche release conditions are in Appendix 4.<sup>22</sup>

45. **Procurement and Disbursement.** The loan proceeds will be used to finance the foreign exchange cost (excluding local duties and taxes) of items produced and procured in ADB member countries, excluding ineligible items (Appendix 6) and imports financed by other bilateral and multilateral sources. In accordance with the provisions of ADB's *Simplification of Disbursement Procedures and Related Requirement for Program Loans*,<sup>23</sup> the reimbursement procedure will be used to disburse the loan proceeds based on certification by the Government. Supporting import documentation will not be required if, during each year that loan proceeds are expected to be disbursed, the total value of the imports minus imports from nonmember countries, ineligible imports, and imports financed under other official development assistance, is equal to or greater than the amount of the loan expected to be disbursed during that year. With each withdrawal request, the Government will certify its compliance with this formula.

<sup>22</sup> The third tranche disbursement is projected to be at the end of 2013, but the program loan duration is until the end of 2016 to monitor the reforms progress.

<sup>23</sup> ADB. 1998. *Simplification of Disbursement Procedures and Related Requirements for Program Loans*. Manila.

Otherwise, import documentation under existing procedures will be required. ADB reserves the right to audit the use of the loan proceeds.

46. **Counterpart Funds.** The Government will use the counterpart funds generated by the program loan, under arrangements satisfactory to ADB, to support sector reform and meet the adjustment costs associated with the loan. Further, the counterpart funds will be transferred from the MOF to the LGD to meet the costs and counterpart funding requirements for implementing the sector reform.

47. **Program Performance Monitoring and Evaluation.** The LGD will continually monitor the implementation of the program and its impact, in line with the program framework and outcome indicators agreed upon by ADB and the Government (Appendix 1). Further, the LGD will submit to ADB quarterly reports until the program is completed. Data from the program implementation plan, annual report, audit reports, and auditor's opinion will be used to monitor the progress of the Program.

## **C. The Project Loan**

### **1. Outcomes**

48. The Project will enable the urban population, primarily in the six city corporations, to use improved public and environmental health services. It is expected to result in a strengthened and sustainable urban public and environment health system with improved solid waste and medical waste management, food safety, and capacity of the LGD and city corporations for public and environment health. The project will cover the six city corporations covering 34% of all urban areas in Bangladesh as per the 2001 census.<sup>24</sup>

### **2. Outputs**

49. The project loan will focus on improving the efficiency and quality of public and environmental health in several areas where additional resources are required to accelerate access and program efficiency and support the overall development of the sector. The project consists of three components: (i) solid waste management; (ii) food safety; and (iii) program management, institutional support, and capacity development.

#### **a. Component A: Solid Waste Management**

50. The solid waste management component will have two subcomponents: (i) municipal solid waste management, and (ii) medical waste management (Supplementary Appendix M).

##### **i. Municipal Solid Waste Management**

51. The municipal solid waste management component complements the establishment of a national strategy and planning framework under the program loan, with infrastructure investments to improve the efficiency of municipal solid waste management services.

52. **Primary Collection for Urban Poor.** This subcomponent will focus on improving the service coverage and quality of primary collection in the urban, underserved poor communities to be piloted (at least one in each of the six city corporations). A community-based initiative will

<sup>24</sup> 10.3 million population in the six city corporations out of a total urban population of 31.0 million as per the 2001 census; according to recent estimates this figure is now close to 40%.

be utilized, incorporating a partnership approach in municipal service delivery. City corporations will contract community-based organizations and NGOs to undertake service delivery improvements with institutional, technical, and financial dimensions. Improved service coverage and quality is expected through door-to-door collection, which aims to supplement solid waste management services provided by the formal system. The subcomponent also includes educational campaigns to encourage the 3Rs (reduce, reuse, and recycle) and source segregation of waste in line with guidelines developed by the Department of Environment of the MOEF.

**53. Secondary Collection and Transportation.** The interface between the private sector primary collection and the municipal-run secondary collection system is the critical factor driving the performance of the waste-management system. Through mechanization, improved efficiency of the transfer of waste from primary collection tricycles to waste transport vehicles is needed. Secondary or small transfer stations (STSs) serve this purpose. These transfer stations are designed specifically for the purpose of improving the efficiency of waste transfer between primary and secondary collection vehicles, and increasing the quantity of waste material hauled on each long-distance vehicle trip. By designing STSs so that waste can be transferred onto standard freight transport vehicles, more highly capitalized companies can be attracted to the waste business. PSP will increase competition and, as long as standards are ensured, service quality and efficiency will also improve. Capacity development of the city corporations is an essential part of improving waste-management standards.

**54. Integrated Waste Treatment Facilities.** Investments will be made to develop integrated waste treatment facilities, combining composting, landfill, and other treatment technologies. Five landfill sites are proposed to be constructed in the five city corporations (Barisal, Chittagong, Khulna, Rajshahi, and Sylhet). Each location has been chosen strategically to attain maximum economies of scale by being located near both the city corporation area and nearby *pourashavas*. The high proportion of biodegradable material in the waste stream means that composting is an important treatment option. For the purposes of utilizing the CDM, the option of landfill gas extraction or composting will be considered. By virtue of their nature, landfills are large investment projects with minimum or no return on the investment and are therefore financially unviable. Consequently, they are not operated by private service providers. However, an element of cost recovery is possible, based on the assumption that compost generation is undertaken from the solid waste or CDM schemes (including landfill gas extraction), and is utilized as a revenue source. Ensuring that municipal finances are strong is important for long-term sustainability of municipal solid waste management services, which the Project will also support.

## **ii. Medical Waste Management**

**55.** The project will support establishment of sound and effective medical waste management under PSP in all of the six city corporations; six medical waste management units will be implemented in the six city corporations. Income for medical waste management facilities are the tariffs obtained from the different medical diagnostic centers and health care units (hospitals and clinics) based on size and capacity.

## **b. Component B: Food Safety**

**56.** Under the food safety component, two subcomponents will be supported by the Project: food laboratories and a training center, and modern slaughterhouses.

### **i. Food Laboratories and Training Center**

57. Two food laboratories will be constructed, one each in Dhaka and Chittagong. The Dhaka laboratory will have an additional training center component. The existing Dhaka facility will be renovated and supplied with modern equipment; the Chittagong laboratory will be a new construction. Revenue for the food laboratories will be in the form of analysis tests for both Dhaka and Chittagong. The Dhaka unit will also provide training courses on food safety to the various food safety inspectors in both public and private organizations.

### **ii. Modern Slaughterhouses**

58. Modern slaughterhouses will be established for preparation and processing of standard quality of meat and meat products and other economic by-products. Establishment of a central high-capacity slaughterhouse can achieve this. Central production will enable easier quality control and will require less labor for production and supervision. A slaughterhouse will be built in each of the six city corporation areas. Dhaka and Chittagong will feature large (type 1) slaughterhouses while the others in Khulna, Rajshahi, Barisal and Sylhet, will be smaller units (type 2).<sup>25</sup>

## **c. Component C: Program Management, Institutional Support, and Capacity Development**

59. Component C consists of three subcomponents: (i) program management and implementation support, (ii) financial management and strengthening municipal finances, and (iii) policy reform and capacity development support.

### **i. Program Management and Implementation Support**

60. Consultants will be engaged to assist the UPEHU in implementing, monitoring, and supervising the Program. Consulting support will include (i) program management and monitoring; (ii) detailed planning and design activities; (iii) contract structuring, tendering, execution, and management; and (iv) construction supervision. Consulting services will also include engagement of NGOs to manage some program activities.

### **ii. Financial Management and Strengthening Municipal Finances**

61. The subcomponent will assist the UPEHSDP in substantially reforming and improving financial management of city corporations and the UPEHSDP, introducing modernized and computerized accounting systems, and performance-based budgeting. It will use information technology to enhance financial management, improve tax collection, and expand the tax base to strengthen municipal finances. Regular concurrent audits of the UPEHSDP will also be conducted under the subcomponent to ensure a high degree of adherence to various procurement and financial management guidelines.

### **iii. Policy Reform and Capacity Development Support**

62. The policy reform and capacity development subcomponent will support the implementation of the policy reform program of the UPEHSDP and assist in capacity

<sup>25</sup> Type 1 units will have a maximum capacity of around 3,000 animals slaughtered per day while type 2 units will have a maximum capacity of around 2,000 animals slaughtered per day.

development. This will include (i) supporting the technical working groups constituted for the reforms; (ii) conducting pro-poor targeting surveys; (iii) monitoring and evaluation; (iv) mitigating risks for the poor and women resulting from any project or program interventions; (v) strengthening legal aspects; (vi) public awareness campaigns (including educational campaigns to encourage the 3Rs [reduce, reuse, and recycle] and source segregation of waste); (vii) identifying and developing institutional strengthening measures, training modules, and guidelines and manuals; and (viii) providing for training. The capacity development will include assistance to accelerate the reform program and ensuring sustainability of project investments.

### **3. Special Features**

63. Opportunities to utilize the CDM for emission reductions and revenue streams exist at the five proposed landfill sites. Emission reductions from landfill gas extraction or composting activities at the future landfills can be feasible over time. The feasibility of the Project depends on competent and professional landfill management. In view of the transaction costs, developing CDM for a composting project is feasible with larger quantities or bundling of projects. Another special feature of the Program is to mainstream lessons learned from successful prior and ongoing projects supported by ADB in the LGD. This will help to (i) mainstream interventions from project set-up to a program set-up, (ii) scale-up successful interventions, and (iii) ensure sustainability of such good practices. The UGIIP successfully introduced performance-based grants and intergovernmental fiscal transfers to selected *pourashavas*. The *pourashavas* responded by improving their tax collection and increasing the revenue base, among other things. The Program will support mainstreaming of this successful effort by allocating funds for UPEH that will be accessed by city corporations and *pourashavas* against certain performance benchmarks.

64. UGIIP also demonstrated that, by providing appropriate forums for citizens' participation in municipal affairs, the overall effectiveness of municipal governance and urban basic services do improve. The Program will support the mainstreaming and implementations of UGIIP's successful initiatives relating to citizen's participation in the six city corporations. Urban poor do not have any identification or entitlement cards, unlike rural poor people. The ADB-supported second UPHCP (footnote 13) introduced performance-based pro-poor targeting through PSP. The experiences in this project have demonstrated that identifying the poor and providing entitlement cards is critical to developing effective accountability of service providers so that public expenditures reach the poor for targeted interventions. The Program will support mainstreaming of the identification of the poor in the six city corporations, and institutionalizing pro-poor targeting in the city corporation areas. The UPHCP has demonstrated that even complex PHC services can be contracted-out through well-structured PSP for delivery of effective package of basic health services. The LGD and city corporations have broad experience of implementing this PSP approach for around a decade. The Program will support expanding this successful approach to other aspects of UPEH service delivery.

### **4. Project Investment Plan**

65. The Project is estimated to cost \$80.0 million, including taxes and duties of \$1.7 million (Table 1). The cost estimates are based on the three components at 2009 prices. The cost estimates are presented in more detail in Appendix 7 (detailed estimates are in Supplementary Appendix N).

## 5. Financing Plan

66. The Government has requested a loan of SDR38,482,000 (\$60 million equivalent) from ADB's Special Funds resources (Asian Development Fund), representing 75% of the total project cost. ADB will finance the costs of civil works, safeguard compliance, consulting services, training and capacity development, project operations and maintenance, and financial charges during implementation. The loan will have a term of 32 years, including a grace period of 8 years and an interest charge of 1% per annum during the grace period and 1.5% per annum thereafter. The Government will contribute the equivalent of \$20 million as counterpart funds for land acquisition and resettlement, taxes and duties, part of civil works, and recurrent costs. The summary financing plan is in Table 2, and the detailed cost estimates and financing plan are in Appendix 7.

**Table 1: Project Investment Plan**  
(\$ million)

Item	Amounts <sup>a</sup>
<b>A. Base Cost<sup>a</sup></b>	
1. Solid Waste Management	34.1
a. Municipal Solid Waste Management	
(i) Primary Collection for Urban Poor	3.7
(ii) Secondary Collection and Transport	8.9
(iii) Integrated Waste Treatment Facilities	16.0
b. Medical Waste Management	5.5
2. Food and Water Safety	18.3
a. Food Laboratories and Training Center	3.1
b. Slaughterhouses	15.2
3. Program Management, Institutional Support, and Capacity Building	16.6
a. Project Management and Implementation Support	10.3
b. Financial Management and Strengthening Municipal Finances	2.0
c. Policy Reform and Capacity Building Support	4.2
Taxes and Duties	1.7
<b>Subtotal (A)</b>	<b>70.7</b>
<b>B. Contingencies<sup>b</sup></b>	
1. Physical	3.7
2. Price	3.2
<b>Subtotal (B)</b>	<b>6.9</b>
<b>C. Interest Charges</b>	<b>2.4</b>
<b>Total</b>	<b>80.0</b>

ADB = Asian Development Bank.

<sup>a</sup> In 2009 prices.

<sup>b</sup> Physical contingency is estimated at 10% of civil works, equipment, and vehicles cost.

Price contingencies are computed based on foreign exchange inflation rate of 1.4% in 2010, 0.4% in 2011, and 0.5% in 2012 onwards, and local currency inflation rate at 6% in 2009–2012, and 5% from 2013 onwards.

Source: ADB estimates.

## 6. Project Management

67. The LGD of the MOLGRDC will be the executing agency for the Project. The implementing agencies will be the six city corporations. The UPEHU, NSPC, NUPEHC, and CCPIUs established under the Program will undertake their respective roles and functions in

respect of the Project. The investment projects under the SDP and the required technical and management assistance for these projects will continue to be supported through project funding.

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

<b>Source</b>	<b>Total</b>	<b>%</b>
Asian Development Bank (ADF)	60.0	75.0
Government of Bangladesh	20.0	25.0
<b>Total</b>	<b>80.0</b>	<b>100.0</b>

ADF = Asian Development Fund.

Source: Asian Development Bank estimates.

## **7. Implementation Period**

68. The Program will be implemented over 7 years, from December 2009 to December 2016. The implementation schedule of the Program is in Appendix 8.

## **8. Procurement**

69. Procurement of all goods and services to be financed under the Project will be carried out in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). All civil works contracts estimated to cost the equivalent of \$1 million or more will be procured through international competitive bidding. Civil works contracts estimated to cost less than \$1 million will be procured using national competitive bidding (NCB). To the extent practicable, goods will be grouped into procurement packages larger than \$500,000 to be suitable for international competitive bidding procedures. Goods that cannot be grouped into larger contracts and are estimated to cost less than \$500,000 per contract will be procured through NCB. A third-party, pre-shipment inspection provision will be adopted to ensure quality of goods and equipment. NCB procedures applicable to the Project are specified in the Government's *Public Procurement Rules 2008*<sup>26</sup> and the procurement plan (Appendix 9). Miscellaneous minor goods expected to cost less than the equivalent of \$100,000 will be purchased using shopping procedures. Any necessary modifications or clarifications to the Government's procedures will be recorded in the procurement plan. NCB packages valued at more than \$100,000 each will be subject to prior review by ADB. The UPEHU will ensure that procurement complies with the applicable procedures. Specifically, the UPEHU will (i) determine bid packages and propose procurement methods, as approved by ADB; (ii) prepare detailed material lists and specifications; and (iii) evaluate bids and award contracts. The UPEHU will annually update the procurement plan, which details indicative packages to be funded under the Project, and submit it to ADB for approval.

## **9. Consulting Services**

70. Consultants will be selected and engaged under the Project in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). Supplementary Appendix O provides the outline terms of reference of the three international consultant firms to be hired. An international consulting firm will be engaged as the design supervision and construction consultant (52 person-months of international and 308 person-months of national experts) following ADB's quality- and cost-based selection procedures with a quality–cost ratio of 80:20. The consultants will be based in the UPEHU (Dhaka) and the six city corporations, and will assist the UPEHU and CCPIUs in managing the investment projects, preparing the detailed

<sup>26</sup> Once the Public Procurement Regulations 2008 in English are formally adopted.

design, supervising the works, ensuring the technical quality of design and construction, ensuring social safeguard standards are met, and procurement including enabling private sector participation. The design supervision and construction consultant will include specialists in procurement and resettlement and social safeguards, engineers (waste management, foods safety, electrical, mechanical, and structural), and architects.

71. Similarly, one international consulting firm will be engaged as financial management and municipal finance consultant (15 person-months of international and 178 person-months of national experts) following ADB's quality- and cost-based selection procedures. The financial management and municipal finance consultant will assist the UPEHU and CCPIUs (i) improve the financial management processes and systems of the project; (ii) conduct concurrent audits to make sure that financial management and procurement procedures and anticorruption measures are strictly adhered to; (iii) conduct analysis of municipal finance and provide support on the implementation of the policy reforms relating to municipal finance including developing performance-based grant mechanisms, assessing and monitoring progress on collection of tax dues, and assisting in expanding the scope of municipal taxes; (iv) computerize the financial management systems of the six city corporations and develop web-based applications to enhance transparency in municipal finance functions; and (v) provide training for the staff of the UPEHU, CCPIU, and city corporations in modern financial management systems and computer skills relating to financial management.

72. For policy and miscellaneous capacity development support, one international consultant firm will be engaged as program support consultant (12 person-months of international and 114 person-months of national experts). The program support consultant will assist in program and project monitoring and evaluation, policy reform support, pro-poor surveys, training and capacity development, behavior change communication, legal support, human resource development, gender mainstreaming, citizens' participation, and resettlement and rehabilitation, among other things (see Supplementary Appendix O for the composition and outline terms of reference of the three consultant firms). In addition, the UPEHU will hire individual national consultants (30 person-months) on an as-needs basis.

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

73. To expedite implementation, the Government requested advance actions for recruitment of consultants and procurement of goods and civil works. Management approved advance contracting, and retroactive financing of eligible expenditures of up to 20% of the project loan, provided that expenditures were incurred (i) in accordance with ADB's *Procurement Guidelines*, *Guidelines on the Use of Consultants*, and safeguard policies; and (ii) during the 12 months preceding the date of signing of the loan agreements. The Government was informed that approval of advance contracting and retroactive financing did not commit ADB to finance the Project.

## **11. Disbursement Arrangements**

74. Disbursements of the loan proceeds will be in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time). An imprest account will be opened at the Bangladesh Bank in the name of the UPEHSDP. The account will be established, managed, and liquidated in accordance with ADB's *Loan Disbursement Handbook*. The imprest account ceiling will be 10% of the loan or the forecast expenditure for the next 6 months, whichever is lower. ADB's statement of expenditures procedures will be used to reimburse,

replenish, and liquidate the imprest account for eligible expenditures not exceeding \$100,000 per payment by the UPEHU (CCPIUs will submit full supporting documents to the UPEHU).

75. **Funds Flow.** The advance from the imprest account will be deposited in a bank account to be maintained in a reputable commercial bank and used for ADB's portion of eligible costs of the Project. The Government counterpart contribution will be deposited in a separate bank account. The UPEHU will disburse most project expenditures from these accounts. In addition, 6 second generation imprest accounts (operating accounts) for the ADB loan account only will be opened, one in each CCPIU of the six city corporations, for disbursement of funds to pay for ADB's portion of the eligible project costs. Disbursement will be delegated to the CCPIUs for ADB's share of civil works expenditures. The CCPIUs will effect Government counterpart disbursements through a separate bank account (Supplementary Appendix P).

## 12. Accounting, Auditing, and Reporting

76. The Government will maintain records and accounts to identify all goods and services financed by the loan proceeds. The UPEHU will be responsible for maintaining the records, and will submit annual accounts and financial statements to the MOF and ADB. The Government will ensure that accounts and financial statements are audited annually, in accordance with auditing standards acceptable to ADB, by independent external auditors acceptable to ADB. Not later than 6 months after the close of each fiscal year, the UPEHU will provide ADB with certified copies of audited accounts and financial statements, as well as the report of the auditor. The imprest accounts and statement of expenditure records will be audited annually and a separate audit opinion will be provided. The UPEHU will prepare quarterly progress reports and submit them to ADB and the LGD within 20 days of the end of the applicable period. The reports will be prepared in a format acceptable to ADB and will include (i) project progress in city corporations and components, (ii) status of institutional development activities, (iii) delays and problems encountered and actions taken to resolve them, (iv) compliance with loan covenants, and (v) expected progress during the next 6 months. Within 3 months of the project's physical completion, the UPEHU will prepare and submit to ADB through the Government a project completion report, including costs and compliance with loan covenants.

## 13. Anticorruption Policy and Governance Measures

77. ADB's *Anticorruption Policy* (1998, as amended to date) was explained to and discussed with the Government and the executing agencies. 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 SDP. To support these efforts, relevant provisions of ADB's *Anticorruption Policy* are included in the loan regulations and the bidding documents for the SDP. In particular, all contracts financed by ADB in connection with the SDP shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agencies and all contractors, suppliers, consultants, and other service providers as they relate to the SDP.

78. The Project incorporates several other measures, in addition to the standard ADB requirements, to deter corruption and increase transparency. The project will (i) build the capacity of executing agencies to comply with ADB and Government procedures, to be outlined in the Project Administration Manual during the early stage of the implementation; (ii) establish a project website to disclose information about project implementation; and (iii) establish a grievance redress mechanism to ensure greater accountability. The project website will provide updated detailed information on project implementation. For example, the

website will include procurement-related information, such as the list of participating bidders, name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, and the list of goods and/or services procured. The grievance redress mechanism will be set up to receive and resolve complaints, as well as to act upon stakeholders' reports of irregularities on project-related matters, including grievances concerning resettlement. The executing agency will widely publicize the existence of this mechanism to ensure that stakeholders are aware that a venue is available to address concerns or grievances relating to fraud, corruption, abuse, and any other aspects of project implementation. In addition, the financial management and municipal finance consultant support has provision for continuous concurrent audit to identify and stop deviations from set procedures.

#### **14. Project Performance Monitoring and Evaluation**

79. The UPEHU will ensure that project performance monitoring and evaluation acceptable to ADB is carried out to (i) examine the project's technical performance, (ii) evaluate the delivery of planned facilities, (iii) assess the achievement of the project objectives, and (iv) measure the Project's social and economic benefits. The UPEHU and program support consultant, in consultation with stakeholders and ADB, will develop a set of project performance monitoring and evaluation indicators at the start of the Program. Indicators might include indicators relating to status of solid waste management, medical waste, and food safety; the number of participants in awareness campaigns and community participation; the incidence of waterborne diseases; improvements in municipal finance; the effectiveness of policy reforms; and the impact on poor people and women, among other things.

80. The UPEHU will conduct baseline physical and socioeconomic surveys. It will submit a detailed implementation plan for monitoring performance and for preparing benchmark information for ADB's review and concurrence within 1 year of loan effectiveness. The UPEHU will prepare annual project performance monitoring and evaluation reports, which will be submitted to ADB throughout project implementation. Monitoring of implementation performance will integrate physical and financial aspects. During and after project implementation, the program support consultant will assist the UPEHU in measuring the beneficial impacts, and in assessing whether the project facilities are managed efficiently and the benefits reach the targeted groups. Biannual joint review of the UPEHSDP will be held by the Government and ADB. A comprehensive midterm review of the UPEHSDP will be held in 2013 before the release of the third tranche.

#### **15. Project Review**

81. Individual investment projects will also be under the review of the Program Inception Mission comprising ADB and UPEHU staff who will be fielded shortly after the project loan becomes effective. For the individual investment projects it will also be relevant for the yearly project review missions to (i) monitor progress of project implementation, (ii) identify areas of concern, and (iii) suggest remedial actions. Similarly, the comprehensive midterm review of program performance will be conducted to identify problems and constraints encountered during the first half of the program and project components and to adjust the design and the project framework or take remedial actions as required. Technical or budgetary changes to the Program based on the results of the program performance monitoring system will be considered, as will additional activities, or expansion of activities and sites for the remaining program period.

#### **IV. TECHNICAL ASSISTANCE**

82. One of the most significant risks of the UPEHSDP is that, being a new program, the initial set-up required for establishing the UPEHU followed by hiring of various consultant firms would take a long time. This would not only delay the program implementation, but also has the potential to delay the Program due to weak procurement and financial management systems. The UPEHSDP by nature has greater challenges than either a pure program or a pure project would, as it has both a policy reforms component (program) and an investment component (project). These two components require a diverse skills base. For the policy reform component, expertise in policy, law, regulation, and municipal finances are required; the investment component will require procurement, financial management and audit, project performance monitoring, and information management skills. Both policy reform and investment components will require specialists in solid waste, medical waste, food and water safety, and slaughterhouses. The capacity development technical assistance is an effort to mitigate the start-up delay risks, and enable the project to start on a sound foundation.

##### **A. Objectives and Purpose**

83. The objective of the technical assistance is to (i) help overcome the start-up delays inherent in a new program by providing high-quality consultant support to undertake critical advance activities and set up systems and procedures in the newly created UPEHU and CCPIUs; and (ii) provide advisory capacity development assistance to the Government for UPEH at both the national and city corporation level. This will include assistance at the LGD and UPEHU in preparing and implementing key policy reforms (Appendix 10). The technical assistance outcomes will be to provide (i) expert procurement support to help the LGD and UPEHU in hiring the three consultant packages in a timely manner; (ii) expert institutional and financial management support to set up procedures and processes for smooth functioning of the UPEHU and CCPIUs, especially with regard to anticorruption; (iii) expert support in municipal financing, institutional development, financial management, solid and medical waste, CDM, food and water safety, PSP, pro-poor targeting, citizens participation, and gender mainstreaming for policy reform support (Supplementary Appendix O has detailed terms of reference of consultants); (iv) engineering design support in waste management and food safety to support the implementation of the investment component; and (v) limited support for training and local study tours.

##### **B. Cost Estimates and Financing Plan**

84. The total cost of the capacity development technical assistance is estimated at \$625,000 equivalent. The Government has requested ADB to finance \$500,000 equivalent, covering all the foreign exchange costs and part of the local costs. ADB will finance \$500,000 equivalent, on a grant basis, from ADB's Technical Assistance Special Fund-IV funding program. The proposed Government in-kind contribution of \$125,000 equivalent will cover office costs, conference venues, and counterpart staff remuneration.

##### **C. Implementation Arrangements**

85. The LGD will be the executing agency for the technical assistance (TA) and the UPEHU will be the implementing agency. The program director of the UPEHSDP will be the TA project director, and the NPSC of the UPEHSDP will provide overall guidance to TA implementation. The TA is expected to commence as soon as the Project is approved by ADB's Board by 1

December 2009 and will be completed by 31 December 2011. Disbursements under the TA will be made in accordance with the ADB's *Technical Assistance Disbursement Handbook*.<sup>27</sup>

## **V. PROJECT BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS**

### **A. Poverty Reduction and Social Development**

86. The SDP will contribute to human development through improvements in the living conditions of residents in the project cities. This will be achieved through investments and policy reform to improve public and environmental health, citizen participation, and pro-poor targeting. The Program component introduces specific pro-poor and gender-sensitive strategies, including the issuance of entitlement cards coupled with free maternal and child health care services. The Project component will improve municipal solid waste and medical waste management, and food safety in the project cities benefiting both poor and non-poor. Solid waste management investments include community-based primary collection services in urban poor areas. A community participation plan (Supplementary Appendix Q) aims to enhance citizen involvement in project activities through service delivery alliance—a multistakeholder group consisting of civil representatives, resource organizations, NGOs and community-based organizations, and private sector providers. The community participation plan will create local awareness campaigns to educate and inform the poor on health and hygiene, and proactively include waste pickers into project activities as part of the waste pickers' training program. A gender action plan (Supplementary Appendix L) will mainstream gender throughout the program and project investments and enhance participation and capacity of women in UPEH initiatives. The Project component supports MDGs, specifically reducing child mortality (MDG 4), improving maternal health (MDG 5), combating malaria and other diseases (MDG 6), and ensuring environmental sustainability (MDG 7). The Project components will cover six city populations (estimated at about one-third of the total population) and specifically target the urban poor. The summary poverty reduction and social strategy is in Appendix 11.

### **B. Social and Environmental Safeguards**

#### **1. Involuntary Resettlement**

87. The subprojects are expected to have limited involuntary resettlement impacts. Since subprojects will be undertaken in several locations, and the resettlement impacts of each subproject at present are not known, a resettlement framework with a detailed entitlement matrix has been formulated. It is based on ADB's *Involuntary Resettlement Policy* (1995), and the Government's *Acquisition and Requisition of Immovable Property Ordinance of 1982* (as amended in 1993 and 1994). The resettlement framework will guide the LGD in formulating appropriate resettlement plans for subprojects with resettlement impacts. The resettlement framework is in Supplementary Appendix R.<sup>28</sup> The subprojects are designed to avoid, or at least minimize, land acquisition and other resettlement impacts. In this regard, city corporations will, to the extent possible, use vacant government land and vacant lands available at the existing integrated waste treatment, medical waste management, food laboratory, and training centers; slaughterhouses; and secondary transfer stations. Moreover, the city corporations will conduct extensive consultations with affected communities to obtain their broad consent for selected subproject sites. The subproject activities will be planned in such a manner that they will not affect houses or other private structures. During the detailed design and subproject implementation phases, further actions will be taken by the LGD to reduce the requirement for

<sup>27</sup> ADB. 2008. *Technical Assistance Disbursement Handbook*. Manila.

<sup>28</sup> A copy is posted at [http://www.adb.org/Documents/Resettlement\\_Plans/BAN/39305/39305-01-BAN-RP.pdf](http://www.adb.org/Documents/Resettlement_Plans/BAN/39305/39305-01-BAN-RP.pdf)

land acquisition and other resettlement impacts. Of the sample subprojects, only the integrated waste management treatment facility in Khulna has resettlement impacts. The resettlement impacts of the subproject are limited to 24 affected people consisting of informal settlers (four households) and temporary farm laborers, each considered to be vulnerable due to their nontitled or poverty status. The short resettlement plan is in Supplementary Appendix S.<sup>29</sup>

## **2. Environmental Safeguards**

88. Subprojects are designed to avoid, minimize, and/or mitigate adverse environmental impacts. Potential impacts are mostly localized and temporary, and related to dust, noise, and access disruptions due to construction activities and construction-related waste disposal. These impacts can largely be avoided through good engineering design and practices, or be reduced through proper mitigation measures and environmental management. An environmental assessment and review framework was developed to ensure compliance with national law and ADB policies, guidelines, and requirements, and to guide the implementation of future subprojects (Supplementary Appendix T). Environmental subproject selection guidelines are to further ensure that impacts that are potentially significant and permanent are identified and prevented. Preparation of the environmental assessment reports was done with extensive public consultation in each of the sample subproject locations and included primary and secondary stakeholders.

89. Program and project investments in waste management and food safety are designed to improve environmental quality, living conditions, and public and environmental health in city corporations. Environmental assessment of the policy matrix indicates that the program's policy reforms are directly or indirectly aimed at promoting environmentally sound development by contributing to improvements in waste management and food safety. The potential impacts of each policy are presented in the environmental assessment of the policy matrix (Supplementary Appendix U). Three initial environmental examinations and two environmental reviews (Supplementary Appendix V) were conducted for sample subprojects and these show that net environmental benefits are extensive. These include (i) reduced solid waste pollution and cleaner waterways due to investments in primary and secondary waste collection, (ii) reduced greenhouse gas emissions due to composting and potential CDM activities; (iii) reduced environmental contamination due to integrated waste treatment facilities investments; (iv) reduced environmental risk due to proper disposal of hazardous medical waste; and (v) improved handling and disposal of environmentally polluting slaughterhouse waste. A draft summary environmental assessment is provided in Appendix 12.

## **C. Economic and Financial Analyses**

### **1. Economic Analysis**

90. The economic internal rate of return (EIRR) was calculated for the project loan and some cost implications of the policy actions. The overall EIRR is 18.2%, which exceeds the opportunity cost of capital of 12% per year. The EIRRs were subjected to sensitivity analysis on the basis of (i) increase in investment cost by 20%, (ii) decrease in economic benefits by 20%, and (iii) delay in the period of construction and/or implementation causing delay in revenue generation by 1 year. The findings of the sensitivity analysis indicate that the economic viability is still favorable despite adverse conditions, as the EIRR ranges from 13.6% to 16.8%. The analyses indicate that changing the benefits has greater impact on the Project with regard to other variants. With a 20% decrease in the economic benefit, the sensitivity indicator is 2.23,

<sup>29</sup> A copy is posted at [http://www.adb.org/Documents/Resettlement\\_Plans/BAN/39305/39305-02-BAN-RP.pdf](http://www.adb.org/Documents/Resettlement_Plans/BAN/39305/39305-02-BAN-RP.pdf)

which indicates that an assumed change of 20% in project benefit results in a corresponding 45% change in the economic benefits. Thus, economic benefits are relatively more sensitive to adverse project risks. Sensitivity analysis indicates that the EIRR for the project loan is robust under most conditions. The detailed economic evaluation and sensitivity analysis are available (Supplementary Appendix W).

## **2. Financial Management**

91. Using financial management assessment questionnaires, interviews and financial management assessments were undertaken during the project preparatory TA to evaluate the executing agency's ability to undertake and fulfill ADB's fiduciary requirements for the project components. The Executing Agency's financial management needs to be strengthened, and will be acceptable with financial management and concurrent audit support. Project implementation delays will be minimized through extensive support from project management and design and supervision consultants, who will be familiar with ADB procedures and requirements (Supplementary Appendixes X and Y).

## **3. Financial Sustainability**

92. Financial variability of the project loan was assessed in real terms using constant 2008 prices. The project cost estimates and financial projections in nominal terms were converted to real terms by adjusting the projected effects of foreign and domestic inflation and currency fluctuations. Incremental costs and benefits were derived by evaluating the financial position of the executing agencies under with-project and without-project scenarios. The financial internal rate of return, computed on an after-tax basis, was 13.2%. This compares favorably with the weighted average cost of capital, also computed on an after-tax basis, of 2.3% on an aggregate basis. All parts of the project loan are considered financially viable and sustainable. Sensitivity and risk analysis indicates that the financial internal rate of return is sensitive to delays in each item of the implementation of financial improvement action plan. Detailed financial analysis is available (Supplementary Appendix Z).

## **D. Risks and Assumptions**

93. Public and environmental health challenges, arising from rapid urbanization in a country where urban density is one of the highest in the world and where urban basic services need much improvement, are complex and daunting. The sheer scale of challenge and the resources that are required to deal with them are immense. Political support might waver, as the outputs relating to public and environmental health are less tangible than those related to building roads and drains. These risks will be addressed through participatory approach and behavior change communication interventions.

94. The purpose of greater interministerial coordination by the LGD is to access the core skills, knowledge, and professional staff of other line ministries so as to support and enable city corporations to effectively implement their mandates relating to public and environmental health. This is also to assist the LGD fulfill its role of providing national stewardship to city corporations and *pourashavas*. However, the interministerial coordination issues are always very sensitive and lead to territorial and jurisdictional tensions. This could lead to unwanted tensions and distraction from the primary purpose of these coordination committees, i.e., to improve the quality of life of urban inhabitants. This risk will have to be proactively addressed by the LGD by ensuring that (i) apprehensions of the line ministries are addressed, (ii) the ministry with a lead

role continues to provide the lead on the issue, and (iii) regular interaction and coordination occurs, and no duplication takes place.

## **VI. ASSURANCES AND CONDITIONS**

### **A. Specific Assurances**

95. In addition to the standard assurances, the Government and the city corporations have given the following assurances, which are incorporated in the legal documents:

96. For the program:

- (i) The Government will promptly adopt the policies and take the actions as specified in the development policy letter and the policy matrix, and ensure that such policies and actions continue in effect during and after the period of the program.
- (ii) The Government will keep ADB informed of policy discussions with other multilateral and bilateral aid agencies that may have implications for the implementation of the Program, and will provide ADB with an opportunity to comment on any resulting policy proposals.
- (iii) The Government will use local currency funds generated by the program loan to meet the program expenditures and associated costs of reforms.

97. For the project:

- (i) The Government will make timely submission of annual budgetary appropriation requests and ensure prompt disbursement of appropriated funds during each year of project implementation.
- (ii) The Government will ensure that all of its ministries, agencies, and divisions involved in the implementation of the project, including the local government authorities, give their full cooperation to ensure smooth implementation of the project, including but not limited to the assignment of qualified staff and the provision of the necessary financial, technical, and other resources.
- (iii) Within 9 months of loan effectiveness, the UPEHU will create a website to disclose information about the UPEHSDP, including procurement information such as list of participating bidders, name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, and the list of goods and/or services procured.
- (iv) Within 1 year of loan effectiveness, the UPEHU will establish a grievance redress mechanism, acceptable to ADB, and appoint a nodal officer (deputy program director, project implementation) at the UPEHU to receive and resolve complaints and grievances or act upon reports from stakeholders on misuse of funds and other irregularities, including grievances due to resettlement. The UPEHU will (a) make the public aware of the existence of the grievance redressal mechanism, through public awareness campaign; (b) review and address grievances of stakeholders of the project, in relation to either the project, any of the service providers, or any person responsible for carrying out any aspect of the project; and (c) proactively and constructively respond to them.
- (v) The Government will ensure that financial management capacity of the UPEHU is maintained, and strengthened with qualified staff with proper education and

- job experience, and will allow those staff to actively attend training and enhance their capacity.
- (vi) The Government and the city corporations will ensure that (a) any involuntary resettlement is carried out in accordance with the Government's policy, law, and regulation on involuntary resettlement, ADB's *Involuntary Resettlement Policy* (1995), the resettlement framework agreed upon between the Government and ADB, and the resettlement plans approved by ADB; (b) for each subproject with resettlement impacts, a resettlement plan is prepared based on the resettlement framework, and submitted to ADB for approval; (c) the resettlement plan (and its updates if any) is disclosed to all subproject-affected people and other stakeholders; (d) the sample resettlement plans are updated once the detailed designs of the sample subprojects are completed; (e) all land, property, and right-of-way required for any subproject is acquired only after compensations have been paid to affected people prior to displacement or dispossession from their land, property, or assets; (f) sufficient budgetary allocations are made in a timely manner to implement land acquisition and resettlement activities under the project; (g) prior to award of any civil works contracts, the affected people are compensated in accordance with the resettlement plan; and (h) land acquisition and resettlement monitoring reports are prepared and submitted every quarter to ADB for review.
  - (vii) The Government and the city corporations will ensure that (a) the design, construction, operation, and implementation of the project are carried out in accordance with the Government's environmental policy, law and regulation, ADB's *Environment Policy* (2002), the initial environmental examination, and the environmental assessment and review framework agreed between the Government and ADB; (b) where proposed infrastructure facilities are to be located on former dump sites, a detailed study of environmental contamination, exposure pathways, and health implications to receptors is conducted during the feasibility stage before detailed design; (c) all slaughterhouses include a comprehensive on- and off-site waste management and treatment system; (d) the relevant environmental mitigation and monitoring measures specified in the environmental management plan (EMP) finalized during detailed engineering design, as approved by ADB, are incorporated in bidding documents and civil works contracts; (e) all mitigation measures and monitoring requirements set out in the EMP are implemented and closely supervised throughout the implementation of the subprojects; and (f) subproject performance with respect to EMP implementation and compliance with loan covenants is monitored and a program and project monitoring report submitted to ADB semiannually.
  - (viii) Although the project does not envisage any impact on indigenous people or ethnic minorities, if any subproject is found to have any such impacts, then the Government will (a) formulate an indigenous peoples development plan (IPDP) based on ADB's *Policy on Indigenous Peoples* (1998) and the Government's policy, law, and regulation; (b) submit the IPDP to ADB for review and approval before commencing any subproject-related activity; and (c) implement the IPDP in accordance with its terms.
  - (ix) The Government will ensure that the project is carried out in accordance with the gender action plan (GAP) for the project and ensure key gender outcome and output targets stated in the GAP are monitored regularly and achieved.
  - (x) The Government will ensure that the civil works contractors comply with all applicable labor, health, and safety laws and regulations of Bangladesh and, in particular, (a) do not employ child labor for construction and maintenance activities,

and (b) provide appropriate facilities (latrines, etc.) for workers at construction sites. The Government will require contractors to not differentiate wages between men and women for work of equal value. The Government will ensure that specific clauses will be included in bidding documents to ensure adherence to these provisions, and that compliance will be strictly monitored during project implementation.

- (xi) Within 1 year from loan effectiveness, the UPEHU will conduct initial baseline physical and socioeconomic surveys and submit a detailed implementation plan for monitoring performance and for preparing benchmark information, which will be submitted to ADB, for review and concurrence. Throughout the project implementation period, the UPEHU will prepare annual project performance monitoring and evaluation reports and submit them to ADB.
- (xii) The Government will ensure that the urban primary health care sustainability fund is funded and operationalized effectively and the benefits from the fund accrue to the very poor.

## **B. Conditions for Loan Effectiveness**

98. Prior to loan effectiveness, the following will have been completed:

- (i) The Government will have established the NUPEHC.
- (ii) The Government will have established the UPEHU and appointed the program director.

## **VII. RECOMMENDATION**

99. I am satisfied that the proposed loans would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the following:

- (i) the loan in various currencies equivalent to Special Drawing Rights 44,895,000 to the People's Republic of Bangladesh for the Urban Public and Environmental Health Sector Development Program, from ADB's Special Funds resources, with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 24 years, including a grace period of 8 years; and
- (ii) the loan in various currencies equivalent to Special Drawing Rights 38,482,000 to the People's Republic of Bangladesh for the Urban Public and Environmental Health Sector Development Project, from ADB's Special Funds resources, with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years.

Haruhiko Kuroda  
President

3 September 2009

## DESIGN AND MONITORING FRAMEWORK

<b>Design Summary</b>	<b>Performance and/or Targets</b>	<b>Data Sources and/or Monitoring Mechanisms</b>	<b>Assumptions and Risks</b>
<b>Impact</b> Improved public and environmental health of urban inhabitants	Three years after project completion (2019): <ul style="list-style-type: none"> <li>Under-5 mortality rate is reduced by 10% from 2009 rate.</li> <li>Child morbidity is reduced by 20% from the 2009 rate.</li> <li>Prevalence of waterborne and food-related diseases is reduced by 20% from 2009 prevalence.</li> <li>Prevalence of malaria and dengue reduced by 5% from 2009 prevalence.</li> </ul>	Program baseline, midterm, and final surveys  Bangladesh demographic and health surveys (BDHSs), and other household surveys  Government statistics	<b>Assumptions</b> Macroeconomic and political stability  Municipal finances support increasing demand for urban basic services  <b>Risks</b> Natural disasters  High in-migration
<b>Outcome</b> Sustainable public and environmental health services established in the six city corporations	By the end of the Program implementation (December 2016) the following will be achieved: <ol style="list-style-type: none"> <li>Carbon emission from unsanitary disposal of solid wastes reduced by 30% from 2009 levels.</li> <li>Municipal solid waste collection, transportation, and treatment improved by 30% from 2009 levels.</li> <li>Scientific disposal of medical wastes increased by 50% from 2009 levels.</li> <li>Hygienic slaughtering of animals increased by 50% from 2009 levels.</li> <li>Contaminated food reduced by 20% from 2009 levels.</li> <li>Testing of food and water samples increased by 30% from 2009 levels.</li> </ol>	Household income and expenditure surveys (HIESs), and BDHSs  Program baseline, midterm, and final surveys  Program quarterly monitoring reports  Reports of the Ministry of Health and Family Welfare  Reports of the Department of Environment and Forests  Asian Development Bank (ADB) program review missions	<b>Assumptions</b> Government of Bangladesh, Local Government Division (LGD), and urban local bodies (ULBs) committed to timely implementation of the program  City corporations adopt municipal finance reforms and improve their tax base and collection efficiencies  <b>Risk</b> LGD and ULBs have competing interests that impedes timely implementation of the program
<b>Outputs</b> 1. Strengthened institutional arrangements for urban public and environmental health (UPEH) in place (policy reform area 1)	The urban public and environmental health unit (UPEHU) is established (December 2009)  Core civil servants of UPEHU are supported from revenue budget (FY2017)	LGD reports  NUPEHC meeting minutes  Minutes of the national program steering committee (NPSC)	<b>Assumption</b> Government supports and implements all institutional reforms and absorbs UPEHU into revenue budget

<b>Design Summary</b>	<b>Performance and/or Targets</b>	<b>Data Sources and/or Monitoring Mechanisms</b>	<b>Assumptions and Risks</b>
	<p>The national urban public and environmental health committee (NUPEHC) is constituted (December 2009) and meets annually</p> <p>Strengthening of city corporation health departments and city corporation conservancy departments are initiated (December 2015)</p>	<p>Project reports including quarterly progress reports</p> <p>ADB review missions</p>	<p><b>Risk</b> Frequent change in political environment and UPEHU management and staff</p>
2. Improved financial sustainability of urban and public and environmental health interventions are operational (policy reform area 2 and project component C)	<p>Collection of 2008 level of holding tax arrears increased by 25% (December 2013)</p> <p>City corporations update the assessment of holding taxes (December 2013)</p> <p>City corporations introduce modernized and computerized financial management systems (December 2013)</p> <p>Introduction of performance-based grant mechanism (December 2013)</p>	<p>LGD reports</p> <p>NUPEHC and NPSC meeting minutes</p> <p>Project reports including quarterly progress reports</p> <p>ADB review missions</p>	<p><b>Assumption</b> City corporations and the political leadership actively embrace municipal finance reforms, and citizens agree to rationalization of taxes and tax collection</p> <p><b>Risk</b> Low capacities of city corporations to implement changes</p>
3. Improved public and environmental health service delivery are operational (policy reform area 3 and project components A and B)	<p>National Waste Reduce, Reuse and Recycle (3R) Strategy and standards introduced (December 2013)</p> <p>All city corporations have integrated waste treatment facilities (sanitary landfill and compost) (December 2015)</p> <p>All city corporations have facilities for safe disposal of medical waste (December 2015)</p> <p>Interministerial committee for food safety meets regularly (December 2011)</p> <p>All city corporations construct modern slaughterhouses (December 2015)</p> <p>Bylaws for food safety, solid waste, and medical waste disposal introduced by city corporations (December 2013)</p>	<p>LGD reports</p> <p>NUPEHC and NPSC meeting minutes</p> <p>Project reports including quarterly progress reports</p> <p>ADB review missions</p>	<p><b>Assumptions</b> Land availability</p> <p>Public awareness campaigns lead to improved behavior towards solid waste management</p> <p><b>Risks</b> Conflicting interests of LGD, central and local politicians, and other interest groups suggest change of original project plan</p> <p>National guidelines not strictly enforced</p> <p>Environmental clearances are not completed in a timely manner</p>

<b>Design Summary</b>	<b>Performance and/or Targets</b>	<b>Data Sources and/or Monitoring Mechanisms</b>	<b>Assumptions and Risks</b>
	Urban primary health care sustainability fund fully operational in each city corporation (December 2013)		
4. Strengthened UPEH governance and management (policy reform area 4 and project component C)	<p>Effective private sector participation introduced for delivery of UPEH services (December 2013)</p> <p>Citizens participation in city corporation delivery of UPEH services introduced (December 2013)</p> <p>All poor and very poor people in the city corporation area are provided with entitlement cards (December 2013)</p> <p>Maternal and child health care for poor and very poor people is introduced (December 2013)</p>	<p>LGD reports</p> <p>NUPEHC and NPSC meeting minutes</p> <p>Project reports including quarterly progress reports</p> <p>ADB review missions</p>	<p><b>Assumption</b> City corporations support reforms which lead to higher efficiencies, transparency, and accountability</p> <p><b>Risk</b> Lack of sufficient private sector interest in providing municipal basic services</p>
<b>Activities and Milestones</b>			<b>Inputs</b>
<p><b>1. Strengthening of institutional arrangements for public and environmental health</b></p> <p>1.1. Establishment of UPEHU: December 2009</p> <p>1.2. Key consultant teams (three packages): July 2010</p> <p>1.3. Baseline data collection and indicators setting for benefit monitoring and evaluation of all project components: March 2011</p> <p>1.4. Behavioral change communication work: December 2010 onwards</p> <p>1.5. Strengthening of municipal finances: March 2011 onwards</p> <p>1.6. Establishment of participatory planning, monitoring, and evaluation: December 2010</p> <p>1.7. First tranche policy reforms implemented: December 2009</p> <p>1.8. Second tranche policy reforms implemented: December 2011</p> <p>1.9. Third tranche policy reforms implemented: December 2013</p> <p><b>2. Improving financial sustainability of urban and public health interventions</b></p> <p>2.1. Instructions for improving arrears of holding tax collections issued: December 2011</p> <p>2.2. Instructions for updating assessment of holding taxes issued: December 2011</p> <p>2.3. Guidelines for introducing modernized and computerized financial management systems produced: December 2011</p> <p><b>3. Improving public and environmental health service delivery</b></p> <p>3.1. Initiate land acquisition and resettlement, if any: March 2010</p> <p>3.2. Prepare bid documents: March 2011</p>			<p><b>Project Loan:</b></p> <p>ADB: \$60 million equivalent</p> <p>Government: \$20 million</p> <p>ADB staff time of 12 person-months for review</p> <p><b>Program Loan:</b></p> <p>ADB: \$70 million equivalent</p> <p><b>Technical Assistance:</b></p> <p>ADB: \$500,000</p> <p>Government: \$125,000</p>

Activities and Milestones	Inputs
<p>3.3. Procure equipment: December 2011</p> <p>3.4. Construct five sanitary landfill sites: December 2013</p> <p>3.5. Develop secondary transfer stations in six city corporations: December 2012</p> <p>3.6. Start integrated primary collection for the poor: December 2012</p> <p>3.7. Start support for medical waste collection and safe disposal: December 2012</p> <p>3.8. Construct two public health laboratories: December 2012</p> <p>3.9. Construct six modern slaughterhouses: December 2012</p> <p><b>4. Strengthening of UPEH governance and management</b></p> <p>4.1. Citizens participation in the delivery of UPEH services introduced at the city corporation and facility level: December 2013</p> <p>4.2. Survey to identify and provide entitlement cards for the urban very poor and poor completed: December 2013</p> <p>4.3. Introduction of maternal and child services introduced for the very poor and the poor: December 2013</p> <p>4.4. Private sector participation for improving delivery of UPEH services introduced: December 2014</p>	

ADB = Asian Development Bank, BDHS = Bangladesh demographic and health survey, HIES = household income expenditure survey, LGD = Local Government Division, NPSC = national program steering committee, NUPEHC = national urban public and environmental health committee, ULB = urban local body, UPEH = urban public and environmental health, UPEHU = urban public and environmental health unit.

Source: Asian Development Bank.

## SECTOR ANALYSIS

### A. Rapid Urbanization and Reaching the Urban Poor

1. **Rapid Urbanization.** Bangladesh is urbanizing at a rapid pace. Since independence in 1971, the urban population has grown at an average annual rate of 6% against the overall national growth of 2.2%. From a total of 20.8 million people in 1991, the country's urban population increased to 28.6 million in 2001.<sup>1</sup> Further projections estimate that the country's urban population will reach 116.2 million (about half of the country's population) by 2040.<sup>2</sup> Approximately 28.4% of the total population living in urban areas is poor.<sup>3</sup> By 2020, it is estimated that the poor will comprise 40%–60% of the urban population, most of those will live in slum communities.<sup>4</sup> The latest census identified 9,448 slums in the six cities, with the highest concentration in Dhaka (54.9%), followed by Chittagong (20%), Sylhet (8.3%), Rajshahi (7.1%), Khulna (5.7%), and Barisal (3.9%).<sup>5</sup> These demographic changes have increased the public and environmental health challenges in urban areas.

### B. Status of Public and Environmental Health in Urban Areas

2. The summary of the problems in the form of problem tree analysis is given in Figure A2. A brief description of these problems is given below. High urban density in Bangladesh results in unhealthy living conditions for the poor, who live in crowded, damp, and unsanitary environments. It is estimated that about one-fifth of the country's total burden of disease may be associated with environmental factors. Two of the top three causes of death and sickness, particularly among poor children, are respiratory illnesses, including respiratory tract infection (pneumonia) and bronchial asthma, and diarrheal diseases all arising from adverse environmental conditions. The findings of the qualitative surveys in four slums of Dhaka reinforce the findings of the quantitative surveys regarding public and environmental health challenges among the urban poor (Supplementary Appendix AB). Table A2 shows the estimated share of the top five causes of death, disease, and cancer as measured in disability adjusted life years.<sup>6</sup>

3. **Millennium Development Goals on Health.** Bangladesh has made impressive progress relating to Millennium Development Goals on health but there are inequalities in the health conditions between the urban rich and the urban poor (Supplementary Appendix A). The infant mortality rate in urban slum areas (63 per 1,000 live births) is more than the national estimate, and the under-5 mortality rate is much higher in urban slum areas (81 per 1000 live births) than in urban non-slum areas (31 per 1000 live births). The nutritional status of urban poor children is as bad as their rural counterparts (Supplementary Appendix AA). The Second Urban Primary Health Care Project developed an effective project-specific methodology targeting the urban poor for delivering primary health care services. This practice, although successful, needs to be expanded to ensure that poor people have access to the full array of government programs.

<sup>1</sup> Bangladesh Bureau of Statistics. 2001. *Bangladesh Population Census 2001*. Dhaka.

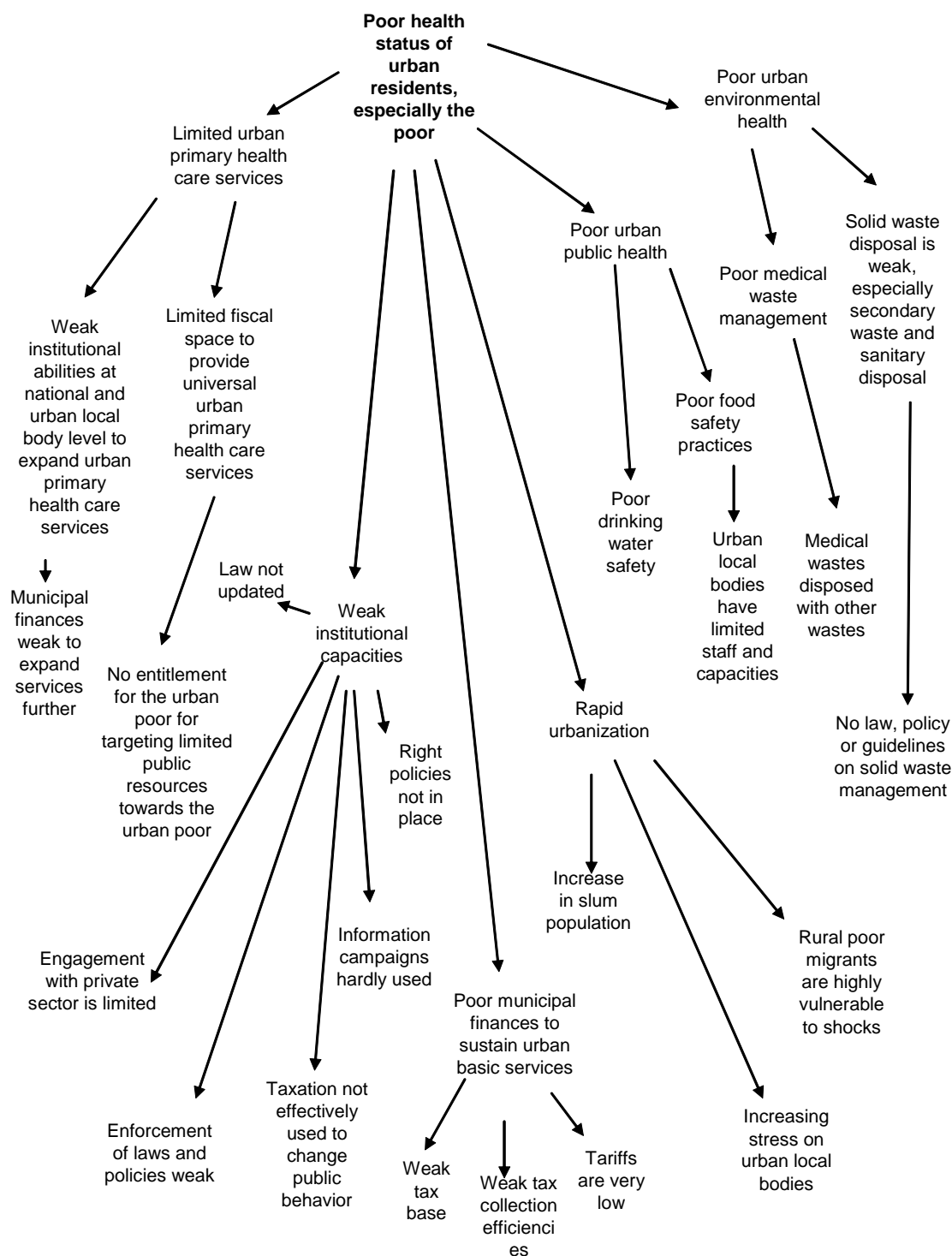
<sup>2</sup> United Nations. 2007. *World Urbanization Prospects: 2007 Revised Population Database*. New York.

<sup>3</sup> ADB. 2006. *Country Operations Business Plan Bangladesh, 2007–2009*. Manila.

<sup>4</sup> Anam, S. 1993. *Staying Alive: Urban Poor in Bangladesh*. Dhaka: UNICEF.

<sup>5</sup> National Institute of Population Research and Training, et al. 2006. *Slums of Urban Bangladesh: Mapping and Census*. Dhaka.

<sup>6</sup> World Bank. 2006. *Bangladesh County Environmental Analysis. Bangladesh Development Series Paper 12*. Washington, DC.

**Figure A2. Problem Tree Analysis of Urban Public and Environmental Health**

Source: Asian Development Bank

**Table A2: Bangladesh: Share of Disability Adjusted Life Year Lost by Cause and Environment Contribution**

<b>Cause</b>	<b>%</b>	<b>Environment Factor</b>	<b>Share of Cause (%)</b>	<b>Share of Total (%)</b>
Respiratory Infections and Disease	17.0	Indoor Air Pollution	30–50	5–8
		Urban Air Pollution	6–10	1–2
Perinatal Causes	14.0	Not Applicable		
Diarrheal Disease	12.0	Low Access to Safe Water, Poor Sanitation/Hygiene, Food Safety	80–90	10–12
Injuries	11.5	Not Applicable		
Nutrition and/or	10.0	Not Applicable		
Endocrine				
Malignant Neoplasms	2.0	Agro-industrial Toxics	5–25	0.1–0.5
Other	33.5	Arsenicosis		0.3–0.4
<b>Total</b>				<b>16.4–21.9</b>

Source: World Bank. 2006. *Bangladesh County Environmental Analysis. Bangladesh Development Series Paper 12*. Washington, DC.

### C. Legal Framework for Urban Public and Environmental Health

4. City corporations and *pourashavas* (towns other than city corporations) have major role to play in strengthening urban public and environmental health service delivery. The City Corporation Ordinance and *Pourashava* Ordinance require city corporations and *pourashavas* to effectively deliver solid waste management, sanitation, infectious diseases control, and food and water safety services. There are currently no national rules or bylaws related to solid waste management and bylaws relating to food safety to guide local bodies. National policies are therefore needed to help local governments meet their urban public and environmental health mandates.

### D. Municipal Solid Waste Management

5. Municipal solid waste management is not keeping pace with demand. Limited number of households in urban areas in Bangladesh have access to a solid waste collection system<sup>7</sup> with most slum households disposing of garbage in open spaces. With the exception of Dhaka, no city corporations or *pourashavas* have sanitary landfill services (Supplementary Appendix E). While house-to-house collection by nongovernment organizations and community-based organizations is widespread, there is insufficient public or private investment in secondary collection and disposal. Due to low tariffs, the sector as a whole does not attract private sector investments, and municipal finances are insufficient to afford sustainable private sector participation. The level of cost recovery through user charges is very low, and in particular there is no separate tariff schedule for institutional, commercial, and industrial wastes. Moreover, there are no national solid waste management guidelines to assist local governments to overcome these challenges. Focus should be on establishing national policy, strategy, planning procedures, and guidelines, followed by specific investments to support municipalities in planning, preparing, and implementing municipal solid waste improvements in line with the established national priorities. Without national and local initiatives to improve municipal solid waste management, the growing and uncontrolled disposal of solid waste will continue to create severe public and environmental health challenges. Moreover, for the purposes of utilizing the

<sup>7</sup> ADB. 2005. *Bangladesh: Country Strategy and Program: 2006–2010*. Manila, Philippines.

clean development mechanisms, the option of landfill gas extraction or composting will be considered (Supplementary Appendix AF).

## E. Medical Waste Management

6. About 36,000 tons (t) of health care waste is generated every year in Bangladesh, of which approximately 7,200 t is hazardous. Medical waste needs to be properly managed so that the health and safety of the health care providers, waste handlers, and community is ensured. In most of Bangladesh, traditional and outdated systems of waste management in health facilities are used, causing ineffective and improper waste disposal leading to pollution of the environment and health hazards to the people. An acceptable, economical, and sustainable medical waste management system is imperative to establish environmentally friendly hospitals. Various studies document the poor quality of medical waste management in government and nongovernment hospitals, clinics, and diagnostic laboratories. There is no proper segregation and collection of waste in the health care facilities as well as a shortage of equipment and materials required for the disposal of medical wastes. The wastes are frequently dumped in the dustbins inside and/or outside hospital premises, or on the ground within the hospital premises, and then these become public waste.

7. **Medical Waste Management Regulation.** Recognizing the need to improve health care waste practices through national legislation, the Government adopted the Medical Waste (Management and Processing) Rules under the Bangladesh Environment Conservation Act, 1995. These regulations define the role and responsibilities of the local government institutions (city corporations, municipalities, and union *parishads* (councils)) for the external transportation of general waste, treatment of hazardous waste, and provision of land for the proper and final disposal of waste. An authorized person or organization will be responsible for untreated hazardous waste transportation and final disposal. The regulations establish a licensing regime under the control of the Ministry of Health and Family Welfare, and when implemented will provide a mechanism through which operators will compete with clients in an open market or under franchised service zones. For scaling up of programs in medical waste management, there is scope in both the City Corporation Ordinance and *Pourashava* Ordinance to immediately adopt bylaws to undertake any mandate to implement necessary tasks. As such there is the authority to either dispose of medical and solid waste or contract this work out to a competent private entity.

## F. Food Safety

8. Food contamination and adulteration with dangerous substances, colors, and chemicals are potential sources of unsafe food. There are limited sophisticated analytical laboratories with the necessary equipment, chemicals, and well-trained analysts or technicians. Food laws, rules, and regulations in Bangladesh are not up to date. The Bangladesh National Plan of Action on Nutrition<sup>8</sup> made suggestions on food quality and safety issues, such as updating legislation, designation of a competent authority, infrastructure, and laboratory development for providing essential services. A number of ministries, departments, and agencies are involved in food safety. The national food policy of the Ministry of Food and Disaster Management offers few strategic guidelines to ensure safe and quality foods. Bangladesh is yet to develop a unified food safety administration system or formulate a national food safety policy.

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<sup>8</sup> Government of Bangladesh. 1997. *National Plan of Action on Nutrition*. Dhaka.

9. Animals are slaughtered in open places adjacent to the wet markets or on the roadside in areas without proper facilities, sanitation, and drainage. Meat production and marketing is not organized and is conducted in various places in the city without much of municipal control, supervision, or veterinary inspection of live animals or carcasses. All city corporations need to organize, supervise, and control the slaughtering of animals, the production of meat and meat products, and the utilization and processing of by-products.

## **G. Municipal Financing**

10. Insufficient resources are allocated within the city corporation towards public and environmental health. Even though public health and primary health care are priority areas under the Medium Term Budget Framework of the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives, the majority of funds are spent on infrastructure and maintenance of roads. Dedicated funds for public health and urban primary health care need to be specific in the government orders that accompany funds release to the city corporations. However, a steady and growing source of local funding is needed for urban local bodies. Municipal financing is dominated by one tax source—the property tax. It contributes nearly two-thirds of total revenue receipts, however it is not fully exploited. Proper and regular assessment is not done, and most local governments are not properly equipped to do this. The betterment tax, higher property taxes, urban development bond, commercial development projects, attracting private capital, and untapped resources (e.g., introduction of parking rentals), are some of the potential revenue sources available to municipalities.

11. Municipal financial reforms, including a set of standard procedures on accepted accounting standards, are needed to enhance financial management aspects in an integrated and cohesive manner. Computerization of the accounting systems would be of benefit in achieving fiscal discipline by virtue of its implementation. In support of municipal financial reforms, some functional responsibilities, such as solid waste management, can be enhanced through private sector participation, and performance-based allocation should be considered to avoid block grant allocations.

12. **Tariffs, Cost Recovery, and Sustainability.** Cost recovery is a key issue for successful implementation of the Project. An effective tariff mechanism is needed to ensure sufficient contributions from beneficiaries to support operation and maintenance and finance overhead costs including debt servicing. It is necessary to ensure adequate and timely provision of counterpart funds during project implementation. Inadequate tariff levels will lead to lack of funds for capital investment and for operations and maintenance for built assets. Effectiveness and sustainability of all future urban wastewater management and solid waste management facilities depend upon tariff reforms and innovative financing mechanisms. The Government of Bangladesh has recognized the importance of tariff reforms to raise funds for both construction and operation and maintenance of urban water supply, wastewater treatment, and solid waste management. As suggested in the National Sanitation Strategy 2005<sup>9</sup>, multiple choices of technologies are necessary, depending on local conditions and people's willingness to pay. The institutional, commercial, and industrial waste tariff analysis, however, showed very low levels of tariff structures, and high potential for improving revenues from the tariffs (Supplementary Appendix AD).

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<sup>9</sup> Government of Bangladesh. 2005. *National Sanitation Strategy*. Dhaka.

## H. Institutional Strengthening

13. Surveys indicate that a large number of positions—including senior positions—relating to health and conservancy are vacant in urban local bodies. In addition, survey results reinforce the view that municipalities do not dedicate much budget to critical public and environmental health functions (Supplementary Appendix AE). UPEH requires a well-coordinated approach by several departments of different ministries, the private sector, nongovernment organizations, and others. However, an effective steward to promote and harness the coordination, collaboration, and partnership is absent. As the support wing of the ministry for all local government institutions, including the city corporations and the *pourashavas*, the LGD is entrusted with a wide range of tasks including (i) development of local government; (ii) financing, regulation, and inspection of all authorities established for local government; (iii) public health engineering; and (iv) rural water supply and water and sewerage development. The LGD has few human resources to achieve all these tasks and has no permanent arrangement to provide stewardship for urban public and environmental health development. The institutionalization of an urban public and environmental health program is therefore essential.

14. Due to the complex nature of urban health problems there is also need for joint action and consolidated efforts of different ministries, such as the Ministry of Local Government, Rural Development and Cooperatives, MOHFW, the Ministry of Environment and Forestry, the Ministry of Industry, the Ministry of Food and Disaster Management, the Ministry of Commerce, and their departments that are responsible for taking action to support good health and regulate and control unhealthy conditions. Thus the main issue is for a sustainable urban public and environmental health initiative within the LGD to make an institutional arrangement to fill the human resource and financial gap, which is needed to create a sustainable UPEH system in Bangladesh.

## DEVELOPMENT COORDINATION MATRIX

1. The external assistance to urban public and environmental health and urban primary health care is summarized in the table below. More details can be found in Supplementary Appendix AE.

**Table A3: External Assistance to Urban Public and Environmental Health in Bangladesh**

Name of Project	Executing Agency	Amount Approved (\$ million unless otherwise stated)	Implementation Period
<b>A. Asian Development Bank (ADB)</b>			
1. Small-Scale Water Resources Development Sector	LGED	32.00	1995
2. District Towns Water Supply Project	DPHE	14.40	1982
3. Dhaka Urban Infrastructure Improvement (DWASA Part)	DWASA	24.20	1989–1997
4. Dhaka Integrated Flood Protection (Drainage Component)	DWASA	42.20	1991–1996
5. Second Water Supply and Sanitation Project	DPHE	31.00	1994–2002
6. Secondary Towns Water Supply and Sanitation Sector Project	DPHE	41.00	2006–2012
7. Urban Primary Health Care Project	LGD	60.00	1997–2005
8. Urban Governance and Infrastructure Improvement	LGED	87.00	2003–2010
9. Second Urban Primary Health Care Project	LGD	90.00	2005–2012
10. Dhaka Water Supply Sector Development Program	DWASA	262.70	2007–2014
11. Second Urban Governance and Infrastructure Improvement (Sector) Project	LGED	167.50	2008–2015
<b>B. World Bank/IDA</b>			
1. Dacca Water Supply	DWASA	14.40	1973–1979
2. Dacca Water II	DWASA	22.00	1979–1984
3. Dhaka WASA III	DWASA	30.00	1986–1994
4. Fourth Dhaka Water Supply	DWASA	80.30	1996–2002
5. Bangladesh Arsenic Mitigation Water Supply Project	DPHE	22.08	1998–2005
6. Bangladesh Water Supply Program Project	DPHE	35.69	2004–2010
<b>C. Danida</b>			
1. Water Supply, Sanitation, Drainage and Waste Management Project at <i>Pourashava</i> , Thana and Growth Center	DPHE	22.85	1996–2005
2. Rural Water Supply and Sanitation Project at Coastal Belt	DPHE	12.64	1999–2005
3. Water Supply and Sanitation Sector Program Support (WSSPS) Phase II	DWASA	60.82	2006–2010
4. Saidabad II Water Treatment Plant (Phase II)	DWASA	Tk8,840 million	[2008–2011]
<b>D. UNICEF</b>			
1. Social Mobilization for Sanitation	DPHE	2.85	1993–1998
2. Environmental Sanitation, Hygiene Water Supply in Rural Areas of Bangladesh	DPHE	20.06	1996–2005
3. Study on Arsenic-Affected Area of Bangladesh	DPHE	0.19	1996–2000
4. Environmental Sanitation, Hygiene and Water Supply Project in Slum Areas	DPHE	2.42	1997–2005
5. Action Research on Community-Based Arsenic Mitigation in 15 Upazila Projects	DPHE	2.11	2001–2005
6. WS Rehabilitation Project for the Flood-Affected People	DPHE	5.86	2005–2006

Name of Project		Executing Agency	Amount Approved (\$ million unless otherwise stated)	Implementation Period
7.	in 2004 Sanitation Health Education and Water Supply Project	DPHE	65.83	2006–2010
<b>E. Japan</b>				
1.	Urgent Sewerage Construction and Rehabilitation	DWASA	30.00	1989–1992
2.	Improvement of Drainage System in Dhaka City	DWASA	12.50	1991–1993
3.	BMRE of Chadnighat Water Treatment Plant	DWASA	24.00	1994–1998
4.	Crash Program for Procurement of 100 Generators	DWASA	2.00	1999–2000
5.	Study on Groundwater Development of Deep Aquifers for Safe Drinking Water Supply to Arsenic-Affected Areas in Western Bangladesh	DPHE	3.79	2000–2001
6.	Establishment of DPHE Central Laboratory for Strengthening Water Supply Examination System	DPHE	4.19	2004–2006
7.	CWASA Water Supply and Institutional Reform	CWASA	¥12.2 billion	2006–2010
<b>F. Netherlands</b>				
1.	Water Supply, Sanitation and Drainage Project in 18 Districts	DPHE	18.58	1978–1999
2.	Char Development and Settlement Project-2	DPHE	0.50	1999–2005
<b>G. IDB</b>				
1.	Water Supply Project at Coastal Belt (second phase)	DPHE	7.64	2003–2006
2.	Water Supply Project at Coastal Belt (first phase)	DPHE	8.13	1998–2003
<b>H. DFID</b>				
1.	TA Project for Research on Arsenic-Affected Groundwater of Bangladesh	DPHE	0.57	1997–2000

ADB = Asian Development Bank, BWDB = Bangladesh Water Development Board, CWASA = Chittagong Water Supply and Sewerage Authority, Danida = Danish International Development Assistance, DFID = Department for International Development (United Kingdom), DPHE = Department of Public Health Engineering, DWASA = Dhaka Water and Sewerage Authority, IDA = International Development Association, IDB = Islamic Development Bank, LGD = Local Government Division, LGED = Local Government Engineering Department, MOF = Ministry of Finance, TA = technical assistance, UNICEF = United Nations Children's Fund, WSSPS = Water Supply and Sanitation Sector Program Support.

Sources: Asian Development Bank.

**DEVELOPMENT POLICY LETTER AND POLICY MATRIX**  
**Development Policy Letter**

**Ministry of Finance**  
 Government of the people's  
 Republic of Bangladesh



**Abul Maal A. Muhith**  
 Minister

DO No.ERD/ADB-4/Health-07/2009/308

24 August 2009.

Mr. Haruhiko Kuroda  
 President  
 Asian Development Bank  
 Manila, Philippines.

**Subject: Development Policy Letter in connection with the proposed "Urban  
 Public and Environmental Health Sector Development Program".**

**Dear Mr. Kuroda,**

You will be happy to know that the Government of Bangladesh is committed to improve public and environmental health of its urban inhabitants. However, rapid urbanization, rural to urban migration of the rural poor and dense inhabitation pose a number of challenges for the Government to improve health and wellbeing of its urban inhabitants. With a density of more than 2,750 persons per square kilometer in urban areas, Bangladesh is the most densely populated country in the world excluding a few city-states. Bangladesh is urbanizing at a rapid pace and the country's urban population is expected to reach 89.5 million by 2030. The urban public and environmental health challenges are going to increase in scale, scope and complexity with passage of time. Effective steps to strengthen urban public and environmental health are an imperative now.

2. The Government of Bangladesh has undertaken a number of steps to strengthen urban public and environmental health through investments in drinking water, sanitation, and urban primary health care. The Government's goal is to ensure that all people have access to safe water and sanitation services at affordable costs. In the past decade, Bangladesh has made concerted progress to improve coverage of sanitation for urban population. Likewise significant progress has been made to improve access to drinking water.

3. Please note that according to the National Policy for Safe Water Supply and Sanitation 1998, city corporations and pourashavas are responsible for solid waste management in their respective jurisdictions. The recently introduced Medical Waste Management Rules gives city corporations and pourashavas the responsibility for the external transportation of general waste, treatment of hazardous waste and provision of land for the proper and final disposal of medical waste. City corporations and pourashavas are responsible for controlling food contamination and adulteration in their respective jurisdictions. However, limited laboratories with the proper equipment, chemicals and trained personnel to support detection of contamination and adulteration have become serious bottlenecks. Unhygienic animal slaughter, handling and transportation are significant problems in all city corporations and pourashavas. All the above listed aspects of urban public and environmental health require strengthening through policy reforms to improve institutions, increase investments, strengthen legal and regulatory framework, and leverage information.

**Ministry of Finance**  
Government of the people's  
Republic of Bangladesh



**Abul Maal A. Muhith**  
Minister

4. We are pleased with Asian Development Bank's (ADB's) support for the Urban Public and Environmental Health Sector Development Program (UPEHSDP), which is crucial for sustainable urban development and economic growth in Bangladesh. The Government agrees to undertake the accompanying proposed program under the policy matrix with the support of the UPEHSDP loan from ADB. As the policy matrix indicates, the Government's policy priorities to strengthen urban public and environmental health are broadly to (i) strengthen institutional arrangements; (ii) improve financial sustainability; (iii) improve urban public and environmental service delivery; and (iv) improve governance and management of urban public and environmental health.
5. To strengthen institutional arrangements for improving urban public and environmental health, the Government of Bangladesh is determined to reinforce the stewardship role of the Local Government Division (LGD) in the Ministry of Local Government, Rural Development and Cooperatives by establishing an urban public and environmental health unit to support city corporations and pourashavas implement their mandates relating to urban public and environmental health by utilizing all available instruments with the Government more effectively-law, investments, taxation, information. Urban public and environmental health involves interdepartmental efforts, and therefore inter-departmental and inter-ministerial coordination become critical to improve urban public and environmental health. A National Urban Public and Environmental Health Committee will be constituted for this purpose. Steps would be undertaken to examine various ways to strengthen city corporation health and conservancy departments as a part of the reforms.
6. Municipal finance reforms will be undertaken to ensure sustainable scaling-up of public and environmental health interventions by city corporations in a sustainable manner. This will be done by introducing measures to improve city corporations' financial management, improve their tax revenues, and diversifying the revenue sources. The program will support the augmentation of block grants to the city corporations and pourashavas through performance-based grant mechanisms, among others, to link increased urban public and environmental health block grants to increased city corporation and pourashava holding tax collection and to increased allocation by city corporation and pourashava resources to public and environmental health in their respective areas.
7. The Government will support the preparation of a solid waste management strategy which establishes objectives, goals and targets, and drives up standards evenly across the whole country, and also planning guidelines to instruct and guide implementation of solid waste management. LGD will issue guidelines to city corporations and pourashavas for the implementation of the Medical Waste Management Rules relating to medical waste collection, transportation and safe disposal. City corporations and pourashavas will prepare medical waste management action plans in accordance with the LGD instructions.

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Minister

8. As a part of the reforms, LGD will constitute a technical committee with representatives from related ministries to prepare guidelines for the sanitary slaughter of animals at the city corporation and pourashava level in accordance with the provisions of Animal Slaughter Control and Meat Inspection Act, 2005. LGD will issue these guidelines and advise city corporations and pourashavas on the requirements to modernize the slaughter of animals and the handling of meat products. LGD will advise city corporations and pourashavas to develop a water safety plan to be verified by Department of Public Health Engineering on an annual basis. The Government has established Urban Primary Health Care Sustainability Fund and will undertake steps to strengthen the operations of the Fund. The reforms will support enactment of by-laws that will facilitate more responsible public behavior and attitude towards environmental "public" good. This will include preparing model by-laws, enacting rules that can change public behavior towards environmental "public good".

9. The reforms will support the development of appropriate guidelines for private sector participation in urban public and environmental health by tapping into related private sector participation experiences of LGD in the delivery of primary health care services and city corporation experiences elsewhere. The program will support review of successful innovations to develop appropriate guidelines for greater participation of citizens in the delivery of urban public and environmental health services by city corporations. LGD will constitute a technical working group to develop procedures and guidelines for city corporations to identify the poor in their locality and for pro-poor targeting of the Government programs.

10. The Government is fully committed to the reforms of the UPEHSD and is determined to implement the actions outlined in the Policy Matrix (to be finalized during the loan negotiation) attached hereto within the agreed timetable. The Government is committed to maintain an active policy dialogue with ADB and other development partners on implementation of the agreed actions and the progress of the reforms to ensure that the objectives of the UPEHSDP are met.

11. In conclusion, we are convinced that the urban public and environmental health reforms as outlined in the UPEHSDP is the right approach that will strengthen the capacities and enable city corporations and pourashavas implement their mandates relating to urban public and environmental health effectively and efficiently, which will lead to increased productivity, better quality of life of urban inhabitants, and, in turn, contribute to Bangladesh's sustainable economic growth.

With regards,

Yours sincerely,

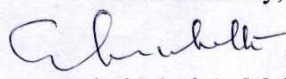
  
(Abul Maal A. Muhith) 26/9/01

Table A4: Policy Matrix<sup>a</sup>

Policy Reform Areas	A. First Tranche Actions	B. Second Tranche Actions	C. Third Tranche Actions	Tranche (T) Indicators and Implementing Agencies (IA)
<b>A. Policy Outcome 1: Strengthening Institutional Arrangements</b>				
<b>1.1. Establishing program support unit for urban public and environmental health (UPEH) in the Local Government Division (LGD)</b>	<b>A.1.1.1. LGD to establish the urban public and environmental health unit (UPEHU) under the Sector Development Program (SDP)</b>	<b>B.1.1.1. LGD to submit proposal to the Ministry of Establishment (MOE) and the Ministry of Finance (MOF) to transfer core civil servant positions<sup>b</sup> of UPEHU from development budget to revenue budget</b>	<b>C.1.1.1. MOE with the concurrence of MOF to issue orders for transferring core civil servant positions of UPEHU from development budget to revenue budget to be effective from Financial Year (FY) 2017</b>	<b>T1: Development Project Proforma for UPEHSDP approved by Executive Committee for National Economic Council. T2: LGD prepares and submits to MOE and MOF detailed organogram with terms of reference and justification for transfer of core civil servants positions of UPEHU to revenue budget. T3: Government order issued by MOE with the concurrence of MOF creating core civil servant positions in UPEHU under the revenue budget.</b>
<b>1.2. Improving interministerial coordination mechanism of UPEH</b>	<b>A.1.2.1. LGD to establish an interministerial National Urban Public and Environment Health Committee (NUPEHC)</b>	<b>B.1.2.1. NUPEHC to meet at least once a year</b>	<b>C.1.2.1. NUPEHC to meet at least once a year</b>	<b>T1: Government order issued by LGD reconstituting urban primary health care coordination committee under the Chairmanship of the Minister, Ministry of Local Government Rural Development and Cooperatives (MOLGRDC) into NUPEHC by incorporating additional membership from the Ministry of Environment and Forestry (MOEF), MOE, Ministry of Women and Children Affairs (MOWCA), Ministry of Food and Disaster Management (MOFDM), Ministry of Industry (MOI), MOF, Planning Commission; and Implementation, Monitoring and Evaluation Department (IMED). T2: Minutes of NUPEHC meetings. IA: LGD. T3: Minutes of NUPEHC meetings. IA: LGD.</b>
<b>1.3. Strengthening health and conservancy departments of all the six city corporations (CCs) - Dhaka, Chittagong, Khulna, Rajshahi, Barisal and Sylhet</b>	<b>A.1.3.1. LGD to issue order to constitute a technical working group (TWG) for strengthening CC's health and conservancy departments</b>	<b>B.1.3.1. TWG to submit report with medium term and long term recommendations to LGD for strengthening CC health and conservancy departments</b>	<b>C.1.3.1. LGD to implement the medium term recommendations of the TWG for strengthening CC health and conservancy departments</b>	<b>T1: Government order issue by LGD constituting TWG to strengthen CC health and conservancy departments. T2: Minutes of the TWG meeting along with a copy of the final report of the TWG submitted to LGD. T3: Progress report on implementation of the recommendations of the TWG submitted by LGD.</b>

Policy Reform Areas	A. First Tranche Actions	B. Second Tranche Actions	C. Third Tranche Actions	Tranche (T) Indicators and Implementing Agencies (IA)
<b>B. Policy Outcome 2: Improving Financial Sustainability</b>				
2.1. Improving municipal finances	A.2.1.1. LGD to instruct CCs to accelerate collection of outstanding holding taxes (property, street lighting, and conservancy)	B.2.1.1. At least 2 out of 6 CCs to collect at least 25% arrear of holding tax up to 2008	C.2.1.1. All 6 CCs to collect at least 25% arrear of holding tax up to 2009	T1. Instructions issued by LGD T2. Progress report issued by the CCs showing the projected collection of arrear of holding taxes achieved. T3. Progress report issued by the CCs showing the projected collection of arrear of holding taxes achieved.
	A.2.1.2. LGD to constitute TWG on strengthening municipal finances and private sector participation (PSP)	B.2.1.2. LGD to issue guidelines to CCs to update assessment of holding taxes and cost recovery for basic services	C.2.1.2. At least 50% of all CCs to update assessment of holding taxes and enhance cost recovery in accordance with the LGD guidelines	T1: TWG to strengthen municipal finances constituted by LGD T2. Guidelines on improving holding taxes and cost recovery issued; by LGD. T3: Progress reports on updating holding tax assessment and cost recovery submitted by CCs to LGD.
	A.2.1.3. TWG established under policy action A.2.1.2 to also develop guidelines for modernizing and computerizing financial management systems	B.2.1.3. LGD to issue guidelines to CCs to modernize and computerize the financial management systems	C.2.1.3. At least 50% of all CCs to initiate modernizing and computerizing financial management systems in accordance with the LGD guidelines	T1. The mandate for developing guidelines for modernizing and computerizing financial management systems included in the terms of reference (TORs) of TWG. T2. Guidelines on improving financial management systems issued; by LGD. T3: Progress reports on modernizing and computerizing financial management systems submitted by CCs to LGD.
2.2. Introducing performance-based targeted grant mechanism	A.2.2.1. LGD to constitute TWG on performance based targeted grant mechanisms for CCs	B.2.2.1. TWG to submit to LGD recommendations on performance-based targeted grant mechanism	C.2.2.1. Upon approval of MOF, LGD to release performance-based grants for CCs and <i>pourashavas</i> for UPEH	T1: TWG on performance based targeted grant mechanisms constituted by LGD T2. Recommendations for mainstreaming performance based targeted grant transfers to CCs and <i>pourashavas</i> submitted by TWG. T3: LGD releases additional grant (over and above regular grants) of not less \$30 million equivalent for UPEH to CCs and <i>pourashavas</i> that fulfill the performance criteria. IA: LGD and CCs
<b>C. Policy Outcome 3: Improving Urban Public and Environmental Health Service Delivery</b>				
3.1. Strengthening solid waste management	A.3.1.1. Ministry of Environment and Forestry (MOEF) in coordination with LGD to constitute a TWG for strengthening solid waste management	B.3.1.1. MOEF in coordination with LGD to issue the National Waste Reduce, Reuse, and Recycle (3R) Strategy	C.3.1.1. All CCs to prepare action plans in accordance with the National Waste Reduce, Reuse, and	T1. TWG for solid waste management constituted by MOEF in coordination with LGD. T2. National Waste Reduce, Reuse, and Recycle (3R) Strategy adopted by MOEF. T3: Action plans for solid waste management prepared by CCs.

Policy Reform Areas	A. First Tranche Actions	B. Second Tranche Actions	C. Third Tranche Actions	Tranche (T) Indicators and Implementing Agencies (IA)
			<b>Recycle (3R) Strategy</b>	
	A.3.1.2. TWG established under policy action A.3.1.1 to also develop waste management standards and implementation guidelines	B.3.1.2. MOEF in coordination with LGD to issue solid waste management standards and implementation guidelines	C.3.1.2. All CCs to adopt solid waste management standards and implementation guidelines	T1. The mandate for development of waste management standards and implementation guidelines included in the TORs of TWG. T2. Solid waste management standards and implementation guidelines issued MOEF in coordination with LGD. T3: Solid waste management standards and implement guidelines adopted by CCs.
	A.3.1.3. LGD to issue instructions to CCs to identify and reserve land for sanitary landfill facilities	B. 3.1.3. All the CCs to reserve land for sanitary landfill facilities	C.3.1.3. At least 50% of the CCs award civil works contract for construction of sanitary landfill facilities	<b>T1.</b> Instructions issued to CCs by LGD. <b>T2.</b> Land for sanitary landfill facilities reserved through government order by CCs. <b>T3:</b> At least 3 CCs award civil works contract for construction of sanitary landfill facilities.
<b>3.2. Strengthening medical waste management</b>	<b>A.3.2.1. MOEF to adopt the Medical Waste (Management and Processing) Rules under Environment Conservation Act, 1995</b>	<b>B.3.2.1. LGD in coordination with MOEF to issue instructions to CCs for implementation of the Medical Waste (Management and Processing) Rules</b>	<b>C.3.2.1. CCs to prepare medical waste management action plans in accordance with the instructions</b>	<b>T1. Rules adopted by MOEF.</b> <b>T2. Guidelines issued by LGD.</b> <b>T3. Action plans prepared by CCs.</b>
	A. 3.2.2. LGD to issue instructions to CCs to identify and reserve land for safe disposal of medical waste	B.3.2.2. All the CCs to reserve land for safe medical waste disposal	C.3.2.2. At least 50% of the CCs to award civil works contracts for building of medical waste treatment and disposal facilities	<b>T1.</b> Instructions issued to CCs by LGD for identification and reservations of land for safe disposal of medical waste. <b>T2.</b> Land for medical waste treatment and disposal reserved by all CCs. <b>T3:</b> At least 3 CCs award civil works contract for construction of medical waste treatment and disposal facilities.
<b>3.3. Strengthening of Food and Water Safety</b>	A.3.3.1. The National Food Safety Advisory Council (NFSAC) chaired by Minister, MOLGRDC to hold its first meeting	B.3.3.1. The NFSAC to meet at least once a year, among others, to review the implementation of Bangladesh National Plan of Action for Nutrition (NPAN)	C.3.3.1. The NFSAC to meet at least once a year	T1. Minutes of the first meeting of NFSAC; IA: LGD. T2. Minutes of the meeting; IA: LGD. T3: Minutes of meeting; IA: LGD

Policy Reform Areas	A. First Tranche Actions	B. Second Tranche Actions	C. Third Tranche Actions	Tranche (T) Indicators and Implementing Agencies (IA)
		relating to urban local bodies		
	<b>A.3.3.2. LGD to constitute TWG for food safety and municipal by-laws relating to UPEH</b>	<b>B.3.3.2. LGD to issue guidelines in accordance with the provisions of the Animal Slaughter (Restriction) and Meat Control Act, 1957 for sanitary slaughter of animals<sup>c</sup></b>	<b>C.3.3.2. At least 1 CCs to issue civil works contracts for construction of sanitary slaughter houses in accordance with LGD's guidelines</b>	<b>T1. TWG for food safety constituted By LGD T2. Guidelines for sanitary slaughter houses issued by LGD T3. Civil works contract issued by at least one CC for the construction of sanitary slaughter house</b>
	A.3.3.3. LGD to issue an order to CCs specifying the number of drinking water samples that are to be tested by Department of Public Health Engineering (DPHE)	B.3.3.3. At least 50% of the CCs develop water safety plans	C.3.3.3. All CCs develop water safety plans	<b>T1. Orders regarding water samples to be tested issued by LGD T2. Water safety plans for at least 3 CCs developed T3. Water safety plans all CCs developed</b>
<b>3.4. Strengthening Primary Health Care (PHC)</b>	<b>A.3.4.1. LGD to issue orders establishing non-lapsable Urban PHC sustainability fund for all CCs; and all CCs to open urban PHC sustainability fund bank accounts</b>	<b>B.3.4.1. At least 2 of the CCs to deposit money equivalent to 1% of their 2009 annual revenue budget into the urban PHC sustainability fund</b>	<b>C.3.4.1. All CCs to deposit money equivalent to 1% of their 2009 annual revenue budget into the urban PHC sustainability fund.</b>	<b>T1. Orders for establishing urban PHC sustainability fund issued and all CCs open urban PHC sustainability fund bank accounts. IA: LGD; and CCs T2. An amount equivalent of 1% of 2009 revenue income deposited by at least 2 CCs in the urban PHC sustainability fund. T3. An amount equivalent of 1% of 2009 revenue income deposited by all the CCs in the urban PHC sustainability fund.</b>
<b>3.5. Strengthening Legal Framework for UPEH</b>	A.3.4.2. TWG established under policy action A.3.3.2 to also develop sample by-laws on food safety, solid waste and medical waste disposal	B.3.5.1. LGD to provide sample by-laws to CCs on food safety, solid waste and medial waste disposal, and environmental health	C.3.5.1. At least 50% of the CCs to enact the by-laws relating UPEH based on sample by-laws	<b>T1. The mandate for developing guidelines for preparing sample by-laws included in the TORs of TWG. T2. Model by-laws circulated to CCs by LGD. T3. At least 3 CCs enact by-laws relating to UPEH.</b>
<b>D. Policy Action 4: Strengthening Governance and Management</b>				
<b>4.1. Enabling PSP in UPEH</b>	<b>A.4.1.1. TWG established under policy action A.2.1.2 to also develop guidelines for PSP in UPEH</b>	<b>B.4.1.1. LGD to issue guidelines for PSP in UPEH to CCs</b>	<b>C.4.1.1. At least 50% of CCs to adopt PSP for any one of the aspects of UPHE</b>	<b>T1. The mandate for developing guidelines for PSP included in the TORs of TWG. T2. Guidelines issued by LGD. T3. Request for proposals issued for PSP by the CCs.</b>

Policy Reform Areas	A. First Tranche Actions	B. Second Tranche Actions	C. Third Tranche Actions	Tranche (T) Indicators and Implementing Agencies (IA)
<b>4.2. Enable citizen's participation in delivery of UPEH</b>	<b>A.4.2.1. LGD to constitute TWG on pro-poor and gender-responsive targeting and citizen's participation in the CC's delivery of UPEH services</b>	<b>B.4.2.1. LGD to issue guidelines on strengthening citizen's participation in UPEH that is gender-responsive</b>	<b>C.4.2.1. All CCs to adopt guidelines on strengthening citizen's participation in UPEH that is gender-responsive</b>	<b>T1. TWG constituted by LGD</b> <b>T2. Guidelines on strengthening gender-responsive citizen's participation issued by LGD</b> <b>T3. Guidelines adopted by CCs.</b>
<b>4.3. Improving pro-poor targeting that is gender responsive</b>	A.4.3.1. TWG established under policy action A.4.2.1 to also develop guidelines on pro-poor targeting	B.4.3.1. LGD to issue guidelines to CCs on pro-poor targeting of urban basic services that is gender responsive	C.4.3.1. All CCs to issue entitlement cards for urban basic services for the very poor and the poor	<b>T1:</b> The mandate for developing guidelines for pro-poor targeting included in the TORs of TWG. <b>T2.</b> Guidelines issued by LGD for identification of the very poor and the poor that is gender responsive <b>T3.</b> All CCs to issue entitlement cards for the very poor and the poor
			C.4.2.1. All CCs to introduce maternal and child health care services for the very poor and the poor.	<b>T3.</b> Maternal and child health services to the very poor and the poor provided by the CCs.

CC = City Corporation, DPHE = Department of Public Health Engineering, IA = implementing agency, IMED = Implementation Monitoring and Evaluation Division, LGD = Local Government Division, MOE = Ministry of Establishments, MOEF = Ministry of Environment and Forests, MOF = Ministry of Finance, MOFDM = Ministry of Food and Disaster Management, MOHFW = Ministry of Health and Family Welfare, MOI = Ministry of Industry, MOLGRDC = Ministry of Local Government, Rural Development and Cooperatives, MOWCA = Ministry of Women and Children Affairs, NFSAC = National Food Safety Advisory Council, NPAN = National Plan of Action for Nutrition, NUPEHC = National Urban Public and Environmental Health Committee, PHC = primary health care, PSP = private sector participation, SDP = Sector Development Program, TOR = terms of reference, TWG = technical working group, UPEH = urban public and environmental health, UPEHSDP = Urban Public and Environmental Health Sector Development Program, UPEHU = urban public and environmental health unit.

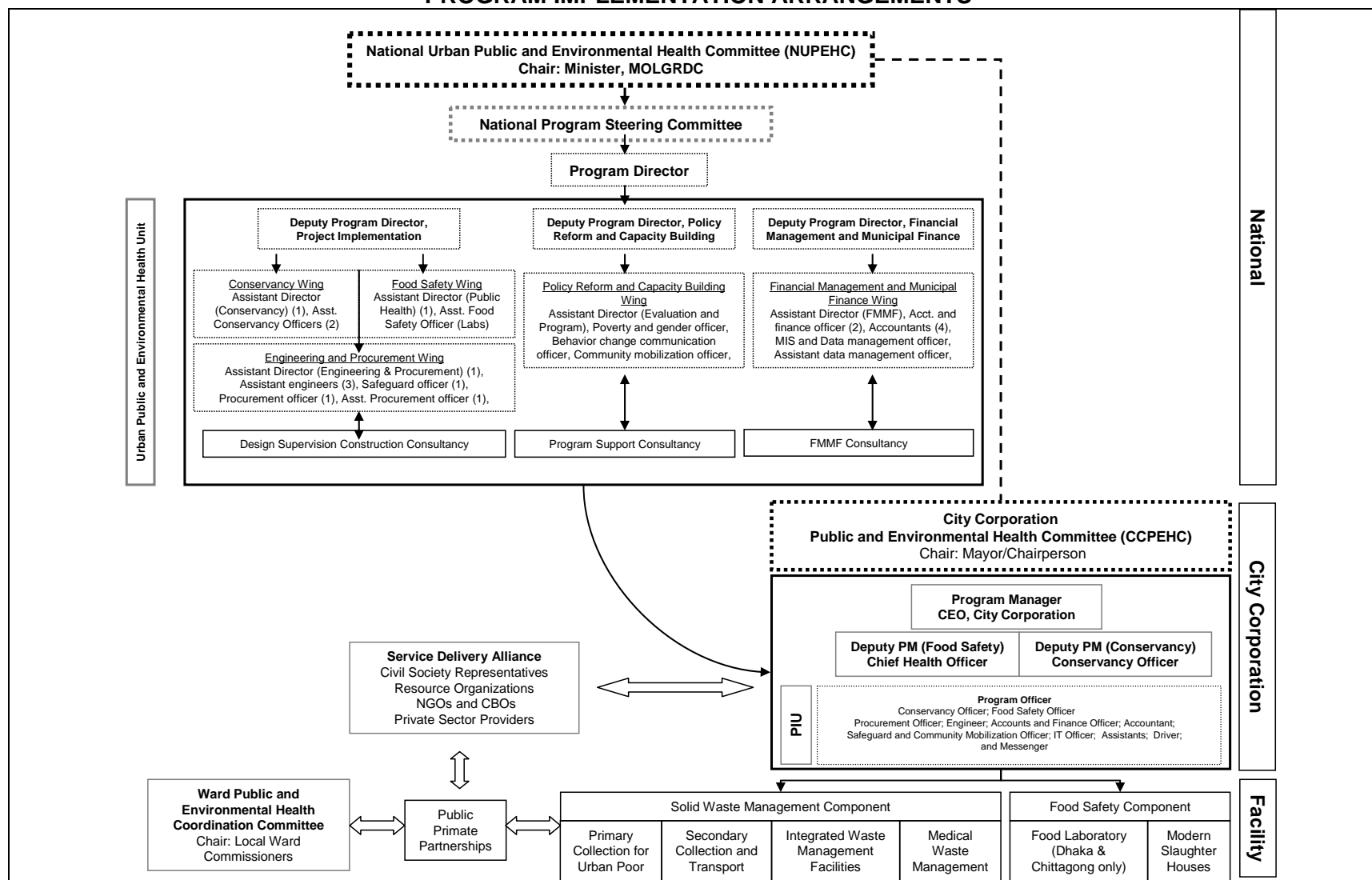
<sup>a</sup> The policy tranche actions in "bold" are conditions for release of the respective tranches.

<sup>b</sup> The core civil servant positions include the following: one program director (at least joint secretary level), three deputy directors (at least deputy secretary level), and five assistant directors (at least senior assistant secretary level).

<sup>c</sup> Among others, incorporating measures for the handling, recycling, treating, and disposing of slaughterhouse wastes (liquid and solid).

Source: Asian Development Bank.

## PROGRAM IMPLEMENTATION ARRANGEMENTS



CBO = community-based organizations, CCPEHC = city corporation public and environmental health committee, CEO = Chief Executive Officer, FMMF = financial management and municipal finance, IT = information technology, MOLGRDC = Ministry of Local Government Rural Development and Cooperatives, NGO = nongovernment organizations, NUPEHC = national urban public and environmental health unit, PIU = project implementing unit, PM = Program Manager. Source: Asian Development Bank.

### DESCRIPTION OF INELIGIBLE ITEMS

1. Loan proceeds will finance the foreign currency expenditures for the reasonable cost of imported goods required during the Urban Public and Environmental Health Sector Development Program.
2. No withdrawals shall be made in respect of:
  - (i) expenditures for goods included in the following groups or subgroups of the United Nations Standard International Trade Classification, Revision 3, or any successor groups or subgroups under future revisions to the Standard International Trade Classification, as designated by the Asian Development Bank by notice to the Borrower (Table A5);
  - (ii) expenditures in the currency of the Borrower, or of goods supplied from the territory of the Borrower;
  - (iii) expenditures for goods supplied under a contract that any national or international financing institution or agency will have financed or had agreed to finance, including any contract financed under any loan or grant from the Asian Development Bank;
  - (iv) expenditures for goods intended for a military or paramilitary purpose, or for luxury consumption;
  - (v) expenditures for narcotics;
  - (vi) expenditures for environmentally hazardous goods, the manufacture, use, or import of which is prohibited under the laws of the Borrower or international agreements to which the Borrower is a party; and
  - (vii) expenditures on account of any payment prohibited by the Borrower in compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations.

**Table A6: Ineligible Items**

Chapter	Heading	Description of Items
112		Alcoholic beverages
121		Tobacco, unmanufactured; tobacco refuse
122		Tobacco, manufactured (whether or not containing tobacco substitute)
525		Radioactive and associated materials
667		Pearls, precious and semiprecious stones, unworked or worked
718	718.7	Nuclear reactors, and parts thereof, fuel elements (cartridges), non-irradiated for nuclear reactors
728	728.43	Tobacco processing machinery
897	897.3	Jewelry of gold, silver, or platinum group of metals (except watches and watch cases) and goldsmiths' or silversmiths' wares (including set gems)
971		Gold, nonmonetary (excluding gold ore and concentrates)

Source: United Nations.

## PROJECT COST ESTIMATES AND FINANCING PLAN BY CATEGORIES

**Table A7.1: Detailed Cost Estimates by Expenditure Category**  
(\$ million)

Item	Foreign Exchange	Local Currency	Total <sup>a</sup>
<b>A. Base Costs<sup>a</sup></b>			
1. Land Acquisition and Resettlement	0.0	2.0	2.0
2. Civil Works	0.0	23.4	23.4
3. Equipment	11.7	0.0	11.7
4. Computer, Printer, and Software	1.2	0.0	1.2
5. Furniture	0.0	0.4	0.4
6. Vehicles	2.4	0.0	2.4
7. Local Training and Workshops	0.0	1.7	1.7
8. Overseas Study Visits	0.6	0.0	0.6
9. Project Management Staff	0.0	4.0	4.0
10. International Consultants	2.0	0.0	2.0
11. Local Consultants	0.0	2.6	2.6
12. Advocacy Campaigns and Community Participation	0.0	1.1	1.1
13. Supplies and Materials	0.0	1.1	1.1
14. Service Delivery	0.0	10.9	10.9
15. Surveys, Monitoring and Evaluation, and Pro-Poor Targeting	0.0	0.9	0.9
16. Program Support	0.0	1.6	1.6
17. Project Management Operating Costs	0.0	1.5	1.5
18. Taxes and Duties	0.0	1.7	1.7
<b>Total Base Costs</b>	<b>17.8</b>	<b>52.9</b>	<b>70.7</b>
<b>B. Contingencies</b>			
1. Physical <sup>b</sup>	1.2	2.5	3.7
2. Price <sup>c</sup>	0.3	2.9	3.2
<b>C. Interest Charges<sup>d</sup></b>	2.4	0.0	2.4
<b>Total</b>	<b>21.3</b>	<b>58.7</b>	<b>80.0</b>

Note: The program management, institutional support, and capacity development components are included under subcomponents listed above at 8, 9, 10, 11, 12, 15, 16, and 17.

<sup>a</sup> In 2009 prices.

<sup>b</sup> Physical contingency is estimated at 10% of civil works, equipment, and vehicles cost.

<sup>c</sup> Computed based on foreign exchange inflation rate of 0.7% in 2010, 1.4% in 2011, 0.4 in 2012, and 0.5% in 2013 onwards, and local currency inflation rate at 6% in 2010–2013, and 5% from 2014 onwards.

<sup>d</sup> Cost estimates include financing of bank charges where applicable.

Source: Asian Development Bank.

**Table A7.2: Detailed Cost Estimates by Financier**  
(\$ million)

Item	Cost	ADB		Government	
		\$ <sup>a</sup>	% of Cost Category <sup>b</sup>	\$	% of Cost Category
<b>A. Investment Costs</b>					
1. Land Acquisition and Resettlement	2.0	0.0	0	2.0	100
2. Civil Works <sup>c</sup>	23.4	15.2	65	8.2	35
3. Equipment	11.7	11.7	100	0.0	0
4. Computer and Software	1.2	1.2	100	0.0	0
5. Furniture	0.4	0.0	0	0.4	100
6. Vehicles					
a. Vehicles for Solid Waste Management and Food Safety	1.8	1.8	100	0.0	0
b. UPEHU and CCPIU Vehicles	0.6	0.6	100	0.0	0
7. Local Training and Workshops	1.7	1.7	100	0.0	0
8. Overseas Study Visits	0.6	0.6	100	0.0	0
9. Project Management Staff	4.0	0.0	0	4.0	100
10. International Consultants	2.0	2.0	100	0.0	0
11. Local Consultants	2.6	2.6	100	0.0	0
12. Advocacy Campaigns and Community Participation	1.1	1.1	100	0.0	0
13. Supplies and Materials	1.1	1.1	100	0.0	0
14. Service Delivery	10.9	10.9	100	0.0	0
15. Surveys, Monitoring and Evaluation and Pro-Poor Targeting	0.9	0.9	100	0.0	0
16. Program Support	1.6	1.6	100	0.0	0
17. Project Management Operating Costs <sup>d</sup>	1.5	1.5	100	0.0	0
18. Taxes and Duties <sup>e</sup>	1.7	0.0	0	1.7	100
<b>Total Base Cost</b>	<b>70.7</b>	<b>54.4</b>	<b>77</b>	<b>16.3</b>	<b>23</b>
<b>B. Contingencies</b>	<b>6.9</b>	<b>3.2</b>	<b>46</b>	<b>3.7</b>	<b>54</b>
<b>C. Interest Charges</b>	<b>2.4</b>	<b>2.4</b>	<b>100</b>	<b>0.0</b>	<b>0</b>
<b>Total Project Costs</b>	<b>80.0</b>	<b>60.0</b>		<b>20.0</b>	

CCPIU = city corporation program implementation unit, UPEHU = urban public and environmental health unit.

Note: The program management, institutional support, and capacity development components are included under subcomponents listed above at 8, 9, 10, 11, 12, 15, 16, and 17.

<sup>a</sup> Amount of Asian Development Bank loan proceeds allocated to the cost category.

<sup>b</sup> The amounts disbursed by ADB for eligible expenditures under a cost category will be subject to the ceiling set by the allocation of loan proceeds for such cost category.

<sup>c</sup> Figure represents the percentage to be disbursed by ADB in the total civil works cost including tax and duties.

<sup>d</sup> Estimates of costs include financing of bank charges, where applicable.

<sup>e</sup> Taxes and duties pertain to equipment, and computer and software.

Source: Asian Development Bank.

## PROGRAM IMPLEMENTATION SCHEDULE

Activities		09	2010	2011	2012	2013	2014	2015	2016
		III	IV	I	II	III	IV	I	II
<b>A. Policy Reforms</b>									
<b>1 Urban Public and Environmental Health Unit (UPEHU)</b>									
i Creation of UPEHU		◆							
ii Shifting of UPEHU core staff to revenue budget									◆
<b>2 Policy Actions</b>									
i Completion of first tranche policy actions		◆							
ii Completion of second tranche policy actions				◆					
iii Completion of third tranche policy actions						◆			
<b>B. Component C: Program Management, Institutional Support and Capacity Building</b>									
<b>1 Establishment of fully functional UPEHU</b>									
<b>2 Hiring of consultant firms</b>									
i Program support consultancy									
ii Financial management and municipal finance consultancy									
iii Design supervision and construction consultancy									
<b>3 Program performance monitoring and evaluation surveys</b>									
i Baseline				◆					
ii Midterm						◆			
iii Final								◆	
<b>4 Behavior change communication</b>									
<b>5 Pro-poor survey in the six city corporations</b>									
i Preparation of pro-poor guidelines									
ii Issue pro-poor guidelines by LGD to city corporations			◆						
iii City corporations conduct pro-poor survey					◆				
iv City corporations issue entitlement cards to the very poor and poor									
<b>6 Financial management</b>									
i Review of financial management systems in city corporations									
ii Development of computerized financial management systems									
iii Introduction of accrual based financial management systems									
<b>7 Municipal finances</b>									
i Review of the municipal finances and performance grants									
ii Improvement of collection of tax arrear									
iii Improvement of tax base of city corporations									
iv Issue of guidelines on performance grant				◆					
v Introduction of performance-based grants									
<b>C. Component A: Solid Waste Management</b>									
<b>1 Municipal solid waste management (MSWM)</b>									
i TWG constituted to develop MSWM strategy		◆							
ii MSWM strategy adopted by the Government			◆						
iii Development of PPP strategy for primary, secondary and IWTF									
iv Contracting process for primary, secondary and IWTF									
v Capital works undertaken for secondary and IWTF									
vi Operationalization of MSWM facilities									
<b>2 Municipal waste management</b>									
i Development of action plan for medical waste management									
ii Contracting process for medical waste management									
iii Capital works undertaken for secondary and IWTF									
iv Operationalization of MSWM facilities									
<b>D. Component B: Food Safety</b>									
<b>1 Food laboratories</b>									
i Contracting process for the two food laboratories									
ii Capital works undertaken for food laboratories									
iii Operationalization of food laboratories									
iv Food laboratory training centre operationalized									
<b>2 Slaughter houses</b>									
i Contracting process for the six slaughter houses									
ii Capital works undertaken for slaughter houses									
iii Operationalization of slaughter houses									

IWMF = integrated waste management facility, IWTF = integrated waste treatment facility, LGD = Local Government Division, MSWM = municipal solid waste management, PPP = public-private partnership, UPEHU = urban public and environmental health unit.

Source: Asian Development Bank.

## PROCUREMENT PLAN

### Basic Data

<b>Project Name:</b> Urban Public and Environmental Health Sector Development Program <sup>a</sup>	
<b>Country:</b> Bangladesh	<b>Executing Agency:</b> Local Government Division
<b>Loan Amount:</b> \$60 million for project and \$70 million for program	<b>Loan Number:</b> 39305
<b>Date of First Procurement Plan:</b> July 2009	<b>Date of this Procurement Plan:</b> July 2009

### A. Process Thresholds, Review, and 18-Month Procurement Plan

#### 1. Project Procurement Thresholds

100. Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works	
Method	Threshold
ICB for Works	\$1,000,000
ICB for Goods	\$500,000
LIB or NCB for Works	Less than that stated for ICB, Works
LIB or NCB for Goods	Less than that stated for ICB, Goods
Shopping for Works	Less than \$100,000
Shopping for Goods	Less than \$100,000

ICB = international competitive bidding, LIB = limited international bidding, NCB = national competitive bidding.

#### 2. ADB Prior or Post Review

101. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post	Comments
<b>Procurement of Goods and Works</b>		
ICB Works	Prior	
ICB Goods	Prior	
LIB/NCB Works	Prior	
LIB/NCB Goods	Prior	
Shopping for Works	Post	
Shopping for Goods	Post	
<b>Recruitment of Consulting Firms</b>		
Quality- and Cost-Based Selection	Prior	
<b>Recruitment of Individual Consultants</b>		
Individual Consultants	Prior	

ICB = international competitive bidding, LIB = limited international bidding, NCB = national competitive bidding.

#### 3. Goods and Works Contracts Estimated to Cost More Than \$1 Million

102. The following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Contract Value	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
None	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

<sup>a</sup> Project preparedness assessment is provided in Supplementary Appendix AG.

#### 4. Consulting Services Contracts Estimated to Cost More Than \$100,000

103. The following table lists consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Contract Value	Recruitment Method	Advertisement Date (quarter/year)	International or National Assignment	Comments
1. Design Supervision Construction Consultancy	\$2,793,000	QCBS 80:20	Q4 2009	International	Recruited by UPEHU
2. Financial Management and Municipal Finance Consultancy	\$1,992,000	QCBS 80:20	Q4 2009	International	Recruited by UPEHU
3. Program Support Consultancy	\$1,888,000	QCBS 80:20	Q4 2009	International	Recruited by UPEHU

Q = quarter, QCBS = quality- and cost-based selection, UPEHU = urban public and environmental health unit.

#### 5. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000

104. The following table groups smaller-value goods, works, and consulting services contracts for which procurement activity is either ongoing or expected to commence within the next 18 months.

General Description	Value of Contracts (\$, cumulative)	Number of Contracts	Procurement / Recruitment Method <sup>1</sup>	Comments
Office Equipment	67,000	Multiple	NCB/Shopping	
Computers and Software	663,000	Multiple	NCB/Shopping	
Furniture	80,000	Multiple	NCB/Shopping	
Vehicles	584,100	Multiple	ICB/NCB	
Training and Workshops	142,417	Multiple	NCB/Shopping	
Local Consultants	137,000	Multiple	ICS	

ICB = international competitive bidding, ICS = individual consultant selection, NCB = national competitive bidding.

#### B. Indicative List of Packages Required Under the Project

105. The following table provides an indicative list of all procurement (goods, works, and consulting services) over the life of the project.

General Description	Estimated Value (\$'000)	Estimated Number of Contracts	Procurement Method	Domestic Preference Applicable	Comments
<b>A. Works</b>					
1.Primary Collection for Urban Poor	3,650	Multiple	NCB		
2.Secondary Collection and Transport	8,858	Multiple	ICB/LIB/NCB	Y	
3.Integrated Waste Treatment Facilities	16,038	Multiple	ICB/LIB/NCB	Y	
4.Medical Waste Management	5,535	Multiple	LIB/NCB	Y	
5.Food Laboratories and Training Center	3,077	Multiple	LIB/NCB	Y	
6.Slaughterhouses	15,203	Multiple	ICB/LIB/NCB	Y	
<b>Subtotal (A)</b>	<b>52,361</b>	<b>Multiple</b>			
B. Computer, Printers, Software	<b>1,188</b>	Multiple	NCB/Shopping		
C. Vehicles	<b>2,355</b>	Multiple	ICB/NCB	Y	
D. Furniture	<b>372</b>	Multiple	NCB/Shopping		

General Description	Estimated Value (\$'000)	Estimated Number of Contracts	Procurement Method	Domestic Preference Applicable	Comments
E. Training and Workshops	704	Multiple	NCB/ Shopping		
F. Supplies and Materials	1,088	Multiple	NCB/ Shopping		
G. Behavior Change Communications	1,138	Multiple	NCB/ Shopping		
H. Studies and Surveys	850	Multiple	NCB/ Shopping		
<b>Subtotal of B+C+D+E+F+G+H</b>	<b>7,695</b>				
<b>I. Consulting Services</b>					
1.Package A: Program Support Consultant	1,888	1	QCBS	FTP	
2.Package B: Financial Management Municipal Finance Consultant	1,992	1	QCBS	FTP	
3.Package C: Design Supervision Construction Consultant	2,793	1	QCBS	FTP	
4.Individual Consultants	135	Multiple	ICS/individual		
<b>Subtotal (I)</b>	<b>6,808</b>				

FTP = full technical proposal, ICB= international competitive bidding, ICS = individual consultant selection, LIB = limited international bidding, QCBS = quality- and cost-based selection.

### C. National Competitive Bidding

7. **General.** The procedures to be followed for national competitive bidding shall be those set forth for the National Open Tendering Method in the Government's *Public Procurement Regulations 2003* with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the procurement guidelines. National competitive bidding procedures applicable to the Project are specified in the Government's *Public Procurement Rules 2008*.<sup>b</sup>

8. **Advertising.** Bidding of national competitive bidding contracts estimated at \$500,000 or more for goods and related services or \$1 million or more for civil works shall be advertised on ADB's website via the posting of the procurement plan.

9. **Anticorruption.** Definitions of corrupt, fraudulent, collusive, and coercive practices shall reflect the latest ADB *Anticorruption Policy* (1998, as amended to date) definitions of these terms and related additional provisions (such as conflict of interest, obstructive practices, etc.).

10. **Location of Bid Submission.** Submission of bids to "primary" and "secondary" locations, or "multiple droppings" of bids, shall not be required or allowed. Advertisements and bidding documents shall specify only one location for delivery of bids.

11. **Rejection of All Bids and Rebidding.** Bids shall not be rejected and new bids solicited without ADB's prior concurrence.

12. **Member Country Restrictions.** Bidders must be nationals of member countries of ADB, and offered goods must be produced in member countries of ADB.

<sup>b</sup> Once the Public Procurement Rules, 2008 in English are formally adopted.

## **TECHNICAL ASSISTANCE FOR CAPACITY DEVELOPMENT FOR URBAN PUBLIC AND ENVIRONMENTAL HEALTH**

### **A. Background**

1. One of the most significant risks of the Urban Public and Environmental Health Sector Development Program (UPEHSDP) is that, being a new program, the initial set-up required for establishing the urban public and environmental health unit (UPEHU) followed by hiring of various consultant firms would take a long time. This would not only delay the program implementation, but has the potential to derail the Program due to weak procurement and financial management systems. The UPEHSDP by nature has greater challenges than either a pure program or a pure project, as it has both a policy reforms component (program) and an investment component (project). These two components require a diverse skills base. For the policy reforms component, expertise in policy, law, regulation, and municipal finances are required; the investment component requires procurement, financial management and audit, project performance monitoring, and information management skills. Both policy reforms and investment components will require specialists in solid waste, medical waste, food and water safety, and slaughterhouses. The technical assistance (TA) is an effort to mitigate the start-up delay risks, enable the project to start on a sound foundation, and strengthen the capacities of the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives to implement the reform program.

### **B. Objectives and Scope**

2. The objectives of the TA are to (i) help in overcoming the start-up delays inherent in a new program by providing high-quality consultant support to undertake critical advance activities and set up systems and procedures in the newly created UPEHU and city corporation program implementation units; and (ii) provide advisory capacity building assistance to the Government for urban public and environmental health, both at the national and city corporation level. This will include assistance for the LGD and the UPEHU in preparing and implementing key policy reforms.

3. The TA outcome will be to provide (i) expert procurement support to help the LGD and UPEHU in hiring the three consultant packages in a timely manner; (ii) expert institutional and financial management support to set up procedures and processes for smooth functioning of the UPEHU and city corporation program implementation units, especially with regard to anticorruption; (iii) expert support in municipal financing, institutional development, financial management, solid and medical waste, food and water safety, private sector participation (public-private partnership), pro-poor targeting, citizens participation, and gender mainstreaming for policy reform support; (iv) engineering design support in waste management and food safety to support the implementation of the investment component; and (v) limited support for training and local study tours.

### **C. Implementation Arrangements**

4. The LGD will be the executing agency for the TA and the UPEHU will be the implementing agency. The project director of the UPEHSDP will also be the project director of the TA. The national program steering committee of the UPEHSDP will provide overall guidance to the TA's implementation. The TA is expected to commence as soon as the Project is approved by the Board of Directors of the Asian Development Bank (ADB) and to be completed in 2 years. Consultants will be selected and engaged under the Project in accordance with

ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time). All the consultants will be hired on an individual basis, directly or through an organization.

#### D. Cost Estimates and Financing Arrangements

5. The total cost of the TA is estimated at \$625,000 equivalent. The Government has requested ADB to finance \$500,000 equivalent, covering all the foreign exchange costs and part of the local costs. ADB will finance \$500,000 equivalent, on a grant basis, from ADB's Technical Assistance Special Fund-IV funding program. The proposed Government in-kind contribution of \$125,000 equivalent will cover office costs, conference venues, and counterpart staff remuneration. The details are presented in Table A10. The following international consultants will be supported under the TA: urban infrastructure (public-private partnership) expert (1 person-month), municipal solid waste management expert (4 person-months), and procurement expert (1 person-month). The following national consultants will be supported under the TA: public and environmental health institutional development expert (8 person-months), procurement expert (6 person-months), solid waste management expert (6 person-months), food laboratory and food safety expert (3 person-months), municipal finance expert (4 person-months), legal expert (3 person-months), resettlement and environment safeguards expert (3 person-months), and gender and poverty expert (3 person-months).

**Table A10: Cost Estimates and Financing Arrangements**  
(\$'000)

Item	Total Cost
<b>A. Asian Development Bank Financing<sup>a</sup></b>	
1. Consultants	
a. Remuneration and Per Diem	
i. International Consultants	150.0
ii. National Consultants	150.0
b. International and Local Travel	15.0
c. Reports and Communications	10.0
2. Equipment <sup>b</sup>	30.0
3. Workshops, Training, Seminars, and Conferences <sup>c</sup>	
a. Facilitators	10.0
b. Workshops and Training Program	50.0
4. Surveys and Studies	30.0
5. Miscellaneous Administration and Support Costs	10.0
6. Contingencies	45.0
<b>Subtotal (A)</b>	<b>500.0</b>
<b>B. Government Financing</b>	
1. Office Accommodation and Transport <sup>d</sup>	50.0
2. Remuneration and Per Diem of Counterpart Staff	60.0
3. Others	15.0
<b>Subtotal (B)</b>	<b>125.0</b>
<b>Total</b>	<b>625.0</b>

<sup>a</sup> Financed by the Asian Development Bank's technical assistance funding program (Technical Assistance Special Fund-IV).

<sup>b</sup> Computers, printers, audiovisual and office equipment. The equipment will be turned over to the Executing Agency by the consultants upon completion of the Project.

<sup>c</sup> Covering municipal finance, pro-poor targeting, solid and medical waste management, food safety, and dissemination of technical assistance findings.

<sup>d</sup> Transport costs include only those for government counterpart staff; office accommodation is for consultants and counterpart staff.

Source: Asian Development Bank estimates.

## SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

**Country/Project Title:** Bangladesh/Urban Public and Environmental Health Sector Development Program

Lending/Financing Modality:	Sector development program loan involving policy-based lending and project lending.	Department/ Division:	South Asia Department/ Urban Development Division
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### I. POVERTY ANALYSIS AND STRATEGY

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

The sector development Program is included in the Asian Development Bank (ADB) country operations business plan (2009–2011) which reiterates ADB's commitment to supporting policy and institutional reforms and investments in urban infrastructure (urban health, water supply, and transport).<sup>a</sup> The sector development program will contribute to human development by improving the living conditions of poor and disadvantaged residents in program cities.<sup>b</sup> This will be through pro-poor and gender-responsive policy/institutional reforms and investments aimed at improving greater access to public and environmental health services. The project loan will improve municipal and medical waste management and food safety in project cities with focus on the poor and disadvantaged. Solid waste management investments include a subcomponent on primary waste collection and treatment for the urban poor.

#### B. Poverty Analysis

**Targeting Classification:** Targeted intervention-MDGs

##### 1. Key Issues

The sector development program supports Bangladesh's *Poverty Reduction Strategy Paper II* (PRSP 2009–2011) which identifies five strategies for poverty reduction (including ensuring human development), and five supporting strategies (including providing service delivery efficiently and effectively to the poor, and tackling environmental issues for sustainable development). While poverty incidence in Bangladesh is decreasing in absolute terms, the number of urban poor grows with the rapidly increasing population. Of the urban population, 45% live in poverty with 25% classified as extremely poor (consumption less than 1,805 kilocalories per day). The majority of the urban poor live in slums. Slum dwellers face poverty due to their low level of earnings and the fact that the majority live below the poverty line in terms of both calorie intake and cost of basic needs. They are mostly involved in low-paid jobs in the informal sectors. Poor urban infrastructure in slums exposes the slum population to public and environmental health hazards.

Through support to pro-poor and gender-inclusive public and environmental health sector in public and environmental health in general, and a focus on the poor through integrated waste management for the urban poor and policy and institutional reforms, the sector development program will support the Government of Bangladesh in achieving relevant Millennium Development Goals (MDGs). The project loan will cover city populations (estimated at about one-third of the total population) and specifically target poor and disadvantaged women in terms of integrated solid waste management.

##### 2. Design Features

The project component will contribute to achieving MDGs:

(i) **MDGs 4 and 5: Reduction of Child Mortality and Improving Maternal Health.** In addition to public and environmental health benefits from which poor women and children will benefit more due to their greater vulnerability, the Program's policy reform of improving pro-poor and gender-responsive targeting will contribute to expand maternal health care for the very poor and the poor in all of the six city corporations.

(ii) **MDG 6: Combating Malaria and Other Diseases.** Unmanaged nonbiodegradable wastes serve as actual breeding grounds for mosquitoes. In addition, unmanaged solid waste is often washed by rain, blown by the wind, or deliberately placed in drainage channels, creating stagnant pools which also serve as breeding grounds for mosquitoes. The Project's investments in solid waste management will thus contribute to reducing the incidence of malaria.

(iii) **MDG7: Ensuring Environmental Sustainability.** Investments in solid waste management—including integrated waste management for the urban poor, medical waste management, food laboratories, and modern slaughterhouses—will lead to environmental improvements in urban areas that reduce the vulnerability of the poor to pollution and diseases related to inadequate urban infrastructure and services. Specific environmental

benefits include (i) reduced solid waste pollution and cleaner waterways due to investments in primary and secondary waste collection, (ii) reduced greenhouse gas emissions due to composting and potential clean development mechanism activities, (iii) reduced environmental contamination due to integrated waste treatment investments, (iv) reduced environmental risk due to proper disposal of hazardous medical waste, and (v) improved disposal of environmentally polluting slaughterhouse waste.

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

The program loan will support the implementation of pro-poor and gender-responsive policy reforms to (i) strengthen institutional arrangements, (ii) improve financial sustainability, (iii) improve public and environmental health service delivery, and (iv) strengthen pro-poor and gender-responsive targeting through citizens' participation and the role of the private sector. These will have positive impacts on the country's population as the policy reforms will improve public and environmental health conditions, with the poor benefiting more as they typically suffer more from unsanitary waste and food management practices. One of the policy reform areas directly targets the poor as the focus for urban public and environmental health programs. The Local Government Division (LGD) will establish a technical working group to develop procedures and guidelines for local bodies to identify the poor in their locality and for pro-poor targeting. This is expected to result in actions in each city corporation to identify the poor. The LGD will provide guidelines to the local bodies for the issuance of entitlement cards to the poor and to the identification of programs and services which can be accessed with the card.

## **II. SOCIAL ANALYSIS AND STRATEGY**

### **A. Findings of Social Analysis**

While it is documented that Bangladesh has made progress in achieving MDG goals, in the urban areas, there continues to be public and environmental health hazards, particularly for the urban poor and among the urban poor and disadvantaged women. This was confirmed in the findings of the poverty and social/gender analyses carried out by the Asian Development Bank (ADB) during the preparation of the sector development program. Only 60% of respondents had access to sanitary latrines while the rest use unhygienic hanging latrines. One latrine is typically shared by a large number of households (ranging from 8 to 66). Illegal settlements, the inability to afford sewage connection, and the lack of other options commensurate with their ability to pay are critical impediments to the access of poor and disadvantaged women to sanitation. Access to water is also limited; one source of water is usually shared between 76 and 110 households. Moreover, the distance of water sources and latrines serve as additional barriers for accessing these services.

Solid waste is mostly thrown into waterways (through gaps in the *macha* [raised platforms] of wooden houses) or nearby open spaces. Utilization of fixed locations and/or transfer stations for garbage disposal in urban slums is only 25%. Exposure to improperly disposed of waste worsens the living conditions and health status of the urban poor.

While food safety is not seen as a priority among the poor, slum dwellers frequently consume unsafe food from street vendors and suffer from food-related diseases. In addition to unsafe food, malnutrition and food insecurity are crucial issues in urban poverty. The unsanitary practice of open slaughtering of animals creates an unhygienic environment with the poor often involved in, and exposed to, these conditions.

Access of the urban poor to primary health care services is limited. Analysis shows that, as the first point of contact, they prefer chemist shops and/or dispensaries and traditional healers, mainly due to affordability and availability. Women and children are the most vulnerable among the urban poor. The analysis shows that, in selected slums, the institutional childbirth delivery rate was only 17% against the rate of antenatal care at 55 %. Cost was the main factor for not opting for institutional delivery. The majority of respondents (83%) indicated that they had their last child delivery at home because it was cheaper.

**B. Consultation and Participation**

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

Extensive consultations were conducted during sector development program preparation. Four workshops were held in Dhaka (July and August 2008) to discuss the proposed program's objectives, components, and projected impacts, and obtain stakeholders opinions. The workshops were attended by 115 participants including community male and female representatives, community-based organizations and nongovernment organizations (NGOs), local government officials, line agency representatives, and other stakeholders. Five other similar workshops were conducted in Bogra, Comilla, Khulna, Satkhira, and Tongi. Further consultations at subproject sites included meetings with local government officials, NGOs, and surrounding communities.

2. What level of consultation and participation (C&P) is envisaged during the project implementation and monitoring?

☒ Information sharing    ☒ Consultation    Collaborative decision making    ☐ Empowerment

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

If a C&P plan was prepared, describe key features and resources provided to implement the plan (including budget, consultant input, etc.). If no, explain why.

A major feature of the capacity development subcomponent of the sector development program is enabling the municipal bodies to take a more participatory approach to urban development. The consultation and participation strategy is embodied in the community participation plan which complements policy actions (Policy Action 4.2: Enable citizen participation in delivery of urban public and environmental health [UPEH]). It centers on the formation of two community-based programs: (i) formation of service delivery alliances at the facility and ward level (the alliances are multistakeholder groups consisting of civil society representatives, resource organizations, NGOs, community-based organizations, and private sector providers); and (ii) the Waste Picker Livelihood Training Program. Service delivery alliances will facilitate dissemination of accurate information regarding urban services issues, assist the city corporation in preparing community-based programs and partnering with NGOs, and promote community mobilization and awareness.<sup>c</sup> This will be further enhanced by educational campaigns to encourage the 3Rs (reduce, reuse, and recycle) and source segregation of waste. Implementation support for the community participation plan includes the provision of a community participation and gender action plan specialist within the Urban Public and Environmental Health Unit (UPEHU).

**C. Gender and Development****1. Key Issues.**

Despite recent gains in the role of women in economic and social development in Bangladesh, women still remain particularly vulnerable to poverty. In relation to solid waste, it is women who are mostly responsible for managing waste at the household level, and who are mostly engaged in informal waste picking and recycling activities for livelihood dependence. Few women are involved in key decision-making efforts at the local, city corporation, and national levels, particularly related to issues of public and environmental health. Participation of women in stable, skilled jobs is also low. Opportunities exist to equip women with proper training and equipment, to become absorbed into the formal waste collection process, as well as other sectors in food safety and hospital waste management. This would ensure more stable employment as well as safer and healthier work conditions. More efforts are also needed to improve the role of women in local project planning and decision making.

- 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

Summarize key design features of the gender plan or other gender-related actions/measures, including performance targets, monitorable indicators, resource allocation, and implementation arrangements.

To promote the effective incorporation of pro-poor and gender-inclusive design features, the sector development program and the related project will adopt a set of activities—defined in the project-specific gender action plan, as follows:

- (i) ensuring the recruitment of a poverty and gender specialist at the UPEHU;
- (ii) promoting women's representation and participation in all decision-making processes/structures and training programs supported under the sector development program, i.e., UPEHU, technical working group to be established by the LGD (especially the one on pro-poor targeting and citizen's participation in

- (iii) the program/project cities, and service delivery alliances); tailoring training programs addressing the specific needs of (a) UPEHU (staff and consultants), (b) city corporations (staff and consultants), (c) urban communities in program/project sites<sup>d</sup> and (d) contractors and economic operations involved in the sector development program;
- (iv) ensuring women's participation in all program-supported training programs (including waste picker livelihood training programs);
- (v) ensuring the incorporation of gender action plan approaches in the finalization of the LGD guidelines on (a) strengthening citizen's participation; and (b) pro-poor targeting of urban basic service, and ensuring their effective implementation in all program/project cities;
- (vi) promoting city corporations' increased budgetary allocations for maternal and child health care services, targeting the poor; and
- (vii) ensuring that program/project-specific project performance monitoring system collects sex-disaggregated information and data and that during its implementation the program/project is adjusted (as needed) to ensure greater pro-poor and gender equality results/impacts.

**Key targets of the gender action plan include the following:**

**Program Components**

- (i) Women employed at UPEHU (target: 20% of women's staff and consultants);
- (ii) poverty and gender specialist recruited at UPEHU (by first quarter 2010);
- (iii) capacity needs assessment carried out of UPEHU staff (yearly);
- (iv) training modules designed and administered to target groups (twice yearly);
- (v) satisfaction surveys developed and administered (yearly);
- (vi) women's representation in all technical working groups (target: 20% representation);
- (vii) gender-discriminatory practices in access to UPEH services and structures documented and viable options reflected in the findings and recommendations of the technical working group;
- (viii) women's participation in UPEHSDP-financed training and capacity development programs (target: 30% participation);
- (ix) LGD guidelines finalized for (a) strengthening citizen's participation (PRA: B.4.2.1), and (b) pro-poor targeting of urban basic services (PRA: B.4.1.1);
- (x) 20% yearly increase in poor women and men accessing identification entitlement cards (from baseline data [2010] in program/project cities);
- (xi) 20% yearly increase in the number of poor women accessing affordable maternal and child health care services (compared with baseline [2010] in the program/project cities); and
- (xii) 20% yearly increase in budgetary allocations for MCHC.

**Project Components**

- (i) Women's representation in all project-related decision-making processes and structures (30% of representation);
- (ii) systematic incorporation of women's needs and constraints in the preparation of all UPEHU-financed subprojects;
- (iii) women employed in solid waste and hospital waste subprojects (target: 20% representation);
- (iv) women employed in food safety subprojects (target: 30% representation);
- (v) bidding documents ensuring gender targets for the employment of laborers, and the provision of core labor standards (including equal wages for work of equal value);
- (vi) training session on the LGD contractual arrangements and modalities to enforce gender action plan/core labor standards provisions provided (target: biennial training);
- (vii) number of women in attendance and actively participating in alliance meetings as recorded in meeting minutes (target: 30% representation of women; one woman facilitator in alliance meetings);
- (viii) pro-poor and gender-responsive NGOs recruited;
- (ix) number of women waste pickers provided training and new employment; and
- (x) gender-inclusive project performance monitoring system in place, with sex-disaggregated baseline data, and regular collection of sex-disaggregated data on a set of agreed indicators (i.e., employment opportunities for women, reduced harm, and/or burden on women).

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

Issue	Significant/ Limited/ No Impact	Strategy to Address Issue	Plan or Other Measures Included in Design
Involuntary	Limited	Sample subprojects show that impacts are limited and temporary. A	<input type="checkbox"/> Full Plan

<b>Resettlement</b>		resettlement plan has been prepared for the only sample subproject with involuntary resettlement impacts, and a resettlement framework has been prepared to guide future subprojects.	<input checked="" type="checkbox"/> Short Plan <input checked="" type="checkbox"/> Resettlement Framework <input type="checkbox"/> No Action
<b>Indigenous People</b>	No impact	Screening of sample subprojects show no impacts on indigenous people. Preliminary identification of all subprojects show that none are sited in areas with indigenous people. All subprojects are within city corporation limits.	<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"/> Employment opportunities <input type="checkbox"/> Labor retrenchment <input checked="" type="checkbox"/> Core labor standards	Limited	Employment opportunities will be generated and vulnerable people, specifically those affected, will be prioritized. Rag-pickers will be trained in sorting for composting ensuring that there is no livelihood loss in integrated waste treatment subprojects. Core labor standards are addressed in assurances.	<input type="checkbox"/> Plan <input checked="" type="checkbox"/> Other Action <input type="checkbox"/> No Action
<b>Affordability</b>	No impact	The pro-poor targeting component will provide entitlement cards to the urban poor which allows them to access medical services. For waste management, industrial tariffs based on earnings and burden of municipal services which will increase the funds for waste management offsetting costs for the poor.	<input type="checkbox"/> Action <input checked="" type="checkbox"/> No Action
<b>Other Risks and/or Vulnerabilities</b> <input type="checkbox"/> HIV/AIDS <input type="checkbox"/> Human trafficking <input type="checkbox"/> Others(conflict, political instability, etc), please specify	No impact		<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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

ADB = Asian Development Bank, C&P = consultation and participation, LGD = Local Government Division, MDG = Millennium Development Goal, MCHC = maternal and child health care, NGO = nongovernment organization, PRA = participatory rural appraisal, UPEH = urban public and environmental health, UPEHSDP = Urban Public and Environmental Health Sector Development Program, UPEHU = urban public and environmental health unit.

<sup>a</sup> Government of Bangladesh. 2009. *Poverty Reduction Strategy Paper II*. Dhaka.

<sup>b</sup> For the purpose of this program/project loan, "disadvantaged" is defined to include those who face discrimination and/or abuse as a result of their gender, race, ethnic identity, or other personal attributes. Poverty and discrimination of this kind undercut the ability of disadvantaged groups to access basic social services (including public and environmental health services).

<sup>c</sup> Project costs cover training programs for local government officials, information, education and communication campaigns, and involving media. Logistical support is to be provided by the city corporations. The waste picker's training program will provide training and income-generation opportunities for waste pickers impacted by project investments, particularly at waste collection sites and waste treatment facilities. The goal is to involve waste pickers in program activities and to provide needed skills training and job placement services. Costs include surveys, training, and daily allowance to compensate waste pickers during training activities.

<sup>d</sup> At a minimum, the training program for target groups (i), (ii), and (iii) should include a combination of the following modules: (a) social/gender analysis in urban settings, (b) consultation and participation mechanisms, (c) implementation of pro-poor and gender action plan design features (through the gender action plan), and (d) monitoring and evaluation of poverty reduction and gender equality results of the sector development program. With respect to target group (iv), the training program should include: (a) LGD contractual arrangements and modalities (with emphasis on core labor standards and GAD provisions), and (b) operation and maintenance of community infrastructure (target: 30% women's representation).

## **DRAFT SUMMARY ENVIRONMENTAL ASSESSMENT**

### **A. Overview**

1. The Urban Public and Environmental Health Sector Development Program (UPEHSDP) addresses key institutional, policy, legal, financing, and capacity gaps relating to urban public and environmental health. The Program will consist of two investment types—a program loan and a project loan—and will include interventions at the policy level and focus on targeted investments in six city corporations. The program loan includes a policy matrix with four key policy proposals. It aims to (i) strengthen institutional arrangements, (ii) improve financial sustainability, (iii) improve urban public and environmental health service delivery, and (iv) strengthen citizen participation and private sector role and pro-poor targeting. Environmental assessment of the policy matrix indicates that these policies are directly or indirectly aimed at promoting environmentally sound development by contributing to improvements in waste management and food safety; conversely, the status quo of negative environmental and social impacts would continue to occur if the policies fail. The main potential impacts of each policy are summarized in the full environmental assessment of the policy matrix (Supplementary Appendix U).

2. The project loan will target investments in two areas: waste management and food safety. Subprojects aim to improve environmental quality, public health, and overall living conditions in city corporations. Five environmental assessments were conducted. Three of these were initial environmental examinations (IEEs)—Khulna Solid Waste Management, Chittagong Hospital Waste Management, and Dhaka Slaughter House—and two were environmental reviews—Chittagong Food Testing Laboratory and Dhaka Solid Waste Transfer Stations. IEEs were based on feasibility studies, field visits, secondary data, and extensive discussions with stakeholders.

### **B. Environmental Impacts and Mitigation Measures<sup>1</sup>**

3. Environmental assessments conducted for waste management and food safety subprojects under the UPEHSDP show that net environmental benefits are positive and large, and include (i) reduced solid waste pollution and cleaner waterways due to investments in primary and secondary waste collection, (ii) reduced greenhouse gas emissions due to composting and potential clean development mechanism activities, (iii) reduced environmental contamination due to sanitary landfill investments, (iv) reduced environmental risk due to proper disposal of hazardous medical waste, and (v) improved disposal of environmentally polluting slaughterhouse waste.

4. All identified adverse impacts can be mitigated and include properly locating, planning, and designing proposed subprojects; controlling construction activity; and properly maintaining systems following commissioning. Impacts that are potentially significant and permanent are identified, and environmental subproject selection guidelines, part of the environmental assessment and review framework (Supplementary Appendix T), will not allow subprojects with such impacts. The potential for adverse environmental impacts are primarily associated with unrealized benefits, which may occur due to failures in implementing subprojects in accordance with good engineering practice and sustained operation and maintenance procedures. No

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<sup>1</sup> Environmental reviews are prepared when subprojects are unlikely to have adverse environmental impacts. The environmental implications of these subprojects are reviewed.

irreversible environmental impacts are associated with the Project. Potential major negative impacts and mitigation measures are summarized in Table A12.1.

**Table A12.1: Summary of Potential Major Adverse Environmental Impacts and Mitigation Measures**

Potential Major Negative Impacts	Mitigation Activities and Method
<b>A. Policy Component</b>	
Lack of guidelines for the handling, recycling, treating, and disposal of slaughterhouse wastes (liquid and solid) pose food and environmental safety risk.	Three policy tranches for improving food safety include the following conditions: For the first tranche, the LGD to constitute a TWG for waste management, food safety, and municipal bylaws relating to UPEH, among others, to prepare guidelines for sanitary slaughterhouses including measures for the handling, recycling, treating, and disposing of slaughterhouse wastes (liquid and solid). For the second tranche, the LGD to issue guidelines on the sanitary slaughter of animals to city corporations in accordance with the provisions of the Animal Slaughter Control and Meat Inspection Act, 2005, incorporating measures for the handling, recycling, treating, and disposing of slaughterhouse wastes (liquid and solid). For the third tranche, at least 50% of CCs to start constructing sanitary slaughterhouses, including measures for the handling, recycling, treating, and disposing of slaughterhouse wastes (liquid and solid).
Proper segregation of waste and recycling efforts not effective	Information delivery mechanism through awareness campaign to increase citizen awareness of 3Rs and source segregation of waste.
<b>B. Investment Component</b>	
<b>1. Location/Design of Subprojects</b>	
<b>Waste Management</b>	
Flooding at the landfill site during monsoon season will pollute surrounding area with leachate	Design topography of boundary to ensure that all water enters peripheral drains. Storm drains surrounding the landfill are designed to withstand the heaviest monsoon rainfall (10-year storm) and direct storm water to municipal drains.
Leachate from landfills will pollute surface water	All leachate is designed to be intercepted and drained to leachate treatment pond. Leachate collection system and treatment ponds are to be designed separately from the general site drainage system to collect run-off from only the active areas of the site. Storm drains surrounding the landfill are designed to withstand the heaviest monsoon rainfall (10-year storm) and direct storm water to municipal drains. All storm water drainage to be directed away from any surrounding surface water and to municipal drains.
Leachate from landfills will pollute groundwater	Landfill design to include effective sealing through both natural clay and synthetic liner for the disposal cells and leachate treatment ponds and adequate internal drainage to direct all leachate to treatment ponds.
Landfills will impact air quality through the generation of bad odors and methane gas	Landfill cover and vegetative buffer to limit bad odors to surrounding areas. The design of the landfill to include HPDE pipes to collect gas. Suitable probes are to be installed in the soil at the property boundary to detect gases migrating away from the landfill site and monitored regularly. Explosive gases are to be monitored for concentrations above the lower explosive limit.
Leachate from landfills and STSs will pollute surrounding soils	Landfill design to include effective sealing through both natural clay and synthetic liner for the disposal cells and leachate treatment pond site. Adequate internal drainage to direct all leachate to treatment ponds. STS design to include leachate collection sumps with leachate pumped into containers for final disposal at landfill leachate ponds.
Laborers working on the landfill site will lose income/livelihoods	Impacts to income and livelihoods are addressed in the resettlement framework.
Liquid waste from the hospital waste facility could pollute groundwater	Drainage system of facility designed to intercept all spilled liquids.
	Drainage design must include unit to treat all liquid waste to national standards before discharge.
	O&M procedures: inspection and maintenance necessary to keep effluent treatment unit in working order at all times, and safe disposal of residue from effluent treatment.
Infected hospital waste poses risk to workers and	All hospital staff trained in handling and sorting medical waste. Infected material will be transferred to steel baskets and placed into an autoclave and sterilized at the

Potential Major Negative Impacts	Mitigation Activities and Method
communities	correct operating temperature for the specified time; after cooling, the material will be transported to the landfill for disposal in designated area. Sharps will be placed into a sump of disinfecting fluid and left to soak, after which they will be sorted by hand and recyclable material such as plastic syringe barrels will be removed. Periodically these items will be transported and sold to a reputable recycling agent with whom the operator has a contractual arrangement.
Pools of stagnant water at STSs collect, creating breeding grounds for insects and disease vectors	Proper drainage designed for STSs.
<b>Food Safety</b>	
Food laboratory creates hazardous environment for laboratory staff and community	The design of the facility will need to include the following: separate drain within the laboratory for nonhazardous chemicals suitable for sink disposal and special drain sump for lab washings; adequate laboratory safety equipment including eye and body shower, fire extinguishers, vent hoods and adequate internal ventilation system, emergency exits, and hazardous chemical storage and collection areas; suitable personnel protection equipment (gloves, goggles, lab jackets, etc.), as well as following international standards for laboratory and chemical handling and disposal, and standard laboratory safety protocols. Lab will have a material safety data sheet (MSDS) contained in a clearly identified and easily accessible location.
Hazardous materials in the food laboratory testing procedures may enter septic tanks, surface water drains, or the domestic solid waste system where they could cause environmental or health risks	Employ an expert in food testing to prepare O&M procedures for the safe handling and disposal of hazardous laboratory waste, which will involve decontamination of any hazardous chemicals, retention of hazardous material in sealed tamperproof containers, and deposition in a separate secure area at the municipal dumpsite.
Waste (liquid and solid) from slaughterhouse pollutes surrounding environment	As required by loan covenant, slaughterhouses to be designed and equipped with all essential elements of a comprehensive slaughterhouse waste treatment and disposal system (on- and off-site) for all liquid and solid wastes including manure, blood, hair and dirt, wastewater, paunch manure, flesh, grease, and offal. Slaughterhouses to meet all discharge standards set by government and related World Bank Pollution Prevention and Abatement Handbook (1998) Target Loads for Meat Processing and Rendering.
<b>2. Preconstruction</b>	
Proposed sites for Khulna landfill and Chittagong hospital waste facility could contain contaminants and present hazards for workers	Contamination and pathway study conducted before detailed design and required as a loan covenant. If soil is determined to be contaminated deeming the site unsuitable, an alternative site will be considered and an environmental assessment will have to be conducted.
Benchmark groundwater quality at proposed landfill sites	Groundwater samples collected upstream, on-site, and downstream, and monitored at least once a year during operation.
Workers not trained in safe handling of hazardous waste found during excavation works	Before commencement of civil works, a safety training program for contractors is to include the following: awareness program on safety measures during landfill civil works including safe excavation methods, identifying potential hazards, use of protective equipment, and handling of any hazardous waste, which is to be done through mechanical means. All staff to be given appropriate safety equipment including helmets, gloves, goggles, protective clothing, masks, and shoes.
<b>3. Construction</b>	
Community and workers at risk to contaminated wastes during construction	Based on contamination and pathway studies conducted during preconstruction phase, formulate appropriate occupational safety plans and hazardous waste disposal plans to mitigate impacts to workers and community during construction.
Excavation of landfill will produce large amounts of contaminated waste soil and stone for areas previously used as unsanitary dump	Occupational and safety training for handling contaminated waste and personal protective equipment given to contract workers. Waste soil is only handled mechanically and operatives to wear appropriate personal protective equipment (masks, goggles, gloves, boots, helmets, and protective clothing). Contaminated materials removed immediately and disposed of at municipal sanitary landfill site

Potential Major Negative Impacts	Mitigation Activities and Method
sites	<p>engineered with liners and leachate collection and treatment system sufficient for handling contaminated materials. If such sites cannot be identified, then the contaminated waste is to be disposed of in a special hazardous waste cell (engineered for preventing, collecting, and treating contaminated waste) in an existing landfill.</p> <p>Retain uncontaminated soil for covering waste when landfill is operating.</p> <p>Find beneficial uses for uncontaminated waste in construction, land raising, and infilling of excavated areas.</p> <p>Deliver suitable material to sites designated by city corporation.</p> <p>Spray stockpiled soil and working areas in windy weather.</p>
Water discharged from landfill site during construction may pollute surface and groundwater	<p>Include adequate drainage capture and liners to protect spillover into adjacent ponds and groundwater systems. Store polluted water in ponds on land at site edge. Drain stored water to leachate treatment ponds when built. Transfer sludge from bed of holding ponds to landfill.</p> <p>Do not store toxic materials at or near the landfill site.</p>
<b>4. Operation and Maintenance</b>	
<b>Waste Management</b>	
The handling and disposal of mix of solid wastes, if not properly managed, is expected to have adverse environmental and occupational and community health impacts	Provide SWM staff with necessary training and personal protective equipment such as masks, gloves, goggles, etc. Training to cover the handling of all types of municipal solid waste. Waste management sites (landfills, STSs, and hospital waste facilities) are to be monitored as per safety standards and proper management of facilities. Public education on benefits of proper and safe solid waste management practices to be part of awareness campaign.
Abnormal conditions such as failures in collection system or power outages could create adverse environmental and health conditions	In abnormal situations where waste is kept for longer than 24 hours, staff will ensure doors are closed so as to prevent rain from entering, therefore preventing leachate. All STSs are to be monitored regularly by the KCC (or private operator), and occupational and operational standards are to be maintained. To prevent rodents, the gate and bins are to remain closed and trash is to be routinely collected. The municipality is to provide trained electricians in case of generator failure, and to ensure assistance is provided through trained crane operation mechanics in case of mechanical failure. Trained STS staff to ensure that all primary waste from rickshaws and vehicles continues to be disposed of properly into bins (no waste dumped in surrounding area) while mechanical/electrical repairs being done. This is to prevent queuing of primary collection vehicles outside STSs and ensure continued operations while repairs conducted. Municipality to ensure repairs done immediately to prevent overburdened STSs.
Composting may fail if public do not separate green waste	Public education on benefits of composting, recycling, and role of public.
Town environment will deteriorate if waste management system malfunctions	<p>Public education; build capacity of all SWM staff.</p> <p>Maintain facilities and system in full working order.</p>
STSs could produce odor and attract rodents if not cleaned regularly	<p>O&amp;M procedures: remove any spilled waste immediately, wash floors and empty waste bins daily, and initial and annual training for all staff.</p> <p>Ensure STS design includes adequate drainage.</p>
Operation system may fail if hospitals do not segregate waste	Provide training to hospital managers and staff on medical waste segregation.
Major environmental and health risks for citizens and workers who handle medical wastes from hospital treatment facilities	Provide city corporation and infrastructure operators with necessary training and protective equipment, particularly related to safe medical waste handling practices.
Health of workers and garbage pickers at municipal dump site could be at risk from contact with	Safe disposal of medical, chemical, and slaughterhouse wastes in designated areas of landfill restricted. To be discussed with city corporations. Final disposal of hazardous material in sealed tamperproof bins (chemicals and medical waste) and buried.

Potential Major Negative Impacts	Mitigation Activities and Method
medical, chemical, and slaughterhouse wastes	
<b>Food Safety</b>	
The use and storage of hazardous substances, and disposal of hazardous waste, will represent a risk to human health and the environment due to the physical and chemical characteristics; improper laboratory management creates hazards to staff and community	Lab will have an MSDS placed in a clearly identified and easily accessible location. A hazard management plan for food laboratory operations is to be developed by a food safety specialist in coordination with an environmental specialist and include occupational health and safety procedures. The HMP to describe the process for safety parameters (hazards of the chemical substances; safety equipment specifications; safe operation ranges for temperature, pressure, and other applicable parameters; and evaluation of deviation); and written laboratory test analysis and procedures. The HMP will be in accordance the BioSafety Guidelines of Bangladesh (2007) <sup>a</sup> , which includes laboratory waste disposal. The purpose is to give practical advice on ways to manage specific risks that arise when hazardous substances are used at workplaces. The HMP is to address the following hazards: fire, explosions, chemical and thermal burns, cuts, absorption, inhalation, and ingestion of chemicals. Training on the HMP to all staff will be done and will include all aspects of hazard identification, safe operation and materials handling, safe work practices, basic emergency procedures, and special hazards unique to the work. The training program to also include information from MSDS for hazardous materials being handled.
When the food laboratory is operating, hazardous materials will be disposed of at the municipal dump site, creating potential environmental and public health risks, especially to rag pickers	All chemicals to be neutralized when possible. Avoid pollution by ensuring that sealed, tamperproof containers are used as recommended, and that they are stored long term in a separate and secure part of the dump site.
Liquid and solid wastes from slaughterhouses could create public health risks if not properly treated	All wastes (liquid and solid) are collected on site and disposed of safely or rendered beneficial for other uses, and unused byproducts disposed of safely off-site in landfill. Ensure all staff trained in waste management practices.
Hazards to both consumable meats and to workers if food handling done improperly	Training for all slaughterhouse staff on safe food handling and provided with appropriate equipment to do job safely and effectively.
Liquid waste from food laboratory and hospital waste facility could be toxic	All staff trained in chemical handling and toxic waste neutralized (if possible) and disposed of safely in clearly designated area of landfill site to be determined in coordination with municipal officials.

3R = reduce, reuse and recycle; CC = city corporation; HMP = hazard management plan; HPDE = high density polyethylene, LGD = Local Government Division; MSDS = minimum service delivery standards; O&M = operation and maintenance; STS = secondary and/or small transfer station; SWM = solid waste management; TWG = technical working group; UPEH = urban public and environmental health.

<sup>a</sup> Government of Bangladesh. 2007. *BioSafety Guidelines of Bangladesh*. Dhaka.

Source: Asian Development Bank

5. Negative cumulative impacts are not expected to occur for this sector development program. As the six city corporations selected for the Project are distributed approximately evenly throughout the country, the Project area is national in its domain. The principal cumulative, regional, and long-term impact is expected to be beneficial, i.e., the overall betterment of urban and environmental health conditions by significantly improving sanitation, food safety, hospital, and solid waste disposal in each city corporation.

## C. Summary Environmental Assessment and Review Framework

### 1. Institutional Roles and Responsibilities

6. **Local Government Division and Urban Public and Environmental Health Unit.** The Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives will be the executing agency for the UPEHSDP providing overall guidance for program implementation. The LGD will have the overall responsibility to plan, organize, manage, supervise, coordinate, and monitor the progress achieved. The LGD will establish a support unit called the environmental health unit (UPEHU) that will be responsible for day-to-day program implementation and will be headed by a full-time program director. A safeguards officer to coordinate resettlement and environmental safeguards for the UPEHSDP will be part of the policy and program wing of the UPEHU. Through the safeguards officer, the UPEHU will ensure environmental compliance with Asian Development Bank (ADB) policy and national law across the entire program. This includes (i) pre-approving final IEEs prior to submission to ADB for review and approval, and (ii) assisting in resolution of complaints and grievances related to IEE implementation not resolved in the city corporation program implementation units (CCPIUs).

7. **City Corporations Program Implementation Units.** Program implementation units will be established in each city corporation. The CCPIUs will include a safeguards and community mobilization officer who will receive training from the international environment specialist and national environment specialist, and will be assigned to work with the CCPIU staff to help monitor subprojects and to transfer implementation capability to the CCPIU team. The community mobilization officer will work closely with the environment specialists in planning, implementing, and monitoring all project activities. The CCPIUs will (i) screen and categorize subprojects, (ii) assist in public meetings and other consultation with stakeholders, and (iii) facilitate activities of the environment specialists in applying for location and environmental clearances.

8. **Environmental Specialists.** A design, supervision, and construction consultant (DSCC) team will be contracted to assist the UPEHU and CCPIUs in implementing and managing the investment subprojects including environmental planning. Towards this, international and national environment specialists within the DSCC team will prepare IEEs in accordance with both ADB and Government policies during the feasibility and detailed design stage, and supervise contractors, with support from CCPIUs, during the construction process. The environment specialists will work in close coordination with UPEHU and CCPIUs. They will coordinate with the safeguards officer in the UPEHU to ensure all IEEs comply with ADB and Government of Bangladesh rules and guidelines. The environment specialists will also provide training to CCPIUs to facilitate their monitoring of environmental impacts during construction and operation and will provide support ensuring that all tasks of the CCPIU with regard to environmental implementation and monitoring are achieved.

9. **Grievance Redress Committees.** Public grievances regarding technical, social, and environmental aspects will be brought to the grievance redress committee constituted for each city corporation. The committee will comprise representatives from the office of the program implementation unit and the office of the city corporation chief executive officer, affected people, a female elected member of the city corporation and the safeguards and community mobilization officer. The grievance redress process is designed to be transparent, gender responsive, culturally appropriate, and commensurate to the risks and adverse impacts of the project, as well as readily accessible to all segments of the affected people. Affected people are to be appropriately informed about the mechanism through media and public outlets. This

participatory process shall ensure that all views of the people are adequately reviewed and suitably incorporated in the design and implementation process. The grievance redress committee will meet every month and will determine the merit of each grievance and resolve all grievances within 15 days of receiving the complaint. The grievance redress procedure includes an appeals procedure for the affected person who can, if not satisfied with the committee decision, attend the next case and present any additional information for reconsideration of the case. Grievances not redressed by the grievance redress committee to the satisfaction of the affected person will be considered by the program steering committee or the Office of the District Commissioner (for grievances related to land acquisition). Any remaining grievances may be referred by affected people to the appropriate courts of law. Records will be kept of all grievances received, including contact details of complainant, date the complaint was received, nature and details of grievance, agreed corrective actions and date these were effected, and the final outcome.

10. **Asian Development Bank.** The responsibilities of ADB in the review and clearance of environmental assessment reports include (i) review the changes and the suggested classification, if required; (ii) revise environmental assessment report based on detailed design changes, as warranted; (iii) reserving the right to review the project document and environmental assessment reports, as necessary; (iv) review subprojects confirmed by ADB as environmentally sensitive (the proposal and the IEE or environmental impact assessment of the subproject must be forwarded by EA to ADB for review); and (v) ensure that all safeguards documents are endorsed by the executing agency.

## **2. Environmental Monitoring and Reporting**

11. Monitoring during construction will be assisted by the CCPIU, whose staff will receive training on environmental monitoring of construction from the national environment specialist. The CCPIU will report the results and conclusions to the UPEHU every quarter, or more frequently if remedial action is required. Mitigation required when the system is operating will be the responsibility of the city corporation monitored by the UPEHU.

## **3. Public Consultation and Information Disclosure**

12. The Project takes a participatory approach and engages both primary and secondary stakeholders. Public consultation was used extensively during preparation of the IEEs. This included public meetings, workshops to which multiple stakeholders were invited, and ad hoc interviews at sites. The consultant team conducted these public consultations in Chittagong, Dhaka, and Khulna to receive local input on the solid waste components, the hospital waste facility, food testing laboratory, and slaughterhouse. Attendees were informed about the aim of the relevant subprojects and the benefits they would bring, together with their likely impacts and the ways in which they would be mitigated. Participants were invited to discuss their views and concerns, which were then incorporated into the IEEs. Ad hoc discussions were also held on site with people and communities who could be affected by the subprojects, so that views could be expressed in a less formal setting. CCPIUs will disclose the IEEs to the public by providing copies in the local language in the city corporation office in each town. Environmental concerns of the affected people raised during public consultations are summarized in the individual environmental reports; however, common concerns were primarily related to resettlement and compensation issues (which are addressed in separate resettlement plans or mitigated through design), concerns about how the projects will improve the current waste situation (subprojects were explained during consultations with local language versions of the summary environmental examinations and project descriptions distributed and made available at

municipal offices), and questions regarding the roles of government and nongovernment organizations (NGOs) (which were explained during consultations and clarified in the IEEs). In accordance with the requirements under the environment policy and ADB's *Public Communications Policy* (2005), ADB shall make the initial environmental examination available to interested parties on request.

13. Future consultation during detailed design will include (i) focus-group discussions with affected persons and other stakeholders (including women's groups, NGOs, and community-based organizations) to hear their views and concerns, so that these can be addressed in project design where necessary; and (ii) structured consultation meetings with the institutional stakeholders (government bodies and NGOs) to discuss and approve key aspects of the Project. Consultation during construction will include (i) public meetings with major stakeholders to discuss and plan work programs and allow issues to be raised and addressed once construction has started; and (ii) smaller-scale meetings to discuss and plan construction work with primary stakeholders to reduce disturbance and other impacts, and provide a mechanism through which affected people can participate in project monitoring and evaluation. Project disclosure will include public information campaigns (via newspaper, TV, and radio) to explain the project to the urban populations and prepare them for any disruption they may experience once the construction program is under way. Also, public disclosure meetings at key stages to inform the public of progress and future plans will occur, and copies of summary documents in the Bangla language will be provided. Formal disclosure of completed project reports will be made available at convenient locations in each target town, informing the public of their availability, and providing a mechanism through which comments can be made.

#### 4. Environmental Selection Criteria for Subprojects

14. To ensure compliance with Government and ADB policies, environmental subproject selection criteria were prepared to guide the implementation of future subprojects. A summary of the environmental subproject selection criteria is provided in Table A12.2. The full environmental assessment and review framework, based on provisions of the Government's environmental policies and the environmental assessment criteria of ADB, is provided in Supplementary Appendix V. The environment assessment and review procedure also details (i) the Government's environmental assessment and review procedures, (ii) responsibilities and authorities involved in environmental assessment and review, and (iii) staffing requirements and budgets.

**Table A12.2: Environmental Criteria for the Selection and Development of Subprojects**

Subproject	Environmental Selection Criteria
All Subprojects	<ol style="list-style-type: none"> <li>1. Will comply with all requirements of national law, including the Environmental Conservation Act (1995), Environmental Conservation Rules (1997), and other laws, regulations, and rules in specific sectors where appropriate.</li> <li>2. Will comply with all requirements of ADB's <i>Environmental Policy</i> (2002) and <i>Environmental Assessment Guidelines</i> (2003) and follow procedures set down in the environmental assessment and review framework for the program when developing new subprojects.</li> <li>3. Will avoid involuntary resettlement by locating facilities and any other related infrastructure elements on vacant government land where possible. If unavoidable, the extent of resettlement will be minimized.</li> <li>4. Will avoid any work in or near environmentally sensitive locations, including sites with national or international designation for nature conservation, cultural heritage, or any other reason.</li> <li>5. Will locate all new infrastructure on land that is not subject to flooding, either because of natural topography or the presence of adequate and well-maintained flood protection measures.</li> <li>6. Will not involve social conflicts.</li> <li>7. Will reflect inputs from public consultation and disclosure for site selection.</li> </ol>

Subproject	Environmental Selection Criteria
Waste Management	<ol style="list-style-type: none"> <li>1. Will ensure no land use conflicts.</li> <li>2. Will implement subprojects only with environmental clearance from the government.</li> <li>3. Will ensure all sites given environmental clearance by the Government identify all contaminants, receptors, and exposure pathways (including during civil works) and ensure each is mitigated.</li> <li>4. Will ensure any contaminated excavate found during civil works is safely handled and disposed of at suitable sites engineered for handling contaminated soils, etc. These sites are to be identified and agreed upon with the Department of Environment (DOE) before commencement of civil works. If such site cannot be identified, then the contaminated waste is to be disposed of in a special hazardous waste cell in an existing landfill.</li> <li>5. Will ensure designs and operations of new landfills are done as per the norms of modern sanitary facilities and to include all essential elements necessary to prevent environmental pollution and to ensure safe handling of waste during construction and operation. Facilities to include a liner system to prevent leachate; leachate collection system and control facility; gas collection system; final cover system; surface water drainage system; environmental monitoring system for air, water, soil, odor, and gas; and a closure and post-closure plan.</li> <li>6. Will ensure that subprojects are not constructed in areas where the groundwater table is less than 2 meters (m) below ground level. Special design measures to be adopted if this cannot be adhered to.</li> <li>7. Will ensure landfills are not constructed within flood-prone areas; special design measures to be adopted if this cannot be adhered to.</li> <li>8. Will ensure no habitations or sensitive receptors within 250 m; special design measures to be adopted if this cannot be adhered to.</li> <li>9. Will ensure no landfills are within environmentally sensitive areas; special design measures to be adopted if this cannot be adhered to.</li> <li>10. Will ensure no landfills are constructed within or near water supply wells, and at least 500 m of any down-gradient wells. Permission from regulatory agency needed if landfill is to be sited within this restricted area.</li> <li>11. Will ensure a buffer zone is provided around the landfill with the distance agreed upon with regulatory agencies.</li> <li>12. Will ensure occupational safety measures for the safe handling of all types of wastes as well as proper handling so as not to result in inadequate disposal. Will ensure all operations staff of SWM and hospital waste facilities including hospital staff are given a high level of safety training, personal protective equipment, and other support, sufficient to achieve the expected standards for waste handling and disposal</li> <li>13. Will ensure new landfills include a composting facility with appropriate training for city corporation staff in the benefits and methods of composting and recycling.</li> <li>14. Will ensure that small (secondary) transfer stations are not located within 30 m of residences, schools, and churches.</li> <li>15. Will ensure medical waste facilities design includes all elements necessary to provide a modern treatment facility for maintaining standards of medical waste management and worker health and public safety.</li> </ol>
Food Safety	<ol style="list-style-type: none"> <li>1. Will ensure no land use conflicts occur.</li> <li>2. Will ensure slaughterhouses are designed and equipped with all essential elements of a comprehensive slaughterhouse waste treatment and disposal system (on- and off-site) for all liquid and solid wastes including manure, blood, hair and dirt, wastewater, paunch manure, flesh, grease, and offal. Facilities and slaughtering practices also designed to ensure animal welfare, worker health, and meat hygiene as per modern slaughterhouse protocols.</li> <li>3. Will ensure facilities are provided for the re-use of waste products (e.g., blood and offal).</li> <li>4. Will ensure occupational safety measures for the safe handling of food laboratory and slaughterhouse wastes are followed. Will ensure all aspects of the management and operation of a new slaughterhouse are set out in O&amp;M manuals prepared by an internationally recognized expert in slaughterhouse management; and the facility designed to meet DoE discharge standards and World Bank Pollution Prevention and Abatement Handbook (1998) Target Loads for Meat Processing and Rendering.</li> <li>5. Will ensure all operations staff are given a high level of training and other support, sufficient to achieve the expected standards for food handling and slaughterhouse and chemical waste handling and disposal.</li> <li>6. Will ensure an independent monitoring agency is engaged when the slaughterhouse is operating, to check and audit implementation of the procedures, including waste management, at regular intervals (e.g., monthly).</li> <li>7. Will ensure all operations adhere to high standards of animal welfare, worker health and safety,</li> </ol>

Subproject	Environmental Selection Criteria
	<p>meat hygiene, and waste management.</p> <p>8. Will ensure food laboratory design includes provision of suitable personal protection equipment, emergency eyewash and shower stations, ventilation systems, special drain sump from lab washings, and solid waste containers for excess hazardous materials and wastes.</p>

ADB = Asian Development Bank, DOE = Department of Environment, O&M = operation and maintenance, SWM = solid waste management.

Source: Asian Development Bank.