

Semi-Annual Environmental Safeguard Monitoring Report

Project Number: Loan 2555-BAN
October 2014

BAN: Urban Public and Environmental Health Sector Development Project

Project Cities: Dhaka, Chittagong, Barisal, Khulna, Rajshahi and Sylhet

Semi Annual Environmental Monitoring Report

ADB Loan Number: 2555-BAN (SF)

Reporting Period: October 2014

BANGLADESH: Urban Public and Environmental Health Sector
Development Project

Project Cities: Dhaka, Chittagong, Barisal, Khulna,
Rajshahi and Sylhet

Implementing Agency: Urban Public and Environmental Health Unit (UPEHU)

Executing Agency: Local Government Division, Government of Bangladesh

October 2014

Dhaka

ABBREVIATIONS

| | |
|------|---|
| ADB | - Asian Development Bank |
| CC | - City Corporation |
| EA | - Executing Agency |
| EARP | - Environmental Assessment & Review Procedure |
| EIA | - Environmental Impact Assessment |
| GOB | - Government of Bangladesh |
| IA | - Implementing Agency |
| IEE | - Initial Environmental Examination |
| PD | - Project Director |
| UDD | - Urban Development Department |
| EHS | - Environmental Health and Safety |
| PPTA | - Project Preparatory Technical Assistance |
| BTA | - Bridging Technical Assistance |
| PAP | - Project Affected Person |

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I. INTRODUCTION

A. Background

1. With nearly 30% of the country's total population (around 140 million) currently living in urban areas along with a predicted to rise to 50% in the next 25 years and still a higher rate of urbanization than the previous ones, Bangladesh is beset with a situation of continued deterioration in the overall and general state of urban public and environmental health. Such a situation has its root in the existing services overwhelmed by continued influx of ever-increasing number of people in the urban areas and growth of slums and squatter settlements currently accommodating over 35% of the urban population. Disease prevention and health promotion in urban areas encompass a range of issues including water and sanitation, waste management, food safety, healthcare, awareness-raising, etc. These are all the responsibility of the city corporations and municipalities under the authority of the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (LGRDC). Most of these services are under-provided, particularly to the poor.

2. The Bangladesh Urban Public and Environmental Health Sector Development Program (UPEHSDP) aims to establish a sustainable approach to public and environmental health at national level to guide and support city corporations and municipalities in improving the quality of life and economic status of urban residents, especially the poor. This will be achieved by a range of measures, including: (i) creating an Urban Public and Environmental Health Unit (UPEHU) under LGD with a mandate to improve public health; (ii) improving staff and financial resources to enable city corporations and municipalities fulfill their responsibilities in public and environmental health; (iii) improving management of solid waste and hospital waste through municipality-managed public-private partnerships and other mechanisms; and (iv) improving food safety by providing food testing laboratories, food inspection services and sanitary slaughterhouses.

3. The program is being supported by ADB through: (i) a program loan to implement policy measures in institutional strengthening, financial reform, public/ environmental health strategies, governance and service delivery; and (ii) a sector loan, funding investments in municipal and hospital waste management, food safety, and pro-poor integrated services (water supply, sanitation, nutrition/ food security, and health of the urban poor). LGD of the MOLGRDC has been the Executing Agency (EA), whereas the six city corporations (Dhaka, Chittagong, Sylhet, Barisal, Khulna and Rajshahi) have been the implementing agencies. The Program is being implemented over a period of seven years (2010-2016) in the main urban areas of the country.

4. UPEHSDP has been classified by ADB as environmental assessment category B (some negative impacts but less significant than category A). The impacts of activities under the program loan, therefore, need to be reviewed by an Environmental Assessment of the Policy Matrix. The sector loan will be implemented via a series of subprojects, providing infrastructure and other improvements in a particular sector (waste management, food safety, etc). Four sample subprojects were developed by a Project Preparation Technical Assistance (PPTA) study and the environmental impacts of these were assessed by Initial Environmental Examinations (IEE) (or Environmental Reviews for Category C subprojects). Studies were conducted according to ADB Environment Policy (2002) and Environmental Assessment Guidelines (2003). Current IEE had been in line with the Environmental Assessment and Review Framework (EARF) developed for the purpose in 2009 and assessment of environmental impacts previously conducted on the above four sample subprojects developed through the PPTA study.

5. ADB's Environment Policy requires that environmental issues are taken into account in all aspects of the Bank's operations, and the requirements for Environmental Assessment are described in Operations Manual (OM) 20: Environmental Considerations in ADB Operations

(2003). This states that ADB requires environmental assessment of all project loans, program loans, sector loans, sector development program loans, financial intermediation loans and private sector investment operations.

6. The nature of the assessment required for a project depends on the significance of its environmental impacts, which are related to the type and location of the project, the sensitivity, scale, nature and magnitude of its potential impacts, and the availability of cost-effective mitigation measures. Projects are screened for their expected environmental impacts and are assigned to one of the following categories:

(i) **Category A.** Projects that could have significant environmental impacts. An Environmental Impact Assessment (EIA) is required.

(ii) **Category B.** Projects that could have some adverse environmental impacts, but of less significance than those for category A. An Initial Environmental Examination (IEE) is required to determine whether significant impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.

A Category B project may be classified as B-sensitive if it involves environmentally sensitive activities. Such projects require IEE, but have the same requirements for disclosure and Environmental Management Plans as Category A.

(iii) **Category C.** Projects those are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.

7. For Category B projects the Draft IEE reports, Summary IEE (SIEE) and any other reports prepared to comply with ADB procedure (in this case the EA of the Policy Matrix) are reviewed by ADB's Regional Department Sector Division and Social and Environmental Safeguards Division. They are also reviewed in-country by the Executing Agency, and additional comments may be sought from project affected people and other stakeholders. All comments are incorporated in preparing final documents, which are reviewed by the Executing Agency and the national environmental protection agency (in this case the Department of Environment, DoE). The EA then officially submits the reports to ADB for consideration by the Board of Directors.

8. The UPEHSDP is a project in the field of solid waste management, and as explained above it has been classified by ADB as Category B because it is not expected to have major negative environmental impacts. Under ADB procedures such developments require an IEE to identify and mitigate the impacts, and to determine whether further study or a more detailed EIA may be required.

9. Environmental Management Plan: An EMP which addresses the potential impacts and risks identified by the environmental assessment has been included in the IEE report. The level of details and complexity of the EMP and the priority of the identified measures and actions are commensurate with the Project's impact and risks. The EMP is part of bidding and contract documents.

B. Project Profile

Outcomes

10. The Project will enable urban population, primarily in the six city corporations; 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 and medical waste management and food safety and improved 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 2001 census.

Outputs

11. 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:

- (A) Solid Waste Management;
- (B) Food Safety; and
- (C) Program Management, Institutional Support, and Capacity Building.

Component (A): Solid Waste Management (Estimated Cost US\$ 34.08 million equivalent to Tk.23515.69 Lakh)

12. The solid waste management component has two subcomponents:

- (i) Municipal Solid Waste Management; and
- (ii) Medical Waste Management.

(i) Municipal Solid Waste Management (Estimated Cost US\$ 28.55 million equivalent to Tk.19696.63 Lakh)

13. 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. There are three areas of investment under this sub-component.

14. Primary Collection for Urban Poor (Estimated Cost US \$ 3.65 million equivalent to Tk.2518.16 lakh). This subcomponent will focus on improving the service coverage and quality of primary collection in the urban, underserved poor communities to be piloted in underserved, poor areas, at least one in each of the six city corporations. A community-based initiative will be utilized incorporating a partnership approach in municipal service delivery. City corporations will contract community-based organizations (CBOs) NGOs to undertake service delivery improvements across 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.

15. Input-wise Budget Estimates: To improve primary solid waste collection system for urban poor several numbers of public awareness campaigns, training and workshops will be organized under this sub-component. For increasing the coverage of primary waste collection, numbers of primary collection vehicles (Rickshaw Vans-105) will be procured with a cost of Tk. 465.75 lakh. Necessary equipments like small composting plants; wheelbarrows, dustbins, supplies and materials will also be procured under this sub-component. An amount of Tk. 663.44 lakh has been estimated for equipment, supplies and materials for urban waste primary collection. Service delivery for urban solid waste collection will be contracted out to community-based organizations (CBOs) NGOs. The budget for service delivery for urban primary solid waste collection has been estimated Tk. 333.27 lakh. The total cost of this subcomponent would be Tk 2518.16 lakh (US\$ 3.65 million).

16. Secondary Collection and Transportation (Estimated Cost US \$ 8.86 million equivalent to Tk.6112.09 lakh). 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. What is needed is to improve, through mechanization, the efficiency of transfer of waste from primary collection tricycles to waste transport vehicles. Secondary/ Small Transfer Stations (STS) serve this functional purpose. STS's 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 per 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 enter into the waste business. PSP will increase competition and, so long as standards are ensured, service quality and efficiency will also improve. Capacity building of the city corporations is an essential part of improving waste management standards.

17. Input-wise Budget Estimates: A total number of 46 Secondary/ Small Transfer Station (STS) will be constructed in 6 city corporations (Approximately Dhaka-12, Chittagong-12, Khulna-8, Rajshahi- 6, Barisal-4, Sylhet-4) under this sub-component. Cost of civil works of these 46 STS has been estimated Tk. 1987.59 lakh. In addition an amount of Tk.2167.93 lakh would be needed to procure necessary equipment to make these STS operational. After construction of STS, service delivery of STS will be contracted out to private sector under PPP model. The cost of service delivery for 3.25 years has been estimated Tk.1922.76 lakh. The total cost of this sub-component would be Tk.6112.09 lakh (US\$ 8.86 million).

18. Integrated Waste Treatment Facilities (Estimated Cost US \$ 16.04 million equivalent to Tk.11066.39 lakh). Investments will be made to develop integrated waste treatment facilities (IWTF), combining composting, landfill and other treatment technologies. A total of 5 landfill sites are proposed to be implemented in the 5 city corporations (Chittagong, Khulna, Rajshahi, Barisal 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 peri-urban towns (Paurashavas). The high proportion of biodegradable material in the waste stream means that composting is an important treatment option. For the purposes of utilizing the Cleaner Development Mechanisms (CDM), the option of landfill gas extraction or composting will be considered. Landfills, by virtue of their nature are large investment projects with minimum or no return on the investment and as such are not provided by private service providers due to their financial non-viability. 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, is utilized for revenue source. Ensuring strong municipal finances are important for long-term sustainability of municipal solid waste management services, which the Project will also support.

19. Input-wise Budget Estimates: Chittagong, Rajshahi, Sylhet and Barisal City Corporation have their own land to develop sanitary landfill. Only Khulna City Corporation would be needed to acquire approximately 10 hectares of land for sanitary landfill. An amount of Tk.1380.00 lakh has been estimated for land acquisition for Khulna City Corporation. Cost of civil works for 5 landfills in 5 city corporation areas has been estimated Tk. 5212.44 lakh. In addition an amount of Tk.2060.55 Lakh would be needed for procurement of necessary equipments. Five tractors would also be procured with the estimated budget of Tk.138.00 lakh for five landfill sites. After establishment of landfills with necessary equipments, service delivery of these landfills will be contracted out to private entrepreneurs under PPP model. The cost of service delivery for 3.5 years for these 5 landfills has been estimated Tk.2236.03 lakh. The total cost of this sub-component would be Tk.11066.39 lakh (US\$ 16.04 million).

(ii) **Medical Waste Management** (Estimated Cost US \$ 5.53 million equivalent to Tk.3819.05 lakh)

20. The Project will support establishment of environmental sound effective medical waste management under public-private partnership in all the six city corporations. A total of 6 medical waste management units will be established in the six city corporations. Receipts for medical waste management facilities are the tariffs obtained from the different medical diagnostic centers and healthcare units (hospitals and clinics) based on size and capacity.

21. Input-wise Budget Estimates: A total amount of Tk. 3819.06 lakh (US\$ 5.53 million) has been estimated to establish and operate medical waste treatment and management facilities in 6 city corporations, which includes cost of civil works of Tk. 1409.64 lakh, equipment & furniture of Tk. 729.70 lakh, vehicles (18 covered van/pick-up) of Tk. 558.90 lakh and service delivery cost of Tk.1121.82 lakh.

Component B: Food Safety (Estimated Cost US\$ 18.28 million equivalent to Tk.12613.40 Lakh)

Under the food safety component, two subcomponents will be supported by the Project:

- (i) Food Laboratories and Training Centre, and
- (ii) Modern Slaughterhouses.

(i) Food Laboratories and Training Centre (Estimated Cost US \$ 3.08 million equivalent to Tk.2123.44 lakh)

22. Two food laboratories will be constructed, one each in, Dhaka and Chittagong. The Dhaka laboratory will have an additional 'training centre' component. The existing Dhaka facility will be upgraded by building renovation, and supply of modern equipment. The Chittagong laboratory will be a new construction. Receipts for the food laboratories will be in the form of analysis tests for both Dhaka and Chittagong. The Dhaka unit will additionally provide training courses on food safety to the various food safety inspectors in both public and private organizations. In addition to their own respective division, the Chittagong laboratory will cover Sylhet and Barisal divisions while the Dhaka laboratory will cover Khulna and Rajshahi.

23. Input-wise Budget Estimates: A total amount of Tk. 2123.44 lakh (US\$ 3.08 million) has been estimated to establish and operate two food laboratories in Dhaka and Chittagong and one training centre in Dhaka, which includes cost of civil works of Tk. 644.83 lakh, equipment, computers & furniture of Tk. 876.18 lakh, vehicles (3 microbus) of Tk. 59.20 lakh and service delivery cost (3.5 years) of Tk.543.05 lakh.

(ii) Modern Slaughterhouses Centre (Estimated Cost US \$ 15.20 million equivalent to Tk.10489.96 lakh)

24. Modern slaughterhouses will be established for preparation and processing of standard quality of meat and meat products and other feasible economic by-products. Establishment of a large capacity slaughterhouse at a central place can make it possible to prepare and process high quality meat and meat products, and economic by-products. Central production will enable easier quality control and will require less manpower for production and supervision. A total of six slaughterhouses will be implemented in the six city corporation areas. Dhaka and Chittagong will feature large (Type 1) slaughterhouses while the rest in Khulna, Rajshahi, Barisal and Sylhet will feature 4 smaller slaughterhouse units (Type 2). The Type 1 units will have a maximum capacity of 5,000 animals slaughtered per day while the Type 2 units will have a maximum capacity of around 2,000 animals slaughtered per day. All of the slaughterhouses will be newly constructed.

25. Input-wise Budget Estimates: An amount of Tk 6912.35 lakh has been estimated for civil works to establish 6 slaughterhouses in 6 city corporation areas. In addition Tk.2196.88 lakh would be needed to procure necessary equipment to make these slaughterhouses operational. After establishment of slaughterhouses, the service delivery cost approximately for 2 years has been estimated Tk. 1380.72 lakh. These slaughterhouses will be contracted out to private sector for service delivery. The total cost of this sub-component would be Tk.10489.96 lakh (US\$ 15.20 million).

Component C: Program Management, Institutional Support and Capacity Building (Estimated Cost US\$ 14.05 million equivalent to Tk.9695.21 lakh)

Component-C consists of three subcomponents:

- (i) Program Management and Implementation Support;
- (ii) Financial Management Systems and Municipal Finances; and
- (iii) Policy Reform and Capacity Building Support.

(i) Program Management and Implementation Support (Estimated Cost US \$ 8.33 million equivalent to Tk.5749.30 lakh)

26. To manage and implement the program and project an UPEHU will be established under the LGD, which will be the Project Management Unit (PMU) at central level. In addition City Corporation Program Implementation Unit (CCPIU) will be established in each of the six City Corporations. An amount of Tk. 1468.28 lakh has been estimated for salaries and allowances for 102 manpower of UPEHU (42) and 6 CCPIUs (60). Several computers, equipments and furniture will be procured for PMU and CCPIU with the estimated budget of Tk. 944.61 lakh. In addition 24 vehicles will be procured for PMU and 6 CCPIU with the estimated budget of Tk. 402.96 lakh. 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 also will include engagement of NGOs to manage parts of program activities. An amount of Tk.1240 lakh has been estimated for 52 man-month international consultants and 308 man-month local consultants under Design Supervision Construction Consultancy (DSC)-(Package-C). In addition 30 man-month individual consultants will also be hired at a cost of Tk. 60.00 lakh directly by UPEHU to implement the project smoothly. An amount of Tk. 549.90 lakh would be needed as program support cost to bear the expenditure for international travel, local travel, mobilization, demobilization, accommodation, per diem, subsistence allowances, survey, study, capacity building, equipment, furniture and overhead cost of the consulting firm. Recurrent cost, operational and maintenance cost for UPEHU and 6 CCPIU for 5 years period have been estimated Tk.1028.35 lakh.

(ii) Financial Management and Strengthening Municipal Finances (Estimated Cost US \$ 1.67 million equivalent to Tk.1150.25 lakh)

27. The subcomponent will assist UPEHSDP in substantially reforming and improving financial management of city corporations' financial management and financial management of UPEHSDP, introducing modernized and computerized accounting systems, and performance-based budgeting, using information technology to enhance financial management, improving tax collection and expanding tax base to strengthen municipal finances, and also conduct regular concurrent audits of UPEHSDP to ensure high degree of adherence to various procurement and financial management guidelines. A consultancy package for Financial Management and Municipal Finance (FMMF) including audit training and capacity building has been identified with an estimated budget of Tk. 1150.25 lakh under this subcomponent.

(iii) Policy Reform and Capacity Building Support (Estimated Cost US \$ 4.05 million equivalent to Tk.2795.66 lakh)

28. The policy reform and capacity building component will support the implementation of the policy reform program of the UPEHSDP and assist in capacity building. This would include support to the four technical working groups constituted for the reforms, conducting pro-poor targeting surveys, monitoring and evaluation, mitigating risks for the poor and women resulting from any project or program interventions, strengthening legal aspects, public awareness campaign; and identification and development of institutional strengthening measures, training modules, and guidelines and manuals, and provision for training among others. The capacity building will include assistance to accelerate the reform program and ensuring sustainability of project investments.

29. A total amount of Tk. 2795.66 lakh (US\$ 4.05 million) has been estimated for this subcomponent. This estimated budget has included the budget for Surveys, Studies, Monitoring and Evaluation, Pro Poor targeting, advocacy and community participation (Tk.1138.50 lakh), local training and workshop (Tk. 548.94 lakh) overseas training (Tk. 396.75 lakh) and program support consultancy (Tk.711.47 lakh).

Other Support for Project Implementation (Contingencies, Interest during Construction and VAT/ Tax. - Estimated cost US \$ 11.83 million equivalent to Tk. 8169.68 lakh)

30. An amount of Tk.916.49 lakh (US\$1.33 million) has been estimated for physical contingencies (2% of total project cost) and Tk. 3665.94 lakh (US\$ 5.31 million) for price contingencies (8% of total project cost). In addition an amount of Tk.1914.63 lakh (US\$ 2.77 million) has also been kept as other block allocation to meet the unforeseen expenditure. These estimated budgets have been kept separately as block allocations under capital component of the project cost. Physical contingency is estimated at 10% of civil works, equipments and vehicles cost. Price contingency is estimated based on foreign exchange inflation rate of 0.7% in 2009, 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. An amount of Tk.1206.02 lakh (US\$ 1.75 million) has also been estimated for all kinds of CD/VAT and other taxes and Tk.1672.62 lakh (US \$ 2.42 million) for interest during construction under the project.

Bridging Technical Assistance

31. One of the most significant risks of the UPEHSDP is that being a new Program, the initial set-up time required for establishing the urban public and environmental health unit followed by hiring of various consultant firms would take enormous amount of time. This would not only delay the program implementation, but has potential to delay the Program due to weak procurement and financial management systems. UPEHSDP by nature has greater challenges that either pure program or pure project as a UPEHSDP has both policy reforms component (program) and investment component (project). These two components require diverse skill base. From policy component, expertise in policy, law, regulation, and municipal finances are required; while the project will require procurement, financial management and audit, project performance monitoring, and information management skills are required. Both policy and project will require subject matter specialist in solid waste, medical waste, food and water safety and slaughterhouses. The Technical Assistance is an effort to mitigate the start up delay risks, enable that the project starts on a sound foundations, and strengthen the capacities of the Local Government Division (LGD) of the Ministry of Local Government, Rural Development and Cooperatives (MOLGRDC) to implement the reform program.

Objectives and Purpose of the Bridging TA

32. The objective of the Bridging TA is to help in overcoming the start-up delays inherent in a new Program by providing high quality consultant support to undertake critical advance activities and setup systems and procedures in the newly created UPEHU and CCPIUs; and provide advisory capacity building assistance to the Government for UPEH both at the national and city corporation level. This will include assistance at LGD and UPEHU in preparing and implementing key policy reforms. The TA outcomes will: (i) provide procurement expert support to help LGD and UPEHU to hire the three consultant packages in a timely manner; (ii) provide institutional and financial management expert support to set up procedures and processes for smooth functioning of UPEHU and CCPIUs, especially anti-corruption; (iii) provide expert support in municipal financing, institutional development, financial management, solid and medical waste, CDM, food and water safety, public private partnership, pro-poor targeting, citizens participation, gender mainstreaming for policy reform support (iv) provide 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.

Implementation Arrangements of the Bridging TA

33. LGD will be the Executing Agency (EA) for the TA and UPEHU will be the implementing agency. The Project Director of UPEHSDP will also be responsible to implement this TA. The NPSC 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 Asian Development Bank's (ADB's) Board and to be completed in 2 years.

Cost Estimates and Financing Arrangements

34. The total cost of the TA is estimated at \$625,000 equivalent. ADB will finance US \$500,000 equivalent on a grant basis, from ADB's TA funding program, covering all the foreign

exchange costs and part of the local costs. The proposed Government in-kind contribution of \$125,000 equivalent will cover office costs, conference venues, and counterpart staff remuneration.

The following 6 person-months international consultants will be supported under the TA:

- (i) Urban Infrastructure (public-private partnership) Expert (1 person-month);
- (ii) Municipal Solid Waste Management Expert (4 person-month); and
- (iii) Procurement Expert (1 person-month).

35. In addition the following national consultants (36 person-months) would also be supported under the TA:

- (i) Public and Environmental Health Institutional Development Expert (8 person-months);
- (ii) Procurement Expert (6 person-months);
- (iii) Solid waste Management Expert (6 person-months);
- (iv) Food Laboratory and Food Safety Expert (3 person-months);
- (v) Municipal Finance Expert (4 person-months);
- (vi) Legal Expert (3 person-months);
- (vii) Resettlement and Environment Safeguards Expert (3 person-months); and
- (viii) Poverty Expert (3 person-month).

36. The estimated budget of the above consultancy would be around US\$ 208,696, which is equivalent to Tk.144.00 lakh. In addition of the above consultancies there will be some other supports in terms of equipments (Tk.20.70 lakh), workshop, seminar, training, conference (Tk.41.40 lakh), surveys and studies (Tk. 20.70 lakh), international and local travel (Tk.10.35 lakh), reports and communications (Tk.6.90 lakh), miscellaneous administrative and Support cost (Tk.6.90 lakh), program support cost (Tk. 63.00 lakh) and contingency (Tk. 31.05 lakh).

Summary of the Budget Estimates of the DPP

37. The project consists of three types of support from ADB: (i) program support for reform activities (US\$ 70 million program loan) (ii) project investment support (US\$ 60 million project loan) and (iii) a bridging technical assistance for capacity building for UPEH (US\$ 0.5 million TA grant). The program support will be the budget support to GOB, which has not been included in the total cost of this project. This DPP has been prepared on the basis of the ADB's investment loan support of US\$ 60 million, ADB's grant TA of US\$0.5 million and the GOB's contribution of US\$20 million. The total cost of the project has been estimated Tk.55545.00 lakh (US\$ 80.5 million). Out of which ADB's contribution will be Tk. 41745.00 lakh (US\$ 60 million loan and US\$ 0.5 million grant) and GOB's contribution will be Tk. 13800.00 lakh (US\$20 million). On the basis of the above detailed budget estimates two summary budget estimates have been prepared.

38. The Semi Annual Environmental Monitoring Report presents the status of sub project implementation, details of compliance with environmental regulations of the Government and policies of ADB, details of compliance with environmental loan covenants, details of complaints received and their redressal and the status of compliance with various aspects of EMP as stated in the IEE reports.

39. Monitoring of compliance with EMP is a continuous activity carried out by the DSC and CCPIU. Guidelines on general construction EHS measures to be followed/ implemented by the Contractor have been issued to the Contractor. A reporting format to be filled by the Supervisory staff of DSC on a daily basis on compliance with EMP by the Contractor has been implemented and they are being compiled on a monthly basis. This is the consolidated report on implementation of Environmental Management Plan (EMP) from January to June 2014, and is prepared in compliance with the ADB Policies.

Table 1: Details of Packages that need Environmental Clearance

| Number and Name of Package | Location | Description | Changes, if any from approved scope |
|---|--|---|--|
| Package 1: Construction of Food Laboratories, Service Delivery and Supply of Equipment in Dhaka and Chittagong City Corporations; and Renovation of Food Laboratory Training Center in Dhaka City Corporation (Turnkey) | Dhaka and Chittagong CCs | Modern food laboratory | Nil |
| Package - 2: Construction of STS, Supply of Equipment and Service Delivery in Chittagong, Khulna and Barisal City Corporations | Chittagong, Khulna and Barisal CCs | Solid waste Secondary Transfer Stations | Nil |
| Package - 3: Construction of STS, Supply of Equipment and Service Delivery for Dhaka, Rajshahi and Sylhet City Corporations | Dhaka, Rajshahi and Sylhet CCs | Solid waste Secondary Transfer Stations | Nil |
| Package - 4: Construction of Controlled Landfill and Medical Waste Facility, Service Delivery and Supply of Equipment in Rajshahi, Barisal, Sylhet and Chittagong City Corporations; and Construction of Medical Waste facility in Dhaka City Corporation (Turnkey) | Rajshahi, Barisal, Sylhet and Chittagong CCs | Controlled landfill for the city corporations | Nil |
| Package 5: Construction of Integrated Sanitary Landfill and Medical Waste Facility, Service Delivery and Supply of Equipment in Khulna City Corporation (Turnkey) | Khulna CC | Sanitary landfill | Nil |
| Package 6: Construction of Modern Slaughterhouse, Service Delivery and Supply of Equipment in Chittagong and Rajshahi City Corporations | Chittagong and Rajshahi CCs | Modern slaughterhouse | Nil |

II. ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURE

A. Environmental Legal Requirements

1. ADB Policy

40. ADB's Environment Policy requires that environmental issues are taken into account in all aspects of the Bank's operations, and the requirements for Environmental Assessment are described in Operations Manual (OM) 20: Environmental Considerations in ADB Operations (2003). This states that ADB requires environmental assessment of all project loans, program loans, sector loans, sector development program loans, financial intermediation loans and private sector investment operations.

41. The nature of the assessment required for a project depends on the significance of its environmental impacts, which are related to the type and location of the project, the sensitivity, scale, nature and magnitude of its potential impacts, and the availability of cost-effective mitigation measures. Projects are screened for their expected environmental impacts and are assigned to one of the following categories:

(iii) **Category A.** Projects that could have significant environmental impacts. An Environmental Impact Assessment (EIA) is required.

(iv) **Category B.** Projects that could have some adverse environmental impacts, but of less significance than those for category A. An Initial Environmental Examination (IEE) is required to determine whether significant impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.

A Category B project may be classified as B-sensitive if it involves environmentally sensitive activities. Such projects require IEE, but have the same requirements for disclosure and Environmental Management Plans as Category A.

(iii) **Category C.** Projects those are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.

42. For Category B projects the Draft IEE reports, Summary IEE (SIEE) and any other reports prepared to comply with ADB procedure (in this case the EA of the Policy Matrix) are reviewed by ADB's Regional Department Sector Division and Social and Environmental Safeguards Division. They are also reviewed in-country by the Executing Agency, and additional comments may be sought from project affected people and other stakeholders. All comments are incorporated in preparing final documents, which are reviewed by the Executing Agency and the national environmental protection agency (in this case the Department of Environment, DoE). The EA then officially submits the reports to ADB for consideration by the Board of Directors.

2. National Law

43. **Environmental Assessment, Protection, and Pollution Control.** The main provisions for environmental protection and pollution control in Bangladesh are contained in the Environmental Conservation Act (ECA) of 1995 and the Environmental Conservation Rules (ECR) of 1997. These legislations also provide the principal mechanism for assessing and mitigating the environmental impacts of projects, both existing and proposed. Projects are classified as green, orange or red depending on their location and environmental impacts. As per ECR 1997, it is included the Red Category in item 43 and described as 'Land-filling by industrial, household and commercial wastes'.

44. Rule 7 states that the proponent of such projects must obtain a Location Clearance Certificate and an Environmental Clearance Certificate (ECC) from the Department of Environment (DoE). For Red category projects this requires submission to the relevant DoE Divisional Officer of the following:

- (i) Completed Application for Environmental Clearance Certificate, and the appropriate fee, shown in Schedule 13 of the Rules;
- (ii) Report on the feasibility of the project;
- (iii) Report on the IEE for the project, and its Process Flow Diagram, Layout Plan;
- (iv) Report on the Environmental Management Plan;
- (v) No objection certificate from the local authority;
- (vi) Emergency plan relating to adverse environmental impact and plan for mitigation of the effect of pollution; and
- (vii) Outline of the relocation and rehabilitation plan (where applicable).

45. As part of the Environmental Clearance Certificate application, a detailed Environmental Impact Assessment and environmental management plans satisfactory to the Department of Environment must be prepared. During the process of preparing the 2009 Environmental Planning Document, DoE was consulted and it was indicated that ADB IEE, SIEE, Resettlement Framework and other reports prepared during project preparation would be acceptable to DoE as fulfilling many of their national EIA requirements. However, they will review IEEs upon further submission by LGD. All projects are to submit any further materials, if any, as per requirement of DOE toward obtaining the Environmental Clearance Certificate.

B. Compliance with Environmental Regulations

The following is the present up to date status for obtaining clearance from the Department of Environment.

Table 2: Present Status of Environmental Clearance for UPEHSDP

| Sl. No. | Name of Package | Approval from ADB | Environmental Clearance from DOE |
|----------------|---|--------------------------|--|
| 1 | Package 1: Construction of Food Laboratories, Service Delivery and Supply of Equipment in Dhaka and Chittagong City Corporations; and Renovation of Food Laboratory Training Center in Dhaka City Corporation (Turnkey) | Obtained | Obtained |
| 2 | Package - 2: Construction of STS, Supply of Equipment and Service Delivery in Chittagong, Khulna and Barisal City Corporations | Obtained | Obtained |
| 3 | Package - 3: Construction of STS, Supply of Equipment and Service Delivery for Dhaka, Rajshahi and Sylhet City Corporations | Obtained | Obtained |
| 4 | Package - 4: Construction of Controlled Landfill and Medical Waste Facility, Service Delivery and Supply of Equipment in Rajshahi, Barisal, Sylhet and Chittagong City Corporations; and Construction of Medical Waste facility in Dhaka City Corporation (Turnkey) | Obtained | Applications have been submitted to all concerned offices and clearances will be obtained soon |
| 5 | Package 5: Construction of Integrated Sanitary Landfill and Medical Waste Facility, Service Delivery and Supply of Equipment in Khulna City Corporation (Turnkey) | Obtained | Obtained |
| 6 | Package 6: Construction of Modern Slaughterhouse, Service Delivery and Supply of Equipment in Chittagong and Rajshahi City Corporations | Obtained | Initiative not yet taken because this package will be implemented through Private Public Partnership (PPP) model |

C. Compliance of Environmental Loan Covenants

46. Table 3 shows the environmental safeguard related loan covenants and their compliance status in implementation. All the covenants are being complied during implementation.

47. UPEHSDP has been classified as Category B as per the ADB Environmental Policy and accordingly IEE report was prepared during PPTA and was approved by ADB. During the implementation stage, the IEE was updated and reapproved by ADB

Table 3: Compliance of Environmental Loan Covenants

| Sl. No. | Project Specific Covenants (Environmental) | Status/ Issues |
|---------|---|----------------|
| 1 | <p>GOB will ensure that the design, construction, operation and implementation of all sub-project facilities is carried out in accordance with the environmental assessment and review procedures and Initial Environmental Examinations (IEEs) for core sub-components agreed upon between the Government and ADB, and complies with the Government's environmental laws and regulations and ADB's Environment Policy (2002).</p> <p>Any adverse environmental impacts arising from the construction, operation and implementation of sub-component facilities will be minimized by implementing the environmental mitigation and management measures, and other recommendations specified in environmental assessment reports (e.g., IEEs). The Government will ensure environmental requirements will be incorporated in bidding documents and civil works contracts. Issuance of bid documents will be made after review and clearance of IEE/ EIA by ADB and DOE.</p> <p>GOB will prepare and submit annually to ADB an environmental monitoring report that describes progress in implementation of the EMP and EARP and issues encountered and measures adopted; and compliance with the relevant assurances and loan covenants.</p> | Being complied |

D. Environmental Organization and Management

46. City Corporation Project Implementation Unit (CCPIU) headed by the CEO has been established in City Corporations. CCPIU will oversee the Program's environment and resettlement planning. This includes the preparation of all documentation needed for decision-making, contracting, and supervision of work and providing progress-monitoring information to the PD.

47. The CCPIU shall comprise of a Safeguards and Social Cell staffed with an Environmental Officer (EO). The EO shall be responsible for implementing the environmental safeguard provisions in the project including (i) ensuring environmental criteria for subproject selection in the EARP are followed, (ii) ensuring mitigation requirements are in contractor bidding documents, and (iii) liaising with various government agencies on compliance matters. The CCPIU will appoint and manage Construction Contractors (CC) to build elements of the infrastructure who are required to submit Environmental Implementation Plans (EIPs) for EPEHU approval.

48. The CCPIU is assisted by the DSC, who is responsible for design the infrastructure, manage tendering of contracts, and supervise the construction process.

49. An Environmental Specialist (ES) in the DSC is responsible for addressing the environmental issues in the project components during design and implementation. The ES will ensure all mitigation requirements are in contractor's bidding documents and EIPs, and will supervise the effective implementation of environmental provisions during construction. In addition, the ES will assist the CCPIU on the procurement needs and other project implementation aspects and shall play a central role in ensuring capacity building on environmental management of the CCPIU, Contractor and Line Departments through capacity development support and training.

50. No grievances were received during the reporting period. A grievance redress procedure has been established. Grievances of affected persons will first be brought to the attention of the CCPIU. Grievances not redressed by the CCPIU will be brought to the Independent Grievance Redress Committee (IGRC) set up to monitor project implementation. The IGRC will determine the merit of each grievance, and resolve grievances within 10 days of receiving the complaint. Grievance not redressed by the IGRC will be referred to the appropriate courts of law. The DSC will keep records of all grievances received including: contact details of complainant, date that the complaint was received, nature of grievance, agreed corrective actions and the date these were effected, and final outcome. Details of grievance redressal mechanism for the project are presented as **Annexure 1**.

III. EMP COMPLIANCE STATUS

51. This section presents the compliance status of Environmental management and monitoring Plans of UPEHSDP under implementation.

52. Under this project, at present the construction phase of the food laboratories in Dhaka and Chittagong, and the Secondary Transfer Stations under Contract Packages 2 & 3 are on-going. Environmental quality monitoring was conducted by the respective Resident Engineers during the reporting period. The Contractors have not prepared any Environmental Implementation Plan. They are following the EMP, which is part of IEE and contract document. In addition to that, guidelines on general construction EHS measures to be followed/ implemented by the Contractor have been issued to the Contractor.

Table 4: EMP Compliance for Food Laboratories during Construction Phase

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|--|---|-------------------|--|-----------------------------------|
| With settlements nearer to the project area, improper stockpiling of construction materials can cause impacts starting from obstruction of drainage, disturbance to local population, etc. | Due consideration will be given for material storage and construction sites such that it doesn't cause drainage obstructions or dust rising. Stockpiles will be covered to protect from dust and erosion. | Satisfactory | | |
| Stripping, stocking and preservation of top soil | The topsoil from borrow areas, areas of cutting and areas to be permanently covered will be stripped to a specified depth of 150 mm and stored in stockpiles. The stockpile will be designed such that the slope does not exceed 1:2 (vertical to horizontal), and the height of the pile is to be restricted to 2m. Stockpiles will not be surcharged or otherwise loaded and multiple handling will be kept to a minimum to ensure that no compaction will occur. The stockpiles will be covered with gunny bags or tarpaulin. It will be ensured by the contractor that the topsoil will not be unnecessarily trafficked either before | Satisfactory | Filling by borrowed earth is very small. | |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|---|--|------------------------|---------|---------------------------------------|
| | stripping or when in stockpiles. Such stockpiled topsoil will be returned to cover the disturbed area. | | | |
| Loss of Access | The contractor will provide safe and convenient passage for vehicles, pedestrians and livestock on major roads intersecting the proposed site. Construction activities that will affect the use of these roads and existing access to individual properties will not be undertaken without providing adequate access. | Satisfactory | | |
| Soil and Water Pollution due to fuel and lubricants, construction waste | The fuel storage and vehicle cleaning area will be stationed away from the nearest drain. Oil interceptor will be provided at construction vehicle parking area, vehicle repair area and workshops ensuring that all wastewater flows into the interceptor prior to its discharge. | Satisfactory | | |
| Spillage of construction wastes into drains | Construction site will be adequately bunded on the side of the diverted water channel to protect from spillage of construction wastes. Extraneous construction wastes will be transported to the pre-identified disposal site for safe disposal. | Partially satisfactory | | Instructions given to be more careful |
| Generation of Dust | The contractor will take every precaution to reduce the levels of dust at construction sites to the satisfaction of the Engineer. All earthwork to be protected/ covered in a manner acceptable to the satisfaction of the engineer to minimise dust generation, including spraying of vehicles with water to minimize dust generation. Clearance will be effected immediately by manual sweeping and removal of debris, or if so directed by the Engineer, the road surfaces will be hosed or watered using necessary equipment. Also, any vehicle not meeting the vehicular pollution standards will not be allowed within the construction site and for the construction activity; All vehicles and construction equipment with internal combustion engines in use will be maintained for effective combustion to reduce carbon particles, CO and HC emission; As far as possible unleaded petrol will be used for petrol driven vehicles in use; Water will be sprayed during dust generating construction activities e.g. excavation, crushing/ demolishing, material handling etc. to suppress dust; and Use of asbestos will be prohibited. | Partially satisfactory | | Instructions given to be more careful |
| Noise from construction Equipments | Maintenance of vehicles, equipment and machinery will be regular and to the satisfaction of the Engineer, to keep noise from these at a minimum. All vehicles and equipment used for construction will be fitted with exhaust silencers. During routine servicing operations, the effectiveness of exhaust silencers will be checked and if found to be defective will be replaced. Noise limits for construction equipment used in this project (measured at one metre from the edge of the equipment in free field) such as compactors, rollers, front loaders, concrete mixers, cranes (moveable), vibrators and saws will not exceed 75 dB (A). Notwithstanding any other conditions of contract, noise level from any item of plant(s) must comply with the relevant legislation for levels of noise emission. | Partially satisfactory | | Instructions given to be more careful |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|--|--|------------------------|---------|---|
| Material Handling at Site | <p>All workers employed on mixing asphaltic material, cement, concrete etc., will be provided with protective footwear and protective goggles.</p> <p>Workers, who are engaged in welding works, would be provided with welder's protective eye-shields.</p> <p>Workers engaged in stone breaking activities will be provided with protective goggles and clothing and will be seated at sufficiently safe intervals.</p> <p>The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions. The Engineer will be given at least 6 working days' notice of the proposed use of any chemical. A register of all toxic chemicals delivered to the site will be kept and maintained up to date by the Contractor. The register will include the trade name, physical properties and characteristics, chemical ingredients, health and safety hazard information, safe handling and storage procedures, and emergency and first aid procedures for the product.</p> | Satisfactory | | |
| Disposal of Construction Waste/ Debris | <p>The waste generated will be reused in construction based on its suitability of reuse to the maximum extent possible. Safe disposal of the extraneous material will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately. Remaining material if any will be disposed off safely at the disposal sites.</p> | Satisfactory | | |
| Safety Measures during Construction | <p>Adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress.</p> | Partially satisfactory | | Instructions given to improve the situation |
| Risk caused by Force Majeure | <p>All reasonable precautions, including provision of safety measures, signages at work places, awareness pertaining to workers safety to all workers, will be taken to prevent danger of the workers and the public from fire, flood, drowning, etc. All necessary steps will be taken for prompt first aid treatment of all injuries likely to be sustained during the course of work.</p> | Satisfactory | | |
| First Aid | <p>At every workplace, a readily available first aid unit including an adequate supply of sterilized dressing material and appliances will be provided as per the Factory Rules. Suitable transport will be provided to facilitate transfer of injured or ill person(s) to the nearest hospital. At every workplace and construction camp, equipment and nursing staff will be provided. Posters within the construction camp, describing the location of the nearest medical facility/ hospital will be available for information to the workforce.</p> | Satisfactory | | |
| Hygiene | <p>Latrine facilities made available and will be cleaned at least four times daily, and at least twice during working hours and kept in a strict sanitary condition.</p> <p>All temporary accommodation must be constructed and maintained in such a fashion that uncontaminated water is available for drinking, cooking and washing. Garbage bins must be provided in the worker camp and regularly emptied and the</p> | Satisfactory | | |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|--|--|--------------|---------|----------------------------|
| | <p>garbage disposed off in a hygienic manner. Adequate health care is to be provided for the work force. Unless otherwise arranged for by the local sanitary authority, the local medical health or municipal authorities will make arrangement for disposal of excreta. Excreta may be disposed off by putting a layer of night soils at the bottom of permanent tank prepared for the purpose and covering it with 15 cm layer of waste or refuse and then covering it with a layer of earth for a fortnight (by then it will turn into manure).</p> <p>On completion of the works, all such temporary structures will be cleared away, all rubbish burnt, excreta tank and other disposal pits or trenches filled in and effectively sealed off and the outline site left clean and tidy, at the Contractor's expense, to the entire satisfaction of the engineer.</p> | | | |
| Hazardous waste from construction not disposed of and handled properly | <p>Some of the precautions of storage and handling of hazardous materials and waste includes the following: Dyked enclosures will be provided which will be able to contain complete contents of the largest tank; Diesel and other fuels will be stored in separate dyke enclosures. Wherever possible, hazardous raw materials to be substituted by non-hazardous materials, e.g. cleaning solvents can be replaced with film-free biodegradable cleaners, usage of non-chlorinated strippers instead of strippers containing methylene chloride and substitution of water based paints for oil-based ones; Separate storage of waste paints and thinners, contaminated rags and brushes to facilitate recycling and reuse. Rags could be laundered for reuse; Installation of on-site recycling equipment to be considered by large painting subcontractors; Vehicle maintenance area to be designed to prevent contamination of ground water by accidental spillage of oil; and Maintaining appropriate inventory control.</p> | Satisfactory | | |

Table 5: EMP compliance for Secondary Transfer Stations during Construction Phase

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|----------------------|---|--------------|---------|----------------------------|
| Excavated materials | <ul style="list-style-type: none"> - Hauling vehicles must always be present at the excavation site. - The contractor can process the excavated materials and use these as selected backfill materials. - If excavated materials are not suitable for reuse, the contractor should deposit these in an area designated by Chittagong City Corporation. - Coordinate with the landfill operators for the disposal of excavated materials. - Obtain from the environment management specialist approval for disposal of excavated materials. - Remove waste rapidly by loading material onto trucks as soon as it is excavated; - Cover or damp down working areas | Satisfactory | | |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|-----------------------------------|---|------------------------|---------|---|
| | <p>and stockpiled soil in dry, windy weather; and</p> <ul style="list-style-type: none"> - Use tarpaulins to cover loose material during transportation to and from the site. - Maintain record of excavated materials, disposal dates, and methods. - Conduct the work in the dry season will reduce these impacts, and as the excavation in this case is shallow and small in scale there should be no impact on the water table. | | | |
| Hauling of Construction Materials | <ul style="list-style-type: none"> - The contractor must maintain all the materials necessary in his inventory so that these can be easily hauled to the construction site when needed. - Advance signage for affected parking areas must indicate duration and alternative parking arrangements. | Satisfactory | | |
| Access | <ul style="list-style-type: none"> - The contractor should make available in his stock steel plates and wooden planks which will be deployed on top of excavations to provide temporary access to buildings, street crossings, and other areas where these will be necessary. - Advance road signage must indicate the road detour and alternative routes. Provide sign boards for pedestrians to inform them of nature and duration of construction works and contact numbers for concerns/complaints. | Partially satisfactory | | Instructions given to improve the situation |
| Occupational health and safety | <ul style="list-style-type: none"> - Employ workers with adequate experience, training, and know-how. - These workers should be led by an experienced supervisor or engineer, who will provide the leadership in daily activities. - A general regard for the social and ecological well-being of the site and adjacent areas is expected of the site staff. Workers need to be made aware of the following general rules: (i) no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction staff are to make use of the facilities provided for them, as opposed to ad hoc alternatives (e.g. fires for cooking, the use of surrounding bushes as a toilet facility); (iv) no fires permitted on site except if needed for the construction works; (v) trespassing on private/commercial properties adjoining the site is forbidden; (vi) other than pre-approved security staff, no workers should be permitted to live on the construction site; and (vii) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do. - The contractor must monitor the performance of construction workers to ensure that the points relayed during their induction have been properly | Satisfactory | | |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|-----------------------------|---|--------------|---------|----------------------------|
| | <p>understood and are being followed. If necessary, a translator should be called to the site to further explain aspects of environmental or social behavior that are unclear.</p> <ul style="list-style-type: none"> - The rules that are explained in the worker conduct section must be followed at all times. | | | |
| Community health and safety | <ul style="list-style-type: none"> - Contractor's activities and movement of staff will be restricted to designated construction areas. - Should the construction staff be approached by members of the public or other stakeholders, staff should assist them in locating the environment management specialist or contractor, or provide a number through which they may contact the environment management specialist or contractor. - The conduct of the construction staff when dealing with the public or other stakeholders should be in a manner that is polite and courteous at all times. Failure to adhere to this requirement may result in the removal of staff from the site by the environment management specialist. - Disruption of access for local residents, commercial establishments, institutions, etc. must be minimized and must have the environment management specialist's permissions. - Provide walkways and metal sheets where required to maintain access for people and vehicles. - Consult businesses and institutions regarding operating hours, and factor this in work schedules. - The contractor is to inform neighbors in writing of disruptive activities at least 24 hours beforehand. This can take place by way of leaflets placed in the postboxes giving the environment management specialist's and contractor's details or other method approved by the environment management specialist. - Provide sign boards for pedestrians to inform them of nature and duration of construction works and contact numbers for concerns/complaints. - The contractor will ensure that there is provision of alternate access to business establishments during the construction, so that there is no closure of these shops or any loss of clientage. - The contractor will ensure that any damage to properties and utilities will be restored or compensated to pre-work conditions. - Lighting on the construction site should be pointed downwards and away from oncoming traffic and nearby houses. | Satisfactory | | |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|--------------------------------|---|------------------------|---------|----------------------------|
| | <ul style="list-style-type: none"> - The site must be kept clean to minimize the visual impact of the site. - If screening is being used, this must be moved and re-erected as the work front progresses. - Machinery and vehicles are to be kept in good working order for the duration of the project to minimize noise nuisance to neighbors. - Notice of particularly noisy activities must be given to residents/businesses adjacent to the construction site. Examples of these include: noise generated by jackhammers, diesel generator sets, excavators, etc. - Noisy activities must be restricted to the times given in the project specification or general conditions of contract. - The environment management specialist and contractor are responsible for ongoing communication with those people who are interested in or affected by the project. - A complaints register (refer to the grievance redressal mechanism) should be housed at the site office. This should be in carbon copy format, with numbered pages. Any missing pages must be accounted for by the contractor. This register is to be tabled during monthly site meetings. - Interested and affected parties need to be made aware of the existence of the complaints book and the methods of communication available to them. - The contractor must address queries and complaints by: (i) documenting details of such communications; (ii) submitting these for inclusion in complaints register; (iii) bringing issues to the environment management specialist's attention immediately; and (iv) taking remedial action as per environment management specialist's instruction. - The contractor should immediately take the necessary remedial action on any complaint/grievance received by him and forward the details of the grievance along with the action taken to the environment management specialist within 48 hours of receipt of such complaint/grievance. | | | |
| Community and public awareness | <ul style="list-style-type: none"> - Storage facilities and other temporary structures on-site should be located such that they have as little visual impact on local residents as possible. - Special attention should be given to the screening of highly reflective materials on site. - In areas where the visual environment is particularly important (e.g. along commercial/ tourism routes) or privacy | Partially satisfactory | | |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|--------------------------------------|--|------------------------|---------|---|
| | concerns for surrounding buildings exist, the site may require screening. This could be in the form of shade cloth, temporary walls, or other suitable materials prior to the beginning of construction. | | | |
| Construction camps and storage areas | <ul style="list-style-type: none"> - The contractor is to ensure that open areas or the surrounding bushes are not being used as toilet facility. - The contractor should ensure that all litter is collected from the work and camp areas daily. - Bins and/or skips should be emptied regularly and waste should be disposed of at the pre-approved site. Waybills for all such disposals are to be kept by the contractor for review by the environment management specialist. - The contractor should ensure that his camp and working areas are kept clean and tidy at all times. - After construction work, all structures comprising the construction camp are to be removed from site or handed over to the property owner/community as per mutual agreement (if established on private/community land). - The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these should be cleaned up. - All hardened surfaces within the construction camp area should be ripped, all imported materials removed, and the area should be top soiled and regressed. - The contractor must arrange the cancellation of all temporary services. | Partially satisfactory | | Instructions given to improve the situation |
| Dust and air pollution | <ul style="list-style-type: none"> - Vehicles travelling to and from the construction site must adhere to speed limits so as to avoid producing excessive dust. - Access and other cleared surfaces, including backfilled trenches, must be dampened whenever possible and especially in dry and windy conditions to avoid excessive dust. - Vehicles and machinery are to be kept in good working order and to meet manufacturer's specifications for safety, fuel consumption, etc. - The contractor is to have the equipment seen to as soon as possible should excessive emissions be observed, | Partially satisfactory | | Instructions given to improve the situation |
| Noise levels | <ul style="list-style-type: none"> - Noise-generating equipment must be fitted with silencers. - If a worker is exposed to noise above a noise exposure limit, the contractor must investigate options for engineered noise control such as using low-noise excavators, jackhammers, drills, and power generators. - If it is not practicable to reduce noise | Satisfactory | | |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|----------------------|--|------------------------|---------|---|
| | levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Workers in a posted noise hazard area must wear hearing protection. | | | |
| Utilities | <ul style="list-style-type: none"> - Prepare a list of affected utilities and operators - Prepare a contingency plan to include actions to be done in case of unintentional interruption of services. | Partially satisfactory | | Instructions given to improve the situation |
| Water quality | <ul style="list-style-type: none"> - Every effort should be made to ensure that any chemicals or hazardous substances do not contaminate the soil or water on-site. - Care must be taken to ensure that runoff from vehicle or plant washing does not enter the surface/ground water. - Site staff should not be permitted to use any stream, river, other open water body, or natural water source adjacent to or within the designated site for the purposes of bathing, washing of clothing, or for any construction or related activities. Municipal water (or another source approved by the environment management specialist) should instead be used for all activities such as washing of equipment or disposal of any type of waste, dust suppression, concrete mixing, compacting etc. - All concrete mixing must take place on a designated, impermeable surface. - No vehicles transporting concrete to the site may be washed on-site. - No vehicles transporting, placing, or compacting asphalt or any other bituminous product may be washed on-site. - All substances required for vehicle maintenance and repair must be stored in sealed containers until they can be disposed of removed from the site. - Hazardous substance/ materials are to be transported in sealed containers or bags. | Satisfactory | | |
| Waste management | <ul style="list-style-type: none"> - Wastes must be placed in the designated skips/ bins which must be regularly emptied. These should remain within demarcated areas and should be designed to prevent wastes from being blown out by wind. - Littering on-site is forbidden and the site should be cleared of litter at the end of each working day/night period. - Recycling is to be encouraged by providing separate receptacles for different types of wastes and making sure that staff is aware of their uses. - All waste must be removed from the site and transported to a disposal site or as directed by the environment management specialist. Waybills | Partially satisfactory | | Instructions given to improve the situation |

| Environmental Issues | Mitigation Measures | Compliance | Remarks | Follow up actions proposed |
|-------------------------------------|---|------------------------|---------|---|
| | <p>proving disposal at each site should be provided for the environment management specialist's inspection.</p> <ul style="list-style-type: none"> - Construction rubble should be disposed of in pre-agreed, demarcated spoil dumps that have been approved by the environment management specialist, or at disposal sites. | | | |
| Conservation of natural environment | <ul style="list-style-type: none"> - As the work front progresses; the contractor is to check that vegetation clearing has the prior permission of the environment management specialist. - Only trees that have been marked beforehand are to be removed, if cutting of trees is required. - Clean the entire area and maintain immediately after completion of the construction activities to make sure that existing tranquility of the surrounding area is not disturbed in any way. | Satisfactory | | |
| Cultural and historical environment | <ul style="list-style-type: none"> - Consult laborers who work on the site during the detailed design stage and in the unlikely event that there are social and cultural resources in the site; assistance should be given in relocating the site and any associated artifacts. - All the staff and laborers of the contractor are to be informed about the possible items of historical or archaeological value, which include old stone foundations, tools, clayware, jewelry, remains, fossils etc. - If something of this nature is uncovered, Department of Archaeology should be contacted and work should be stopped immediately. | Satisfactory | | |
| Safeguards supervisors | <ul style="list-style-type: none"> - The contractor should appoint one environment safeguard supervisor who will be responsible for assisting the contractor in implementation of EMP, coordinating with the DSC, consultations with interested/affected parties, reporting, and grievance redressal on a day-to-day basis. | Partially satisfactory | | Instructions given to improve the situation |

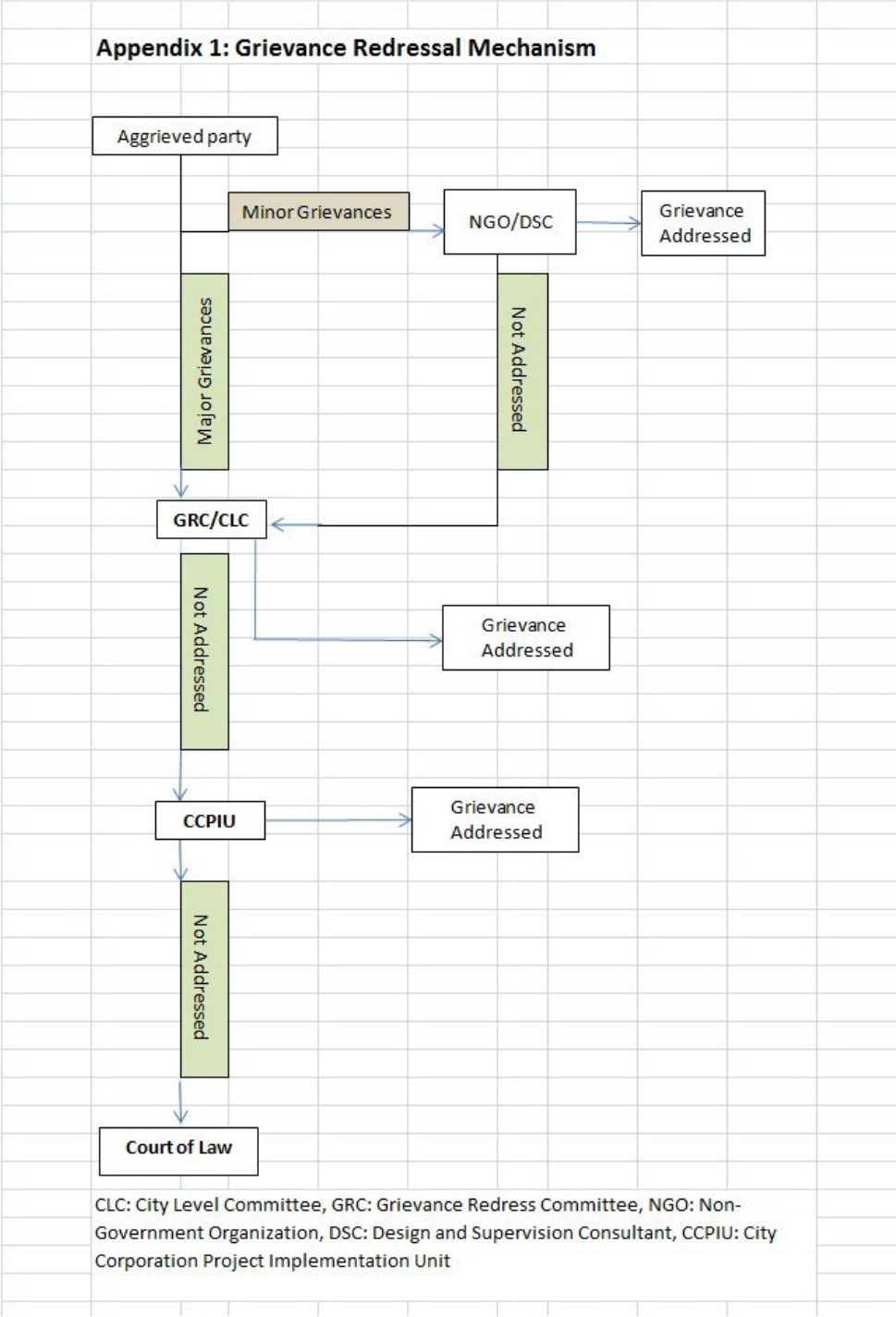
IV. OBSERVATIONS, RECOMMENDATIONS AND ACTIONS TAKEN

53. As presented in this report, the UPEHSDP is being implemented in compliance with the loan covenants, subproject selection criteria and overall EARF. There are some non-compliant EMP activities (construction safety related) noticed in the monitoring report; proper actions have been initiated for compliance of those items. No ambient air quality monitoring was conducted by the contractor during the period.

54. Necessary instructions have been given to the contractor by DSC/CCPIU to specifically focus on safety aspects, and in general on EMP measures to improve the compliance.

Appendices

Appendix 1: Grievance Redressal Mechanism



Appendix 2: Site Photographs



Khulna STS - 2 near Train Station



Khulna STS - 2 near Train Station



Khulna STS – 5 at 250 Bed Hospital



Khulna STS – 5 at 250 Bed Hospital



Khulna STS – 7 Newsprint Mill BIDC



Khulna STS – 7 Newsprint Mill BIDC



Khulna STS – 8 Khalishpur New Market



Khulna STS – 8 Khalishpur New Market



Rajshahi STS – 6 Kazla Water Pump



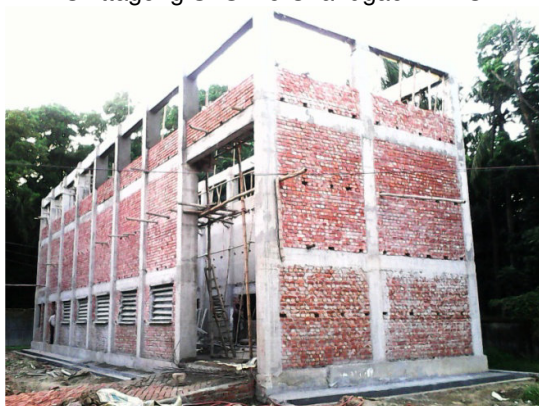
Rajshahi STS – 6 Kazla Water Pump



Chittagong STS – 5 Chandgaon FIDC



Chittagong STS – 5 Chandgaon FIDC



Chittagong STS – 8 K-Block DT Road



Chittagong STS – 8 K-Block DT Road



Chittagong STS – 9 Port Connecting Road



Chittagong STS – 9 Port Connecting Road



Chittagong STS – 11 DT Road Nishkriti



Chittagong STS – 11 DT Road Nishkriti



Food laboratory and training center in Dhaka



Food laboratory and training center in Dhaka



Food laboratory in Chittagong



Food laboratory in Chittagong



Sylhet STS – 2 Shahi Idgah



Sylhet STS – 2 Shahi Idgah



Sylhet STS – 3 Rekabi Bazar Police Line



Sylhet STS – 3 Rekabi Bazar Police Line



Sylhet STS – 4 MC College



Sylhet STS – 4 MC College



Dhaka STS – 8 Matador



Dhaka STS – 8 Matador



Dhaka STS – 12 Panthakunja



Dhaka STS – 12 Panthakunja



Barisal STS – 1 Palashpur Kheyaghat



Barisal STS – 1 Palashpur Kheyaghat