



## In-Depth monitoring of “City Region Development Project”

### FINAL REPORT



**Communication and Local Government Sector**

**Implementation Monitoring and Evaluation Division (IMED)**

**Ministry of Planning**

**GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH**



Consulting Firm  
**Technical Support Services Ltd**

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## **List of Abbreviations**

|       |   |                                                   |
|-------|---|---------------------------------------------------|
| ACV   | : | Aggregate Crushing Value                          |
| AIV   | : | Aggregate Impact Value                            |
| ADB   | : | Asian Development Bank                            |
| ADP   | : | Annual Development Program                        |
| ACE   | : | Additional Chief Engineer                         |
| ACEF  | : | Asian Clean Energy Fund                           |
| BC    | : | Bituminous Carpeting                              |
| BM    | : | Bench Mark                                        |
| BRRL  | : | Bangladesh Road Research Laboratory               |
| BUET  | : | Bangladesh University of Engineering & Technology |
| BOQ   | : | Bill of Quantities                                |
| BCR   | : | Benefit Cost Ratio                                |
| CA    | : | Coarse Aggregate                                  |
| CBR   | : | California Bearing Ratio                          |
| CC    | : | Cement Concrete                                   |
| CE    | : | Chief Engineer                                    |
| CPTU  | : | Central Procurement Technical Unit                |
| DCP   | : | Dynamic Cone Penetration                          |
| DPP   | : | Development Project Proposal                      |
| DPEC  | : | Departmental Project Evaluation Committee         |
| DPM   | : | Direct Procurement Method                         |
| ECNEC | : | Executive Committee of National Economic Council  |
| EE    | : | Executive Engineer                                |
| EIA   | : | Environmental Impact Assessment                   |
| FA    | : | Fine Aggregate                                    |
| FDD   | : | Field Dry Density                                 |
| FM    | : | Fineness Modulus                                  |
| GOB   | : | Government of Bangladesh                          |
| HFL   | : | Highest Flood Level                               |
| HDM   | : | Highway Development & Management Model            |
| HOPE  | : | Head of Procuring Entity                          |
| IMED  | : | Implementation Monitoring & Evaluation Division   |
| IEE   | : | Initial Environmental Examination                 |
| IRR   | : | Internal Rate of Return                           |
| KfW   | : | Kreditanstalt fuer Wiederaufbau (KfW)             |
| LA    | : | Land Acquisition                                  |
| LAA   | : | Los Angeles Abrasion Test Value                   |
| LGED  | : | Local Government Engineering Department           |

|      |   |                                                                 |
|------|---|-----------------------------------------------------------------|
| MDD  | : | Maximum Dry Density                                             |
| OTM  | : | Open Tendering Method                                           |
| PD   | : | Project Director                                                |
| PEC  | : | Project Evaluation Committee                                    |
| PE   | : | Procuring Entity                                                |
| PMCU | : | Project Management and Coordination Unit                        |
| PPA  | : | Public Procurement Act                                          |
| PPR  | : | Public Procurement Rules                                        |
| PAR  | : | Project Appraisal Report                                        |
| PPTA | : | Project Preparatory Technical Assistance                        |
| RCC  | : | Reinforce Cement Concrete                                       |
| RHD  | : | Roads & Highways Department                                     |
| SC   | : | Steering Committee                                              |
| TEC  | : | Tender Evaluation Committee /<br>Technical Evaluation Committee |
| TOC  | : | Tender Opening Committee                                        |
| TOR  | : | Terms of Reference                                              |
| TPP  | : | Technical Assistance Project Proposal                           |

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## Executive Summary

Local Government Engineering Department under the control of Local Government Division is executing the “City Region Development Project” which is one of the biggest and important Projects of the Government. The project includes 5 (five) City Corporations 12 (twelve) Municipalities and 36 (thirty-six) Urban Centers at Dhaka and Khulna Divisions. The main target of the project is to enhance the possibility of economic progress and enable sustainable social development. The project is working aiming to the socio-economic and environmental development by implementing the main infrastructures of the city regions.

Latest revision of the project was done by estimated cost of Tk. 139597.75 lac which consists of Project aid and GOB funding of Tk. 104656.629 lacs and Tk. 34941.12 lacs respectively taking the implementation period from July 2011 to December 2016. The main items of the project are the road construction, drain construction, River/Canal Re-excavation, Water Supply, Solar Power, Sanitation, Solid Waste Management, etc. The progress of work upto April 2016 was 72.98% (physical) and 54% (financial).

After analyzing 11 of evaluated packages of procurement of works and goods ,it is seen that Tendering process of all the packages followed PPR-2008. Tenders are received within 14 days of the tendering period. Minimum 5 members (including 2 members from other organizations) were present at the time of opening the tender. Tender evaluation committee was formed with 6 members, involving at least 2 members from the other organizations.

Total 27 nos. projects areas were finalized for site visit (50% of the coverage area) taking 4 from 5 City Corporations, 6 from 12 Municipalities and 18 from 36 urban Centers. For in-depth monitoring of the project both primary and secondary information were collected. At the beginning of the investigation checklists were prepared to collect various information related to project activities. Through these checklists using random sampling method, various secondary data were collected. (a) Measurement, (b) Work description, (c) Procurement information, (d) Various problems arose during execution were collected through random sampling. Secondary information were also collected through checklists which consists of Physical and Financial progress, ADB/KfW sanctions in favour of the project, Utilization of fund, etc. Primary data were collected through direct field tests and by taking material from the working sites for Laboratory tests.

During field visit some field tests were performed for verification, for examples in case bituminous road construction compaction tests done at different layers of the road by DCP (Dynamic Cone Penetration). In case of RC concrete road, RC bridge and culvert Smith Hammer tests were done to check the strength of concrete. In some cases in different ongoing works the thickness of road sections were also measured. Some samples of material were collected for laboratory test from the ongoing working side. Sample like, brick and stone chips, sylhet sand, local sand, MS bar etc. were collected for laboratory tests. Tests of material were done in both BUET(BRTC) and LGED laboratory. Physical structures were checked whether construction work done as per specifications or not, weak sides were noted and advised to rectify.

During selection of schemes in case of road improvement it was observed that development of connecting roads were not taken into consideration. Main drains were constructed avoiding connected internal drains which causes artificial water logging in the urban areas. Drains were constructed not following drainage Master Plans. In most of the cases roads have been constructed without providing sufficient shoulder width; shoulders are mud shoulders. Those should be hard shoulders. In some road subprojects canal passing parallel to the roads, in those places protection works has not been done which would be a future threat for the road's longevity. Progress of Procurement of works is not found satisfactory with respect to time period of the completion of the project. But the progress of Goods and Services are satisfactory.

During field visits, total 31 Tests have been performed. 15 Nos. directly in the field, which comprises DCP in bituminous pavement roads. Concrete Hammer tests for RC Roads, bridges and culverts. Every where the tests results were found as per specifications. 16 lab tests have been performed for various material used in running works by using BUET(BRTC) and LGED material testing laboratories. 15 tests for material found as per specifications. Only in one test for the FM of Sylhet sand found 1.98 instead specified minimum 2.50.

From the subprojects (so far completed and running) through inspections and spot verifications and from various fields and laboratory tests for quality of various material used in works, checking quality of Consulting firms Lab tests and field inspections it can be said that overall quality of construction works of the project is good.

The water logging of urban areas of Dhaka and Khulna city regions has been alleviated to a great extent; Gazipur City Corporation had substantial changes in sanitation and drinking water systems; in Gazipur City Corporation (off-grid areas) in Pubail & Gacha Wards Solar Power lights system were installed which brought significant changes in their socio-economic condition; specially in case Khulna city corporation and Mongla pourashava they got relief from salinity affect to a great extent. Municipalities operating system upgrade program has been formulated for the development of urban management. Guidelines of town and ward level committee has been prepared. Through training of the personnel and staff of city corporations and pourashavas, it improved the efficiency of them. As a result, it has increased their skills. The city corporations and pourashavas held regular meeting with the Coordination Committee at town and Ward level by following the guidelines prepared MCD (Municipal Capacity Development) consultants which also improves the efficiencies of the city corporations and pourashavas as a whole.

Quick inevitability of urbanization, inadequate existing infrastructure in comparison to demand, from the point of view of sustainable development and balanced regional urban development it is a suitable and timely development effort. This kind of Urban expansion and the smooth implementation of development program will carry out special importance. As a result of improved communication through the regional city planning development of city corporations, municipalities and Urban Centers, it will reduce the pressure of population in big cities as well as improve the communication, economic and the environmental development of small towns, leading to development and vital importance and positive role in the country's economic growth potential. Activities of the expansion of such kind of regional and urban development of projects will be contemporary and desirable to verify tangible situation.



## Brief Description of the Project

“City Region Development Project” is a project implementing by the LGED under Local Government Division. Total 53 Nos. urban centers development works are running through this project which comprises 5 City Corporations, 12 Pourashavas in Dhaka & Khulna Region.

Besides this total 36 Urban Centers are included in this City Region Development Project. 12 Upazila from Dhaka Division and 24 Upazilas from Khulna Division included in this project for selecting the urban centres. The process city region is created with the urbanization of its surrounding pourashavas urban centres. In Bangladesh, large cities (City Corporations), surrounded by its nearest towns (Pourashavas) and urban centers are forming city regions.

### Primary information of the project:

|      |                                                       |   |                                                                                                                                                                                                                                                                                             |          |                    |                          |
|------|-------------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------|--------------------------|
| 1.1  | Project Title                                         | : | City Region Development Project                                                                                                                                                                                                                                                             |          |                    |                          |
| 1.2  | Location of the Project                               | : | Dhaka and Khulna Division                                                                                                                                                                                                                                                                   |          |                    |                          |
| 1.3  | Executing Agency                                      | : | Local Government Engineering Department (LGED)                                                                                                                                                                                                                                              |          |                    |                          |
| 1.4  | Sponsoring Division/Ministry                          | : | Local Government Division/ M/O LGRD&C                                                                                                                                                                                                                                                       |          |                    |                          |
| 1.5  | ECNEC approval                                        | : | 02-08-2011                                                                                                                                                                                                                                                                                  |          |                    |                          |
| 1.6  | Approved Estimated cost of the Project (In lakh Taka) | : | Total                                                                                                                                                                                                                                                                                       | GOB      | Project AID        |                          |
|      | Approved original                                     | : | 130562.75                                                                                                                                                                                                                                                                                   | 34941.12 | 95621.63           |                          |
|      | Approved Revised                                      | : | 139597.75                                                                                                                                                                                                                                                                                   | 34941.12 | 104656.629         |                          |
| 1.7  | Approved Project implementation period                | : | Date of commencement                                                                                                                                                                                                                                                                        |          | Date of completion |                          |
|      | Approved original                                     | : | July, 2011                                                                                                                                                                                                                                                                                  |          | December, 2016     |                          |
|      | Approved Revised                                      | : | 07, April 2013                                                                                                                                                                                                                                                                              |          | December, 2016     |                          |
| 1.7  | Mode of financing with source                         | : | GOB                                                                                                                                                                                                                                                                                         | ADB      | KfW                | SIDA                     |
|      |                                                       |   | 25.03%                                                                                                                                                                                                                                                                                      | 60.83%   | 7.67%              | 6.47%                    |
| 1.8  | progress upto April 2016                              | : | Physical progress 72.98 %                                                                                                                                                                                                                                                                   |          |                    | Financial progress 54%   |
| 1.9  | National and foreign consulting firm                  | : | <ol style="list-style-type: none"> <li>1. The Management, Design and Supervision (MDS) consultant HIFAB Lead Firm</li> <li>2. The Municipal Capacity Development (MCD) consultant</li> <li>3. Regional Development Planning (RDP) consultants</li> <li>4. Individual consultants</li> </ol> |          |                    |                          |
| 1.10 | No. of total packages                                 | : | 91 nos. package of civil works, 11 nos. procurement package for Goods & 7 nos. for services                                                                                                                                                                                                 |          |                    |                          |
| 1.11 | Major components of the project                       | : | Road, Drains, Dredging /Re-excavation of Rivers/Khals/Canals, Water Control Structure, Water supply, Energy Efficiency, Sanitation, Solid Waste Management                                                                                                                                  |          |                    | <b>Page-13 (Details)</b> |

# Chapter-1

## Project Background, Description and Objective of the Study

### 1.1 Background of the Project:

Local Government Engineering Department under Local Government Division is executing the “City Region Development Project”. There are 53 City Development Programme running under this project. The project includes 5 City Corporations and 12 Pourashavas and 36 Urban Centers. Two City Regions includes (a) Dhaka City Region, (b) Khulna City Region. The process of urbanization in Bangladesh in large cities, surrounding towns and urban centers are forming city regions.

This project is approved by ECNEC dated 2 oct.2011 and its estimated cost is TK 130562.75 (in Lac) ; duration of implementation is from July 2011 to Dec. 2016. Through the technical assistance of ADB the detailed feasibility study has been done under the banner of “PPTA 7231 preparing City Region Development Project”.

### 1.2 Objective of the Assignment:

1. Verification for the desired quality of the completed and on-going works in no. 5 City Corporations, 12 Pourashava and 36 Urban Center under “City Region Development Project” and observed its enhancing growth potential and improving city region through effective regional urban planning within project period;
2. Verification of works quality and find out problems;
3. Verifying the of targeted achievement and objective of the project mentioned in DPP
4. Verification of physical and financial progress o ADP allocation
5. Evaluation of project aims to promote improved urban environment and infrastructure services based on effective regional urban planning;
6. Verification of the facilities and actual quality of selected infrastructure under DPP;
7. Determining the interventions in City Development or enhancing probability of development;
8. Detect the enhancing growth potential and improving environmental sustainability through effective urban planning;
9. Recommendation to adopt effective plan through submission of report; and
10. Resolve strengthening of Municipal Management and Capacity.

### 1.3 Objective of the Project:

The project aims at enhancing growth potential and improving environmental sustainability of the target city region through effective regional urban planning. The target city regions of the project are Dhaka and Khulna City Regions. It aims to promote improved urban environment and infrastructure services based on effective regional urban planning. To achieve these objectives, the project will support:

1. Development of key urban infrastructure, focusing on urban environment and local economic development;
2. Improvement of regional urban planning; and
3. Strengthening of municipal management and capacity for effective and sustainable urban development.

#### **1.4 Location of the Project:**

This project is aimed to take Dhaka City Region and Khulna City Region's City Corporation, Pourashava, Urban Centers, those are as follows:

##### **Dhaka City Region:**

City Corporations: Dhaka North City Corporation, Dhaka south City Corporation, Gazipur City Corporation, Narayanganj City Corporation .

Pourashavas: Manikganj, Savar, Narsingdi, Kanchon, Kaliakoir, Singair, and Sonargaon.

##### **Urban Centers:**

Dhaka District: Ashulia, Suvadru, Kalampur.

Gazipur District: Mirzapur, Mouchak, Dolonbazar, Bormi.

Narayanganj District: Uchitpur, Fatullah, Murapara, Mograpara, Sobdibazar.

##### **Khulna City Region:**

City Corporation: Khulna City Corporation

Pourashavas: Nowapara, Mongla, Jhikargacha, and Jessore

##### **Urban Centers:**

Khulna District: Phultala, Patherbazar, Kapilmoni, Dumuria, Kotakhali, Gilabari, Koyerhat, Alipur, Kotinga.

Bagerhat District: KJatrapur, Koylahat, Joymonirgol, Gorfa, Chitalmari, Fokirhat, Morrelganj, Badhol, Rayenda.

Jessore District: Khajura, Chowgacha, Bakrahat, Navaron Chintala, Singra.

## 1.5 Main Components of the Project:

| Sl. No. | Description (Construction works)                                              | Quantity (Unit)        | Estimated cost (Lakh taka) | Component weightage w.r.to Total estimated cost (%) |
|---------|-------------------------------------------------------------------------------|------------------------|----------------------------|-----------------------------------------------------|
| 01      | Building Restoration                                                          | 10,210 sq.m            | 941.66                     | 0.67 %                                              |
| 02.     | Road                                                                          | 197 km                 | 14901.03                   | 10.67 %                                             |
| 03      | Water Control Structure                                                       | 13 No's                | 1900.00                    | 1.36%                                               |
| 04      | Dredging /Re-excavation of Rivers/ Khals/Canals                               | 4564954 m <sup>3</sup> | 4108.46                    | 2.94%                                               |
| 05      | Concrete Lining of Drainage Canals                                            | 26m <sup>3</sup>       | 15572.00                   | 11.15 %                                             |
| 06      | Drains                                                                        | 235 km                 | 33047.70                   | 23.67 %                                             |
| 07      | Water supply                                                                  | (LS)                   | 11252.00                   | 8.06 %                                              |
| 08      | Solid Waste Management                                                        | 6 No's                 | 4133.10                    | 2.96 %                                              |
| 09      | Sanitation                                                                    | (LS)                   | 1014.70                    | 0.73 %                                              |
| 10      | Energy Efficiency                                                             | (LS)                   | 257.20                     | 0.18 %                                              |
| 11      | Improvement of link road                                                      | (LS)                   | 1053.36                    | 0.75 %                                              |
| 12      | Jessore road ,Bara bazaar to Joraghat area Improvement                        | (LS)                   | 1053.36                    | 0.75 %                                              |
| 13      | Rupsha river crossing area improvement                                        | (LS)                   | 737.36                     | 0.53 %                                              |
| 14      | Bus Terminal Improvement                                                      | (LS)                   | 316.01                     | 0.23 %                                              |
| 15      | Enhancement of infrastructure for public transport on the outer by pass road. | (LS)                   | 737.36                     | 0.53 %                                              |
| 16      | Road safety measures                                                          | (LS)                   | 421.35                     | 0.30 %                                              |
| 17      | Rehabilitation of Embankment/ riverfront road                                 | (LS)                   | 2528.07                    | 1.81 %                                              |
| 18      | Anticipated subprojects                                                       | (LS)                   | 10598.77                   | 7.59 %                                              |
| 19      | Land acquisition /Purchase                                                    | (LS)                   | 4267.30                    | 3.05 %                                              |
| 20      | Acquisition of assets                                                         | (LS)                   | 6259.84                    | 4.48 %                                              |
| 21      | Consultants(Supplies and services)                                            | (LS)                   | 1403.90                    | 10.05 %                                             |
| 22      | Foreign loan                                                                  | (LS)                   | 2098.90                    | 1.50 %                                              |
| 23      | (allowance)                                                                   | (LS)                   | 836.58                     | 0.60 %                                              |
| 24      | Repair, maintenance and Rehabilitation                                        | (LS)                   | 836.80                     | 0.60 %                                              |
| 25      | Development CV-VAT                                                            | (LS)                   | 1545.00                    | 1.10 %                                              |
| 26      | Pay of officers                                                               | 4764 MM                | 737.65                     | 0.53 %                                              |

## 1.6 Project Approval, Revision and Progress:

This project is implementing by the financing of Government of Bangladesh (GOB), Asian Development Bank (ADB), Kreditanstalt fuer Wiederaufbau (KfW) and Swedish International Development Agency (SIDA). Information about implementation period, estimated cost and progress of the project are given below:

**Table: ADP sanction, disbursement and cost brief:**

(Tk. in lac)

| Financial Year | Original DPP sanction | Revised DPP sanction | Original/ Revised ADP sanction | Disbursement Fund | Spent (Financial) | Cost w.r.to ADP sanction | Unspent Fund | Remarks                                 |
|----------------|-----------------------|----------------------|--------------------------------|-------------------|-------------------|--------------------------|--------------|-----------------------------------------|
| 2011-2012      | 15,190.59             | 1,220.49             | 1,225.00                       | 1,220.07          | 1,220.07          | 100%                     | -            |                                         |
| 2012-2013      | 28,692.28             | 7,500.00             | 7,500.00                       | 7,488.41          | 7,488.41          | 100%                     | -            |                                         |
| 2013-2014      | 25,141.90             | 33,000.00            | 8,000.00                       | 7,996.45          | 7,996.45          | 100%                     | -            |                                         |
| 2014-2015      | 24,691.90             | 35,000.00            | 26,000.00                      | 26,000.00         | 26,000.00         | 100%                     | -            |                                         |
| 2015-2016      | 24,691.90             | 38,000.00            | 48,500.00                      | 43,423.47         | 30,322.71         | 63%                      | 13,100.76    | Progress upto Apr. 2016                 |
| 2016-2017      | 12,154.17             | 24,877.25            | 48,372.74                      | -                 | -                 | -                        | -            | Project completion period Dec. 31, 2016 |
| Grand-Total:   | 130,562.75            | 139,597.75           | 139,597.75                     | 86,128.40         | 73,027.64         |                          | 13,100.76    |                                         |

From the above chart it is seen that, from the Financial Year 2011-2012 to 2014-2015 the project achieved 100% progress in respect of ADP allocations.

According to original DPP total project cost is 130562.75 lacs. This project is approved by ECNEC dated: 02-08-2011 taking the target of implementation period from July 2011 to Dec. 2016. RDPP is submitted for real situation, rate schedule change and co-financing of SIDA and it was approved for Tk.139597.75 lacs dated 07.04.2013 by the ECNEC, but project implementation period is unchanged from July 2011 to December 2016. Physical and financial progress of the project 72.98% and 54.00% respectively upto April 2016.

At present financial progress is 54% in which GOB and other Donor Agencies secured 13.32% and 40.68% respectively.

## Chapter-2

### Consultant's Scope of Work and Methodology

#### 2.1 Terms of Reference of the Consultants (TOR):

- Review the project's aims, objectives, background and rationale of the project.
- **Physical & financial progress:** Component-wise data collection of up-to-date physical and financial progress, present in the chart and reviewing.
- **Information regarding procurement:** Data collection for reviewing and Verifying various procurement process whether those have been completed as per existing Rules (PPR-2008) for procurement of works, goods and services
- **Project design, planning of implementation and work's quality:** Review of How much achieved of the project aims and verification of approved design and specification, Inspection of physical works and check the quality of ongoing/completed (new, repairing & maintenance) works whether running those as per approved design and specification. Quality checking of using material of ongoing project, suggest to rectify (if needed) and recommendations
- Checking and review of the change with respect to communication, socio-economic and environmental condition in project area after implementation of the project.
- **Problems regarding implementation:** Review of Various problems regarding implementation (if exist), such as: Delay of procurement process, DPP/RDPP allotment, ADP sanction, mismanagement, enhancing project cost, time extension, probability of achieving project's aim, whether the work is running as per DPP if not achieved, the recommendations are provided, checking the monitoring process of Implementing agency and sponsoring organization.
- **Recommendations:** On the basis of major findings through in-depth monitoring, prepare the specific recommendations and other relevant works imposed by IMED;
- To arrange a local workshop at Gazipur City Corporation;
- **Report submission and arrange workshop:** Through in-depth monitoring prepare Inception Report,, Pre-draft Report, Draft Final Report, arrange a daylong National workshop on Draft final Report and on the basis recommendations found from the workshop incorporating those in the Report for finalization of the Report.

#### 2.2 Approach and Methodology

Field inspection works were performed for in-depth monitoring activities, four city corporations, 6 pourashavas, 17 upazila's (Urban centre) were selected from project's total 5 city corporations, 12 pourashavas, and 36 Urban centres under implementation.. And prepare the in-depth monitoring report considering the following items:

- Review of component wise progress of various items of works and compare it with DPP target, mention any problems (if any) during implementation.
- Observation regarding ADP allocations , Disbursement, and cost related information as per DPP target;
- Implementation progress, Contractor selection and other procurement related information is collected from PD office , city corporation, pourashava, concerning Executive Engineer, LGED office and Upazila Engineer's office;

- Verification of the project procurement process whether done according to PPR-2008. Various procurement documents of City corporation , Pourashabva, District (LGED), Upazila (UC);
- Discussion of project implementation problems with PD office and other implementing officers, contractors and determination of the way of solution.
- In order to check quality of construction works samples are collected in presence of consultant, IMED personnel, LGED, Pourasava personnel. Tests are completed directly in the field and Laboratories of LGED and BUET(BRTC). How to ensure quality of construction works by LGED ,City Corporation, Pourashava and Upazila (UC) those are also verified.
- In order verify whether the works has been completed as per approved Design and specification various data has been collected trough Approved check lists.
- Determination overall project implementation problems and prepare recommendations for necessary action.

### 2.3 Questionnaire and Chart

Two types questionnaire /chart were prepared for technical and socio–economic related aspects. Consulting firm had visited field and discussed with project related personnel before preparation of questionnaire/checklists and finalized those through corrections/additions/omissions. Proper training have been provided to the enumerators(Data collectors) to collect data properly.

#### Project Related Information collect:

For the preparation of in-depth monitoring report of CRDP Primary and secondary sources data were used.

1. **Data of Primary source:** Inspection of field implementation works, observation of physical condition of works, Socio-economic data collected through questionnaire, data collection through direct field tests and material collections. Photographic data is considered as a primary source data also.
  - a) **Socio-economic part:** Ten Enumerators collected data from beneficiary and control group and from KII(Key Informants Interview) through prescribe questionnaire.
  - b) **Technical Part:** Information collected by the consulting firm about quantity and quality of works whether the amount of works done as per approved, and design and specification of works is Ok or not.
2. **Information of Secondary Source data:** As a secondary source data considering DPP, Progress and implementation related information, related Design drawings and procurement documents those are collect from PD Office.

#### 2.3.1 Procedure of Selecting Sample Area

As per terms of reference, consulting firm covered 50 % project area for this in-depth monitoring works. As per discussion with IMED considering less time consuming and shortest possible routes have been chosen. For this following selected areas are confirmed field visit:

##### **Dhaka City Region:**

City Corporations: Dhaka North City Corporation, Gazipur City Corporation, Narayanganj City Corporation.

Pourashavas: Manikganj, Savar, Narsingdi, Kanchon, Kaliakoir, Singair, and Sonargaon.

**Urban Centers:**

Dhaka District: Ashulia, Suvadru, Kalampur.

Gazipur District: Mirzapur, Mouchak, Dolonbazar, Bormi.

Narayanganj District: Uchitpur, Fatullah, Murapara, Mograpara, Sobdibazar.

**Khulna City Region:**

City Corporation: Khulna City Corporation

Pourashavas: Nowapara, Mongla, Jhikargacha, and Jessore

**Urban Centers:**

Khulna District: Phultala, Patherbazar, Kapilmoni, Dumuria, Kotakhali, Gilabari, Koyerhat, Alapur, Kotinga.

Bagerhat District: Jatrapur, Koylahat, Joymonirgol, Gorfa, Chitalmari, Fokirhat, Morrelganj, Badhol, Rayenda.

Jessore District: Khajura, Chowgacha, Bakrahat, Navaron Chintala, Singra.

**2.3.2 Sampling & Process of Collecting Samples**

| Description                                    | Included area for data collection                                                                                                |                                                |                                      |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------|
| Inspection                                     | 50% of total project area                                                                                                        |                                                |                                      |
| Checklist/data collection with specific charts | Inspection and data collection for 10% selected items of each component                                                          |                                                |                                      |
| Quality test                                   | 5% of total components (viz. bituminous/concrete road, bridge, drain, embankment, regulator, road safety measures, bus terminal) |                                                |                                      |
| Data collected through FGD meeting.            | 10 Nos. FGD (Focus Group Discussion)                                                                                             |                                                |                                      |
|                                                | City Corporation                                                                                                                 | Pourashava                                     | Urban Centers                        |
|                                                | 3 Nos. (Khulna, Gazipur, Narayanganj)                                                                                            | 4 Nos. (Jessore, Mongla, Manikgonj, Sonargaon) | 3 Nos. (Mirzapur, Kalampur, Alaipur) |
| Regional Workshop                              | Gazipur City Corporation                                                                                                         |                                                |                                      |

**2.3.3 Sample Collectors**

**Appointment of Data collectors:** As required by the consulting firm 10 Enumerators were appointed, their duty was data collection from the project areas and assist to consulting firm. The data collector (Enumerator) who has been appointed were well experienced in this field.

**Training of data collectors:** The Consulting firm has given training to the selected data collectors in order to get accurate data from the field .The trainees were taught accurately about questionnaire/check lists properly to collect data. Which were approved by the IMED.



#### **2.3.4 Analysis of Project Documents**

Consulting firm (Technical Support Services Limited) has reviewed DPP and the relevant documents of the project. Component wise Physical and financial progress of the project upto April -2016 has been shown according to the project document. (see Section 5.1).

#### **2.3.5 Field Visit**

The consulting firm personnel have visited the field several times of the project areas and carried out in-depth monitoring activities. During field inspection the project's problems and progress are discussed in detail with implementing personnel and officials involved in the project. The physical condition of the implemented /under implementation schemes of the project were observed by visiting total 4 City Corporations, 6 municipalities and 18 Upazilas (Urban Centers). During field visit by the consulting firm, exchanged views and ideas about the reaction of local people, about the implementation problem of the project. Detailed discussion on the project and the data obtained from the field has been inserted in the report.

#### **2.3.6 Field Visit and Verification regarding Specification and Quality of Work done under the Project**

Completed works, collected material at the sites, collected equipment / goods and services related tender documents and quoted tender submitted by the contractors are reviewed and related other documents / papers are also checked. Consulting firm has checked quality and quantity of work done through the following tests:

- Compressive strength by smith hammer test;
- verified lab test results of used MS bar for RC works
- Quality verification of used stone and brick chips and sand;
- Structural quality and finishing of the completed and on-going sub-project were also verified whether the works have been completed as per specification.
- By measuring the total length, width, cross-sections of various Subprojects

#### **2.3.7 Overall Item wise Details Progress of Work components basis (up-to-date progress and target)**

The overall and detailed (physical and financial) updated progress of implemented/under implementation works and target of the project are collected from the office of Project Director to verify the actual progress of the project during In-depth monitoring period. Item wise of project's finished and unfinished work been identified as a percentage basis and shown in the table.

#### **2.3.8 Monitoring of Tendering procedures.**

Civil works of the projects, planning of purchase of goods and services and their real progresses are verified. Reviewed Procurement process that the government follows, collected various data obtained from the records of the Project Director's office and passed opinions. (Annex 3).

#### **2.3.9 Checklists used in In-depth Monitoring**

To collect data/ information by using variety of formats for In-depth monitoring. The consulting firm collected data through checklists from the office of Project Director and the relevant field offices. For this monitoring works collected data component basis from flexible and rigid pavement, Guide Wall, Protection works, Side slope, bridges, culverts and U-drains.

Measuring the quantity and quality of construction of physical works consulting firm performed following activities:

- Documents were reviewed to ensure the quality of the materials that all the tests /checks / test code were carried out fairly in accordance with the specification by the Implementing Agencies.
- Check the measurement of flexible pavement, rigid pavement, layer compaction, drains/, walls thickness, etc.
- Approved design and profile.
- Verify the quality of materials of sub-base, base, carpeting, and seal coat.
- Verify the quality of the guide wall, MS Rod, CC casting and R.C.C casting.
- Inspection of work plan of ongoing works of the Implementing Agency and used equipment by contractors.
- Inspected / checking of protection Work, Side slope, checking of cambers etc.

## **2.4 Submission of Reports**

Project related reports:

1. Meetings and field inspection;
2. Data collection from field;
3. Verificaiton, combination and analysis of collected data;
4. Progress checking of projects under implementation (physical & financial);
5. Verification of procurement process;
6. Verificaiton of the project design, planning of implementation and quality of works;
7. Verification of project implmentation related problems;
8. Prepare evaluation report, recommendation and remarks on the basis of study;
9. Finalize the report incorporating the decision of Draft Final Report;
10. Arranged Regional /National level Workshop;
11. Prepare Final Report incorporating of various recommendatins found inthe National workshop's opinion.

## Chapter-3

### Determination of Sub projects for the Assignment

#### 3.1 Work Plan for Assignment

4 City corporations from 5, 6 Pourashavas from 12 and 17 Urban Centres from 36 are taken for in-depth monitoring works under CRDP project. That means 50% of project area is covered for the determination for sampling: Those are as follows:

#### 3.2 City Corporation / Pourashava / Urban Centers

| Sl. No.       | City Corporation/Pourashava/Urban Centre | No. of Schemes |
|---------------|------------------------------------------|----------------|
| 1             | Gazipur City Corporation                 | 5 Nos.         |
| 2             | Khulna City Corporation                  | 3 Nos.         |
| Pourashavas   |                                          |                |
| 1             | Savar                                    | 3 Nos.         |
| 2             | Manikganj                                | 6 Nos.         |
| 3             | Sonargaon                                | 3 Nos.         |
| 4             | Jhikargacha,                             | 1 No.          |
| 5             | Mongla                                   | 4 Nos.         |
| Urban Centers |                                          |                |
| 1             | Ashulia Urban Centers (Savar Upazila)    | 2 Nos.         |

#### Urban Center:

We had completed 3 FGD meeting for Urban Centers but their physical works did not start, for this reason field test and sampling was not possible. We have collected data by checklist from selected Urban Centers.

Determination 5% sampling of each component was decided accordingly but it was more/less as per real scenario.

## Chapter-4

### Item-wise Physical and Financial Progress of the Project

#### 4.1 Item-wise Physical and Financial Progress of the Project

| Sl. No | Description (Construction works)                                              | Quantity (Unit)        | Estimated cost (Lakh taka) | Cost upto April 2016 (Lakh Taka) | Physical progress of components (%) | % Cost w.r. to estimated cost |
|--------|-------------------------------------------------------------------------------|------------------------|----------------------------|----------------------------------|-------------------------------------|-------------------------------|
| 1      | Building Restoration                                                          | 10,210 sq.m            | 941.66                     | 0                                | 0                                   | 0                             |
| 2      | Road                                                                          | 197 km                 | 14901.03                   | 13086                            | 91                                  | 87.82                         |
| 3      | Water Control Structure                                                       | 13 nos.                | 1900.00                    | 945                              | 56                                  | 49.74                         |
| 4      | Dredging /Re-excavation of Rivers/Khals/Canals                                | 4564954 m <sup>3</sup> | 4108.46                    | 2350                             | 59                                  | 57.93                         |
| 5      | Concrete Lining of Drainage Canals                                            | 26m <sup>3</sup>       | 15572.00                   | 5436                             | 39                                  | 34.91                         |
| 6      | Drains                                                                        | 235 km                 | 33047.70                   | 26251                            | 90.60                               | 79.43                         |
| 7      | Water supply                                                                  | L.S.                   | 11252.00                   | 1300                             | 59.26                               | 11.55                         |
| 8      | Solid Waste Management                                                        | 6 Nos.                 | 4133.10                    | 0                                | 0                                   | 0                             |
| 9      | Sanitation                                                                    | L.S.                   | 1014.70                    | 68                               | 7                                   | 6.70                          |
| 10     | Energy Efficiency                                                             | L.S.                   | 257.20                     | 83                               | 32.29                               | 32.27                         |
| 11     | Improvement of link road                                                      | L.S.                   | 1053.36                    | 900                              | 88                                  | 85.44                         |
| 12     | Jessore road ,Bara bazaar to Joraghat area Improvement                        | L.S.                   | 1053.36                    | 850                              | 87.90                               | 86.69                         |
| 13     | Rupsha river crossing area improvement                                        | L.S.                   | 737.36                     | 450                              | 66                                  | 61.03                         |
| 14     | Bus Terminal Improvement                                                      | L.S.                   | 316.01                     | 150                              | 57                                  | 47.46                         |
| 15     | Enhancement of infrastructure for public transport on the outer by pass road. | L.S.                   | 737.36                     | 600                              | 85                                  | 81.37                         |
| 16     | Road safety measures                                                          | L.S.                   | 421.35                     | 0                                | 0                                   | 0                             |
| 17     | Rehabilitation of Embankment/riverfront road                                  | L.S.                   | 2528.07                    | 700                              | 31                                  | 27.69                         |
| 18     | Anticipated subprojects                                                       | L.S.                   | 10598.77                   | 1133.27                          | 14.80                               | 10.69                         |
| 19     | Land acquisition /Purchase                                                    | L.S.                   | 4267.30                    | 0                                | 3                                   | 0                             |
| 20     | Acquisition of assets                                                         | L.S.                   | 6259.84                    | 4654.02                          | 79.01                               | 74.34                         |
| 21     | Consultants(Supplies and services)                                            | L.S.                   | 1403.90                    | 9997.16                          | 79.42                               | 79.42                         |
| 22     | Foreign loan                                                                  | L.S.                   | 2098.90                    | 250                              | 12                                  | 11.92                         |
| 23     | (allowance)                                                                   | L.S.                   | 836.58                     | 221.31                           | 49.70                               | 15.33                         |
| 24     | Repair, maintenance and Rehabilitation                                        | L.S.                   | 836.80                     | 265.55                           | 031.80                              | 31.73                         |
| 25     | Development CV-VAT                                                            | L.S.                   | 1545.00                    | 850                              | 056                                 | 55.01                         |
| 26     | Pay of officers                                                               | 4764 MM                | 737.65                     | 844.81                           | 043                                 | 42.55                         |
| 27     | Physical Contingency                                                          | L.S.                   | 1390.00                    | 0                                | 00                                  | 0                             |
| 28     | Price Contingency                                                             | L.S.                   | 1556.94                    | 0                                | 00                                  | 0                             |

## 4.2 Item-wise Progress of the Project

| Sl. No | Name of important Component (with quantity)          |      |         | Cost as per RDPP / TPP | Achievement with last June 2015 |                    | Target of current year 2015-16 as per DPP |                    | Progress upto April 2016 |                    | Unspent /Unfinished balance against DPP target |
|--------|------------------------------------------------------|------|---------|------------------------|---------------------------------|--------------------|-------------------------------------------|--------------------|--------------------------|--------------------|------------------------------------------------|
|        |                                                      |      |         |                        | Financial                       | Physical           | Financial                                 | Physical           | Financial                | Physical           | Physical                                       |
|        | Components and Sub-Components                        | Unit | Qty.    | Total                  | Total                           | Total              | Total                                     | Total              | Total                    | Total              | Total                                          |
|        |                                                      |      |         | Taka                   | Taka                            | % of the component | Taka                                      | % of the component | % of the component       | % of the component |                                                |
| 1      | 2                                                    | 3    | 4       | 5                      | 6                               | 7                  | 8                                         | 9                  | 10                       | 11                 | 12                                             |
| 1      | CONSTRUCTION WORK                                    |      |         |                        |                                 |                    |                                           |                    |                          |                    |                                                |
|        | i) Building Restoration                              | sqm  | 10210   | 941.66                 |                                 |                    |                                           |                    |                          |                    | 100%                                           |
|        | ii) Road                                             | km   | 197     | 14901.03               | 8136.00                         | 55%                | 6000.00                                   | 40%                | 4950.00                  | 90%                | 9%                                             |
|        | iii) Water control Structure                         | no   | 13      | 1900.00                | 325.00                          | 17%                | 768.00                                    | 40%                | 626.00                   | 98%                | 43.8%                                          |
|        | iv) River dredging/re-excavation of river/khal       | cum  | 4564954 | 4108.46                | 870.00                          | 21%                | 1600.00                                   | 39%                | 1510.00                  | 98%                | 40.78%                                         |
|        | v) Concrete lining of drainage canals                | km   | 26      | 15572.00               | 1650.00                         | 11%                | 5000.00                                   | 32%                | 3786.00                  | 88%                | 60.84%                                         |
|        | vi) Drains                                           | km   | 235     | 33047.70               | 13851.00                        | 42%                | 18000.00                                  | 54%                | 12400.00                 | 90%                | 9.40%                                          |
|        | vii) Water Supply                                    | LS   |         | 11252.00               | 800.00                          | 7%                 | 1500.00                                   | 13%                | 500.00                   | 40%                | 87.80%                                         |
|        | viii) Solid Waste Management                         | no   | 6       | 4133.10                |                                 |                    |                                           |                    |                          |                    | 100%                                           |
|        | ix) Sanitation                                       | LS   |         | 1014.70                | 68.000                          | 7%                 |                                           |                    |                          |                    | 93%                                            |
|        | x) Energy Efficiency                                 | LS   |         | 257.20                 | 80.000                          | 31%                | 3.000                                     | 1%                 | 3.00                     | 100%               | 68%                                            |
|        | xi) Improvement of link road                         | LS   |         | 1053.36                | 250.000                         | 24%                | 750.000                                   | 71%                | 650.00                   | 90%                | 12%                                            |
|        | Jessore road Bara Bazar to Joragata Area Improvement | LS   |         | 1053.36                | 250.00                          | 24%                | 750.000                                   | 71%                | 600.00                   | 90%                | 12.1%                                          |
|        | Rupsha River Crossing Area Improvement               | LS   |         | 737.36                 |                                 |                    | 700.00                                    | 95%                | 450.00                   | 70%                | 33.5%                                          |
|        | Bus Terminal                                         | LS   |         | 316.01                 |                                 |                    | 300.00                                    | 95%                | 150.00                   | 60%                | 43%                                            |

| Sl. No | Name of important Component (with quantity)                                 |    |         | Cost as per RDPP / TPP | Achievement with last June 2015 |          | Target of current year 2015-16 as per DPP |          | Progress upto April 2016 |                    | Unspent /Unfinished balance against DPP target |
|--------|-----------------------------------------------------------------------------|----|---------|------------------------|---------------------------------|----------|-------------------------------------------|----------|--------------------------|--------------------|------------------------------------------------|
|        |                                                                             |    |         |                        | Financial                       | Physical | Financial                                 | Physical | Financial                | Physical           | Physical                                       |
|        | Components and Sub-Components                                               |    | Unit    | Qty.                   | Total                           | Total    | Total                                     | Total    | Total                    | Total              | Total                                          |
|        |                                                                             |    |         |                        | Taka                            | Taka     | % of the component                        | Taka     | % of the component       | % of the component | % of the component                             |
| 1      | 2                                                                           | 3  | 4       | 5                      | 6                               | 7        | 8                                         | 9        | 10                       | 11                 | 12                                             |
|        | Improvement                                                                 |    |         |                        |                                 |          |                                           |          |                          |                    |                                                |
|        | Enhancement of Infrastructure for Public Transport on the outer Bypass Road | LS |         | 737.36                 | 250.00                          | 34%      | 450.00                                    | 61%      | 350.00                   | 85%                | 14.16%                                         |
|        | Access Road Improvement                                                     | LS |         | 1053.36                | 650.00                          | 62%      | 400.00                                    | 38%      | 350.00                   | 95%                | 1.9%                                           |
|        | Road Safety Measures                                                        | LS |         | 421.35                 |                                 |          | 50.00                                     |          |                          |                    | 100%                                           |
|        | Rehabilitation of Embankment/ River Front                                   | LS |         | 2528.07                | 200.00                          | 8%       | 600.00                                    | 24%      | 500.00                   |                    | 68.95%                                         |
|        | Anticipated Sub Project                                                     | LS |         | 10598.77               |                                 |          | 7860.93                                   | 74%      | 1133.27                  | 20%                | 85.2%                                          |
|        | <b>Sub-Total</b>                                                            |    |         | <b>105626.85</b>       | <b>27380.00</b>                 |          | <b>44731.93</b>                           |          | <b>27952.27</b>          |                    |                                                |
| 2      | Land Acquisition & Re-Settlement                                            | LS |         | 4267.30                | 112.50                          | 3%       |                                           |          |                          |                    | 97%                                            |
| 3      | Acquisition of Assets                                                       | LS |         | 6259.84                | 4585.95                         | 73%      | 768.07                                    | 12%      | 68.07                    | 54%                | 20.52%                                         |
| 4      | Consultant                                                                  | mm | 1998.50 | 12587.08               | 8066.16                         | 64%      | 600.00                                    | 19%      | 1931.00                  | 79%                | 20.99%                                         |
| 5      | Manpower                                                                    | LS |         | 1985.21                | 671.22                          | 34%      | 245.00                                    | 12%      | 173.59                   | 71%                | 57.48%                                         |
|        | Office Contingency                                                          | LS |         | 1443.83                | 552.58                          | 38%      | 260.00                                    | 18%      | 168.73                   | 65%                | 50.3%                                          |
|        | Repair, Maintenance, Rehabilitation                                         | LS |         | 836.80                 | 236.50                          | 28%      | 45.00                                     | 5%       | 29.05                    | 65%                | 68.75%                                         |
| 6      | CD/VAT                                                                      | LS |         | 1545.00                | 850.00                          | 55%      |                                           | 55%      |                          |                    | 45%                                            |
| 7      | Interest Charge during implementation                                       | LS |         | 2098.90                | 250.00                          | 12%      | 0.00                                      |          |                          |                    | 88%                                            |
| 8      | Physical Contingencies                                                      | LS |         | 1556.94                |                                 |          |                                           |          |                          |                    | 100%                                           |

| Sl. No | Name of important Component (with quantity) |    |      | Cost as per RDPP / TPP | Achievement with last June 2015 |          | Target of current year 2015-16 as per DPP |          | Progress upto April 2016 |          | Unspent /Unfinished balance against DPP target |
|--------|---------------------------------------------|----|------|------------------------|---------------------------------|----------|-------------------------------------------|----------|--------------------------|----------|------------------------------------------------|
|        |                                             |    |      |                        | Financial                       | Physical | Financial                                 | Physical | Financial                | Physical | Physical                                       |
|        | Components and Sub-Components               |    | Unit | Qty.                   | Total                           | Total    | Total                                     | Total    | Total                    | Total    | Total                                          |
| 1      | 2                                           | 3  | 4    | 5                      | 6                               | 7        | 8                                         | 9        | 10                       | 11       | 12                                             |
| 9      | Price contingencies                         | LS |      | 1390.00                |                                 |          |                                           |          |                          |          | 100%                                           |
|        |                                             |    |      |                        |                                 |          |                                           |          |                          |          |                                                |
|        | <b>Sub-Total:</b>                           |    |      | <b>33970.90</b>        | <b>15324.91</b>                 |          | <b>3768.07</b>                            |          | <b>2370.44</b>           |          |                                                |
|        | <b>Total:</b>                               |    |      | <b>139597.75</b>       | <b>42704.91</b>                 |          | <b>48500.00</b>                           |          | <b>30322.71</b>          |          |                                                |

Heritage buildings Restoration item of the project has been stopped during JRM (Joint Review Mission) tour from 15- 23 April 2015, because they opined this item of work does not match with the main purpose (scope) of the project, with their recommendation this item of work is suspended.

Due to problems in some components such as: Solid waste management demand which was not available from concerning organization, sub-supplementation were not possible for sanitation items also etc.

### 4.3 Item-wise Development of Tendering (Comparison of Physical and Financial Progress of Procurement of Works, Supply and Services)

| Item         | DPP provision (Taka in Lac) | Total number of Signed Contract | Contract Amount (Taka in Lac) | Physical progress (%) | Total Amount spent (Taka in Lac) | Contract progress with respect to the DPP provision (%) | Amount spent with respect to the DPP provision (%) | Target upto April 2016 (as per DPP) | Deviation as per DPP | Remarks                             |
|--------------|-----------------------------|---------------------------------|-------------------------------|-----------------------|----------------------------------|---------------------------------------------------------|----------------------------------------------------|-------------------------------------|----------------------|-------------------------------------|
| Goods        | 7804.84                     | 11                              | 6176.04                       | 95%                   | 4654.02                          | 79%                                                     | 60%                                                | 80%                                 | 20% less             | 10 Contracts completed              |
| Works        | 105626.8                    | 91                              | 88339.91                      | 73%                   | 55332.27                         | 84%                                                     | 53%                                                | 80%                                 | 27% less             | 32 Contracts completed              |
| Services     | 10333.46                    | 7                               | 10070.36                      | 99%                   | 9997.16                          | 97.5%                                                   | 97%                                                | 80%                                 | 17% above O.K.       | 2 Contracts completed (RDP and MCD) |
| <b>Total</b> | <b>123765.10</b>            | <b>109</b>                      | <b>104586.31</b>              |                       | <b>69983.45</b>                  |                                                         |                                                    |                                     |                      |                                     |



#### 4.4 Progress of Works at 4 (four) City Corporations

| Sl.No | City Corporation             | Major Components                                              | Estimated cost (In lakh Taka) | % Physical Progress | % Financial Progress | Remarks       |
|-------|------------------------------|---------------------------------------------------------------|-------------------------------|---------------------|----------------------|---------------|
| 1     | Dhaka City Corporation       | Roads, Drains, Footpath                                       | 4999.44                       | 52%                 | 23%                  | Less Progress |
| 2     | Gazipur City Corporation     | Roads, Drains, Solar Panel, PTW, Footpath                     | 10753.77                      | 92.52%              | 86%                  | Progress Good |
| 3     | Khulna City Corporation      | Roads, Drains, Dredging /Re-excavation of Rivers/Khals/Canals | 20861.14                      | 92%                 | 86%                  | Progress Good |
| 4     | Narayanganj City Corporation | Roads, Drains, Footpath                                       | 2667.98                       | 58.21%              | 39%                  | Less Progress |

#### 4.5 Progress of Works at 6 (six) Municipalities

| Sl.No | Pourashavas/ Upazila                 | Major Components                                    | Estimated cost (In lakh Taka) | % Physical Progress | % Financial Progress | Remarks       |
|-------|--------------------------------------|-----------------------------------------------------|-------------------------------|---------------------|----------------------|---------------|
| 1.    | Manikganj Pourashava                 | Roads, Drains, Bridge                               | 2847.15                       | 79.52%              | 71%                  | Progress Good |
| 2.    | Sonargaon Pourashava                 | Roads, Drains, Footpath, Bridge                     | 1847.67                       | 61.62%              | 40%                  | Less Progress |
| 3.    | Savar Pourashava                     | Roads, Drains, Footpath                             | 2910.36                       | 69.80%              | 49%                  | Less Progress |
| 4.    | Mongla Pourashava                    | Roads, Drains, Footpath , Water Structure Regulator | 6034.55                       | 88%                 | 65%                  | Progress Good |
| 5.    | Jessore Pourashava                   | Roads, Drains, Footpath                             | 5063.85                       | 88%                 | 72%                  | Progress Good |
| 6.    | Jhikargacha Pourashava               | Roads, Drains, Footpath                             | 2870.09                       | 100%                | 76%                  | Progress Good |
| 7.    | Ashulia Urban Centres(Savar Upazila) | Roads, Drains, Culvert                              | 4534.58                       | 100%                | 100%                 | Progress Good |
|       |                                      | Water Supply                                        | 1152.09                       | 33%                 | 26%                  | Less Progress |

## Chapter-5

### Monitoring of Procurement Process / Documents for Tendering and Selection of Contractors

**5.1 Monitoring of Procurement Process (Tendering and Selection of Contractors):** In order to analyze the documents of "City Region Development Project field visits were done. Through specific checklist (given in Annexure -3) documents were verified. During documents review following significances were found. 29 documents have been reviewed for sampling. According to the Loan Agreement procedure between GOB and ADB the project has got the bindings to follow the procurement procedure of ADB of taking decision of tenders. On that basis they took prior approval from ADB during finalizing any tender. Each package of tender documents (Bid Document) and the tender evaluation report (Bid Evaluation Report) were completed in accordance with the rules ADB.

**5.2 Analysis of Tender Documents:** After analyzing 29 documents of different category of works the following results were found. Procurement information of the packages are attached at Annexure -3.

| SI No | Indicator category | Indicator process                                  | Collected data |                                                                                | Results    | Remarks                       |
|-------|--------------------|----------------------------------------------------|----------------|--------------------------------------------------------------------------------|------------|-------------------------------|
| 1     | Tender call        | Tender notice published                            | 1              | How many % of tender are published in newspaper                                | 100%       | As per PPR                    |
|       |                    | Tenders in CPTU website                            | 2              | How many % tender in CPTU website                                              | 100%       | As per PPR                    |
| 2     | Tender submission  | Time limit for tender preparation                  | 3              | Average day of tender publishing and submission                                | 21-29 days | 21 days required as per PPR   |
|       |                    | Time maintain of tendering                         | 4              | How many % bidder got adequate time for submission of tender                   | 100%       | As per PPR                    |
|       |                    | Participants of bidders                            | 5              | Ratio of tender submission and tender sale                                     | 60%        | 60% deposit from sold tenders |
| 3     | Tender opening     | Tender evaluation member for tender opening        | 6              | How many % of TEC members' attended in tender opening meetings.                | 100%       | As per PPR-2008               |
|       |                    | External member (except LGED) of tender evaluation | 7              | How many % of tender is evaluated in presence of external members except LGED. | 100%       | As per PPR-2008               |
| 4     | Tender evaluation  | Time for tender evaluation                         | 8              | Average days within tender opening & tender evaluation                         | 20         | As per PPR-2008               |
|       |                    | Maintain of time for tender evaluation             | 9              | How many tender completed within due time.                                     | 60%        | 60% evaluation                |
|       |                    | Receiving of tender                                | 10             | Average responsive bidders                                                     | 4.0        | Average 4 responsive bidders  |

From the above chart it is seen that each procurement process was completed as per PPR- 2008 and by following procurement process of project aid agencies (ADB, KfW, SIDA).

### **5.3 Information Regarding Tender and Selection of Contractors**

#### **Processing of Tendering:**

All tendering processes of the project are completed as per ADB procurement process and it is compatible with PPR-2008.

#### **Monitoring of procurement Process:**

Procurement activities of the project are done by PIU. That were continuously monitored by Project Director (PMCU) , ADB and monitoring unit of LGED.

#### **Work plan of contractors:**

Work plan schedule was submitted by contractors with contracts sign as per tender documents criteria. According to contract sign condition, contractors updated the work plan schedule from time to time, that were approved by PD ( if required)

#### **Actual time of work completion:**

For the completion of Civil works of (CRDP) project the duration was mostly fixed up to 365 days (for max. contracts). In some cases though the works was not completed within the duration given by PD/Implementing agency in that case time was extended up to 30% because of transportation problem, complication and climate fatalities.

#### **Quoted rate above or less:**

some tender cost are above (22.19%) because of following the old estimated rate schedule of LGED. But when tender rate is reasonable to compare present market price then appring Authority gave permission as per recommendation of TEC. Some tenders submitted in lower rates (upto 14.25% below) from the estimated cost. For those case tenders are approved to verify tangible market price .It is mentioned that each Bid Evaluation Report was approved by ADB / KfW.

Verification of tender documents of 11 packages shows that 6 packages given work orders for high rate from approved estimated rate and its maximum rate is 22.19% (highest). For Five (5) package work orders are given lower than the approved estimated cost rate and it's max. 14.25% (lowest). Each tender process is completed following PPR-2008.

## Chapter-6

### Field Verification for checking of Quantity and Quality of Construction Works

**6.1 Inspection of Civil Works:** The consulting firm visited 68 No. schemes from 30 packages of 27 urban areas (out of 53). Physical condition, measurement, design, etc. were checked at the time of inspections. Numbers of schemes are given below:

| Sl. No. | City Corporation             | Pourashava  | Urban Center                      | No. of Scheme |
|---------|------------------------------|-------------|-----------------------------------|---------------|
| 1       | Dhaka North City Corporation |             |                                   | 1             |
| 2       | Gazipur City Corporation     |             |                                   | 4             |
| 3       | Narayanganj City Corporation |             |                                   | 2             |
| 4       | Khulna City Corporation      |             |                                   | 3             |
| 5       |                              | Manikgonj   |                                   | 3             |
| 6       |                              | Savar       |                                   | 3             |
| 7       |                              | Singair     |                                   | 2             |
| 8       |                              | Sonargaon   |                                   | 3             |
| 9       |                              | Jessore     |                                   | 3             |
| 10      |                              | Jhikorgacha |                                   | 3             |
| 11      |                              |             | Kalampur of Dhamrai Upazila       | 2             |
| 12      |                              |             | Ashulia of Savar Upazila          | 3             |
| 13      |                              |             | Mirzapur of Gazipur Sadar Upazila | 2             |
| 14      |                              |             | Bormi of Sreepur Upazila          | 2             |
| 15      |                              |             | Navaran of Sarsha Upazila         | 2             |
| 16      |                              |             | Chowgacha Sadar Upazila           | 2             |
| 17      |                              |             | Singra of Keshabpur Upazila       | 2             |
| 18      |                              |             | Chintola of Monirampur Upazila    | 2             |
| 19      |                              |             | Bokrahat of Jhikargacha Upazila   | 2             |
| 20      |                              |             | Alaipur of Rupsha Upazila         | 4             |
| 21      |                              |             | Kopilmoni of Paikgacha Upazila    | 2             |
| 22      |                              |             | Dumuria Sadar Upazila             | 4             |
| 23      |                              |             | Kotinga of Terokhada Upazila      | 2             |
| 24      |                              |             | Rayenda of Sarankhola Upazila     | 2             |
| 25      |                              |             | Moralganj Sadar Upazila           | 2             |
| 26      |                              |             | Joymonirgoal of Mongla Upazila    | 4             |
| 27      |                              |             | Fatullah of Narayanganj Sadar     | 2             |

Road (both flexible RC Pavement) bridge, culvert, drain, footpath and foot over-bridge etc. were the part of the visited schemes.

**6.2 Verification of the Quality of Construction work:** To determine quality of construction work some tests were performed through the field inspection, for example DCP test for checking various layer's compactions of roads. Hammer test for bridge, culvert and RC road's concrete strength. Then this test report is verified by BUET and LGED lab. Physical measurement is checked as per specification. These are given below with photographs:

**Dhaka city region  
Gazipur City Corporation**



**City Corporation: Gazipur City Corporation**

Observation date:07/05/2016

Name of Scheme: Construction of RC Drain start from Noor General Store to Harinal Road Box Culvert via Rail Bridge (Ch. 0-533m) Pack. CRDP/LGED/GCC/Gazipur/NCB/2012 /W-02

Physical Measurement :1.20 m x 533 m

Physical Status: Good

Name of test: Rebound Hammer Test – Strength 23 MPa

Observation: Work done as per Specification.

Work Completion Date: Feb 2015



**City Corporation: Gazipur City Corporation**

Observation date:07/05/2016

Name of Scheme: Afaz Bhaban to Hospital Road Bridge via Rail Bridge (DW-04)

Present Status: (100%) Complete

Physical Measurement 3 m-4 m x 985 m

Physical Status: Good

Observation: To be maintained properly

Work Completion Date:Mar.2016

**City Corporation: Gazipur City Corporation**

Observation date:07/05/2016

Name of Scheme: Construction of RC Drain start from Shibbari Afaz Bhaban to Hospital Bridge. (Ch. 200m) Pack.

CRDP/LGED/GCC/Gazipur/NCB/2012/W-01

Physical Measurement : wall thickness 250 mm

Physical Status: Good

Name of test: Rebound Hammer Test – Strength 27 MPa

Observation: Work has completed as per design specification.

Work Completion Date :March-2016



**City Corporation: Gazipur City Corporation (Tongi)**

Observation date :07/05/2016

Name of Scheme: Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. (Ch. 1650m) Pack:

CRDP/LGED/GCC/Tongi/NCB/2014/W-06

Physical Measurement :3.70 m x 1180 m

Physical Status: Good

Name of test: DCP Test – DCP Test – CBR Value 195% was found.

Observation: Compaction and CBR has been found correct , as per specification.

Work Completion Date:April-2016

**City Corporation: Gazipur City Corporation (Tongi)**

Observation date :07/05/2016(material collection)

Name of Scheme: Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. Pack: CRDP/LGED/GCC/Tongi NCB/2014/W-01

Physical Status of the road: Good

Name of test: Gradation Test of stone chips – F.M 6.96 was found

Observation: F.M. Found as per specification

Source: BUET(BRTC) Laboratory

Current Status: Work is ongoing, progress 40%





**City Corporation: Gazipur City Corporation (Tongi)**

Observation date :07/05/2016

Name of Scheme: Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. (Ch. 0-1530m) Pack: CRDP/LGED /GCC/Tongi/NCB /2014/W-02

Physical Measurement : 3.70 m x 1560 m

Physical Status: Good

Name of test: Rebound Hammer Test – Strength

14 MPa was found for 7 days, curing is going on.

Observation: Strength found as per desired rate.

Current Status: Work is ongoing , progress 40%

**Pourashava: Manikgonj Pourashava**

Observation date :06/05/2016

Name of Scheme: Improvement of Road from Manikgonj Bus Stand to end Point of Pourashava & Ramjan Ali College Road via North side of Dr. Clinic (Ch. 0-850m). Pack. CRDP/LGED/Manikgonj /NCB/2013/W-02

Name of test: Sieve Analysis – F.M 2.61 was found.

Observation: As per specification result was found correct.

Source: BUET(BRTC) Laboratory

Current Status: Work is ongoing, progress 78.04%



**Pourashava : Manikgonj Pourashava**

Observation date : 06/05/2016

Name of Scheme: Improvement of Road from Manikgonj Bus Stand to end Point of Pourashava & Ramjan Ali College Road via North side of Dr. Clinic (Ch. 0-850m). Pack. CRDP/LGED/Manikgonj/ NCB/2013/W-02

Name of test: Rebound Hammer Test – Strength

18 MPa was found for 15 days , curing is going on

Observation: : Strength found as per desired rate

Current Status: Work is ongoing, progress 78.04%



**Pourashava: Manikgonj Pourashava**

Observation date : 06/05/2016

Name of Scheme Manikgonj Bus Stand to Ramjan Ali College (Ch. 275m) (W-02)

Physical Status: Good

Observation: Hinge did not maintain correctly. At the point of Engineering view one side would be fixed and other side would be free, but it did not maintain properly. Instructed to maintain it properly after rectification. However, other parts of the concrete strength was found as per specification.

Current Status: Work is ongoing, progress 78.04%



**Pourashava : Manikgonj Pourashava**

Observation date : 06/05/2016

Name of Scheme: Singair Biotikhola Road (Ch. 180m) (W-02)

Physical Status: Good

Observation: Work has completed as per design specification.

Name of test: DCP Test found as per specification  
CBR Value 176% was found.

DCP Test : Compaction and CBR value found correct in as per specification.

Work Completion Date: April-2016

**Pourashava: Manikgonj Pourashava**

Observation date : 06/05/2016

Name of Scheme: Bridge over Nawakandi Khal (W-02)

Observation: Clear Cover have to be of min. 1.5" but was not found at the top surface and also level not maintained properly.

Physical Measurement: Length of the bridge was found 48.05 m(O.K)

Current Status: Work is ongoing, progress 85%







**Pourashava : Manikgonj Pourashava**

Observation date :06/05/2016

Name of Scheme Bridge over Nawakandi Khal (W-02)

Length of Bridge : was found 48.05 m.

Observation: Centering Material such as bamboo and wooden poles have been used, but Steel props required to be used for this type of important structure.

Current Status: Work is ongoing , progress 85%

**Pourashava: Manikgonj Pourashava**

Observation date :06/05/2016

Name of Scheme: Improvement of Road from Baowe-apara More to west side of Singair Biti Khola road via Mendi Bagh Bridge near Tara Mia's house. Pack: CRDP/LGED/ Manikgonj/NCB/2013/W-02

Physical Measurement : Length of Bridge 48.05 m.

Name of test: Rebound Hammer Test –

Strength found: 35 MPa

Strength found as per specification.

Current Status: Work ongoing. Progress 85%



**Savar (Ashulia Urban Center)**

Observation date : 06/05/2016

Name of Scheme:20-mile to Jirabo.

(Ch.3+800m) Pack:

CRDP/LGED/Savar/ICB/2013/W-01

Name of test: Rebound Hammer Test –

Strength 21.5 MPa was found.

Observation: Work has completed as per design specification.

Work Completion Date: Oct-2015

**Pourashava: SavarPourashava**

Observation date : 06/05/2016  
Name of Scheme: Imp. of Road from Savar Thana Bus Stand to Nama Bazar via Savar Model Thana (Ch. 425m) (Lot-2)  
Name of test: Test DCP Test  
CBR Value 118% has found.  
Observation: found as per design and specification.  
Current Status: Work is ongoing, progress 42%



**Pourashava: Savar Pourashava**

Observation date:06/05/2016  
Name of Scheme: Imp. of Road from Savar Thana Bus Stand to Nama Bazar via Savar Model Thana (Ch. 425m) (Lot-2)  
Name of test: Gradation Test – F.M 6.97.(Material collecting in-situ state)  
Thickness was found correct. (Field Checking)  
Observation: working is going on according to design specification. Thickness was found correct.  
Source: BUET(BRTC) Laboratory  
Current Status: Work is ongoing, progress 42%



**Pourashava: Savar Pourashava**

Observation date :06/05/2016  
Name of Scheme: Improvement of Road from Pakija Textile Miles to Sahebagh Chowrasta (Ch.200m). Pack. CRDP/LGED /Savar/NCB/2014/W-01  
Name of test: Rebound Hammer Test  
Strength was found 21.5 MPa. As per specification found  
Observation: Work completed as per design specification.  
Work Completion Date: April-2016

**Pourashava: Sonargaon Pourashava**

Observation date :07/05/2016  
Name of Scheme: Imp. of road near Choiti Composite Ltd. (Ch. 1650m) Pack: CRDP/LGED/Sonargaon /NCB /2014/W-01  
Name of test: DCP Test  
CBR Value found 182%.  
Observation: according to design specification CBR and compaction strength was found correct.  
Work Completion Date: April-2016



**Pourashava: Sonargaon Pourashava**

Observation date: 07/05/2016  
Name of Scheme: Deck Girder Bridge over Tazpur Khal (Ch. +728m)  
Physical Measurement: Length 20 m  
Observation: The slope protection work of the bridge revealed some crack which was built by by the Block Placement, but the quality of original Structure has been found correct. Instructed to rectify.  
Work Completion Date: April-2016

**Pourashava: Sonargaon Pourashava**

Observation date:07/05/2016  
Name of Scheme: Construction of 20m long RC deck girder bridge (Ch. 0-728m) over Tajpur khal Tipordi. Pack. CRDP /LGED/Sonargaon/NCB/2014/W-01  
Physical Measurement :Length found 20 m  
Name of test: Rebound Hammer Test – Strength found 29 MPa.  
Observation: Found the strength as per specification.  
Work Completion time : April-2016



**Khulna City Region  
Khulna City Corporation**



**City Corporation :Khulna City Corporation**

Observation date 30/04/2016

Name of Scheme Labonchara, Khulna Ch.2300m (DW-02)

Physical Status: Good

Name of test: DCP Test –

CBR Value found 208 %

Observation: Found the CBR and compaction as per specification

Work Completion Date: Dec.2015

**City Corporation :Khulna City Corporation**

Observation date 30/04/2016

Name of Scheme: Rupsha River Crossing Area Improvement (Pack: CRDP/LGED/KCC/KfW/NCB/2015/W-08 (Bridge)

Name of test: Elongation Test MS bar. –

13% Elongation found.

Observation: according to design specification the test result was found correct.

Source: BUET(BRTC) Laboiratory.

Current Status: Work is ongoing, progress 25%



**Khulna City Corporation (the Inspection District Lab of LGED )**



**Pourashava: Mongla Pourashava**

Observation date 01/05/2016

Name of Scheme Improvement of Road from Khulna-Mongla Highway – Burirdanga Bridge Road Ch: 300m (iii). Pack: CRDP/LGED/Mongla/NCB/2014/W-03 (Lot-2)

Name of test: Proportion Test of Agg, and sand 54:46 was found.

Observation: according to design specification was found correct.

Source: LGED Laboratory Khulna.

Current Status: Work ongoing progress 89.87%



**Pourashava: Mongla Pourashava**

Observation date 11/04/2016

Name of Scheme Improvement of Road from Khulna-Mongla Highway to Lawdob Kheaghat Road. Pack: CRDP/LGED/Mongla/NCB/ 2014/W-03

Name of test: LAA Test – 34.02 have been found.

Observation: according to design specification was found correct.

Source: LGED Laboratory Khulna

Current Status: Work ongoing progress 69.87%

**Pourashava: Mongla Pourashava**

Observation date 01/05/2016

Name of Scheme Construction of 22.0M RCC Bridge at Burirdanga over Shala khal. Ch. 600m Pack: CRDP/LGED/ Mongla/ NCB/ 2014/W-03

Name of test: Rebound Hammer Test – Strength found 32 MPa.

Observation: according to design specification the strength was found correct.





**Pourashava:** Jhikargachha Pourashava  
**Observation date:**30/04/2016  
**Name of Scheme** Hospital Road beside Jessore-Benapole Road (W-01)  
**Observation:** work completed according to design and specification, visual quality of the work is good and width measurements were accurate.  
**Work Completion Date:** April-2016

**Pourashava:** Jhikargachha Pourashava  
**Observation date:**30/04/2016  
**Name of Scheme:** Hospital Road beside Jessore-Benapole Road (W-01)  
**Observation:** work completed according to design and specification, visual quality of the work is good and width measurements were found accurate.  
**Work Completion Date:** April-2016



### 6.3 Test of various Construction Material (collected from work sites) and their Results

| SL. No | Name of works / package No.                                                                                                                                                          | Description of sample/ Name | Name of Tests              | Results as per Specification | Test Results | Remarks |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------|------------------------------|--------------|---------|
| 1      | Improvement of Road from Khulna-Mongla Highway – Burirdanga Bridge Road Ch: 300m (iii). Pack: CRDP/LGED/Mongla/NCB/2014/W-03 (Lot-2)                                                 | Sub-base Layer              | Proportion Test(LGED)      | Agr: Sand 50:50              | 54:46        | OK      |
| 2      | Improvement of Road from Khulna-Mongla Highway to Lawdob Kheaghat Road Ch: 200m (ii). Pack: CRDP/LGED/Mongla/NCB/2014/W-03 (Lot-2)                                                   | Base Coarse                 | Grain size analysis (LGED) | % passing                    | As per range | OK      |
| 3      | Improvement of Road from Khulna-Mongla Highway to Lawdob Kheaghat Road. Pack: CRDP/LGED/Mongla/NCB/2014/ W-03 (Lot-2)                                                                | Coarse sand (Sylhet)        | F.M(LGED)                  | 2.50                         | 2.60         | OK      |
| 4      | Improvement of Road from Khulna-Mongla Highway – Burirdanga Bridge Road. Pack: CRDP/LGED/Mongla/ NCB /2014 /W-03                                                                     | Fine sand (SB layer)        | F.M(LGED)                  | 0.80                         | 1.29         | OK      |
| 5      | Improvement of Road from Khulna-Mongla Highway to Lawdob Kheaghat Road. Pack: CRDP/LGED/Mongla/ NCB/ 2014/W-03                                                                       | Base Coarse                 | Grain size analysis (LGED) | % passing                    | As per range | OK      |
| 6      | Improvement of Road from Khulna-Mongla Highway to Lawdob Kheaghat Road. Pack: CRDP/LGED/Mongla/NCB/ 2014/W-03                                                                        | B. coarse Brick chips       | LAA (LGED)                 | 40%                          | 34.02%       | OK      |
| 7      | Rehabilitation of Riverfront Road under Khulna City Corporation. Pack: CRDP/LGED/KCC/KfW/NCB /2015/W-06                                                                              | Sub-base Layer              | CBR (LGED)                 | 35%                          | 133%         | OK      |
| 8      | Rehabilitation of Riverfront Road under Khulna City Corporation. Pack: CRDP/LGED/KCC/KfW/NCB/ 2015/W-06                                                                              | Base Coarse                 | CBR (LGED)                 | 80%                          | 208%         | OK      |
| 9      | Construction of 22.0M RCC Bridge at Burirdanga over Shala khal. Ch. 600m Pack: CRDP/LGED/Mongla/ NCB/ 2014/W-03                                                                      | Girder                      | Hammer Test (LGED)         | 25 MPa                       | 32 MPa       | OK      |
| 10     | Improvement of Road from Manikgonj Bus Stand to end Point of Pourashava & Ramjan Ali College Road via North side of Dr. Clinic (Ch. 0-850m). Pack. CRDP/LGED/Manikgonj/NCB/2013/W-02 | Sylhet sand                 | Sieve Analysis (BUET)      | FM 2.50                      | 2.61         | OK      |
| 11     | Improvement of Road from Baoweapara More to west side of Singair Biti Khola road via Mendi Bagh Bridge ... Tara Mia's house. Pack: CRDP/LGED/Manikgonj/NCB/ 2013/W-02                | Sylhet Sand                 | Sieve Analysis (BUET)      | FM 2.50                      | 1.98         | Not OK  |
| 12     | Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. Pack: CRDP/LGED/GCC/Tongi NCB/2014/W-01                                                                            | Sylhet Sand                 | Sieve Analysis (BUET)      | FM 2.50                      | 2.98         | OK      |
| 13     | Improvement of Road from Baoweapara More to west side of Singair Biti Khola road via Mendi Bagh Bridge ..... Tara Mia's house. Pack: CRDP/LGED/Manikgonj/NCB/ 2013/W-02              | Stone Chips                 | LAA (BUET)                 | 30%                          | 30%          | OK      |
| 14     | Imp. of Road from Savar Thana Bus Stand to Nama Bazar via Savar Model Thana (Ch. 425m) (Lot-2)                                                                                       | Brick chips                 | Gradation (BUET)           | FM 7 -7.50                   | 6.97         | OK      |
| 15     | Improvement of Road from Manikgonj Bus Stand to end Point of Pourashava & Ramjan Ali College Road via North side of Dr. Clinic (Ch. 0-850m). Pack. CRDP/LGED/Manikgonj/NCB/2013/W-02 | Stone chips                 | Gradation (BUET)           | FM 7-7.50                    | 7.51         | OK      |
| 16     | Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. Pack: CRDP/LGED/GCC/Tongi NCB/2014/W-01                                                                            | Stone chips                 | Gradation (BUET)           | FM 7-7.50                    | 6.96         | OK      |
| 17     | Rupsha River Crossing Area Improvement (Pack: CRDP/LGED/KCC/KfW/NCB/2015/W-08 (Bridge)                                                                                               | 16mm MS Bar                 | Elongation Test (BUET)     | 14%                          | 13%          | OK      |

### Results of DCP test. Those tests done directly in field level.

| Sl. No | Name of works / package No.                                                                                                 | Description of sample / Name | Name of Tests | Results as per Specification | Test Results | Remarks |
|--------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------|------------------------------|--------------|---------|
| 1      | Imp. of Road from Savar Thana Bus Stand to Nama Bazar via Savar Model Thana (Ch. 425m). Pack: CRDP/LGED/Savar/NCB/2014/W-02 | Base-Coarse                  | DCP           | 80%                          | 118%         | OK      |
| 2      | 20-mile to Jirabo. (Ch.3+800m) Pack: CRDP/LGED/Savar/ICB/2013/W-01                                                          | WBM                          | DCP           | 80%                          | 214%         | OK      |
| 3      | Imp. of road near Choiti Composite Ltd (Ch. 1650m) Pack: CRDP /LGED/Sonargaon/NCB /2014 /W-01                               | WBM                          | DCP           | 80%                          | 182%         | OK      |
| 4      | Imp. of road near Choiti Composite Ltd (Ch. 1650m) Pack: CRDP /LGED/Sonargaon/NCB /2014 /W-01                               | Sub-Base                     | DCP           | 35%                          | 285%         | OK      |
| 5      | Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. (Ch. 1650m) Pack: CRDP/LGED/GCC/Tongi/NCB/2014/W-06       | Base-Coarse                  | DCP           | 80%                          | 195%         | OK      |
| 6      | Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. (Ch. 1750m) Pack: CRDP/LGED/GCC/Tongi NCB/2014/W-01       | Base-Coarse                  | DCP           | 80%                          | 206%         | OK      |

### Results of Rebound Hammer test those are directly competed in field:

| SL. No | Name of works / package No.                                                                                                                               | Description of sample/ Name | Name of Tests       | Results as per Specification | Test Results     | Remarks         |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------|------------------------------|------------------|-----------------|
| 1      | Improvement of Road from Pakija Textile Miles to Sahebagh Chowrasta (Ch.200m). Pack. CRDP/LGED/Savar/NCB/2014/W-01                                        | Top layer                   | Rebound Hammer Test | 21 MPa                       | 21.5 MPa         | OK              |
| 2      | 20-mile to Jirabo. (Ch.0-1396m) Pack: CRDP/LGED/Savar/ICB/2013/W-01 (Box Culvert)                                                                         | Abutment/ Wing Wall         | Rebound Hammer Test | 25 MPa                       | 32 MPa           | OK              |
| 3      | Construction of 20m long RC deck girder bridge (Ch. 0-728m) over Tajpur khal Tipordi. Pack. CRDP /LGED/Sonargaon/NCB/2014/W-01                            | Abutment SE                 | Rebound Hammer Test | 25 MPa                       | 29 MPa           | OK              |
| 4      | Construction of 20m long RC deck girder bridge (Ch. 0-728m) over Tajpur khal Tipordi. Pack. CRDP /LGED/Sonargaon/NCB/2014/W-01                            | Abutment NE                 | Rebound Hammer Test | 25 MPa                       | 27 MPa           | OK              |
| 5      | Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. (Ch. 0-1560m) Pack: CRDP/LGED/GCC/Tongi NCB/2014/W-02                                   | Top Layer                   | Rebound Hammer Test | 25 MPa                       | 13 MPa           | 7 days strength |
| 6      | Improvement of Road from Board bazar to Bottola (Lot-2) RCC Road. (Ch. 0-1530m) Pack: CRDP/LGED/GCC/Tongi NCB/2014/W-02                                   | Top Layer                   | Rebound Hammer Test | 25 MPa                       | 14 MPa           | 7 days strength |
| 7      | Construction of RC Drain start from Shibbari Afaz Bhaban to Hospital Bridge. (Ch. 200m) Pack. CRDP/LGED/GCC/Gazipur/NCB/2012/W-01                         | North Wall S. Wall          | Rebound Hammer Test | 25 MPa                       | 27 MPa<br>31 MPa | OK              |
| 8      | Construction of RC Drain start from Noor General Store to Harinal Road Box Culvert via Rail Bridge (Ch. 0-533m) Pack. CRDP/LGED/GCC/Gazipur/NCB/2012/W-02 | Top Layer                   | Rebound Hammer Test | 21 MPa                       | 23 MPa           | OK              |

Direct field tests result shows that quality found from these are 100 percent and the material collected directly from the field and Test results have been found as per approved Specification except one. That's material (Sylhet sand) is used in the Manikganj 48.05 m span Bridge and it's results is considered a bad result i.e 6% only. ( Pack: CRDP / LGED / Manikganj / NCB / 2013 / W-02 ).



## Chapter - 7

### Review of the change of socio-economic status in the project area

#### Urban Development " Key Informant Interviews (KII) " / survey data base analysis

In Dhaka and Khulna region a total of 150 " Key Informant Interviews (KII) " / took part in the survey. Twenty people participated in the Dhaka region has the highest number in Shingair thana. Number of participants list was closer to Manikgonj (20) and dhamrai (16) Upazila. On the other hand there was a minimum of 6 participants in Narayanganj City Corporation. Jessore and Khulna under Khulna Region in the maximum number of 10 people have participated. Moreover, the participants were minimum of 7 from kapilamuni, keshabpur and Rupsha.

**Table 1: " Key Informant Interviews (KII) " / survey participants Table**

| Dhaka region                    | Numbers of participants | Khulna region          | Numbers of participants |
|---------------------------------|-------------------------|------------------------|-------------------------|
| Dhaka Banani                    | 10                      | Jessore Pawroshova     | 10                      |
| Dhamrai                         | 16                      | Jhikargacha Pawroshova | 9                       |
| Manikgonj                       | 20                      | Kopilamunir            | 7                       |
| Narayanganj City Corporation    | 6                       | Keshabpur              | 7                       |
| Savar Pawroshova                | 10                      | Khulna                 | 10                      |
| Savar Upazila                   | 10                      | Rupsha                 | 7                       |
| Shingair                        | 22                      |                        |                         |
| Gazipur City Corporation        | 6                       |                        |                         |
| Total participated in the Quran | 100                     | Total participants     | 50                      |

Survey data sheet were divided into six parts and collected from city region development project area.

For example:

1. Influence of city region development project for increasing human facilities.
2. For improving the City / town growth potential role in the city region development projects
3. The impact of the economic potential in City / town region for the project development
4. To improve the environmental impact due urban sub-projects of City region development project
5. City / town planning sub-projects in the city region development impact
6. To strengthen the of Local Government institutions for City region development projects.

According to above categories the information have received ,mentioned below:

**In the future the city / town of the potential impact of the project to increase access to the city region due to development project.**

**Table II: In Dhaka region (KII) according to participants at the city / town to increase the benefits of the project impact**

|                                                                                                          |                           | Bad  | Satisfactory | Good | Total respondents |
|----------------------------------------------------------------------------------------------------------|---------------------------|------|--------------|------|-------------------|
| Preservation of historical monuments and enlargement                                                     | The number of respondents | 3    | 79           | 5    | 88                |
|                                                                                                          | Percentage (%)            | 3.9  | 90.2         | 5.9  | 100.0             |
| Roads development, repairs, city region development, river dredging and other infrastructure development | The number of respondents | 7    | 59           | 29   | 95                |
|                                                                                                          | Percentage (%)            | 7.3  | 61.8         | 30.9 | 100.0             |
| Water supply and drainage                                                                                | The number of respondents | 7    | 64           | 26   | 97                |
|                                                                                                          | Percentage (%)            | 7.1  | 66.1         | 26.8 | 100.0             |
| Connecting with the canals and rivers                                                                    | The number of respondents | 26   | 41           | 24   | 91                |
|                                                                                                          | Percentage (%)            | 28.3 | 45.3         | 26.4 | 100.0             |
| Replacement of bus terminal                                                                              | The number of respondents | 31   | 36           | 22   | 90                |
|                                                                                                          | Percentage (%)            | 34.6 | 40.4         | 25.0 | 100.0             |
| Waste management                                                                                         | The number of respondents | 16   | 41           | 33   | 90                |
|                                                                                                          | Percentage (%)            | 17.3 | 46.2         | 36.5 | 100.0             |
| Road Protection: Road Signs and Symbols and Signalized Traffic System                                    | The number of respondents | 22   | 34           | 36   | 93                |
|                                                                                                          | Percentage (%)            | 24.1 | 37.0         | 38.9 | 100.0             |
| Land Acquisition and Rehabilitation                                                                      | The number of respondents | 9    | 48           | 33   | 90                |
|                                                                                                          | Percentage (%)            | 9.6  | 53.8         | 36.5 | 100.0             |

In order to facilitates the work of the Dhaka-based analysis is apparent from the opinion that the projects will contribute to the growth of kinds of facilities to take part in the majority participants. About 90 percent of participants opinion that the projects will help to preserve of historic structures .66 percent share their opinions about water supply and drainage will be improved .Moreover, 62 percent of the participant’s opinion that the development of roads, repairs, city Improvement and River Dredging including the development of infrastructure which will be satisfactory.

Chart 1: Dhaka region (KII), according to participants of increase the Town / City of the potential impact of the project.

**Table 3: Khulna region KII , according to participants at the city / town to increase the benefits of the project impact**

|                                                                                                          |                           | Bad | Sametmasajanaka | Good | Total respondents |
|----------------------------------------------------------------------------------------------------------|---------------------------|-----|-----------------|------|-------------------|
| Preservation of historical monuments and enlargement                                                     | The number of respondents | 0   | 10              | 17   | 28                |
|                                                                                                          | Percentage (%)            | 0.0 | 37.5            | 62.5 | 100.0             |
| Roads development, repairs, city region development, river dredging and other infrastructure development | The number of respondents | 2   | 3               | 41   | 47                |
|                                                                                                          | Percentage (%)            | 3.7 | 7.4             | 88.9 | 100.0             |
| Water supply and drainage                                                                                | The number of respondents | 2   | 2               | 41   | 45                |
|                                                                                                          | Percentage (%)            | 3.8 | 3.8             | 92.3 | 100.0             |
| Connecting with the canals and rivers                                                                    | The number of respondents | 0   | 3               | 33   | 36                |
|                                                                                                          | Percentage (%)            | 0.0 | 9.5             | 90.5 | 100.0             |
| Replacement of bus terminal                                                                              | The number of respondents | 2   | 2               | 24   | 28                |
|                                                                                                          | Percentage (%)            | 6.3 | 6.3             | 87.5 | 100.0             |
| Waste management                                                                                         | The number of respondents | 0   | 3               | 22   | 26                |
|                                                                                                          | Percentage (%)            | 0.0 | 13.3            | 86.7 | 100.0             |
| Road Protection: Road Signs and Symbols and Signalized Traffic System                                    | The number of respondents | 0   | 9               | 19   | 28                |
|                                                                                                          | Percentage (%)            | 0.0 | 31.3            | 68.8 | 100.0             |
| Land Acquisition and Rehabilitation                                                                      | The number of respondents | 0   | 14              | 12   | 26                |
|                                                                                                          | Percentage (%)            | 0.0 | 53.3            | 46.7 | 100.0             |

### **Socio-economic condition review:**

Highlighting the changes in the socio-economic conditions the consulting firm appointed ten data collectors. The total Nos. data collected by them from house hold and control group survey was 2115. Information from Dhaka and Khulna city region area they collected. They visited various sub-projects areas from infrastructure-based socio-economic change due development project taken in the project areas. In accordance with the specific questionnaire they collected information. 9 out of 10 people distributed as the data collectors, and 1 person was appointed as coordinator.

- 01 Dhaka North City Corporation, Savar pawroshava, Savar Upazila,
- 02 Khulna City Corporation, Rupsha upazila, paikgachha district,
- 03 Narayanganj City Corporation, Sonargaon pawroshava, Narayanganj Sadar,
- 04 Gazipur City Corporation, Gazipur Sadar Upazila, sripur district,
- 05 Manikganj pawroshava, Dhamrai upazila, Singair pawroshava,
- 06 Jessore pawroshava, keshabpur upazila, manirampur Upazila,
- 07 Dumuria upazila, terokhada Upazila,
- 08 Sarankhola upazila, moralaganja Upazila, Mongla Upazila
- 09 Jhikargachha upazila, Jhikargachha pawroshava, sarasa upazila, Chougacha Upazila

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The survey questionnaire was given in Annex 6, to obtain the information through statistical analysis of the software which is SPSS.

Urban Development household survey data analysis:

Dhaka and Khulna region through the household survey got 1210, and 905 participants (total 2115) in relation to urban they collected data on their socio-economic development. On the other hand their socio-economic development due to the improvement of the city infrastructure, the impact of the results obtained from the data is mentioned below:

**As a result of the roads construction ,the socio-economic conditions :**

**What type of roads have been built?**

From the Beneficiaries of the 202 people and from the control group 135 (total 337) in their respective areas to collect information about road construction. Entire regions of the beneficiaries and the control group of 305 people, 202 people (507 people in total) for the construction of roads in their respective areas to collect information about you.

**Table 4: Dhaka and Khulna regions, any construction of roads under the project or not?**

|               | The number of respondents |     |       |                |     |       | Percentage (%) |                      |     |                |     |
|---------------|---------------------------|-----|-------|----------------|-----|-------|----------------|----------------------|-----|----------------|-----|
|               | Beneficiaries Region      |     |       | Control Region |     |       | Total          | Beneficiaries Region |     | Control Region |     |
|               | Yes                       | Not | Total | Yes            | Not | Total |                | Yes                  | Not | Yes            | Not |
| Dhaka region  | 202                       | 0   | 202   | 54             | 81  | 135   | 337            | 100                  | 0   | 40             | 60  |
| Entire Region | 183                       | 122 | 305   | 51             | 152 | 202   | 507            | 60                   | 40  | 25             | 75  |
| Total         | 385                       | 122 | 507   | 105            | 233 | 337   | 844            | 76                   | 24  | 31             | 69  |

About 100 per cent of the beneficiaries of the roads have been constructed in Dhaka region. About 40 percent of participants in the control areas, roads have been constructed in the region, they said. About 60 percent of the beneficiaries participating in the Khulna region of the roads have been constructed in their area. Control group in the areas of road construction only 5 percent of the participants said.

### Road Work accuracy

**Table 5: Dhaka and Khulna regions, road construction work under the project is right?**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 162                  | 40  | 202   | 24             | 30  | 54    | 56    |
|               | Percentage (%)            | 80                   | 20  | 100   | 44             | 56  | 100   |       |
| Khulna Region | The number of respondents | 137                  | 46  | 183   | 18             | 33  | 51    | 234   |
|               | Percentage (%)            | 75                   | 25  | 100   | 35             | 65  | 100   |       |
| Total         |                           | 299                  | 86  | 385   | 42             | 63  | 105   | 490   |

Nearly 80 percent of the beneficiaries participating in the Dhaka region, the construction of roads in their area were correct. On the other hand, about 75 percent of the beneficiaries participating in the Khulna region's road-building in those areas, those were correct.

On the other hand, Dhaka region Control Group (whose area was road construction) road construction work, only 44 percent of the area were correct. Khulna region control group (those who did road construction areas), only 35 percent of the area of road construction work was correct.

**Table 6: Dhaka and Khulna regions, the construction of roads under the project benefitted the people or not?**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 00                   | The | 202   | 18             | 36  | 54    | 56    |
|               | Percentage (%)            | 99                   | 1   | 100   | 33             | 67  | 100   |       |
| Entire Region | The number of respondents | 156                  | 7   | 183   | 13             | 38  | 51    | 234   |
|               | Percentage (%)            | 85                   | 15  | 100   | 4              | 76  | 100   |       |
| Total         |                           | 356                  | 9   | 385   | 30             | 75  | 105   | 490   |

About 99 percent of the beneficiaries participating in the Dhaka region, due to construction of the construction of roads in their area communication system would be easier. On the other hand, about 85 percent of the beneficiaries participating in the Khulna region, the area of road construction has been found traveling facilities.

On the other hand, Dhaka region Control Group due to the construction of roads only 33 percent have gotten traveling facilities. In case of Khulna region control group (those only 4 percent got the traveling facilities due to the construction of roads

**Due to development change of socio-economic Development  
Generation of Future Marketing**

Almost 99 percent of the beneficiaries covered in the areas of road construction would get the advantage, because the area has been the marketing area due to that.

As compared to the control group, only 46 percent of the people with the construction of roads in the area has got advantage in marketing the agriculture produce. The control group, only 45 percent in that case due to the roads construction facilities in the area

**Table 7: Due to the Project in the Dhaka and Khulna regions, resulting in the creation of a chance to marketable product?**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 00                   | The | 202   | 5              | 9   | 54    | 56    |
|               | Percentage (%)            | 99                   | 1   | 100   | 46             | 54  | 100   |       |
| Entire Region | The number of respondents | 145                  | 38  | 183   | 3              | 8   | 51    | 234   |
|               | Percentage (%)            | 79                   | 1   | 100   | 45             | 55  | 100   |       |
| Total         |                           | 345                  | 40  | 385   | 30             | 57  | 105   | 490   |

**The price of agricultural products guarantee:**

Almost 93 percent of the beneficiaries covered in the areas of road construction, because of that agricultural products, farmers are getting the right price. In Khulna region nearly 80 percent of the beneficiaries participating in the survey, they gave the opinion due to the construction of roads in their areas the agricultural products, farmers are getting the right price.

As compared to the control group, only 40 percent would be benefitted with the construction of roads The agricultural products, farmers are getting the right price. On the other hand, only 39 percent of Khulna’s control group, as a result of the construction of roads, farmers are getting the right price of their agricultural products.

**Table 8: Project Dhaka and Khulna regions, resulting in the creation of opportunities to farmers in the area now**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 188                  | 14  | 202   | 22             | 32  | 54    | 256   |
|               | Percentage (%)            | 93                   | 7   | 100   | 40             | 60  | 100   |       |
| Entire Region | The number of respondents | 146                  | 37  | 183   | 20             | 31  | 51    | 234   |
|               | Percentage (%)            | 80                   | 20  | 100   | 39             | 61  | 100   |       |
| Total         |                           | 334                  | 51  | 385   | 30             | 63  | 105   | 490   |

**Far away from the country's major cities, office / court opportunity**

Almost 97 percent of the beneficiaries covered in the areas of road construction, because of more distance from their place to the, city office had the opportunity to go to court. Khulna region, nearly 64 percent of the beneficiaries participating due to the construction of their road away from the major cities, office / had the opportunity to go to court.

In contrast, the control group, only 33 percent of the area with the construction of a road from area got the opportunity to go to court. On the other hand, only 35 percent of Khulna's control group got the opportunity to go to court.

**Table 9: Projects in Dhaka and Khulna regions away from their place, resulting in the creation of a chance to office / court opportunity**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 196                  | 6   | 202   | 36             | 18  | 54    | 256   |
|               | Percentage (%)            | 97                   | 3   | 100   | 67             | 33  | 100   |       |
| Khulna Region | The number of respondents | 117                  | 66  | 183   | 18             | 33  | 51    | 234   |
|               | Percentage (%)            | 64                   | 36  | 100   | 35             | 65  | 100   |       |
| Total         |                           | 313                  | 72  | 385   | 30             | 51  | 105   | 490   |

**In big cities the chance to go for health care**

Almost 95 percent of the beneficiaries covered in the public health service in the area of road construction, being able to go to the big cities. In Khulna region, nearly 63 percent of the beneficiaries participating got opportunity to get the public health service in the area of road construction, being able to go to the big cities.

As compared to the control group, only 45 percent of the people with the construction of roads in the area for the public health services they can come to town. On the other hand, Khulna region Control Group (whose area have the construction of roads), only 30 percent would get public health services in the area for the construction of the road by coming to the big cities.

**Table 10:** As a result of the project, in Dhaka and Khulna regions to create opportunities for the service of public health in the area did not require to come to the big city?

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 192                  | 10  | 202   | 24             | 30  | 54    | 256   |
|               | Percentage (%)            | 95                   | 5   | 100   | 45             | 55  | 100   |       |
| Entire Region | The number of respondents | 115                  | 68  | 183   | 15             | 35  | 51    | 234   |
|               | Percentage (%)            | 63                   | 37  | 100   | 30             | 70  | 100   |       |
| Total         |                           | 307                  | 78  | 385   | 30             | 65  | 105   | 490   |

### **Street shops and industries on both sides**

Nearly 80 per cent of beneficiaries covered in the region that due to the road construction in the area, on both sides of the roads shops and industries has been developed. In Khulna region, nearly 77 percent of the beneficiaries got the advantages making shops up on both sides of the road, only 45 percent of the people said due to the construction of roads industries have been developed. On the other hand, Khulna region control group, only 40 per cent of people in the area said due the construction of the road the shops and industries have been developed in both sides of the roads.

**Table 11 :** As a result of the project, what has developed in the area of Dhaka and Khulna regions to create opportunities on both sides of street shops and industries?

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 162                  | 40  | 202   | 24             | 30  | 54    | 256   |
|               | Percentage (%)            | 80                   | 20  | 100   | 45             | 55  | 100   |       |
| Entire Region | The number of respondents | 141                  | 42  | 183   | 20             | 30  | 51    | 234   |
|               | Percentage (%)            | 77                   | 23  | 100   | 40             | 60  | 100   |       |
| Total         |                           | 303                  | 82  | 385   | 30             | 60  | 105   | 490   |

### **Action-employment creation**

About 9 percent of the beneficiaries participating in the Dhaka region of road construction. Because those people working in the area of resource has been created. In Khulna region beneficiaries almost 65 per cent feel that their country was road construction in the area has resulted in the action-employment.

On the other hand, Dhaka region Control Group (construction of roads in the area did not), only 4 percent of the people working in the area of resource has been created as a result of road construction. Control of the Khulna region (the area of road construction was) only 30 percent of people in the area with the construction of the road-resource has been created.



**Table 1 : Project in Dhaka and Khulna region to create employment opportunities as a result of what has been working in the area?**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 186                  | 16  | 202   | 23             | 31  | 54    | 256   |
|               | Percentage (%)            | 92                   | 8   | 100   | 42             | 58  | 100   |       |
| Entire Region | The number of respondents | 119                  | 64  | 183   | 15             | 35  | 51    | 234   |
|               | Percentage (%)            | 65                   | 35  | 100   | 30             | 70  | 100   |       |
| Total         |                           | 305                  | 80  | 385   | 30             | 67  | 105   | 490   |

Finally, the beneficiary country in the region as a result of the road construction project group members of the control group than that in most cases as a result of road-building opportunity to see the results. In marketing of the produce of the area covered in the beneficiary group more than two members of the control group to receive feedback from the facility. Entire regions of the beneficiary group members are less than 1.5 of the multiplication control group receiving the feedback from the facility. Opportunity to go to the hospital, and employment opportunities in the region, both in Dhaka and Khulna beneficiary group of the multiplication is more than two members of the Control Group had received more than the benefits.

**Drain because of changes in the socio-economic status review: has the drain been built?**

In Dhaka region control group of 115 people in 17 regions of the beneficiary (total 287 people) in their respective areas of drain collecting information..In Khulna regions of the beneficiaries and the control group were 09 139 people (total 348) in their respective areas of drain collecting information about you.

In Dhaka region 98 per cent of the beneficiaries were the construction of the drain area. Control of the drain regions of the country were about 0 per cent. About 47 percent of the beneficiaries participating in the Khulna region to the drain region has been built. Only 10 percent of participants in the control areas in the region have been built to drain.

**Table 13 : Has Dhaka and Khulna regions, the project been built under the drain?**

|               | The number of respondents |     |       |                |     |       |       | Percentage (%)       |     |                |     |
|---------------|---------------------------|-----|-------|----------------|-----|-------|-------|----------------------|-----|----------------|-----|
|               | Beneficiaries Region      |     |       | Control Region |     |       | Total | Beneficiaries Region |     | Control Region |     |
|               | Yes                       | Not | Total | Yes            | Not | Total |       | Yes                  | Not | Yes            | Not |
| Dhaka region  | 169                       | 3   | 172   | 23             | 92  | 115   | 287   | 98                   | 2   | 20             | 80  |
| Entire Region | 98                        | 111 | 209   | 14             | 125 | 139   | 348   | 47                   | 53  | 10             | 90  |
| Total         | 267                       | 114 | 381   | 37             | 217 | 254   | 635   | 70                   | 30  | 15             | 85  |

### Drain standing water

In Dhaka region nearly 79 percent of the beneficiaries covered the drain because logging has reduced their areas. In Khulna district about 44 percent of the beneficiaries in the region because the drain water logging in their areas reduced.

On the other hand the control region (the area of the drain was) only 33 percent of the drain being reduced logging. Control of the Khulna region (the area of the drain) to 35 percent decrease in the drain being water logging.

**Table 14 : Is the project in Dhaka and Khulna regions, the drain decreased because of water logging?**

| Regions       |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 133                  | 35  | 169   | 8              | 15  | 23    | 192   |
|               | Percentage (%)            | 79                   | 21  | 100   | 33             | 67  | 100   |       |
| Entire Region | The number of respondents | 43                   | 55  | 98    | 5              | 9   | 14    | 112   |
|               | Percentage (%)            | 44                   | 56  | 100   | 35             | 65  | 100   |       |
| Total         |                           | 176                  | 90  | 267   | 30             | 24  | 37    | 304   |

### Benefits construction of drain

**Table 15 : What is the benefit of Beneficiaries of the project area as a result of the construction of drain regions of Dhaka and Khulna Group?**

|               |                           | There is no advantage | Mobility benefit | Water will go away | Reduce Environmental pollution | To improve the environment | Have water drainage facilities | The decrease in water-borne diseases | Total Respondent |
|---------------|---------------------------|-----------------------|------------------|--------------------|--------------------------------|----------------------------|--------------------------------|--------------------------------------|------------------|
| Dhaka region  | The number of respondents | 0                     | 50               | 134                | 60                             | 75                         | 50                             | 80                                   | 169              |
|               | Percentage (%)            | 0                     | 30               | 79                 | 36                             | 44                         | 30                             | 47                                   | 100              |
| Entire Region | The number of respondents | 10                    | 50               | 40                 | 35                             | 25                         | 29                             | 50                                   | 98               |
|               | Percentage (%)            | 10                    | 51               | 41                 | 36                             | 26                         | 30                             | 51                                   | 100              |

In Dhaka Region beneficiaries of 79 percent of participants that drain their area has decreased because of water logging. About 47 percent think drain areas because of their reduced water-borne diseases.

Beneficiaries of the Khulna district, about 51 percent of those participating in the drain area because traffic will benefit and reduced water-borne diseases .Beneficiaries of the nearly 41 percent think their country because logging has reduced the drain.

On the other hand at a Dhaka control region, only 57 percent of the drain being reduced logging. On the other hand control of the region Khulna 36 Percent decrease in the drain being water logging.

**Bridges / culverts because of changes in the socio-economic status review:  
Have bridges / culverts been built?**

Beneficiaries of the capital region, 83 people and Control Group 5,3 others (a total of 136 people) in their respective areas to collect information about road construction. Entire regions of the beneficiaries of the 119 members and the control group of 79 people (total 198 ) in their respective areas of bridges / culverts information is collected.

**Table 16 : Have Dhaka and Khulna regions, the project bridges / culverts constructed or not?**

|               | The number of respondents |     |       |                |     |       |       | Percentage (%)       |     |                |     |
|---------------|---------------------------|-----|-------|----------------|-----|-------|-------|----------------------|-----|----------------|-----|
|               | Beneficiaries Region      |     |       | Control Region |     |       | Total | Beneficiaries Region |     | Control Region |     |
|               | Yes                       | Not | Total | Yes            | Not | Total |       | Yes                  | Not | Yes            | Not |
| Dhaka region  | 81                        | 2   | 83    | 21             | 32  | 53    | 136   | 98                   | 2   | 40             | 60  |
| Khulna Region | 65                        | 54  | 119   | 20             | 59  | 79    | 198   | 55                   | 45  | 25             | 75  |
| Total         | 147                       | 55  | 202   | 41             | 91  | 132   | 334   | 73                   | 27  | 31             | 69  |

The beneficiaries in Dhaka region of 98 percent of the area of the bridge / culvert have been built. About 40 percent of participants in the control area, bridge / culvert were built. The beneficiaries of Khulna region, nearly 55 percent of the participants said their country bridge / culvert has been built. Only 5 percent of the participants in the control area, bridge / culvert has been built.

**Bridges / culverts constructed as a result of flying**

**Table 17 : Dhaka and Khulna regions, the project bridges / culverts to the construction of the facility or not?**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 81                   | 1   | 81    | 7              | 14  | 21    | 103   |
|               | Percentage (%)            | 99                   | 1   | 100   | 35             | 65  | 100   |       |
| Entire Region | The number of respondents | 56                   | 10  | 65    | 13             | 15  | 20    | 85    |
|               | Percentage (%)            | 85                   | 15  | 100   | 25             | 75  | 100   |       |
| Total         |                           | 136                  | 11  | 147   | 30             | 29  | 41    | 188   |

Nearly 99 percent of beneficiaries covered region of the recipient country to bridge / culvert has the advantage of being a movement. On the other hand, in Khulna region about 85 percent of the participants think the advantage their beneficiaries.

On the other hand, Dhaka region control group (those who did road construction areas), only 35 percent of the construction of the road has been traveling facilities. Khulna region control group (those in road construction lakate did), only 5 percent of the construction of the road has been traveling facilities.

**As to the creation of opportunities for socio-economic development  
Produced in the area of marketing**

In Dhaka region beneficiaries almost 95 percent think their country of bridges / culverts have the advantage of being in the marketing of the produce. In Khulna region nearly 80 percent of the participants think their country of bridges /culverts have the advantage of being in the marketing of the produce.

Dhaka region relatively Control Group ,only 40 percent of the bridges / culverts construction of the facility as a result of the marketing of the produce of the area. The control group , only 5 to 8 percent of the bridges/culverts have been the construction of facilities for marketing of the produce of the area.

**Table 18 : Project in Dhaka and Khulna regions, resulting in the creation of a chance to produce a marketable product been helpful?**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 77                   | 4   | 81    | 8              | 13  | 21    | 103   |
|               | Percentage (%)            | 95                   | 5   | 100   | 40             | 60  | 100   |       |
| Entire Region | The number of respondents | 52                   | 13  | 65    | 11             | 8   | 20    | 85    |
|               | Percentage (%)            | 80                   | 20  | 100   | 58             | 42  | 100   |       |
| Total         |                           | 130                  | 17  | 147   | 30             | 21  | 41    | 188   |

**The price of agricultural products guarantee**

Almost 96 per cent of the beneficiaries are covered in their area bridges / culverts, because the price of agricultural products, farmers are getting. Nearly 85 percent of the beneficiaries participating in the Khulna region, their country of bridges / culverts, because the price of agricultural products, farmers are getting.

As compared to the control group, only 55 percent of the covered bridges / culverts construction of agricultural products, farmers are getting the right price. On the other hand, only 45 percent of the region Khulna Control bridges / culverts as a result of the value of agricultural products.

**Table 19 : As a result of the project, Dhaka and Khulna regions to create opportunities for farmers in the area different materials What is the right price?**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 78                   | 3   | 81    | 12             | 10  | 21    | 103   |
|               | Percentage (%)            | 96                   | 4   | 100   | 55             | 45  | 100   |       |
| Entire Region | The number of respondents | 56                   | 10  | 65    | 9              | 11  | 20    | 85    |
|               | Percentage (%)            | 85                   | 15  | 100   | 45             | 55  | 100   |       |
| Total         |                           | 134                  | 13  | 147   | 30             | 0   | 41    | 188   |

**Far away from the country's major cities, office / court the opportunity**

In Dhaka region around nearly 96 percent think their country of bridges / culverts construction being far away from the country's. Major cities, office / had the opportunity to go to court. Open not only the beneficiaries of nearly 77 percent think their country of bridges / culverts were built at a distance from the country's major cities, office / had the opportunity to go to court.

The covered area of control group, only 60 percent of the bridges / culverts away from the country's major cities as a result of the construction of office had the opportunity to go to court. Control of the Khulna region, only 40 percent of the bridges / culverts away from the country's major cities, as a result of the construction of office / had the opportunity to go to court.

**Table 20 : Project opportunities resulting from Dhaka and Khulna regions far away from the big cities in the country offices is going to court**

|               |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 78                   | 3   | 81    | 13             | 8   | 21    | 103   |
|               | Percentage (%)            | 96                   | 4   | 100   | 60             | 40  | 100   |       |
| Khulna Region | The number of respondents | 50                   | 15  | 65    | 8              | 12  | 20    | 85    |
|               | Percentage (%)            | 77                   | 23  | 100   | 40             | 60  | 100   |       |
| Total         |                           | 128                  | 18  | 147   | 30             | 0   | 41    | 188   |

**In big cities the chance to go for health care**

Almost 97 percent of the beneficiaries are covered in their area bridges / culverts in the area of public health service, being able to go to the big cities. Nearly 80 per cent of the beneficiaries of the country's area of Bridges / culverts in the area of public health service, being able to go to the big cities.

Dhaka region relatively Control Group (whose area bridges / culverts have been built) only 58 percent of the bridges / culverts in the area of public health services as a result of being able to come to the big cities. On the other hand, Khulna region Control Group (whose area bridges /

culverts have been built) only 38 percent of the bridges / culverts in the area of public health services as a result of being able to come to the big cities.

**Table 1 : Project to Dhaka and Khulna regions, resulting in the creation of opportunities for the public health service is able to come to the big city?**

| Regions       |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 79                   | 2   | 81    | 12             | 9   | 21    | 103   |
|               | Percentage (%)            | 97                   | 3   | 100   | 58             | 42  | 100   |       |
| Entire Region | The number of respondents | 52                   | 13  | 65    | 8              | 12  | 20    | 85    |
|               | Percentage (%)            | 80                   | 20  | 100   | 38             | 62  | 100   |       |
| Total         |                           | 131                  | 16  | 147   | 30             | 21  | 41    | 188   |

### **Street shops and industries on both sides**

In Dhaka region beneficiaries in school almost 85 percent think their country of bridges / culverts in the area of peace, because soul and shops on both sides of the industries have been developed. Open not only the beneficiaries of nearly 80 percent think their country of bridges /culverts in the area of peace, because soul and shops on both sides of the industries have been developed.

In Dhaka region Control Group ( In whose area bridges / culverts have been built) only 45 percent said due to the construction of the bridges / culverts in the area e shops and industries have been developed. On the other hand, Khulna region Control Group in (whose area bridges / culverts have been built) only 40 percent said due to the construction of bridges / culverts in the area both sides of the road shops and industries have been developed.

**Table 2 : what has developed due to the project resulted in the creation of shops and markets on both sides of street in Dhaka and Khulna regions?**

| Regions       |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 69                   | 12  | 81    | 10             | 12  | 21    | 103   |
|               | Percentage (%)            | 85                   | 15  | 100   | 45             | 55  | 100   |       |
| Entire Region | The number of respondents | 52                   | 13  | 65    | 8              | 12  | 20    | 85    |
|               | Percentage (%)            | 80                   | 0   | 100   | 40             | 60  | 100   |       |
| Total         |                           | 121                  | 5   | 147   | 30             | 4   | 41    | 188   |

**Table 3 : Project of Dhaka and Khulna region to create employment in the areas.**

| Regions       |                           | Beneficiaries Region |     |       | Control Region |     |       | Total |
|---------------|---------------------------|----------------------|-----|-------|----------------|-----|-------|-------|
|               |                           | Yes                  | Not | Total | Yes            | Not | Total |       |
| Dhaka region  | The number of respondents | 73                   | 8   | 81    | 9              | 12  | 21    | 103   |
|               | Percentage (%)            | 90                   | 10  | 100   | 44             | 56  | 100   |       |
| Entire Region | The number of respondents | 52                   | 14  | 65    | 7              | 13  | 0     | 85    |
|               | Percentage (%)            | 79                   | 21  | 100   | 36             | 64  | 100   |       |
| Total         |                           | 125                  | X   | 147   | 30             | 5   | 41    | 188   |

Finally, the beneficiary in the region as a result of the road construction project members of the control group in most cases got less opportunities..

Beneficiaries of the beneficiaries got more opportunities in every field say public health, communication agricultural produce marketing etc. due to the construction of roads, bridges culverts.

#### **Construction of the bus terminal changes in the socio-economic status**

Beneficiaries of the region, a total of 3 to 5 members in their respective areas from the bus terminal has been collecting information. The beneficiaries of the Khulna region, a total of 50 in their respective areas from the bus terminal construction information are collected.

**Table 4 : Construction of the bus terminal in Dhaka and Khulna regions under the project yes or not?**

|               | The number of respondents |     |       | Percentage (%) |     |
|---------------|---------------------------|-----|-------|----------------|-----|
|               | Yes                       | Not | Total | Yes            | Not |
| Dhaka region  | 35                        | 0   | 35    | 100            | 0   |
| Khulna Region | 50                        | 0   | 50    | 100            | 0   |
| Total         | 85                        | 85  | 85    | 100            | 0   |

At 100 percent of the area of the bus terminal has been built. On the other hand, Khulna region, 100 percent of the area of the bus terminal has been built.

**Table 5 : Construction of the bus terminal in Dhaka and Khulna regions**

|               | The number of respondents |     |       | Percentage (%) |     |
|---------------|---------------------------|-----|-------|----------------|-----|
|               | Yes                       | Not | Total | Yes            | Not |
| Dhaka region  | 33                        | 2   | 35    | 94             | 6   |
| Entire Region | 45                        | 5   | 50    | 90             | 10  |
| Total         | 78                        | 7   | 85    | 92             | 8   |

In Dhaka region about 94 percent people said their bus terminal has constructed .On the other hand, in Khulna region about 90 per cent said their bus terminal has constructed.

#### **Solar panels installed, as a result of that the socio-economic conditions changes (review)**

In Gazipur district, a total of 50 persons from 13 villages in the area said about the set up of their own solar panels.

**Table 6 : As a result of setting the solar panels what has changes came in your area?**

| As a result, the area of the solar panel What has changed? | The number of answers | Percentage (%) |
|------------------------------------------------------------|-----------------------|----------------|
| Mobility benefit                                           | 17                    | 34             |
| Safety improvement                                         | 15                    | 30             |
| Receiving more than light                                  | 22                    | 44             |
| Trade and commerce                                         | 19                    | 38             |
| No change                                                  | 2                     | 4              |
| Total respondents                                          | 50                    |                |

In Gazipur, about 44 percent of participants believe that the solar panels, resulting in more facilities than a light receiving. 38 percent of the business expansion produced.. 34 percent of the traffic advantage. Nearly 30 percent said security has improved. To conclude, as a result of setting up solar panel in the region of Gazipur, villagers have improved their quality of life

**River / canal dredging and re-excavation schemes changes of the socio-economic conditions**

In Rupsha Region in 5 village 50 people in their own area of the river/canal dredging and re-related information is asked.

**Is the River / canal dredging on?**

In Rupsha 96 percent of the participants said that their area to share information regarding canal and re-excavation .

**Table 7 : river / canal dredged and re-excavated?**

| River / canal dredging and re-did? | The number of answers | Percentage (%) |
|------------------------------------|-----------------------|----------------|
| Yes                                | 48                    | 96             |
| Not                                | 2                     | 4              |
| The number of respondents          | 50                    | 100            |

In Rupsha participants (those areas river/ re-excavation of canals have been dredged) 94 percent said that their share of the river / canal with water .

**Table 8 : river / canal water is that?**

| River / canal with water or not? | The number of answers | Percentage (%) |
|----------------------------------|-----------------------|----------------|
| Yes                              | 45                    | 94             |
| Not                              | 3                     | 6              |
| The number of respondents        | 48                    | 100            |



**River / canal dredging and re-excitation effect in socio-economic development**

**Table 9 : river / canal dredging and re-excitation of the boat using, is easy to navigate?**

| River / canal dredging and re-excitation of the boat, is easy to navigate? | The number of answers | Percentage (%) |
|----------------------------------------------------------------------------|-----------------------|----------------|
| Yes                                                                        | 45                    | 94             |
| Not                                                                        | 3                     | 6              |
| The number of respondents                                                  | 48                    | 100            |

In Rupsha participants (those areas river / re-excitation of canals have been dredged ) 94 per cent said that their share of the river / canal with water .

**Table 30 : Increase income for livelihood of boat drivers due to river / canal dredging and re-excitation or not?**

| River / canal dredging and re-excitation of the boat driver Increase income for livelihood? | The number of answers | Percentage (%) |
|---------------------------------------------------------------------------------------------|-----------------------|----------------|
| Yes                                                                                         | 40                    | 83             |
| Not                                                                                         | 8                     | 17             |
| The number of respondents                                                                   | 48                    | 100            |

In Rupsha participants (those areas t of / canal has been dredged and re-excavated) of 83 percent people the river user / canal dredging and re-excitation of the boat driver increased revenue .

**Table 31 : river / canal dredging and re-excitation Fish farmers to increase income?**

| River / canal dredging and re-excitation of the fish farmers to increase income? | The number of answers | Percentage (%) |
|----------------------------------------------------------------------------------|-----------------------|----------------|
| Yes                                                                              | 42                    | 87             |
| Not                                                                              | 6                     | 13             |
| The number of respondents                                                        | 48                    | 100            |

In Rupsha participants (those areas river/canal has been dredged and re-excitation) of 87 percent of the river/canal dredging and re-excitation of the fish farmers increase income.

### **Dam / river front rehabilitation as a result of socio-economic development**

Rupsha the participant's 90 percent of the dam as a result of the restructuring of the transportation facilities.

**Table 32 : What are the benefits of the project due to reconstruction resulting traffic and others?**

| As a result, the benefits of travel and has been to reconstruct the dam ananya? | The number of answers | Percentage (%) |
|---------------------------------------------------------------------------------|-----------------------|----------------|
| Yes                                                                             | 45                    | 90             |
| Not                                                                             | 5                     | 10             |
| The number of respondents                                                       | 50                    | 100            |

**Table 33 : How have you benefited people in the area as a result of the restructuring of the dam?**

| Reconstruct the dam as a result of how people in the area have benefited? | The number of answers | Percentage (%) |
|---------------------------------------------------------------------------|-----------------------|----------------|
| Financial improvement                                                     | 45                    | 90             |
| Fish farming has increased                                                | 44                    | 88             |
| Business benefits                                                         | 38                    | 76             |
| To carry business accessories                                             | 35                    | 70             |
| The number of respondents                                                 | 50                    | 100            |

In Rupsha per cent of the participants 90 percent said that the restructuring of the dam as a result of Their Finances has improved , 88 percent said that fish farming has increased.

**Table 34 : What are the effects of the strong dam reconstruction project?**

| The rebuilding of the dam project, what are the strong points? | The number of answers | Percentage (%) |
|----------------------------------------------------------------|-----------------------|----------------|
| Flood control                                                  | 50                    | 100            |
| Protected from salinity                                        | 50                    | 100            |
| Urban Development                                              | 45                    | 90             |
| To improve communication                                       | 48                    | 96             |
| The number of respondents                                      | 50                    | 100            |

In Rupsha 100 percent of the participants mentioned flood control and protect the city from salinity, dam reconstruction project fit with those aspects .

A total of 10 FGD meeting held in two city regions. . As a result of this project implementation, communications, water logging, socio-economic development, the environment development and education development components would be benefitted. Everywhere participants recommended for future expansion of the project.

## Chapter - 8

### Review of the Project's Strength, weakness, opportunity, and Threats

#### 8.1 Strength of Project:

1. Considering the impact of climate change during implementation of infrastructure which added to a desired level
2. Transforming threat into opportunity, for example ,the development of Mongla river side and Marine Drive through the embankment improvement created environment-friendly road communication and also created the tourist facilities.
3. The concept of consideration of planned physical infrastructure development in urban areas concerned, as a result of adoption of that the foundation of planned development of physical infrastructure in urban regions is established
4. For future development programme concept plan in urban centers, it will be very effective for balanced development in urban areas.
5. The water-logging of the urban centres of Dhaka and Khulna city regions has been alleviated to great extent.
6. The Gazipur City Corporation has got the sanitation and drinking water facilities to a great extent.
7. The socio-economic conditions of people of Gacha and Pubail wards Under Gazipur City Corporation (fried area) improved due to power supply through solar light.
8. Management development program of pourashvas have been formed for better running of pourashavas
9. Training has been provided to manpower of porashavas. As a result, their skills have increased.
10. The Coordination Committee meetings of TLCC and WLCC held regularly.

#### 8.2 Project weakness or negative Impact:

1. During improvement of main roads, the Small sizes lane/road are not brought for development.
2. Drainages are developed without taking drainage master plan into consideration.
3. Small drains are not connected during the main drain improvement.
4. Slope protection works of road construction works in urban roads sometimes not taken into consideration.

#### 8.3 Opportunity of the project:

1. Spontaneous co-operation found from local representatives during Implementation of the project.
2. Strong determination of the government to the development of city regions.

#### 8.4 Threat of the projects:

1. Designs have prepared without considering saline affect for the structures in saline areas(say for Khulna region), there would be some risks for the structural longevity for saline area's structures.
2. Without considering the development of connected drains main drains are constructed, as a result there would risks for of artificial flood and water logging.
3. Loaded trucks are passing beyond Approved design loading limit for the the roads.

## **Chapter - 9**

### **Major issues and information (Major Findings)**

#### **9.1 Less progress of the Project:**

1. Management, Design and Supervision (MDS) consultants appointment delayed by one year i.e they started their works from July 2012 . As a result of urban infrastructure development activities started one year after the start of the project.
2. Change of schedule rates and involvement of SIDA's Finance( Grants) in the project activities lately ; due to that project's some components delayed which hampers the overall progress of the project.
3. Heritage buildings Restoration item of the project has been stopped during JRM (Joint Review Mission) tour from 15- 23 April 2015, because they opined this item of work does not match with the main purpose (scope) of the project., with their recommendation this item of work is suspended.

#### **9.2 Major Findings**

1. The financial progress Civil Works in Dhaka and Khulna region are 54% and 53% respectively. Progress of Goods and Services are 85% and 85% respectively. The cumulative progress o the project is 54%..
2. Out of (Works, Services and Supplies) 109 Nos. packages of whole projects,35 Nos. 100% completed, 9 packages are within 80- 99%, 20 Packages within 60-79%, 9 Packages within 40-59% and 36 packages within 5-39%. .
3. As per RDPP's provision by this time the progress would have been 80% (Tk.1140 Crores). But the present progress is only 54%(Tk.750 Crores). In the meantime the provisions of the RDPP should have been 80% (1140 million), but the progress is only 54% (Tk.750 Crores ). Meanwhile, the ADP allocation 100% consumed every year.
4. From the progress achieved so far. it is clear that the project would not be completed within targeted project period, December 2016.

#### **9.3 After Inspection Results**

1. During Inspection in Manikganj Poursava and Mongla ports Poursava it is observed that there were presence of some dust and organic material in R.C.C road and drain construction work..
2. Edge lining of bituminous roads were not done in some roads of Gazipur city corporations in Tongi and Mongla Port pourashava.
3. During inspection it is observed in Mongla Port pourashava's drain construction work the placement MS rod was not provided in proper place but the used quantity of rod was found as per specification.

## **CHAPTER - 10**

### **Recommendation**

#### **10.1 Project related Recommendations.**

1. To complete the rest of the work within the project time period a good work Plan (Time Based) may be prepared and according to that work plan the rest quantity project works can be completed.
2. In Khulna City Corporation and Manikgonj Pourashava the quantity of supervising technical staff (consultants) found less than the requirement in comparison to volume of works, so additional consultants should be deployed there for better quality control of the works.
3. The project is implementing by city corporations, municipalities, DPHE and LGED, sometimes there is lack of coordination found. When there is any problem arisen that could be solved by the intervention of project steering committee meetings

#### **10.2 General Recommendation:**

1. The main drains should be connected to the link drains so that water logging problem can be resolved in the urban centres, pourashvas and city corporations.
2. Every city corporation, municipalities and urban centers should have drainage Master plan and according to that master plan, drain can constructed and rehabilitated.
3. Every Urban centers should woman corners for woman traders.
4. Dyke can be constructed for the protection of Urban centres in the river areas.
5. LGED roads usually designed typically by taking commercial vehicle of 8.20 tons. Design can be updated as per actual loaded traffic passing on the roads through proper traffic survey.
6. Though the main structure of the bridges done as per specification but sometimes slope protection works not done properly. Proper attention should be given for good slope protection works.
7. To safe guard road where the road passing parallel to pond or canal, proper protective work should be done.
8. As Gazipur City Corporation accommodates many Industries, so ETP can be constructed for the individual industries to safe guard the city from hazards.
9. Up to the life period of the constructed Sub-projects it should be maintained properly. For that reason the responsible organization should allocate required finance for proper maintenance.
10. In City corporations and Pourashavas it is seen three (3) categories roads are constructed with Carriage way width of 8.50 m, 5.50 m and 3.75 m respectively. These roads can be redesigned after doing proper traffic count survey.

## **Chapter-11**

### **Conclusion**

Quick inevitability of urbanization, inadequate existing infrastructure in comparison to demand, from the point of view of sustainable development and balanced regional urban development this type of project is very much required to overcome the shortcomings for a suitable and timely development. These kinds of urban expansion and the smooth implementation of development program will carry out special importance. As a result of improved communication through the regional city development planning, development of city corporations, municipalities and Urban Centers, pressure of population in big cities will be greatly reduced leading to better communications, economic and the environmental development of small towns, augmenting their importance and positive role in the country's economic growth potential. Expansion of development work area wise as the one carried out in this particular project with help in the advancement of localities are expected to overcome disruption between individual areas in the near future.



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