Summary Results of the Terminal Evaluation for the "Strengthening of Activities in Rural Development Engineering Center (RDEC) project Phase 2"

<table>
<tr><td colspan="2">1. Summary of the Project</td></tr>
<tr><td>Name of County：
Bangladesh</td><td>Name of evaluation： Terminal Evaluation of the "Strengthening of Activities in Rural Development Engineering Center (RDEC) project Phase 2"</td></tr>
<tr><td>Sector：
Rural Infrastructure development</td><td>Scheme：Technical Cooperation Project</td></tr>
<tr><td>Office in charge：
JICA Bangladesh Office</td><td>Budget (Time of the Evaluation)：331millionYen</td></tr>
<tr><td rowspan="3">The project Period：
9, 2007 ～9, 2011(Four (4) Years)</td><td>Counterpart Institution：Local Government Engineering Department, Ministry of Local Government, Rural Development and Cooperatives</td></tr>
<tr><td>Related Institutions (Japan)：Ministry of Agriculture, Forestry & Fisheries</td></tr>
<tr><td>Other stakeholders：none</td></tr>
<tr><td colspan="2">1-1. Background of the project
Rural development has been one of the highly prioritized sectors in order to tackle with the poverty in Bangladesh where two-thirds of its population lives in rural area. Stable infrastructure is regarded as a critical factor to improve people's social and economic conditions in rural area. On the other hand, rural infrastructure development is still insufficient in Bangladesh. LGED under the MLGRD& C has been the implementing organization for construction and maintenance of Upazila, Union and village roads, small irrigation facilities, village markets, etc. Although LGED is a highly functional organization with flexibility, its administration has been rather transient, which hampered to accumulate its rich organizational experiences. The Bangladesh government (GOB) established RDEC under LGED in order to improve these circumstances. For RDEC to function as a technical core center in LGED, the Japanese Technical Cooperation project of the "Rural Development Engineering Center Setting-up project" (Phase-I) was implemented from 2003 to 2006. This Phase-I achieved its purpose to satisfactory level in terms of their ability of maintenance and collection of technical information, the reinforcement of the training section, and starting of the Step-up Plan. However, further capacity development of engineers remained as urgent issue to be resolved, as well as the reinforcement of each technical section in RDEC was still indispensable. To tackle with these remaining challenges, the Phase-II project (the Project) was requested to the Government of Japan (GOJ) by GOB, and the framework of the project was confirmed by both sides in August 2007 as described in R/D.

1-2. Contents of Assistance
(1)Overall Goal
LGED implements rural infrastructure projects using technical standards developed by the Project.
(2)Project Purpose</td></tr>
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Implementation capacity of RDEC for rural infrastructure development is strengthened.

(3)Outputs

1. Technical capacity of engineers working at RDEC for planning and design is developed.
2. Technical capacity of engineers working at RDEC for quality control and maintenance is developed.
3. Technology dissemination system of RDEC is improved.

(4)Inputs up to the Evaluation by the end of May, 2011

Japanese Side

- Six long-term experts (144MM) in Bangladesh and twelve short-term experts (23MM) were dispatched, and one short-term expert will be dispatched by the end of the Project.
- Nine counterparts participated in training in Japan, and five counterparts participated in the technical exchange program in Cambodia.
- GIS software to GIS Unit, Design software to Design Unit, Automatic CBR-Marshal Load Frame to Quality Control Unit, Automated Roughness Counter to Maintenance Unit, and Database software to PM&E Unit have been procured. In total, equipment cost is BDT 40,150,873.
- BDT 18,325,837for necessary budget for the project implementation has been allocated.

Bangladeshi Side

- LGED has arranged her 31 officials as counterparts. The present Chief Engineer of LGED has been and will be in charge of the Project Director by the end of the Project.
- LGED has provided three working rooms for long term Japanese experts, and some working spaces were provided to short-term experts. The project has used meeting room and auditorium of LGED for Working Group Meeting (WGM).
- LGED has paid salary for LGED personnel, transportation, and training fee (venue, perdiem).

2. Members of the Evaluation Team

Bangladeshi Side	Ms. Khadiza Begum, Deputy Secretary, Economic Relations Division (ERD), Ministry of Finance Dr. Saiyid Hassan Sikder, Deputy Chief, Planning Commission Mr. Mohammad Zahurul Islam, Deputy Director, Implementation Monitoring and Evaluation Division (IMED) Mr. Md. Firoz Uddin, Deputy Chief, Local Government Division (LGD), Ministry of Local Government, Rural Development and Cooperatives Mr. Md. Zahangir Alam, Additional Chief Engineer, Local Government Engineering Department (LGED), Ministry of Local Government, Rural Development and Cooperatives
Japanese Side	Mr. Shigeki FURUTA, Leader, Senior Representative, JICA Bangladesh Office Mr. Hiroshi TANAKA, Rural Infrastructure Development, Ministry of Agriculture, Forestry's and Fisheries, GOJ Mr. Kazuyuki IKEDA, Cooperation Planning, Representative, JICA Bangladesh Office Ms. Kazuko SHIRAI, Evaluation Analysis, Consulting Division, VSOC Co., Ltd

Schedule of evaluation	May 22nd to June 8th , 2011	Kind of Survey	Terminal evaluation

3. Summary of the Evaluation Results

3-1. Implementation Result

(1) Project Purpose

A guideline for design※, quality control, and maintenance will be respectively developed by the end of Project(indicator1), and one to three engineers at four main Units are now in-house trainers for field engineers on new knowledge and skills acquired through the Project activities (indicator 2). Therefore, the Project Purpose is regarded as almost achieved.

(2) Output

As the result of project activities, the Outputs have been largely achieved as follows;

Output1：Technical capacity of engineers working at RDEC for planning and design is developed.

Nearly 100% of GIS Unit engineer mastered the technique for development of three types of thematic maps for Disaster damage database and update technology using the satellite image, and for analysis technology of satellite image which is needed for Upazila map update. Planning manual for Rural Road Master Plan was developed in GIS Unit (indicator 1-1 to 1-3). The training course on Analysis, Design and Construction of Bridge has been conducted for total 52 LGED participants. The Road Structure Manual Drawings for single lane RC girder bridges will be completed soon (indicator 1-4 to 1-7).

Output2：Technical capacity of engineers working at RDEC for quality control and maintenance is developed.

The training courses on new technologies such as Tri-axial compression test were conducted for District lab engineers by QC Unit central lab engineers. The training on Field CBR test was also conducted at most of the District lab by QC Unit Central lab engineers (indicator 2-1, 2-2). Maintenance guideline including introduction of Soft and Cold Asphalt Mixture was revised. The 'Hands-on Training Manual' was printed for dissemination training for field engineers starting from July 2011(indicator 2-3, 2-4).

Output3：Technology dissemination system of RDEC is improved.

Although the software for the Training Management System (TMS) was installed, allocation of operator has been delayed. Training Unit will complete to collect training data by the end of the Project (indicator3-1). WGM was held 28 times to report progress and exchange information of the Project (indicator3-2). Sustainability Plan will be completed by the end of the Project (indicator 3-3).

3-2. Summary of Evaluation results

(1)Relevance・・Very High

New technologies introduced by the project meet the need of Bangladeshi society which suffers from harsh natural disasters. Rural infrastructure development is regarded as one of the important elements for pro-poor economic growth in GOB's national policies. GOJ's Country Assistance Program for Bangladesh also prioritizes the economic growth of Bangladesh, regarding rural infrastructure as indispensable for integrated rural development.

※ Design Unit recognized to develop two kinds of manual for each double lane and single lane at first. However, the Unit decided to develop one common manual which combines two kinds of lane as defined in the Design Criteria.

(2)Effectiveness・・・High

The guidelines for design, quality control, and maintenance were developed (indicator1). Capacity of engineers at four main Units of LGED HQ is enhanced to train field engineers (indicator2). Achievements of Output1,2, and WGM largely contributed to the achievement of Project Purpose

(3)Efficiency・・・Relatively High

Inputs from both Bangladeshi side and Japanese side have been delivered as planned. Amounts, quality, and timing of these inputs are appropriate so far. Short term experts delivered high level/locally appropriate technologies which led a steady capacity development of LGED engineers. However, there are some delays in TMS and PMS activities, and some technologies were not successful in test construction and regarded difficult to apply.

(4)Impact・・・There are positive impacts of the project

There are nine kinds of developed technologies and manuals developed by the Project (indicator1). Some activities which directly benefit the local residents, such as IRI survey and maintenance with Soft and Cold Asphalt Mixture have already started (indicator2). It is an unexpected impact that GIS map was recently featured on LGED's Web site. When the project outputs are applied for all the LGED's rural infrastructure projects, enormous reduction in its cost is also expected.

(5)Sustainability・・・High

Sustainability Plan will be completed by four main Units before the Project ends. LGED holds institutional strengths with its increasing budgets, and has empowered engineers' capacity to disseminate new technologies, skills and knowledge for field engineers gained from the Project.

3-3. Conclusions

The capacity of LGED engineers, who keeps systemic organization, has been improved by providing the new technologies such as IRI, Soft and Cold Asphalt Mixture on the project. It is expected that the rural development project conducted by LGED could be improved by spreading the technologies to the local office with CE's leadership, high motivation of engineers and continuation of the working group after completion of the project. Therefore, this project shall be finished as scheduled in September, 2011.

3-4. Recommendations

(1) The remaining project activities such as Sustainability Plan and Training record database should be completed.

(2) Inter Unit Coordination Committee which will be set as WGM, should be continuously and regularly held to monitor implementation of the Sustainability Plan.

(3) The useful results such as maintenance with GIS, alternative technologies for design, locally available materials, need to be widely introduced to rural road projects implemented by LGED.

(4) Further utilization of the GIS technologies is recommended for water resource infrastructure

3-5. Lessons Learned

Discussion on future direction and detail actions taken after the project should be started at an early stage so as to confirm sustainability of the project.