

BCL NEWSLETTER

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TO OUR READERS

In early July this year the Prime Minister of Bangladesh announced a plan to dredge and train the river systems of the country including the three major rivers, the Padma, the Meghna and the Jamuna, to maintain navigation, recover land and prevent flooding and bank erosion. Every year a large number is made homeless by bank erosion, thousands of acres of crop are lost, many thousands die of waterborne diseases and countless others lose everything and are impoverished. And, the same overflowing rivers of monsoon are left with not enough water in the dry season for essential navigation and irrigation. The plan will be an ambitious undertaking and, if realized, it would remove the recurring suffering of the millions of people.

The sediment transport of our rivers and their morphological characteristics are such that waging a war against the rivers would severely strain our resources and existing knowledge. The plan offers comfort but should not raise unrealistic expectations.

Political initiative is essential to its success but will not be enough to deliver the plan. We would suggest setting up a task force of eminent professionals of appropriate disciplines to examine the viability and outcome of the project. ■

Mahub Haque
Mahub Haque
Managing Director

RECONSTRUCTION OF BEIRA FISHING PORT

The Port of Beira in Mozambique, constructed about 60 years ago by the former Portuguese colonial administration, was severely damaged in the cyclone of February, 2000. A Reconstruction Project was taken in hand following a Feasibility Study in 2002-2003. The reconstruction was proposed in two phases - Phase-1 for Detailed Engineering and Documentation and Phase -2 for Construction.

contd. on page 03

THE GANGES BARRAGE ON THE DESIGN BOARD

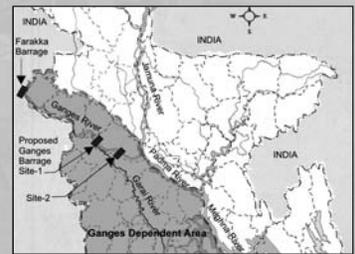
In 1975, India commissioned a barrage across the Ganges River at Farakka in the neighbouring state of West Bengal to divert water into the Bhagirathi-Hoogly River for improving the navigability of the Kolkata port. The consequent reduction in the downstream flow in the Ganges in the lean period has affected agriculture, fishery, forestry, navigation, domestic water supply and industrial development in the Ganges Dependent Area (GDA) of Bangladesh. The world's largest mangrove forest, the Sundarbans, is threatened with extinction because of high salinity levels during the dry season due to lack of upland fresh water flow. The Gorai-Modhumoti, which is a major distributor of the Ganges and has been a major source of life-sustaining water in the area for hundreds of years, is a trickle today during the dry season.

contd. on page 03

In this issue

To Our Readers page 01

Reconstruction of Beira Fishing Port page 01



The Ganges Barrage on the Design Board page 01



CentR News page 02



Reactive Power Compensation at PGCB page 04



Cyclone Mitigation Program in Bangladesh page 05

Bench Mark Study for Second Rural Infrastructure Improvement Project (RIIP-II) page 06

HYSAWA Shows Promising Progress page 07

BCL Promotes Microfinance Training page 07

In the Company page 08

Congratulations page 08

Joining BCL Family page 08

CenTR News

This quarter started with a seminar on 'Climate Change Risks in Bangladesh' by Mr Ahmadul Hassan, Senior Water Resources Planner at CEGIS on 04 Jul at the CenTR. In his well researched and equally well illustrated presentation, Mr Hassan depicted a comprehensive climate change scenario in Bangladesh and its likely impacts on the major river basins, particularly the coastal reaches. As a designated discussant at the seminar, Prof Rezaur Rahman of BUET and the chairperson Dr Ainun Nishat, IUCN's Bangladesh Country Director and a noted water resources expert in the country reviewed and enriched the presentation through their personal observations and comments.

The next programme on 18 Jul at the CenTR focused on the energy situation in the country. Dr Abdul Matin, former Chief Nuclear Engineer at the Bangladesh Atomic Energy Commission carried the audience through a lucid presentation on 'Nuclear Power Options for Bangladesh'. Prof M A Quayyum, former Chairman, BAEC, Dr Nooruddin Ahmed of BUET, Mr Obaidul Awal, former Chief Engineer BAEC and BCL Director and a former nuclear engineer with BAEC, Mr Rezaul Karim

Chowdhury, speaking after Dr Matin, were unanimous on the issue that the planning of Rooppur Nuclear Power Plant must be initiated immediately if the government intends to augment the country's power generation substantially in the next 10 years.

Focusing again on the climate crisis facing the country, the next presentation held on 28 Jul at the CenTR was entitled 'Impacts of Climate Change on Bangladesh' by Dr A Atiq Rahman, Executive Director, BCAS and an internationally noted expert on climate change. Dr Rahman highlighted the global climate change scenario with its impact on Bangladesh. In an accompanying presentation, Dr Mohammad Zaman, a noted international resettlement consultant, presently working on Padma Bridge Design Project, spoke on 'Climate refugees, cross-border migration and emerging regional conflicts in South Asia'. Mr Mahbub Haque, Managing Director rounded up the seminar with his remarks from the chair.

Managing Director of DPM Consultants delivered a presentation at the CenTR on 'Banani-Gulshan Bridge: Life and Link between Two Communities'. It focused on the recently constructed road bridge on the Gulshan Lake. Engr Sobhan described the structural details of the bridge together with the historical references to arch bridges in



Group photograph of BCL visiting team with the factory officials

Bangladesh. Arch Ehsan Khan, Managing Director of Vitti Sthapati Brindo, who was the project architect, enriched Engr Sohban's presentation by highlighting the architectural concepts of this small yet imposing bridge which has added considerable charm and beauty to the landscape of this residential neighbourhood. Engr I A Khan, OBE, FICE provided his analytical views on both engineering and aesthetics of the bridge in his round-up from the chair.



A view of the seminar on Nuclear Power at CenTR

The CenTR organised a briefing session on 02 Aug for the intending candidates for the P.Eng Registration. The candidates received useful guidance from their P.Eng senior colleagues.

On 02 Aug Engr M A Sobhan, P.Eng, FICE,

On invitation, a 27-member team of engineers and architects from the firm visited the Seven Rings Cement Factory at Kaliganj near Dhaka on 20 Aug. The daylong visit contributed to an understanding of the manufacturing process of cement - from the unloading of the clinkers from the delivery barges to the packing in bags of the final product. The General Manager Mr Nantu K Dey gave a brief narrative on the manufacturing processes and on the major components of the plant while a

brief technical discourse on cracks and fissures in the concrete surface was made by Mr Gopal K Bagchi, Additional GM of the company. Mr Asadul Haque Sufyani, GM (Marketing) of the company also addressed the visiting team.

The activities at the CenTR were rounded up for the quarter with the awarding of certificates to the trainees on MXROAD on 23 Aug. Director M A Aziz, P.Eng handed out the certificates following a brief address of encouragement to the recipients.

The author attended several external seminars in town, notable among which are the 'Natures Juggling Act: Glaciers, Sand Dunes and Limestone' - a Distinguished Lecture Programme of the American Association of Petroleum Geology, held at the Dhaka University Senate Hall on 27 Jul and a seminar on 'National Policy on Renewable Energy in Bangladesh' held at the Bangladesh Institute of International Strategic Studies on 09 Aug. The AAPG lecture was delivered by Dr Christian Heine, Senior Geological Consultant at Aramco, Saudi Arabia.

Information on the training activities in the next quarter is available from the Head of CenTR at:
 Tel : 9862713-16
 Fax : 9893321
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Dr AAM Shamsur Rahman

RECONSTRUCTION OF BEIRA FISHING PORT

[contd. from page 01]

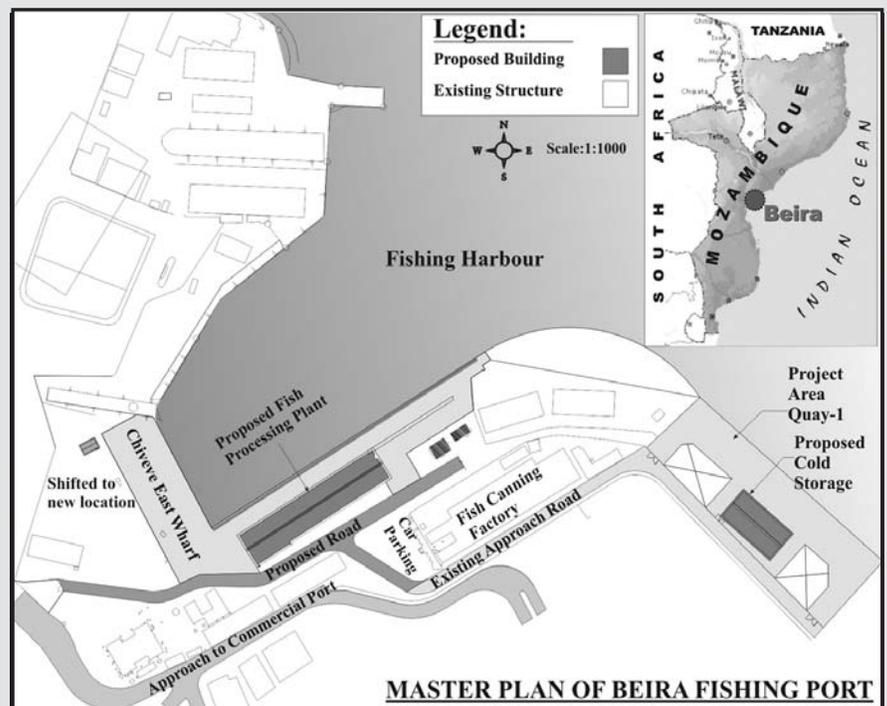
works consisted of reconstruction of Quay 1, dredging of the Fishing Harbour and the channel in front of Quay 1, construction of new fish processing and preservation facilities, office facilities, utility services and area lighting.

The bidding process and the subsequent negotiations were not successful. Therefore, the priorities of the project were re-fixed. The reconstruction of Quay 1, some of the fish preservation facilities and a part of the dredging work were deferred. Subsequent negotiations with the bidders were successful. The contract for construction of the fish processing plant was awarded at USD 14.2 million to M/s Teixeira Duarte and the remaining, the dredging work, was awarded to EMODRAGA, the national dredging company of Mozambique, at US\$ 2.5 million.

Construction of the processing plant started on 17 Apr, 2009. BCL mobilized its supervision team on 05 Apr. The works are progressing satisfactorily and are expected to be completed in 18 months.

The Fish Processing Plant will have a processing capacity of 40 tons per day and includes the landing area, receiving and processing sections, flake ice room, chilled room, packing room, cold storages, low and high risk areas, and male and female dressing and washrooms. The associated facilities include the power house and the public conveniences. The entire facility will be equipped with state-of-the-art sophisticated machinery and will be designed to the requirements of the EU and the USA to be free from all contaminants.

The dredging of the Fishing Harbour will be done under a separate contract by EMODRAGA. The dredging is planned to start in Oct'09 and will be completed in five months. Before the crippling cyclone, Beira Fishing Port was a key fish processing centre of the country. 36.5% of the country's fish export was through this port. With the completion of the above planned facilities, the fish industry of Mozambique will see a



revival to the level of the pre-cyclone activities. ■

Sanowar Hossain

THE GANGES BARRAGE ON THE DESIGN BOARD

[contd. from page 01]

The Ganges itself in Bangladesh is a pale shadow of its former self. The overall hydrological cycle is getting more and more erratic. A large variety of land and marine resources in this area of about 4.6 Mha is gradually entering into an environmentally moribund situation without adequate flow of fresh water into its lifeline. And, the development potentials of the GDA, as confirmed by a number of pre-feasibility studies, are getting crippled.

To mitigate some of the adverse effects, the Government of Bangladesh has commissioned a feasibility study and detailed design for construction of a barrage across the Ganges. Some of the

salient benefits of the barrage will be to:

- a) Allow Bangladesh to make optimum use of the water that would be available under the Ganges Water Treaty of Dec 1996;
 - b) Extend irrigation to cover most of the southwest, part of the south central and the northwestern region;
 - c) Increase flow of the Gorai River, which will reduce saline intrusion in the Khulna region and mitigate the existing adverse socio-economic and environmental impacts on the area;
 - d) Restore fish habitats and lead to increased fish stock;
 - e) Resuscitate the Sunderbans by reducing the increased salinity that had led to top-dying of the Sundari trees in the world's largest mangrove forest;
 - f) Breathe new life into the inland waterway sector by reviving hundreds of kilometers of navigable routes and lead to lowering of transport cost.
- And,

at Tagorebari and Pangsha, located respectively about 22 km and 48 km downstream of the Hardinge Bridge. Potential storage levels were estimated at 9.50~10.25m at Tagorebari and 9.50~12.50m at Pangsha with approximate storage of 360 million m³ and 710 million m³ respectively.

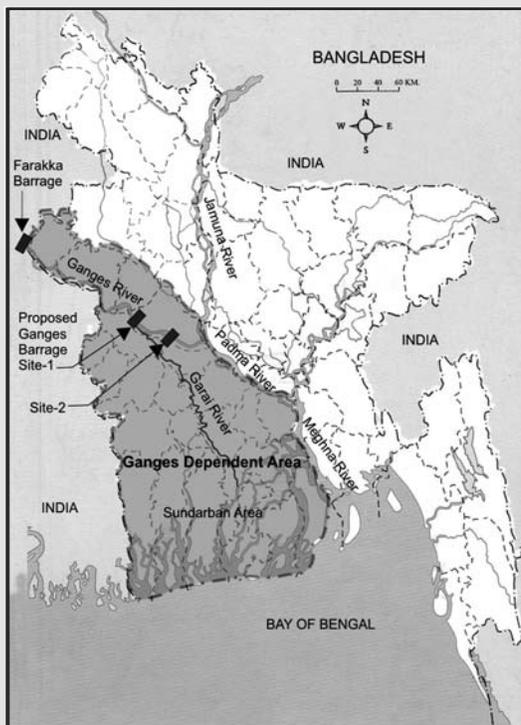
The GDA in the south-western region constitutes approximately 35 percent of the country's total area and contains about one-third of its total population. The Barrage is expected to provide a long term and sustainable solution to the hydrologically decaying region of the country. Projected population for the GDA for the year 2025 is 49 million and for 2050 is 56 million. The socio-economic and environmental impact of assured water availability to these millions will be a milestone in the country's developmental process.

BCL is a member of a consortium of six consulting firms engaged by the Bangladesh Water Development Board for carrying out the feasibility study and detailed design. ■

Azhar Ali

REACTIVE POWER COMPENSATION AT PGCB

A power system comprising generation, transmission and distribution has three components of power, namely, real (active) power as useful power, reactive power termed as "wattless (non-working) component" caused by the magnetizing current required to operate an inductive device, and the total or apparent power, which is the composite of the real power and the reactive power. The real power is measured in MW, the reactive power in MVAR and the



Map showing the extent of the GDA

- g) Revive upland flows in all the distributors and other rivers in the southwest, which in turn will restore the natural environment and with it fisheries, navigation, ground water, forestry, and human health through supply of more fresh water and a reduction in salinity.

A pre-feasibilities study in 2002 by Water Resources Planning Organization identified two alternative sites for the Barrage

apparent power in MVA. The reactive power is responsible for reducing power factor and increasing voltage drop and transmission loss. Installation of power capacitor banks at the load ends to compensate the aforementioned disadvantages is an established engineering practice in power system installations. Usually, the load ends of 132/33 KV substations operate at around 80% power factor. By installation of capacitor banks, the power factor can be improved towards unity. The resultant impacts are (a) reduced current flow; (b) reduced voltage drop; (c) reduced transformer and transmission line losses and (d) reduced overburdening of substation equipment, transmission lines, switchgear and generators.

The Power System Master Plan (PSMP) of Bangladesh, updated under ADB TA 4379-BAN: Power Sector Development



View of contract signing for the Project

Program-II, recommended installation of 1,340 MVAR reactive power (inductive) compensation capacitors at 132 KV level grid substations of PGCB - Power Grid Company of Bangladesh. Presently, at 132 KV voltage level, reactive power compensation to the tune of 450 MVAR (capacitive) is under installation by PGCB. It may be mentioned here that capacitor banks totaling 580 MVAR have already been installed and in operation at different Grid substations at 33 KV bus. Under the Energy Efficiency

Program-I (Power Transmission), PGCB has received funds from KfW of Germany to add 600 MVAR new capacitor banks at 132 KV level in 24 Grid substations all over Bangladesh. When implemented, the Grid will have the undernoted impacts of -

- (a) overall improvement of the transmission voltage level;
- (b) decrease of transmission loss by about 8.3%; and
- (c) saving a generation need of 275 MVA to effect de-loading of generators, transformers, transmission lines and switchgear.

The saving of 275 MVA (apparent power) in the generation sector will alone mean a tremendous boost in the power hungry National Power Grid experiencing nagging severe load-shedding, besides its other significant economic and technical impacts.

BCL, in association with KEPCO of South Korea, has signed a contract on 07 April 2009 with PGCB for providing consulting services for implementation of the Project. The target date for the completion of the

Project is September 2010. ■

Sk Abdur Rahman

CYCLONE MITIGATION PROGRAM IN BANGLADESH

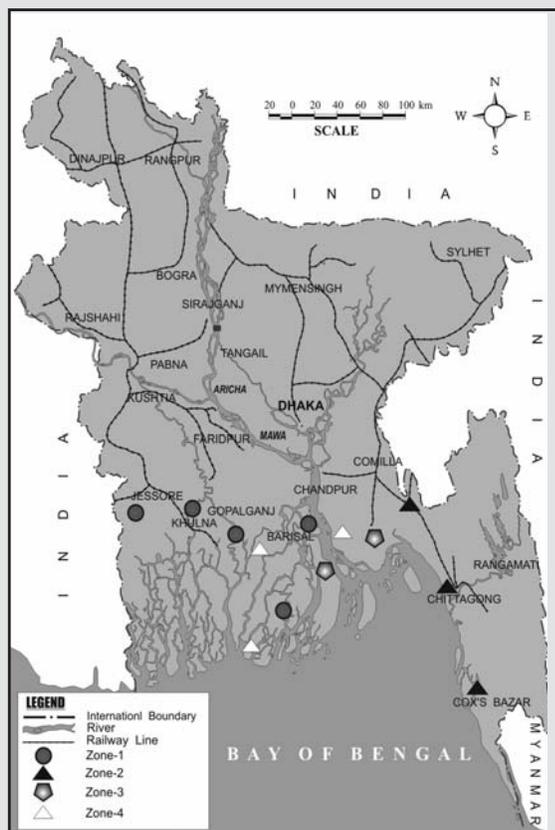
Bangladesh, sitting at the head of the Bay of Bengal, has a long history of suffering from severe cyclones. Since the

early 18th century, when records were first kept, more than one million people have been killed in such storms. One such vicious cyclone, "Sidr", battered the country's coast line in November 2007. A reconstruction and rehabilitation program has been taken up to provide long-term relief from the impact of such recurring cyclones.

An anonymous philanthropist, (Fael Khair in Arabic) has given a generous donation of USD 130 million for providing relief assistance to the "Sidr" victims out of which \$110 million has been earmarked for the construction of about 600 School-cum-Shelters for the population of the coastal belt and the balance \$20 million for providing urgent relief in the form of agricultural inputs to the affected farmers, fishing boats and nets to fishermen and training and micro-credit to small businessmen.

Islamic Development Bank (IDB), the nominated Implementation Agency for the Program, divided the entire coastal area into 4 zones and appointed four Consultants in May for selection of sites for the shelters. The assignment includes site survey and soil investigation, detailed design and documentation, assistance in tendering and award of construction contracts. BCL was awarded the consultancy for 53 sites at existing educational institutions in 5 upazilas (sub-districts), namely, Dacope and Koyra in Khulna district and Sharankhola, Mongla and Moralganj in Bagerhat district under Zone 2.

The Consultant's field team comprising 6 survey groups started the assignment headed by a Senior Engineer. The Team met with the Upazila Administration and members of the special committee at the



Map showing the zones for consultancy services

upazila, formed to monitor the site selection. The Team interviewed the Management and teachers of each institution and explained the intention of the Fael Khair Program and role of the IDB in its implementation while gathering information on the institution in a specified format.

A total of 48 sites were surveyed. It was observed that construction of cyclone shelters was in progress at three sites and that such shelters already existed on two other sites. The locals informed that the capacity of the existing shelters was inadequate to accommodate the large number of people who seek shelter during a disaster and requested for a new shelter.

The survey and sub-soil investigations have been completed at all sites and the reports accepted by IDB. ■

Dulal Kumar Das

BENCH MARK STUDY FOR SECOND RURAL INFRASTRUCTURE IMPROVEMENT PROJECT (RIIP-II)

The Local Government Engineering Department (LGED) is currently implementing the ADB-funded Rural Infrastructure Improvement Project-II (RIIP-II). To assess the impact and out come of the project intervention, LGED intends to set up bench marks which will provide measures for assessing whether the

objectives of the project are achieved. For this, LGED, using the Result Based Management (RBM) concept, has drawn up a monitoring framework which identifies the parameters whose pre- and post-project values will give indications of the success of the interventions. For this, it is necessary to establish bench mark values of the parameters.

The main objectives of RIIP-II is to reduce poverty in the rural communities in the project districts through providing better access to economic opportunities and social services by constructing secondary and rural roads, bridges, growth center markets and rural "haat" bazars. The improved transportation network in the project area will facilitate production and marketing of agricultural produces by reducing transport costs. Regarding institutional and social development, the project is expected to help strengthen the local government institution and, hence, good governance,

gender development, participatory planning and sustainable rural infrastructure.

The objectives of BCL's assignment are to define and derive socioeconomic and performance indicators, criteria to evaluate the indicators, determine the Bench Mark values of the indicators for subsequent monitoring and evaluation of project outputs, outcomes and impacts under the RBM concept. The monitoring consultants will be responsible to use the Bench Mark database to assess if the project targets are achieved.

BCL has been awarded a contract to carry out the Bench Mark Study of RIIP-II. BCL will conduct various surveys and studies in the 23 project districts across the country (see the project area map), the objective being to establish bench mark data which will lend themselves to comparison to data collected post implementation. This would be the first time that LGED will be following the RBM approach. Among others, the approach "focuses on achieving outcomes, implementing performance measurement, learning and changing and report performance" (taken from the web site of the Treasury Board of Canada Secretariat).

The scope of services of the present assignment emphasizes literature review including project documents, appraisal reports and monitoring framework to determine major socioeconomic indicators of the project. Conducting field surveys for collection of quality data and information from the field was the main task in the study. Data analysis and tabulation were aimed to calculate values for each bench mark indicator, particularly those indicators which measure the impacts on poverty reduction, economic and transport



Map showing the study area under the project development. Final output of the assignment is to prepare Bench Mark database which will be instrumental for monitoring and evaluation of the results at different stages of implementation of the RIIP-II.

The Consultants prepared customized software based on Access and Excel Program for processing a large amount of data collected and rendered data services to process the data. The Consultants are now busy working for generating output tables for database from computer runs of programs and analysis of data. Within a month the draft reports on Bench Mark study will be prepared and submitted. ■

Md. Rafiqul Islam

HYSAWA SHOWS PROMISING PROGRESS

BCL provided inputs in the Joint Technical Review of Hygiene, Sanitation

and Water Supply (HYSAWA) component of the DANIDA-supported strategy on Water Supply and Sanitation Program Support (WSPS), Phase-II. The Technical Review, commissioned jointly by DANIDA and Aus-Aid, took place from 19th to 30th April, 2009. The exercise comprised review of documents (Plans, Strategies, Implementation reports), meetings and discussions with key stakeholders, implementing agencies, NGOs, and field visits to the rural communities in Mymensingh, Rajshahi, Chapai-Nawabganj and Naogaon districts.

HYSAWA is a pilot project. Its aim is to test decentralized service delivery by Union Parisads through capacity development, while contributing to improved health through better hygiene and more water and sanitation installations. Increased coverage, pro-poor and gender mainstreaming are the key strategies of this pilot. The project components are implemented directly by the Union Parisads with the objective of generating community ownership of the respective project by ensuring financial contribution, acceptance of the quality of work and undertaking the responsibilities of operation and maintenance of the facilities by the communities themselves.

The review team found that HYSAWA has performed well and delivered on all

its objectives. Currently, DANIDA is the only donor to this project. During the course of the review it unfolded that other donors, such as Aus-Aid, are also considering providing some resources to this project. ■

Shamsul Huda

BCL PROMOTES MICROFINANCE TRAINING

BCL has recently added a new sector to its portfolio of services. The company now plans to provide training in microfinance operation and management. The services will be organized and delivered by the CenTR, the company's Training and Research wing, as an accredited training provider of the Institute of Microfinance (InM). The CenTR will use the training modules developed by InM and also develop some of the modules jointly with InM.



Photograph of participants in the TOT on Microfinance

InM is an independent institute with focus on research, knowledge management and exchange of ideas relating to best practice methods and approach techniques for managing microfinance and achieving social development goals. As the sector is gradually becoming more competitive, it is attracting more formal players and,



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consequently, demanding increasing knowledge and skills for the microfinance staff. The aim of the training program is to develop the skills of personnel involved in delivery of microfinance through the provision of intensive training on microfinance operation and management. It is now a common knowledge in the industry as Prof M A Baqui Khalily, Executive Director of InM, expressed in his address at the inauguration of the Training for Trainers by InM that "the most important thing of the microfinance is not the lack of funds but the lack of capacity in operating a sustainable organization". To address this problem, InM has launched a microfinance staff training program. InM intends to offer training courses by accredited trainers through independent training providers. InM has identified and initiated Training of Trainers (TOT) as the first step in this direction. The goal of the course is to create a pool of certified trainers who will impart training at the national and international levels.

The TOT program was inaugurated on 19 Jul 2009 at the Institute's premises at PKSF Bhaban, Dhaka. The CenTR had two of its trainers among the inaugural batch. It was a 10-day intensive training course. Both our candidates came out successful with distinction and will join two others of the company as accredited Trainers of InM. A total of 21 trainees participated in the training from 10 selected NGO's/MFI's including BCL. The course aims to strengthen the capacity of microfinance institutes/operators in the country by making high quality training on microfinance and trainers accessible to them to develop high quality operators, professionals and practitioners at the field level. ■

Mahbub Haque

IN THE COMPANY

Sayed Ali, 42, graduated in Civil Engineering from BUET in 1987 and joined BCL as Assistant Engineer in 1995. Sayed has attained proficiency in road design and construction and was promoted to Senior Engineer in 2003. His major assignments include Jamuna Multipurpose Bridge Approach Roads and Jamuna Bridge Access Road in Bangladesh and Monze-Niko Road construction supervision in Zambia. He is currently engaged in the Teesta Bridge Project.



CONGRATULATIONS

Our sincere best wishes to:



Ashik A Rahman son of Managing Architect Arifur Rahman on his wedding with Jabin Mustafa daughter of Mrs Mohsina Jamal which was solemnized on 26 Jun at the Bangladesh Navy Multipurpose Hall. Ashik is a computer engineer.



Nazmun Nahar Nitu daughter of Managing Engineer Md Nasiruddin on her wedding with **Md Farhad Hossain** son of Late Md Abdus Salam which was solemnized on 30 Sep at Dhaka. Nitu graduated from the Institute of Industrial Production Engineering at BUET.

JOINING BCL FAMILY

Our heartiest welcome to:



(1) **Engr Muhammed Azhar Ali**, Senior Engineer who rejoined on 01 Jun, (2) **Md Abdul Matin**, joined on 07 Jun as Quantity Survey Engineer at Teesta Bridge Project, (3) **Md Abdul Latif** and (4) **Muhammed Murad Uddin** both as Manager Training (Microfinance) on 18 Jul, and (5) **Ms Salma Akhter**, Resident Engineer for Reconstruction of Beira Fishing Port Project in Mozambique on 08 Aug.

We sincerely hope their professional contributions will be a source of strength to the company.