

TO OUR READERS

Unrelenting rural migration, inadequate infrastructure and unplanned urban growth are an explosive mix that is destroying the liveability of Dhaka. A recent survey by the Economist Intelligence Unit identified Dhaka as the least liveable among 140 major cities of the world but it has hardly caused a ripple among the city fathers.

The country's centralised administrative system drives citizens to Dhaka for their every need. This could be avoided by developing a few strategically located regional centres with devolved administrative powers so that the citizens can get access to the same level and quality of services and opportunities at the RCs. The basic infrastructure for such centres exists in the Divisional towns, which could become fully functioning RCs if their administrative powers and facilities are augmented to obviate the necessity to travel to Dhaka. The implementation cost will be far outweighed by the annual loss of \$2.30 billion, caused by the Dhaka city's traffic congestion, estimated at equivalent to 2% of the country's GDP. Notably, Dhaka contributes one-third of the GDP and its population is projected at 20 million by 2020, making it the world's third largest city. The unchecked growth will overwhelm already inadequate civic infrastructure and choke the city to death. To overcome the impending implosion requires a strong political commitment. □

Mahub Haque
Mahub Haque
Managing Director

UJAR-ZARDAB-AGJABADI ROAD IN AZERBAIJAN

Azerbaijan, having an area of 33,000 sq miles and a population of 9.2 million (2012), is the largest country in the Caucasus region. It is one of the fastest growing economies in the world propelled by a large reserve of oil and gas. The proven oil reserve of the Caspian Basin, which Azerbaijan shares with Russia, Kazakhstan, Iran, and Turkmenistan, is comparable in size to that of the North Sea. The exploration is still in the early stages. The country exports one million barrels of crude oil per day and one billion cubic meter of gas per year (2011). Export is done mainly via recently completed Baku-Tbilisi-Ceyhan pipelines through Turkey, Georgia and other European countries. More than \$60 billion was invested into Azerbaijan's oil sector by major international oil companies including construction of pipelines. The pipelines are expected to generate as much as \$160 billion in revenues for the country over the next 30 years.

contd. on page 03

TEESTA BRIDGE OPENED TO TRAFFIC

The Prime Minister of Bangladesh opened the Teesta Road Bridge to traffic on 20 Sep, 2012. The bridge completes an important missing link in the road communication of the country's northwest. For many years, this link was being provided by an ad hoc decking of the nearby railway bridge. The arrangement was not satisfactory to either railway or road traffic and created severe maintenance problem to the bridge, in addition to traffic hazard to both railway and road operations. A Design-and-Build contract was signed by the Roads & Highways Department (RHD) of the Government

contd. on page 04

To Our Readers page 01



Ujar-Zardab-Agjabadi Road in Azerbaijan page 01



Teesta Bridge opened to Traffic page 01

CenTR News page 02



Future Proofing Infrastructure in Coastal Bangladesh page 05

Construction at Saudi Military Attache Complex at Dhaka page 06

Electrical Distribution Network of DESCO page 07

Southern Africa most affected by Climate Change page 07

In the Company page 08

Joining BCL Family page 08

Congratulations page 08

We Mourn page 08

CenTR News

Ever since the formal creation and launching of the CenTR, BCL Centre for Training and Research, in Dec, 1996 the unit continued to remain an integral facility of BCL in its dedicated initiatives for continuing professional development (CPD) primarily of the company's personnel and its clients'. So when recently BCL had to move its establishment to Uttara the CenTR remained a major priority of the company management ensuring that the CenTR is allocated adequate space for continuing with its initiatives.

The new premises of the CenTR on the sixth floor at BCL's new office at Uttara has an improved look and ambience and with an adjoining open green terrace offers an ideal set up for HRD and the company's event management initiatives.

A formal training programme entitled 'Flexible Pavement Design' was offered at the CenTR by Engr Aminur Rahman Khan, a long serving Senior Pavement Engineer at BCL on 06 and 07. The programme was well received by some 16 mid-level to senior members of road

engineering staff of BCL in two batches. Engr Khan took the initiative of preparing a well documented and an equally well illustrated handout, as a ready reference for the benefit of his colleagues.

On 11 Aug a briefing session for a team of about 50 road surveyors was conducted by BCL Senior Road Engineer Md Giasuddin for Joydevpur-Mymensingh road project. The daylong programme was well attended by the road surveyors of the project.

A half-day seminar entitled 'Chemistry for Sustainable Construction Solutions' was conducted by Ms Fahima Shahadat, Business Manager, BASF Bangladesh Ltd on 20 Sep at the CenTR. Ms Shahadat demonstrated her considerable flair on the subject and provided an elaborate and focused presentation on relevant products, primarily additives and admixtures which offer proven solutions for prevention of corrosion in engineering constructions. Professor M Nooruddin Ahmed, formerly the Vice-Chancellor at BUET and the erstwhile Chairman of

B a n g l a d e s h
Regulatory Advisory
Committee and a
Professor at the
University Grants
Commission was
the chairperson at
the seminar. Professor Ahmed
who authored a



The new Computer Lab at the CenTR

technical textbook on corrosion, appreciated the presentation and thanked Ms Shahadat for offering a sound technical presentation of the products which prevent corrosion of materials giving a more durable life and value addition to constructions.

The author attended the following technical seminars during the quarter under review:

- Technical Advisory Group meeting under the Comprehensive Disaster Management Programme-2 held at the Disaster Management Bureau on 11 Sep.
- National workshop on 'Strengthening Regional Planning and Governance with Special Reference to Dhaka Metropolitan Region. The daylong workshop was jointly organized by Rajdhani Unnayan Kartipakkha and the Asian Development Bank which was held on 20 Sep at the Ruposhi Bangla Hotel.
- Bangladesh Earthquake Society (BES) organized a seminar at the Conference Centre of the Public Works Department (PWD). Prof Dr Humayun Akhter of Dhaka



A view of the Terrace decorated with pot plants & flowers add considerable charm to the CenTR

University Geology Department presented a well researched and an equally well documented paper on 'Fault Systems Contributing to Earthquakes in Bangladesh' on 27 Sep at 5 pm. The presentation generated a lot of questions from the audience. Prof Akhter's presentation offered the attendees a rational exposure to the regional plate tectonics, which is responsible for causing the faults and the movements along the faults, generating the severe historical earthquakes in 1885 and 1897 and the more recent Barkal-Rangamati earthquake.

- ICE Bangladesh Centre jointly with the Civil Engineering Division of IEB organized a seminar entitled 'Routes to ICE Membership' which was held at the IEB Council Hall on 29 Sep. With a packed audience the seminar among others was addressed by Engrs M A Sobhan, MICE, FICE, I A Khan OBE, ICE Representative for Bangladesh and HE Mr Robert Gibson, CMG the British High Commissioner for Bangladesh at the inaugural session. Prof Jamilur Reza Choudhury, VC, Asia Pacific University of Bangladesh was the Special Guest and presented a technical paper entitled 'Recent Developments in Design of Bridges with Special Reference to Bangladesh' during the follow up technical session which

was chaired by Arch Mahbub Haque, FICE, CEO of BCL.

Information on the training activities in the next quarter is available from Head of CenTR at:

Tel:+880-2-7914991~4

Fax: +880-2-8991414

Email: centr@bclgroup.com, bcl@bclgroup.com □

Dr AAM Shamsur Rahman

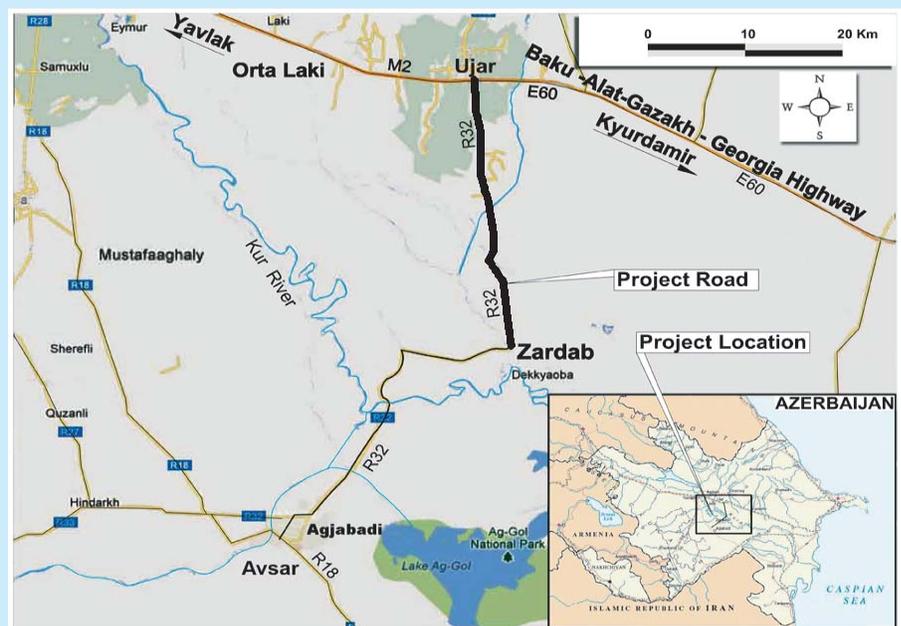
UJAR-ZARDAB-AGJABADI ROAD IN AZERBAIJAN

contd. from page 01

Azeri GDP grew on an average more than 15% between 2001 and 2011 of which highest rates were 26.4% in 2005, 34.6% in 2006 and 41.7% in 2007, probably the highest in the world. But since 2008 it has declined to 10.8% or less in subsequent years. More than 50% of the GDP and 80% of export earning is coming from oil revenue. The government has adopted policy for diversifying the economy by

emphasizing non-oil sector to bring balance between sectors and regions of the country. The country has a massive economic expansion plan under Vision 2021, which envisages huge investment in infrastructure and transport facilities. To support and sustain the Vision the ministry of transport has launched a strategic transport development plan for 2006-16, funded by different international donors. The improvement of Ujar-Zardab-Agjabadi Road is a part of the strategic plan.

The 76 km long Ujar-Zardab-Agjabadi Road passes through south central region connecting two national highway systems of the country: (i) Baku-Haji Qabul-Ujar-Yevlakh-Ganja-Gazakh-Georgian Border road, M4 (part of TRACECA, Europe-Caucasus region and Asia transport corridor via former silk road) with (ii) south and southwest region of the country via Baku-Alyet-Horadiz-Iranian border road, M6 to get to Naxichevan Autonomous Republic. There are towns and commercially



Map showing the location of the Project Road



BCL Field Survey Team holding discussion with the Zardav city Mayor about the Bypass

important centers along the alignment, the important among them are Ujar, Zardab and Agjabadi cities. The road improvement and rehabilitation will bring about development to the area giving additional boost to trade and commerce, agriculture, services and agro-based industries. The overall impact of the road is expected to induce GDP growth and reduce the high poverty rate of the region.

The objective of the study is to undertake feasibility of the up-gradation and rehabilitation of the road from category III to category II. The road was built in the 1960s and 70s and has deteriorated due to traffic pressure and lack of proper maintenance. The existing road is 12 meter wide including a 7 meter paved roadway and 2.5 meter shoulder on each side. The road will be improved and upgraded according to the SNiP category II having 15 meter wide roadway including two standard lanes of 4.5 meter each and 3.0 meter shoulder on each side.

BCL Associates Limited was awarded the TA for conducting feasibility study of Ujar-Zardab-Agjabadi Road under an Islamic Development Bank funding. The study is aimed at investigating the

technical and economic feasibility of the improvement considering the costs and benefits of investment as well as requirements of land acquisition, resettlement of project affected persons and alleviation of relevant social and environmental concerns. The

consultants were mobilized in early August, 2012 with the arrival of the Team Leader (also Pavement design engineer) and Highway design engineer in Baku. Within 4 weeks of mobilization and after reconnaissance of project sites and meeting with the client, they submitted the inception report describing proposed methodology and work plan along with schedules of field surveys and investigations.

Three main areas of emphasis identified were: (i) investigation of current conditions of the road, its alignment, pavement, bridges and drainage structures including the Kura river bridge, and assessing the needs of their upgrading; (ii) investigation of matters relating to the technical and economic feasibility of the project giving detailed justification for up-gradation of existing roads, bridges and drainage structures including needs for bypasses at Zardab and Agjabadi cities; and (iii) recommendations for procurement of works and preparing Terms of Reference (ToR) for construction and Tender Documents for detailed engineering design phase.

After the Inception period the consultants prepared road alignment design including bypasses (town and village), major

intersections, curves, bridge locations, vulnerable sites etc for 120 km per hour design speed at free flow level of service. Investigations undertaken are environmental, socioeconomic and traffic studies, road and bridge condition inventory, topographic survey, soil and pavement survey, geotechnical investigation.

The consultants are at the stage of analyzing the data and preparation of the draft final reports, which will provide preliminary engineering design, drawings and land use plan, cost estimates, land acquisition and resettlement plan, traffic forecast and economic analysis and recommendation on investment plan. Reports will be submitted within mid-Nov, 2012.

The study will help the government of Azerbaijan to take decision regarding construction of the Ujar-Zardab-Agjabadi road to appropriate design standards. □

M A Aziz/

Md Rafiqul Islam

TEESTA BRIDGE OPENED TO TRAFFIC

contd. from page 01

of Bangladesh with a consortium of three contractors headed by Al-Amin Construction Company Ltd of Bangladesh on 10 August 2006 for construction of a standalone road bridge located at the 21st km of Rangpur-Kurigram Highway. The project received financing from KFAED Loan # 675. Notice to proceed with the civil works was issued to the Contractor on 07 Sep, 2006 to complete the project by 06 Sep, 2009.



A view of the 750 m long Teesta Bridge

The Roads and Highways Department under the Ministry of Communication is the Executing Agency. The Additional Chief Engineer, RHD is the Project Director and Engineer to the Project. BCL-TAEP-STUP JV was appointed the Consultants for Preconstruction Services and Construction Supervision with BCL as the lead company and the JV to act as the Engineer's Representative.

The bridge is presently carrying about 2,500 vehicles (motorized) per day while the road is having traffic over 3,500 vehicles including NMT. By 2015 the bridge is expected to carry more than 4,000 vehicles per day. It provides an immense opportunity for development of Burimari Land Port as a sub-regional transit and traffic hub between Bangladesh, Northeast India (Cooch Bihar and Jalpaiguri of West Bengal and Aasam), Bhutan and Nepal. At present the port is handling about half a million tons of import-export cargo per year which may increase several fold with the implementation of sub-regional transit agreement between the countries. Inter alia the bridge connecting Rangpur-Kurigram N56 and Teesta-Lalmoirhat-Burimari N59 Highways will definitely encourage economic and social

development within the region and contribute to poverty reduction and emancipation of Northwest Bangladesh from "Monga".

The 750m long Main Bridge consists of 15 spans @ 50m each. The superstructure is constructed of 75 prestressed concrete I-girder with a 10.3m wide RCC roadway deck and 0.905m footpath on each side. The total width of the bridge is 12.11m. The other works involved River Bank Protection, toll plaza, drainage structure etc. An approach road 2320m long with ancillary works has been constructed. The bridge will have computerised toll collection system. The appurtant electrical and mechanical works will be installed separately by RHD. The bridge is designed to meet BIWTA navigational requirement for Class III Route and has a horizontal clearance of 50m and vertical clearance of 8m.

The Consultants' primary assignment included preparation of the reference design, preconstruction services, supervision and monitoring of construction, preparation of progress and other reports, conducting quality control, implementation of environmental management and social action plans, certifying the Contractor's payment applications and interim and final hand-over certificates including carrying out contract closing activities and providing assistance to RHD in administration, financial and other services required within the scope of this assignment.

Late approval of the alternative design of the bridge, flash flood

caused by the opening of waterway of Teesta Barrage at the upstream of the Project during monsoon and irregular payment to the Contractor primarily contributed to delay to the project completion. However, the project has been completed with total quality management and due diligence.

The author was the Consultants' Team Leader, resident at site, for construction of the Project. □

M A Sobhan

FUTURE PROOFING INFRASTRUCTURE IN COASTAL BANGLADESH

Bangladesh is one of the world's most vulnerable countries to climate change because of its geographic location and low deltaic floodplains. Increased risk of severe flooding, more frequent extreme weather events, salinity intrusion and a potential sea level rise pose new risks to the rural infrastructure, particularly in the coastal districts. The roads, bridges, embankments and drainage will be impacted by overflow, stronger velocities of water flows, increased salinity intrusion, all of which will adversely affect their structural integrity and durability and lead to reducing effective service life.

Climate change threatens the significant achievements made by Bangladesh in the last two decades in raising income and reducing rural poverty. In the countryside women are more vulnerable to extreme climate events because of limited mobility and poorer access to economic opportunities. It is estimated that by 2050 the climate change will impact an increase in

temperature by over 01°C and sea level rise of about 30cm. This could make an additional 14% of the country highly vulnerable to flooding and dislocate more than 35 million people. With the outstanding adaptation deficit, according to a recent estimate 87% of the country's road network is at risk of being inundated by up to 0.5m due to climate change by 2050. The World Bank Development Research Group (Environment and Energy Team) in its report of Nov, 2010 estimates the cost of adaptations in railway, road, embankment and drainage infrastructure to offset this additional inundation alone would be to the tune of USD 2.7 billion.

ADB and KfW are co-financing a PPTA-7902: "Climate Resilient Infrastructure in Coastal Zone" to LGED - Local Government Engineering Department, aimed at helping to future-proof built environment against the key threats of excessive temperatures and flooding caused by climate change. The project, while enhancing durability and sustainability of infrastructure, aims at improving livelihoods in the nine coastal districts prone to climate variability. The project will consider climate proofing options for both engineering and non-engineering development programmes. The engineering aspects will address the need to improve resilience against predicted climate change risks to engineering structures, while non-engineering issues include maintenance planning and early warning capacity building, awareness development and dissemination and environmental management. The nine project districts cover a total area of over

25,500 sqkm and a population of 13.5 million (2011). There are about 2,750 km of sea-defense embankment and 5,670 km of paved roads in the project area.

AECOM of Hong Kong in association with BCL and BETS of Bangladesh are the consultants to the TA. BCL is providing services of a Coastal Hydrologist, a Participatory Development Specialist and a Poverty Reduction Specialist in the team. The study has been completed in July, 2012. □

Md Rezaul Karim Chowdhury

CONSTRUCTION AT SAUDI MILITARY ATTACHE COMPLEX AT DHAKA

Construction of Saudi Military Attache complex in Bangladesh at Baridhara Diplomatic Enclave is substantially completed. The work start was reported in this Newsletter #56.

The project was split in three phases. Initially Phases I & II were taken up for construction. The administration building was the main element of Phase I works while the guest house is the main component of Phase II works. The administration building is a two storey 250 sqm structure and has a car park for 40 vehicles. The guest house (210 sqm) is also a two storey structure and has a swimming pool. The complex has

its own electrical sub-station and a stand-by generator and is fully under CCTV camera surveillance. Residential villas are to be constructed in Phase III.

The Phase I works commenced in end May 2010 and Phase II works, a year later, in April 2011. The project execution period for each Phase was 18 months. The Phase I was successfully completed and handed over to the Owner in December 2011. The final inspection of Phase II works was carried out by the Saudi technical experts in early September 2012 and are scheduled to be handed over within 15 November 2012.

The contractor for both the Phases was M/s Mir Akhtar Hossain Ltd, one of the well known construction firms of Bangladesh. The architectural and engineering designs were provided by RAMZ Engineering Consultant of Saudi Arabia. BCL Associates Ltd provided construction supervision.



Frontal view of the Saudi Military Attache Complex at Baridhara, Dhaka

The low rise structures with ample open space is a departure from the concrete jungle that the city bears all around. □

Sufee Mustaque Ahmed

ELECTRICAL DISTRIBUTION NETWORK OF DESCO

Dhaka Electric Supply Company Ltd (DESCO) has taken over O&M activities of the distribution network of the greater Mirpur area of DESA with effect from 24 September, 1998 with an objective to reduce system loss. DESCO's present area coverage includes Gulshan, Banani, Baridhara, Uttara and Tongi with a maximum demand of 622MW and now new areas viz Purbachal Model Town and Uttara Phase 3 have been added to its jurisdiction. Expected power demand of this added area will be around 700MW.

The present service area of DESCO of about 220 sq km and approximately 44.6 million consumers are fed through some 3300 km line and 20 nos 33/11 KV substations of a total capacity of 770/1078 MVA. In 2009-10 the bill collection efficiency of the utility had been a remarkable 98.75% and the system loss came down to 8.86%. This was achieved by efficient handling of operation and maintenance of plant and equipment and lines, improved customer service, introduction of computerized billing system and strict monitoring of bill collection activities.

BCL has been providing engineering consulting services to DESCO almost since its inception. Major involvements had been,

- Asset Valuation Project (ADB TA), responsible for inventory of the physical assets of the DESA's Mirpur Division and costing thereof to be handed over to DESCO in 1997.

- Preparation of Project Concept Paper (PCP) for Planning and Renovation of Distribution Network of DESCO in 2003.
- Preparation of PCP for Replacement of Service Drops as per Standard of DESCO Distribution System in 2003.
- Preparation of Tender document suitable for local competitive bidding for extension of 2 nos. 33KV bay at Digun S/S's 33KV bus in 2004.
- Preparation of PCP for Planning and Upgrading of power feeding and Distribution System under DESCO area in 2004&2005.
- Preparation of Rules and Regulation for line construction work under deposit scheme of DESCO in 2007.
- Preparation of RFP for construction of Kallyanpur S&D office building of DESCO at Agargoan in 2007.
- Design and preparation of Staking Sheets and Operational Single Line Diagram(SLD), Mapping and pole numbering for New & Renovated Existing distribution system at Tongi Division(East) of DESCO in 2007&2008.
- Study on re-distribution for load balancing of existing 5 feeders of Tongi substation-1 and preparation of report with recommendation for 12 feeders bifurcation of two new substations at Tongi on the basis of loads including SLD in 2008.

Recently BCL provided consultancy service for design and preparation of staking sheets and Operational SLD for New

and Renovated distribution system of Pallabi S&D Division of DESCO at Mirpur. The assignment was completed in Feb 2012. The author was the Project Manager. □

AKM Anwarul Quadir

SOUTHERN AFRICA MOST AFFECTED BY CLIMATE CHANGE

Climate change is the greatest threat to humanity and the grand irony is that humans might be the architects of their own downfall, said Derek Hanekom, South Africa's Deputy Minister of Science and Technology at the signing of a declaration that will establish a regional science centre to support cross-border research into climate change.

Speaking at the signing ceremony on Wednesday the 18th July, Hanekom said although sub-Saharan Africa is not the biggest culprit when it comes to pollution, it is the most affected by the impact of climate change.

With the assistance of the German government, five southern African countries, Namibia, South Africa,



HE Mr. Derek Hanekom Deputy Minister of Science & Technology, South Africa signing the Declaration



BCL NEWSLETTER

is a magazine of BCL Associates Limited an international consultancy practice with its head office in Dhaka.

The newsletter reports quarterly on the activities of BCL and its member organizations.

Articles in the BCL NEWSLETTER may be reproduced with acknowledgment of the source.

EDITORIAL BOARD

Mahbub Haque (Editor in Chief) Kazi M Huque

&

Dr AAM Shamsur Rahman

PRODUCTION AND PRINT

Space Media, Dhaka

CONTACT ADDRESS

BCL Associates Limited House 12, Road 20, Sector-11 Uttara, Dhaka-1230, Bangladesh

Tel: +880-2-791 4991

Fax: +880-2-899 1414

Email: bcl@bclgroup.com

Bangladesh Consultants (Pty) Ltd

Plot No. 15596, Broadhurst Ext 44

PO Box 1892

Gaborone, Botswana

Tel/Fax: + 267-393 5116

E-mail: bclbots@botsnet.bw

Contact person:

Mr Hailu Alemayehou

BCL Zambia Ltd

TAZAMA House, 2nd Floor

PO Box 250046

Ndola, Zambia

Tel/Fax: +260-2-610 381

E-mail: bcl@zamtel.zm

Contact person:

Mr Cornwell M Hampande

Address

correspondence to

Editor in Chief

BCL NEWSLETTER

Zambia, Angola and Botswana will establish the Southern Africa Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL). The signing of the joint declaration effectively inaugurated the centre.

SASSCAL aims to strengthen trans-boundary science and technology development in the SADC region using regional and international expertise. Namibia will host the SASSCAL secretariat. The centre will be established by August 2012. □

BCL is active in southern Africa and has presence in Botswana and Zambia.

The Namibia Economist

IN THE COMPANY



Abu Ahmed Tarequeuzzaman, 39, graduated with a First Class in civil engineering in 1995 from BIT, Khulna. Tarequeuzzaman, after a brief employment with a construction firm (1995-96), joined BCL as an Assistant Engineer in 1996 on the Second Road Rehabilitation and Maintenance Project (1996-99) and subsequently worked on Flood Damage Restoration Projects (1999-2001) and (2001-03); and as a Quantity & Contract Engineer in Road Sector Reform Project (2005-09). He is currently deployed under the company's ongoing Joydevpur-Mymensingh Road Improvement Project as a Senior Quantity Engineer (2009-till date).

JOINING BCL FAMILY

We welcome the joining of:

(1) **Md Morshedul Alam**, 55, in the company's South-Western Bangladesh Rural Development Project (SWBRDP) as a Monitoring Engineer on 25 Aug; and (2) **B M Nural Absar**, 21, as an Assistant Engineer in the Design Section of the company on 6 Sep, 2012.



We wish them success in their endeavours and hope that the company will benefit from their professional contributions.

CONGRATULATIONS

Our heartiest congratulations to:

We are proud and happy to share the success of:

Imran Hasan Shawon, 15, son of BCL Accountant Md Shahidullah for securing A+ in eight subjects and a total GPA of 5 at the SSC Examination held under the Dhaka Board in May 2012. We wish him every success in his future academic pursuits.



WE MOURN



Arch Muzharul Islam, (1923-2012), a doyen among the fellow professionals, whose passing away on 15 July at the age of 89 has created a deep void and an irreparable loss to the country and his family.

Engr M A Matin (1945-2012)

formerly a Chief Engineer at the Power Development Board, who passed away on 13 Jul at the age of 67. At his demise the profession lost a person of notable integrity and commitment and his friends and associates a person of most amiable disposition.



We offer our deepest condolences to the grieving families of Arch Islam and Engr Matin and pray to the Almighty for granting His blessings of eternal peace to the departed souls and for giving the families the strength and fortitude to bear the loss.

