Bangladesh

By Ken Zita

Bangladesh is an immensely promising telecom market – but one that seems to be continually waiting to happen. With a population of 147 million but only 2.3 million working phones, the upside for telecommunications is huge. An average of fewer than 60,000 fixed lines are added each year by the incumbent provider, the Bangladesh Telegraph and Telephone Board (BTTB), due to limited direct funding from the state. Mobile has topped 1.3 million subscribers since introduction in 1996, but interconnection problems weigh heavily on investment stability and wider consumer adoption.

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Despite clear market demand and “Greenfield” potential, growth has been hampered by the historical absence of a clear sector roadmap. A bitter rivalry between the two dominant political parties in recent years has made telecommunications prey to partisan infighting. Good intentions proposed during the reign of one government often fail to be executed under the following regime. The political ping-pong has laid a heavy toll on the national operator and on stable market conditions for competitive service providers.

The National Telecommunications Policy, issued in March 1998, offers broad intentions for market liberalization but offers few concrete prescriptions for reform. On December 11, 2003 Prime Minister Khaleda Zia said, "Our aim is to build an ICT-driven nation comprising a knowledge-based society by the year 2006." Dramatic progress in basic telecom infrastructure is required for this vision to become a reality. The Bangladesh Telecommunications Regulatory Commission (BRTC), established in January 2002, is pushing new initiatives to introduce open up competition in local loop services, rationalize the spectrum policy and establish formal controls over interconnection to stimulate penetration and improve quality of service.

Key Indicators

People's Republic of Bangladesh	
Population	138.4 million
GDP	$46 billion
GDP real growth*	4.8%
GDP per capita	$380
PPP	$238.2 billion
PPP per capita	$1,800
Literacy	43.1%
Phone lines	950,000 (2004)
Telephone density	0.69 (2004)
Mobile phones	1,300,000 (2004)
Mobile density	1.59 (2004)

Sources: CIA Factbook, US Department of State, Network Dynamics Associates

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Political and Economic Brief

Bangladesh is today a thriving democracy – a democratic leader in the Muslim world – but its political history has been a rough ride in the 33 years since its 1971 separation from Pakistan.

The modern state of Bangladesh is the western half of the former region of Bengal, divided in the 1947 partition of British India between India and Pakistan. The Muslim-dominated, populous western half of Bengal became East Pakistan and today constitutes modern Bangladesh. The eastern, Hindu-majority section became the Indian province of West Bengal. The arrangement with Pakistan never suited the Bangladeshis, who speak a different language and resented the imposition of the Urdu language and authority from Islamabad. Early autonomy movements, political frictions with Pakistan, and an exodus of 10 million Bandeshis to India all led to a bloody war with Pakistan and independence in 1971 – a war in which India provided critical military support. Bangladesh became a parliamentary democracy under a 1972 constitution vesting most power in the prime minister.

Although democracy was restored in 1990, Bangladesh spent 15 years under military rule. Today Bangladesh has 30-40 political parties but four large ones dominate government: the BNP that currently leads the ruling coalition, the Awami League, the Jatiya (Ershad) Party, and the Jamaat-e-Islam Party, a coalition partner of the BNP with two ministers in the Cabinet. Analysts believe that decades of antagonism between the two core ruling parties, the Awami League, which governed until the end of its term in July 2001, and the Bangladesh Nationalist Party (BNP), reflect personal animosity between their leaders, and the families behind them, rather than merely ideological differences per se.

Working relations between the parties is not healthy, and policy proxy battles often play out in an assertive free press. In place of political dialog, the group out of power often turns to populist tactics acted out in the street. In the first quarter of 2004 alone, the Awami League opposition led four nationwide strikes, or *hartals*, that effectively brought the country to a standstill and produced isolated incidents of violence.

The country's modern political history has been a Shakespearean tragedy of political assassinations, retribution killings, devastating natural calamities, and a struggle to improve the standard of living of one of the world's most impoverished nations. Sheikh Mujibur Rahman, the founder, first prime minister and first president of modern Bangladesh, who led early autonomy movements under the Awami League and the Chhatra League, was assassinated in a military coup in 1975. After a brief period of instability, General Zia Rahman assumed the presidency by military coup for the BNP. He, too, was assassinated in an aborted 1981 military coup. Another General, Ershad, assumed power in 1982 until being forced into exile in 1990 by increasing civil unrest and popular demonstrations.

In 1991, former president Zia Rahman's wife, Khaleda Zia, came to power for the BNP as the first female prime minister. Since 1991, Zia has alternated as prime minister in a power struggle with the Awami League's Sheikh Hasina Wajed, the daughter of Sheikh Mujibur Rahman. The Awami League returned to power in 1996 under Sheikh Hasina Wajed's leadership and was the first government since independence to serve a full five-year term. In October 2001 Khaleda Zia was again returned to power as prime minister following a landslide election victory and heads the current four-party BNP alliance.

Political violence continues to plague the country; several mid-level opposition party Awami League officials were murdered in 2003-2004. A far greater risk is rising crime and the deteriorating law and order situation, and the violence apparently by Islamist on religious minorities and so-called secular targets like cinemas. Also disconcerting is the unprecedented 20% rise last year in coordinated raids and sea pirate attacks, including hostage-taking, on gas and oil tankers near Bangladesh and Indonesia. Some analysts warn the trend may presage terrorist planning to use a hijacked gas tanker as a floating bomb at larger international ports in Asia. Bangladesh has also been widely criticized for its human rights record.

Despite these concerns, Bangladesh is widely regarded as one of the most democratic states in the Muslim world and is a leading voice among the least developed countries. It has taken an active role in international organizations and participates widely in UN peacekeeping operations. Partly due to its historical dependency on external aid, Bangladesh has strong local presence of international organizations and the government has effectively harnessed the power of these institutions and resources to combat poverty and address development problems.

Demography and Economy

Bangladesh is mainly a flat alluvial plain, barely above sea level, at the confluence of three rivers with a marshy jungle coastline along the Bay of Bengal. It is one of world's most densely populated countries, with its 147 million people crammed into a delta the size of Wisconsin. Nearly half the population lives well below the poverty line. Bangladesh, along with northeast India and Nepal, encompass much of the region’s hard core poverty. It still has the highest incidence of poverty in South Asia and the third largest number of poor people living in a single country after India and China. Challenges are magnified by a population density of roughly 800 people per square kilometer -- one of the highest in the world. The population is 98% ethnic Bangladeshi. Non-Bangladeshi Muslims (Urdu-speaking) of Indian origin and tribal groups constitute the other 2%. Bangladesh is 88.5% Muslim with a 10.5% Hindu minority. Dhaka is the capital and commercial center, Chittagong is the critical sea port and other key cities are Sylhet, Khulna and Rajshahi.

Flooding is a fact of life as are extreme weather conditions. Natural calamities such as floods, tropical cyclones, tornadoes and tidal bores affect the country every year. Over half a million people died in two cyclones alone, in 1970 and 1988. The government has built many shelters and preventive facilities with international aid since then. Like other countries in South Asia, Bangladesh experiences considerable ecological degradation from urban and industrial pollution. However, some bold steps have been taken recently to improve the urban environment, including banning old buses and converting two-stroke three wheelers to natural gas in Dhaka city.

Weak governance and the need for stronger institutions are among the biggest obstacles to growth in Bangladesh. Strengthening law and order and addressing issues of personal and economic security are also critical to growth.

The macroeconomic environment has improved with sustained and prudent fiscal and monetary policies, and structural and sector reforms. In the past decade, poverty in Bangladesh shrank by 9% due in large part to sustained economic growth at around 5%. Real per capita GDP rose 36% to $389, or $1800 purchasing power parity. GDP growth in 2003 was 5.3%, due to steady growth in agriculture (25% of GDP) and industry sectors with stronger domestic and external demand. A recovery in exports and robust growth in overseas workers' remittances have improved the current account of the balance of payments. Conservative financial policies have augmented foreign exchange reserves to nearly $2.5 billion by end-June 2003.

Bangladesh has also achieved near self sufficiency in food production and made good progress in improving disaster management capacity and social safety nets. Half of GDP is generated through the service sector, while nearly two-thirds of Bangladeshis are employed in agriculture, with jute, rice and tea as the most-important products. Health and education levels in Bangladesh have improved remarkably and infant mortality has fallen by half in recent years -- faster than any other country.

The majority of the population, however, continues to suffer from poor health, malnutrition, and lack of access to health care services and basic infrastructure. Waterborne diseases remain a major cause of mortality and morbidity. Arsenic contamination has become a threat to many, and the potential rise of HIV/AIDS is a special concern. Literacy is among the lowest in South Asia at 40.5% and women form the majority of the destitute. Women are denied basic human and legal rights, though the Government has undertaken initiatives to remedy the traditional imbalance.

Bangladesh is still unable to meet the demand for jobs. Many Bangladeshis, like others in the region, seek work abroad, sometimes illegally. Although controversial, Bangladesh, India and Pakistan are the three sites for large-scale ships, including the U.S. Navy's, used for scrap metal and equipment, providing jobs to over 100,000 Bangladeshis in Chittagong. The country is trying to diversify its economy, with industrial development a priority. Overseas investors have pumped money into the manufacturing and energy sectors. With limited natural resources, onshore and offshore gas reserves hold out some chance of future prosperity. There has been a debate about whether the reserves should be allocated for domestic use or exported. Some international energy companies are involved in the gas sector. Oil drilling in three spots by an Irish concern began in late 2003 and holds future prospects.

Increased foreign direct investment has increasingly supported infrastructure, energy, and export-oriented manufacturing. From a trickle in the 1980s, inflows rose by $400 million in 1997-98 and now exceed $1 billion because of an anticipated boom in the gas sector that never happened. In the last few years, new inflows of FDI have fallen below $50 million per annum. The Asian Development Bank (ADB), Japan, and the World Bank continue to be the largest external financiers of development projects in Bangladesh. Substantial progress has been achieved under the ADB-assisted South Asia Subregional Economic Cooperation (SASEC) program, which aims to initiate and institutionalize cooperative dialogue among Bangladesh, Bhutan, India, and Nepal. Besides a road network improvement project and ongoing assessments of the regional railway and power projects, the pipeline also includes assistance to improve the efficiency of Bangladesh's Chittagong port as a regional hub.

Although recent policy reforms have removed many obstacles to privatization and restrictions on private investments, the environment for private sector development remains restrictive. Of particular concern are the country's weak governance (resulting in high transaction costs in doing business), inadequate physical infrastructure and social/human capital, inefficient financial system, and an unfavorable global environment. There is also a considerable gap between policy pronouncements and implementation.

Telecom Policy Environment

Despite obvious market potential, Bangladesh's telecom environment has been affected by the broader political climate. There does not appear to be a clear, long-term strategy for sector development that is supported by the central government. To outside observers, industry reform proposals appear to be subject to changes in the political tide; both parties have sought to block initiatives vetted by the opposition, and each accuses the other of favoritism in assigning major projects. The Regulator, formed only in 2002, is just beginning to exercise supervisory and administrative authority and to build the depth of expertise required to administer sector reform. Many of the basic instruments of industry management – enforceable rules for interconnection; a radio spectrum monitoring and allocation policy; and clear guidelines for market liberalization and competitive entry – have yet to be promulgated. The 1998 Telecommunications Policy outlines broad principles and long-term development goals but is not a concrete roadmap for the near future. The few specific development it defines– for example, raising the teledensity to 1 line per hundred by 2000 – have not been achieved. According to government officials, there are no immediate plans to update the policy.

The Bangladesh Telecommunications Regulatory Commission (BTRC) was formed following the accession to power of the Bangladesh Nationalist Party (BNP) government led by Prime Minister Begum Khaleda Zia and the passage of the *Bangladesh Telecommunications Act, 2001*. The Commission is nominally an independent body but its senior ranks are drawn from Bangladesh Telegraph and Telephone Board (BTTB), the incumbent. The private sector is not represented on the Commission.

Several significant initiatives have been initiated by BTRC as of early 2004. First, it seeks to establish a systematic carrier interconnection regime. No such system exists today. Service providers are prone to predatory pricing and to refusing access to competitive operators. An estimated 85% of calls originating on mobile networks fail to complete on the public switched telephone network. Calls between mobile networks have also been severely constrained. Subscribers commonly maintain accounts from multiple providers due to the challenges of connecting calls between networks. In late 2003 the mobile industry celebrated a minor victory when, after five years of operations, the first trunk exchange was put into service to facilitate calls from one network to another. GrameenPhone is the largest mobile provide and dwarfs both fixed line and mobile competitors in number of subscribers. Today all interconnection agreements are arranged on a bilateral basis, with no performance, service quality, network availability or pricing obligations imposed by the Government. BTRC hopes to introduce a formal interconnection plan this year.

Resolution of the interconnection issue is a strategic prerequisite for meeting BTRC's most pressing market liberalization initiative: throwing open fixed line network to competition. In an effort to spur the country's extremely low teledensity of 0.64, and to resurrect a liberalization effort that failed in 2000, BTRC is inviting investors to submit applications for local loop franchises on an open license basis. The country has been divided into five regions, ranked in categories reflecting decreasing licenses fees:

Category 1: Dhaka Metropolis
Category 2: Greater Dhaka and Sylhet
Category 3: Chittagong and Comilla
Category 4: Barisal and Khulna
Category 5: Rajshahi and Rangpur.

Dhaka city – with a total population of approximately 18 million when the greater urban region is included – has been kept out of the open licensing system as WorldTel Holdings has a prior license for a 300,000-line network in the capital. WorldTel served legal notice to Government in January 2004 in effort to preserve the four-year period of exclusivity proscribed in its license. BTRC maintains that the exclusivity contravenes its efforts to introduce greater competition. Characteristic of the Bangladesh market environment, the standoff has political overtones. WorldTel's contract was awarded in July 2001 during the Awami League administration. In the near term, at least, BTRC is not likely to include central Dhaka in the local loop market liberalization effort.

The BTRC has fixed Tk 50 million (~$850,000) as the minimum fees for the PSTN licenses. Companies also need to demonstrate technical competence and financial backing. Different license fees apply for the five regions; a nationwide license can be obtained.

Until the interconnection regime is put in place, BTRC runs the risk of adding a number of new service providers to the marketplace without an effective mechanism for managing inter-carrier technical links and commerce.

A third BTRC initiative is intimately tied to local loop licensing: definition of a policy for radio spectrum. The need for an explicit spectrum policy is becoming acute as new local loop operators are likely to request radio frequency to deploy wireless solutions in lieu of last-mile copper networks. Historically spectrum has been issued through allocation, without a formal band plan. Many of the allocations that have been made would be considered extremely generous by world standards. For example, industry observers indicate that BTTB has been issued 30 MHz of spectrum for a mobile operation – but does not own or operate a mobile network at this time. Similarly, the principle provider of CDMA services, CitiCell, enjoys 20 MHz of bandwidth in the valuable 800 MHz range. BTRC has received a technical assistance grant from the World Bank to establish a frequency monitoring and management capability. It hopes to rationalize its allocation plan and develop a scheme for efficiently distributing frequencies to the market. After the management capability is in place – perhaps early 2005 – it expects to undertake its spectrum rationalization program. In the meantime, new local loop providers will petition BTRC on an ad hoc basis.

A fourth initiative currently being forwarded is the introduction of two new mobile licenses in 2004. Four providers are already in the market: GrameenPhone, Aktel, Citicell and Sheba. One award is widely expected to be granted to BTTB, which has proposed a mobile network for several years but has not been able to secure investment funds from the government. Additionally, press reports suggest that an "Indian Company has (the) blessings of a top political scion" to enter the market. At the time of this writing it is not clear what procedures will be adopted for tendering or license award selection.

Other topics that have been high on the government's list of priorities include VoIP. The gray market for Internet telephony has exploded in recent years. The service became allowed through a Cabinet decision but as of March 2004 BTRC has not issued a license procedure. BTTB is reported to have made its VoIP service operational on the day the measure passed cabinet approval. Various small VoIP resellers operating without a license are believed to be politically well-connected. Other participants in the sector have largely chosen not to introduce VoIP services quickly out of fear of legal or criminal reprisals. The Federation of Bangladesh Chambers of Commerce and Industry (FBCCI) urged the government to suspend BTTB's service until official licenses can be issued.

Other important initiatives include the restructuring and corporatization of BTTB, and comprehensive technical assistance for BTTB, BRTC and the Ministry of Post and Telecommunications. World Bank rarely invests in the telecommunications per se but will provide the government with $9.12 million in technical assistance, an amount believed to exceed total direct foreign investment in Bangladesh's telecommunications sector last year. Efforts to reform BTTB have been on-again, off-again for several years. Local expectations are high that World Bank's commitment will help catalyze a lasting program for reform.

Telecom Market Environment

Bangladesh is estimated to have about 950,000 fixed lines (density of 0.69) and 2.2 million mobile telephones (density of 1.59), or just over 3 million total phone connections. In rural areas, phone penetration is estimated at approximately 3 phones per 1000. Public Call Offices (PCO), kiosks set up by private individuals, are the most widespread form of telephone access for most customers in Bangladesh. BTTB has been the fixed line services monopoly but its nominal role as the dominant provider has been eclipsed by GrameenPhone, the largest mobile operator with an estimated 67 percent mobile market share (and 56 percent of lines overall).

BTTB dominates the fixed line sector (www.bttb.net.bd). With a staff estimated at approximately 60,000, BTTB is more a civil service government department than a commercial telephone company. It operates a national switched telephone network with 950,000 lines as of March 2004. BTTB has installed on average only 58,000 lines per year from 1998-2002 (but about 100,000 in 2003). A significant portion of the existing network is comprised of vintage switches and aging copper transmission facilities in desperate need of replacement. BTTB had hoped to reach 913,000 lines by 2002 but did not reach the target due to inadequate funding from the government. As a state institution, its access to capital has been constrained by higher budget priorities such as health, poverty reduction, population control and so on; telecommunications is not designated as a national development priority. Despite running a net profit, BTTB has been seriously undercapitalized for years. At the same time, the company has been mandated to deploy loss-making services in rural areas, further weakening its financial position. Costs for installing fixed network have also been made artificially high due to bureaucratic issues within the government: BTTB estimates that building permits for road construction from other departments can add up to 35 percent of the cost fixed lines, though future WLL systems will largely circumvent these charges. The waiting list for service for basic phone service is estimated at 211,000 while the call completion rate is estimated at about 40 percent.

Priority BTTB expansion plans, subject to financing, include:

- 500,000-line digital switching expansion in main cities over a 2-3 year period, including adoption of WLL loop technology for local access, totaling expenditures of up to $340 million;
- District center local networks project, for up to 200,000 lines;
- Nationwide optical access network. BTTB is already installing a long-haul fiber network, particularly in the Dhaka-Chattagong corridor, but seeks to connect all of its digital exchanges with fiber. ;
- Submarine cable connection to Se-Me-We-4, estimated to cost $40 million;
- Internet backbone network project;

Microwave is the more common technology used in the backbone. To remote district centers, BTTB employs digital UHF links.[1]

BTTB is likely to be restructured beginning in 2004. Additionally, a long-planned process to privatize and sell-down the government's ownership position is likely to gain some momentum with increased technical assistance from World Bank.

GrameenPhone (www.grameenphone.com), majority owned by Norwary's Telenor, launched its GSM network in 1997. It pioneered a much-admired micro-credit program enabling consumers, primarily women in rural areas, to acquire phones and establish local public call offices (PCOs). As significant, Grameem struck an exclusive deal with the state railways corporation for dark fiber, and quickly completed a nationwide high-speed footprint to connect its remote base stations. With approximately 1.3 million subscribers and a powerful commercial and physical network distribution capability, Grameen has become the dominant operator in the marketplace. Its network, however, is confined to GSM services. Early stage funding came from the International Finance Corporation, Asian Development Bank and Commonwealth Development Corporation; that debt is currently being restructured to commercial arrangements, enabling the firm to move beyond project finance covenants. Grameen became cash flow positive after its four fiscal year. ARPU for pre-paid customers is in $10-12 range; post-paid customers will full interconnection to the public network pay about $25 per month.

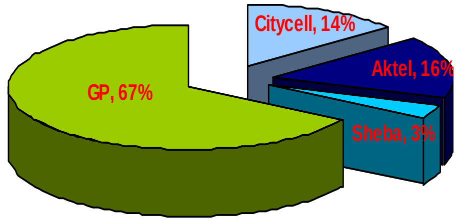
[1] Details regarding the existing network can be found at: http://www.bttb.net.bd/home/Annual_Report

The other three mobile phone operators include

- **"Aktel" -- TM International** (Bangladesh) Ltd (http://www.aktel.com/), is a 70:30 joint venture between Telekom Malaysia Sdn. Bhd and A. K. Khan & Company Ltd. of Bangladesh. It started its GSM service on 15th November 1997 and later expanded to Chittagong. As at January 2004, TMIB has an estimated 346,897 subscribers, of which 202,897 are prepaid and 144,000 postpaid. It has an estimated 16 percent market share.

- **"Citycell" - Pacific Bangladesh Telecom Limited** (PBTL) (http://www.citycell.org/), first deployed an AMPS infrastructure and has recently upgraded to CDMA 800, the only provider using the technology in the market. Citycell has also constructed an SDH microwave network connecting Dhaka - Chittagong and Dhaka – Sylhet. Citycell has approximately a 14 percent market share.

Mobile Market Shares, 2003



Source: GrameenPhone

- **Sheba Telecom** (http://www.shebatel.com/), by far the smallest of the mobile operators, is a 51:49 joint venture between Malaysia's Technology Resources Industries Berhad and Bangladesh's Integrated Services Limited (ISL). It began with a rural fixed line operating license and subsequently expanded its WLL network into GSM mobiles in Dhaka, Chittagong and Sylhet. Sheba is estimated to have a 4 percent market share.

Rural operators include BTL, Bangladesh Telecom (Pvt.) Limited (BTL), which provides Radio Trunk services in rural areas and on maritime waterways, and the Bangladesh Rural Telecom Authority (BRTA) which offers rural services.

WorldTel Bangalesh (profiled in Projects) has a license for 300,000 lines for Dhaka city. The firm is likely to deploy a CDMA 1800 network beginning in late 2004.

Another local provider, Bangladesh Broadcasting Telephone and Technology (BBTT), has been issued a license for a Personal Handyphone System (PHS) network but has not deployed after several years.

Also, today in Bangladesh it is estimated that more homes are connected with Cable TV than telephones. Cable networks are however typically low-tech, broadcast-only neighborhood systems.