

Performance
Evaluation Report

Bangladesh: Grameenphone Telecommunications Project and Grameenphone Telecommunications Expansion Project



**Performance Evaluation Report
March 2013**

**Bangladesh: Grameenphone
Telecommunications Project and
Grameenphone Telecommunications
Expansion Project**

Reference Number: PPE:BAN 2012-02
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NOTES

- (i) The fiscal year of Grameenphone ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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Abbreviations

ADB	–	Asian Development Bank
BTS	–	base transceiver station
CAGR	–	compound annual growth rate
CDC	–	Commonwealth Development Corporation
CO ₂	–	carbon dioxide
EIRR	–	economic internal rate of return
ESHS	–	environmental, social, health, and safety
FIRR	–	financial internal rate of return
GSM	–	Global System for Mobile Communications
HSSE	–	health, safety, security, and environment
IFC	–	International Finance Corporation
IPO	–	initial public offering
MOPT	–	Ministry of Posts and Telecommunications
Norfund	–	Norwegian Investment Fund for Developing Countries
PCR	–	project completion report
RRP	–	report and recommendation of the President
SIM	–	subscriber identity module
SMS	–	short messaging service
VPT	–	village pay telephone
WACC	–	weighted average cost of capital

Currency Equivalents

Currency Unit – Bangladesh taka (Tk)

	At Appraisal (20 November 1997)	At Completion (13 July 2005)	At Independent Evaluation (17 December 2012)
Tk1.00 =	\$0.0222	\$0.0157	\$0.0124
\$1.00 =	Tk45.00	Tk63.67	Tk80.62

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Basic Data

Investment No. 7143-BAN and Loan No. 1603-BAN

Key Project Data	As per RRP (\$ million)	Actual (\$ million)
ADB equity investment	1.6	1.6
ADB senior loan	30.0	16.7

Key Dates	Actual
Approval of concept clearance	24 February 1997
Board approval	20 February 1998
Loan agreement	7 July 1999
Share subscription agreement	7 July 1999
Equity investment	28 October 1999
First loan disbursement	28 October 1999
Final loan disbursement	30 March 2001

Mission Data		
Type of Mission	No. of Missions	Dates
Fact-finding mission	1	8–28 April 1997
Post-fact-finding missions	2	11–19 September 1997 22–29 October 1997
Pre-appraisal mission	1	17–20 November 1997
Review missions	4	9–16 August 1998 19–23 May 1999 7–10 October 2002 19–21 October 2003
Project completion review mission	1	6–8 March 2005

Investment No. 7194-BAN and Loan No. 2078-BAN

Key Project Data	As per RRP (\$ million)	Actual (\$ million)
ADB senior loan	20.0	20.0

Key Dates	Actual
Approval of concept clearance	25 November 2003
Board approval	26 January 2004
Loan agreement	17 June 2004
First loan disbursement	26 August 2004
Final loan disbursement	26 April 2005

Mission Data		
Type of Mission	No. of Missions	Dates
Fact-finding mission	1	19–21 October 2003
Appraisal mission	1	9–10 December 2003
Project completion review mission	0	Not applicable

ADB = Asian Development Bank, BAN = Bangladesh, RRP = report and recommendation of the President.

Executive Summary

In the mid-1990s, the telephone service in Bangladesh was in a very poor state. The country had one of the lowest teledensities in the world with less than one phone per 100 inhabitants. The situation was worse in rural Bangladesh, where there was less than one phone per 1,000 inhabitants. The industry players then were the Bangladesh Telephone and Telegraph Board, which had a virtual monopoly of the fixed-line telephone service, and Citycell, a mobile phone operator with about 20,000 subscribers. In 1996, the government granted three additional cellular service licenses, one of which to Grameenphone Limited (Grameenphone).

Grameenphone was established in October 1996 and began commercial operations in March 1997. In June 1997, the Asian Development Bank (ADB), the International Finance Corporation (IFC), and the Commonwealth Development Corporation decided to jointly process a project in support of Grameenphone. In January 1998, ADB approved an equity investment of \$1.6 million and a senior loan of up to \$30.0 million. The project entailed the construction and operation of a nationwide cellular telephone system that would provide common cellular services in the main cities, and village pay telephone (VPT) services in rural areas of Bangladesh. In January 2004, ADB approved another loan of up to \$20.0 million for the expansion of Grameenphone's network. ADB jointly processed the loan with IFC and the Norwegian Investment Fund for Developing Countries (Norfund).

The project achieved its main objective of assisting the establishment of a nationwide telephone system that would provide common cellular phone services in the main cities and VPT services in rural areas. By the end of 2011, Grameenphone's mobile services covered 100% of Bangladesh's districts, 90% of the land area, and 99% of the population. The VPT program has also provided telephone access to about 95% of the villages in rural Bangladesh.

In accordance with ADB guidelines, the project was evaluated based on its development outcomes and impact, ADB investment profitability, ADB work quality, and ADB additionality. The project's development outcomes and impact were rated *excellent* based on *excellent* subcomponent ratings for contribution to private sector development; business success; economic sustainability; and environmental, social, health, and safety performance.

The project made a very substantial contribution to private sector development. Grameenphone employs 5,000 people, and another 350,000 people benefit from doing business with the company as suppliers and distribution points. Upstream links comprise 1,200 vendors, half of which are local. Downstream links include 14,000 retail outlets, 100,000 reload points, and nearly 700,000 active VPT operators. Grameenphone has also played a key role in promoting competition by setting high operational, financial, and ethical standards for the rest of the industry to follow. The project likewise contributed to stronger governance and transferred technical and managerial skills to local employees.

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In terms of business success, the project was rated *excellent*. Its real financial internal rate of return was in excess of the threshold for an excellent rating, i.e., the real weighted average cost of capital plus 700 basis points. In addition, the project surpassed all the operational and financial targets that were set during approval. Its contribution to economic development was likewise rated *excellent*, as its real economic internal rate of return was greater than the threshold economic internal rate of return of 20% for such a rating.

The project's environmental, social, health, and safety performance has been exemplary. In 2008, Grameenphone formally launched its Climate Change Program with the objective of reducing carbon dioxide emissions by 40% by 2015 from the business-as-usual situation, with 2008 as the baseline. The company's climate change initiatives include the use of solar energy in its off-grid base transceiver stations (BTSs) or cell sites, the replacement of 7,272 BTSs with energy-efficient modern equipment, the consolidation of core nodes from 40 to 20, the replacement of 6,500 air conditioners in the BTS rooms with direct current ventilation systems, and the inauguration of a new, environmentally friendly building.

The project purposely promoted social development and inclusive growth. The VPT program has provided earning opportunities for thousands of people who serve as VPT operators and has afforded telephone access to previously unserved areas. There are nearly 700,000 active VPT operators in 83,000 of the 87,000 villages in Bangladesh. Grameenphone has also established community information centers that offer low-rate but high-speed voice, data, and other communication services to previously unconnected people. There are 502 such centers in nearly 450 (or about 97%) of the *upazilas* (subdistricts) in the country.

ADB's front-end work quality materially met many of the good practice standards, so ADB's performance in screening, appraisal, and structuring was rated *satisfactory*. ADB's role and contribution was also rated *satisfactory*, as it was in line with ADB operating strategies, policies, and standards. However, ADB's performance in monitoring and supervision is rated *less than satisfactory*, as its practices were inadequate in monitoring the performance of the project and Grameenphone, particularly during the crucial early years. ADB's overall work quality was therefore rated *less than satisfactory*.

ADB investment profitability was rated *excellent*. The financial internal rate of return on ADB's equity investment exceeded the threshold for an excellent rating of 1.3 times the at-approval minimum return expectation. The fees and margins on the two loans were similar to other ADB nonsovereign infrastructure loans that were approved at about the same time as the two loans to Grameenphone. All principal repayments and interest payments were made on time.

ADB's additionality was rated *excellent*, as its finance and its role in bringing in IFC and the Commonwealth Development Corporation were seen as a necessary condition for the timely realization of the project. Without ADB participation, the project most likely would have gone ahead but Grameenphone may not have been able to expand its network coverage and capacity as quickly as it did, which was a key element of its overall business strategy.

The guidelines require an excellent rating for development outcomes and impact, and at least a satisfactory rating for each of the three other criteria, for a

project to be rated highly successful overall. But the guidelines also allow exceptions when justified. This is one of those exceptions, as three of the criteria were rated *excellent* and one was rated *less than satisfactory*. In particular, the exceptionally high development outcomes and impact of the project clearly overshadow the *less than satisfactory* ADB work quality, which is based solely on the inadequate monitoring and supervision of a well-progressing project. The project therefore merits an overall rating of *highly successful*.

The project was well conceived and implemented. Two lessons were drawn from it. Both are obvious, but they still need to be pointed out. The first one is the need to thoroughly review legal documents. A flaw in the wording in one of the agreements could have been avoided. The second lesson stresses the importance of strong sponsors to help ensure the success of private sector projects. The individual strengths of the major sponsors—particularly the extensive business experience and good corporate governance practices of Telenor and the wide distribution network and brand recognition of Grameen Bank—and the synergies between them are the qualities that ADB should look for in project sponsors when considering future private sector operations projects.

There is one major issue. The taxes and fees that the industry is paying are very high. These concern spectrum charges, license fees, revenue sharing, social obligation fund, a corporate income tax that is higher for operators like Grameenphone than for other types of companies, subscriber identity module card tax, and value-added tax on certain services. As a result, only Grameenphone was making a profit as of 2011. The government is clearly trying to raise as much revenue from the industry as possible. But at the rate the operators are losing money, there may be fewer players in the near future, which is not good for the industry, the consumers, and the country in the long run. ADB needs to therefore consider discussing this issue in its policy dialogues with the government.

Vinod Thomas
Director General
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CHAPTER 1

The Project

1. This chapter provides a brief description of the project: (i) how it came about; (ii) some of its key features; and (iii) highlights of its progress.

A. Project Background

2. In 1996, Bangladesh had a telephone density of about 0.3 lines per 100 inhabitants—the 13th lowest in the world and third lowest in Asia at that time. Seventy percent of telephone lines were located in three metropolitan areas—Chittagong, Dhaka, and Khulna. The rest of the country had less than one telephone per 1,000 inhabitants. The sector players during this time were (i) the Bangladesh Telegraph and Telephone Board, which was owned by the government and was the dominant service provider with about 350,000 subscribers; (ii) two rural service providers offering primarily pay telephone services in district centers with about 20,000 subscribers; and (iii) a mobile phone operator with about 20,000 subscribers. In November 1996, the Ministry of Posts and Telecommunications (MOPT) licensed three additional companies to provide nationwide mobile telephone services, one of which was Grameenphone Limited (Grameenphone). Appendix 1 contains more information on the Bangladesh telecommunications sector.

3. Grameenphone was incorporated in Bangladesh in October 1996. Its sponsors were (i) Grameen Telecom, a wholly owned subsidiary of Grameen Bank; (ii) Telenor Invest AS, a wholly owned subsidiary of Telenor AS, the telephone operating company of Norway; (iii) Marubeni Corporation, one of the largest trading companies in Japan; and (iv) Gonofone Development Corporation, a company based in the United States that develops telecommunications projects internationally.

4. Grameen Bank approached the Asian Development Bank (ADB) about the Grameenphone Telecommunications Project in December 1995, a few months after MOPT formally announced the bidding process for the licensing of the three additional mobile phone operators. ADB conducted a reconnaissance mission in January 1997 and a fact-finding mission in April 1997. In June 1997, ADB, the International Finance Corporation (IFC), and the Commonwealth Development Corporation (CDC) decided to jointly process the project. On 20 January 1998, ADB approved (i) an equity investment of \$1.6 million and (ii) a senior loan of up to \$30.0 million for the project. IFC and CDC pledged identical equity and loan amounts to the project. The equity investments were fully injected but only \$16.7 million of the \$30.0 million approved loan amount was drawn from each institution, as Grameenphone requested a reduction of the total loan to \$50.0 million based on a more conservative business plan and consequently slower rollout.

5. In January 2004, ADB approved another loan of up to \$20.0 million for the Grameenphone Telecommunications Expansion Project. This time, ADB processed the

expansion project in conjunction with IFC and the Norwegian Investment Fund for Developing Countries (Norfund).

B. Key Project Features

6. The project entailed the construction and operation of a nationwide cellular telephone system that would provide common cellular services in the main cities, and village pay telephone (VPT) services in rural areas of Bangladesh. The total project cost at appraisal aimed to cover the first 3 years of investment and operations, after which the project was expected to be self-sustaining. However, the demand for mobile phone services grew rapidly and exceeded initial estimates, so Grameenphone needed to expand its network capacity and upgrade its system. The increased total cost of the expansion project was intended to finance the expansion of Grameenphone's mobile cellular network, restructure Grameenphone's capital base, and refinance ADB's and IFC's senior debt.

7. A key component of the project is the 1,800-kilometer nationwide fiber-optic network that Grameenphone leases from Bangladesh Railways. This state-of-the-art high-capacity transmission system allowed Grameenphone to immediately capture a big share of the market, as it was able to expand coverage ahead of the other operators.

8. Another important feature of the project is the VPT program. Grameenphone provides the cellular service but its affiliate, Grameen Telecom, manages the program. Grameen Telecom sells handsets on installment and resells bulk airtime (which it purchases from Grameenphone) at wholesale prices to the VPT operators, who then sell telephone services to their fellow villagers. The VPT operators remit their installment payments and billed airtimes to Grameen Bank branches. The VPT program is discussed in greater detail in Appendix 2.

C. Progress Highlights

9. Grameenphone began operations in March 1997, but it was initially limited to mobile-to-mobile operations (without landline connectivity) and covered only the capital city of Dhaka. In 1999, Grameenphone introduced the first prepaid service in Bangladesh and by the end of that year covered 26 (about 40%) of the districts in the country. By the end of 2008, its mobile services covered 100% of the districts, 88% of the land area and 98% of the population.

10. Grameenphone's market share in terms of subscriber numbers peaked at around 69% in 2000–2002. It has since fallen dramatically due to intense competition, but with 43% as of the end of 2011, Grameenphone still has the biggest share of the six mobile phone operators.

11. As shown in Table 1, the project had achieved most of the projected operating and financial objectives by 2001 and far exceeded all of them by 2004.

Table 1: Projected vs. Actual Operating and Financial Results

Item	1998	2001	2004	2006	2008
No. of subscribers ('000)					
Projected	55	247	1,538	2,219	2,569
Actual	30	471	2,388	10,759	20,990
No. of VPT operators					
Projected	1,429	16,521	52,824	74,471	85,554
Actual	179	9,222	94,003	281,143	417,587
Operating revenues (Tk million)					
Projected	914	4,244	16,322	16,311	13,029
Actual	544	7,319	19,701	45,640	61,359
EBITDA (Tk million)					
Projected	2	2,141	6,051	5,700	3,605
Actual	(110)	3,259	15,210	36,016	50,842

() = negative; EBITDA = earnings before interest, taxes, depreciation, amortization; VPT = village pay telephone.

Sources: Projected figures in 1998 and 2001 are from ADB. 1998. *Report and Recommendation of the President to the Board of Directors: Equity Investment to Bangladesh for the Grameenphone Telecommunications*. Manila. Projected figures for 2004, 2006, and 2008 are from ADB. 2004. *Report and Recommendation of the President to the Board of Directors: Equity Investment to Bangladesh for the Grameenphone Telecommunications Expansion*. Manila. Actual figures are from annual reports and audited financial statements of Grameenphone.

12. The VPT program was likewise successful. As shown above, the number of VPT operators surpassed expectations by almost five times by the end of 2008. By the end of 2011, there were 672,955 active VPT operators in 83,000 of the 87,000 villages in Bangladesh.¹

¹ At the end of 2011, Grameen Telecom placed the number of VPT operators at 797,076 while Grameenphone recorded 672,955 active VPT operators. Grameen Telecom's figures may therefore include inactive operators.

CHAPTER 2

Evaluation

13. The project was evaluated using the criteria prescribed in ADB's guidelines.² The rationale and objectives set out below outline those envisaged during the approval of the project. The investment was evaluated according to (i) the project's development outcomes and impact, (ii) ADB investment profitability, (iii) ADB work quality, and (iv) ADB additionality.

A. Project Rationale and Objectives

14. The main objective of ADB's investment in Grameenphone was to assist in the establishment of a nationwide telephone system that would provide common cellular phone services in the main cities and VPT services in rural areas. This objective has been achieved. By the end of 2011, Grameenphone's mobile services covered 100% of Bangladesh's districts, 90% of the land area, and 99% of the population.³ The VPT program has also provided telephone access to about 95% of the villages in rural Bangladesh.

By end of 2011, Grameenphone's mobile services covered all districts, 90% of the land area, and 99% of the population

15. Bangladesh had a teledensity (fixed lines per 100 inhabitants) of only 0.3 in 1996. By the end of 2011, the country still had a low teledensity of 1.06, but mobile phone subscriptions reached 56.5 per 100 inhabitants. Industry sources estimate the actual penetration level to be around 35% since it is very common for individuals to have two or more mobile phone accounts, usually with different operators. Nonetheless, as Grameenphone has the biggest share of the market, the project contributed greatly to the goal of providing universal telephone access to urban and rural Bangladesh.

B. Development Outcomes and Impact

16. The project's development outcomes and impact were assessed and rated using the criteria of contribution to private sector development; business success; economic sustainability; and environmental, social, health, and safety (ESHS) performance.

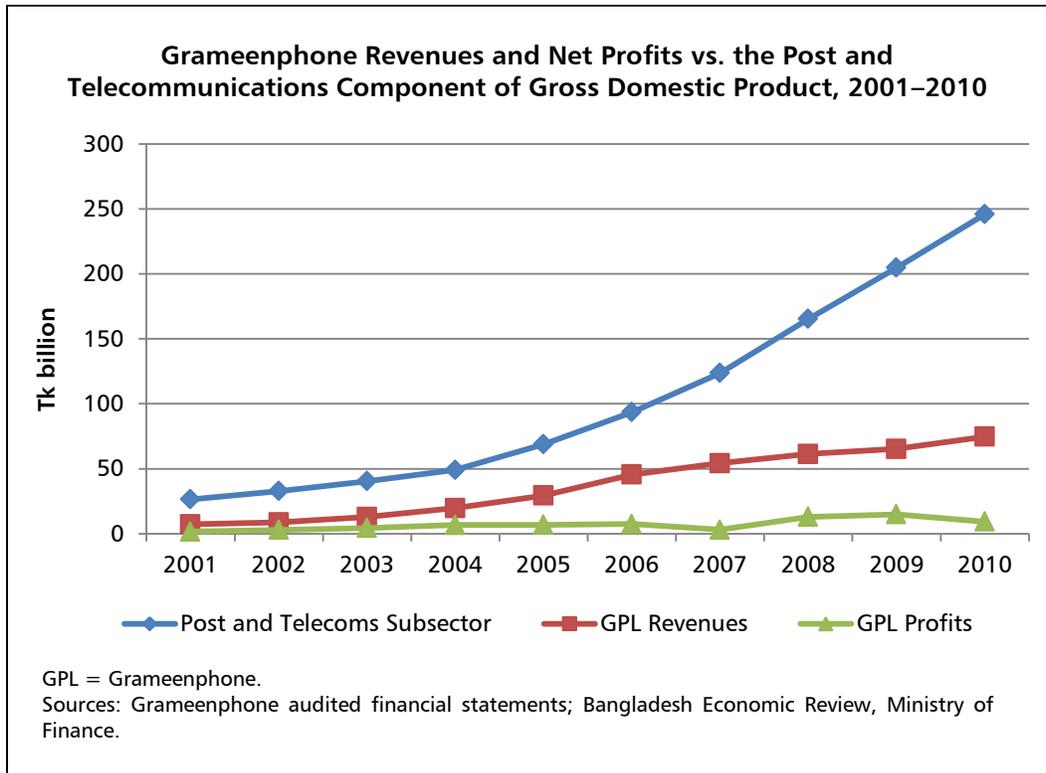
1. Contribution to Private Sector Development

17. **Private sector expansion.** The project made a very substantial contribution to the growth of the telecommunications industry and to more private participation in the sector. The post and telecommunications component of Bangladesh's gross domestic

² ADB. 2007. *Guidelines for Preparing Performance Evaluation Reports on Nonsovereign Operations*. Manila.

³ The coverage of the population pertains to the percentage of the population that can be reached by Grameenphone's mobile telephone system and does not refer to actual subscription or penetration levels.

product grew by an average of 6.3% per year (in constant prices) from 1998 to 2000. The growth rate of the sector reached an average 21.2% per year from 2001 to 2010, during which period none of the other sectors of the economy had double-digit average growth. Grameenphone, as the dominant cellular service operator, contributed greatly to this growth—its gross revenues during 2001–2010 represented on average 36.0% of the post and telecommunications component of gross domestic product, and its net profits 8.0% (Figure below). The sector began to outpace the growth of Grameenphone’s revenues in 2005 mainly due to the entry of other players such as fixed-line operators, international gateway operators, international internet gateway operators, and internet protocol telephony service providers.



18. Grameenphone employs 5,000 people directly. It estimates that another 350,000 people depend on it for their livelihood by working for the dealers, retailers, electronic reload and scratch outlets, suppliers, vendors, contractors, and other business partners of Grameenphone. The company has also provided entrepreneurial opportunities to nearly 700,000 VPT operators. Studies show that some of these have diversified into other areas such as mobile phone and accessories shops, mobile phone repair, electronic reload and scratch outlets, retail shops, and trading. Likewise, VPT users have availed of the service to conduct business.

Grameenphone employs 5,000 people directly and another 350,000 people depend on it for their livelihood

19. The success of Grameenphone may have also encouraged the entry of other foreign players: (i) Orascom Telecom Holding (Egypt) bought 100% of Sheba Telecom (Bangladesh) in 2004; (ii) SingTel (Singapore) bought a 45% stake in Pacific Bangladesh Telecom (Bangladesh) in 2005; (iii) the Abu Dhabi Group (United Arab Emirates) formed Warid Telecom and became the latest cellular service operator in 2007; (iv) NTT DoCoMo (Japan) bought the 30% share of AK Khan Group (Bangladesh) in Aktel in 2008; and (v) Bharti Airtel (India) bought a 70% stake in Warid in 2010.

20. **Competition.** MOPT's granting of three additional cellular service licenses in 1996 basically ensured that there was going to be competition in the industry, but Grameenphone has nonetheless played a key role by setting high operational, financial, and ethical standards for the competitors to follow. Grameenphone quickly established itself as the dominant player in the industry. With its superior reach and call quality, it was able to capture an estimated 69% market share from 2000 to 2002. This fell to 43% in 2011 due to intense competition, but even the Bangladesh Telecommunication Regulatory Commission acknowledges that Grameenphone is still the industry's "torchbearer."⁴

21. Grameenphone's decision to lease the fiber-optic network from Bangladesh Railways and to invest heavily in infrastructure has paid off for the company—it was able to expand its subscriber base much faster than the competition, mainly thanks to its wider network coverage, higher system capacity, and superior call quality. Starting in 2010, the company helped improve efficiency in the industry by entering into infrastructure-sharing arrangements with the other operators.

22. **Innovation.** Grameenphone was the first operator to introduce the GSM technology in Bangladesh (GSM stands for Global System for Mobile Communications, originally Groupe Spéciale Mobile). The other two operators that were given licenses in 1996 and the two entrants in 2005 and 2007 followed. Grameenphone was also the first operator to offer a prepaid service, mobile internet access, voice short messaging service, and BlackBerry services, and the first to establish a 24-hour call center. It also introduced innovative and award-winning value-added services like CellBazaar (para. 47) and Healthline (para. 50).

The village pay telephone program was the company's greatest innovation

23. The VPT program was the company's greatest innovation. Without it, it would have taken a long time for telephone services to reach rural Bangladesh, particularly people living in the more remote villages. It is highly unlikely that the other operators would have been able to initiate such a program, because they did not have the extensive cellular network of Grameenphone and the efficient and broad distribution system of the Grameen organization.

24. **Linkages.** The project has contributed to notable upstream and downstream linkages. Grameenphone does business with over 1,200 vendors, about half of which are local—tower manufacturers, printers, publishers, civil works, food and water vendors, and suppliers of equipment and transport. Downstream links include about 14,000 retail outlets, 100,000 reload points, and nearly 700,000 VPT operators.

25. **Capital market development.** Grameenphone has given the country's capital market a big boost. In 2008, it issued 425 unsecured and nonconvertible bonds, denominated at Tk10 million each. While the bonds are not listed on any of the bourses, the free transferability structure ensures that the financial instruments can be easily bought and sold over the counter. The bonds were reported to be the first of

⁴ Grameenphone's market share started to decline in 2003 and stabilized at 43%–44% during 2009–2011. Between 2003 and 2009, two more mobile operators were issued licenses, bringing the number of players to six. While Grameenphone remained strong in the corporate and mass markets, its competitors resorted to aggressive pricing strategies (outright reduction of airtime rates and promos) and niche marketing (small and medium-sized enterprises, youth, urban, and couples).

their kind in the Bangladesh capital market. The Credit Rating Agency of Bangladesh rated both Grameenphone and the bonds AAA.

26. In October 2009, the company conducted the largest initial public offering (IPO) in Bangladesh by offering 69.5 million shares to the public. The response was overwhelming and the IPO was three times oversubscribed. The company was able to raise Tk4.86 billion (\$70 million). Grameenphone's shares were listed on the Dhaka Stock Exchange and Chittagong Stock Exchange in November of the same year. As of the end of 2011, the market capitalization of the company represented 10.9% of the total market capitalization of the Dhaka Stock Exchange.

27. **Skills contribution.** The technological know-how and managerial expertise of Telenor has been instrumental in setting up an international-standard mobile phone operation in Bangladesh. Telenor is one of the leading telecommunications companies in the world and one of the top 500 global companies by market value. It has more than 155 years of telecommunication experience and presently has ownership interests in 12 mobile phone operators across Europe and Asia. Being one of the pioneers in developing the GSM service in Europe, Telenor has also helped transfer this knowledge to the local employees over the years.

Telenor has been instrumental in setting up an international standard mobile phone operation in Bangladesh

28. **Stronger governance.** Grameenphone has observed high standards of corporate governance. It takes its cue from its majority stockholder, Telenor, which is known for its transparency and adherence to good corporate governance. Grameenphone has been publishing annual reports since 2004, even before it became a publicly listed company in 2009. The reports do not only summarize the company's operational and financial highlights for the year but also include the organizational structure of the company, the profiles of the board of directors and the management team, and the company's corporate governance practices and control environment.

29. Grameenphone's control environment consists of policies and procedures on financial reporting, operational excellence, business and financial review, management of assets, statutory and internal audit, internal control, dividends, risk management and mitigation, compliance with rules and regulations of the country, ethics and behavior, and investor relations. The recent awards that Grameenphone received for its corporate governance practices were the South Asian Federation of Accountants award for "Best Presented Accounts and Corporate Governance Disclosures" in 2010 and the Institute of Chartered Accountants of Bangladesh award for "Best Published Accounts & Reports" in 2009 and 2010.

30. **Contribution to private sector development rating.** The project has had a highly positive and sustainable impact on private sector development in Bangladesh based on various indicators (Appendix 3), and no known negative impact. The project's contribution to private sector development is therefore rated *excellent*.

2. Business Success

31. **Financial performance.** The financial performance of Grameenphone has been exemplary. The capital structure of the company is also very solid. Following its successful IPO in 2009, it was able to pay off all its long-term debt in 2010.

32. What is noteworthy is that the company achieved all this despite the high fees and taxes that the government levies on the industry. The corporate income tax rate for

a publicly traded mobile phone operator like Grameenphone is 35.0%, whereas that for other types of publicly traded companies is only 27.5%. Mobile phone operators also have to honor a 5.5% revenue-sharing arrangement with the government and pay an additional 1.0% into the social obligation fund. They pay an annual license fee and 15% value-added tax on certain services. The government also charges a subscriber identity module (SIM) card tax of Tk605, a portion of which is being subsidized by operators to make it affordable to subscribers.

33. **Business success rating.** Business success is measured primarily by the real after-tax financial internal rate of return (FIRR) and compared with the real weighted average cost of capital (WACC) for the project entity. In line with ADB guidelines, since the real FIRR exceeded the threshold for an excellent rating (real WACC plus 700 basis points), the business success of the project is rated *excellent*.

34. **Other business goals and sustainability.** The guidelines also provide that ratings can consider on a secondary basis the attainment of other business goals stated during project approval, and the overall prospects for sustainability and growth of the project entity. As mentioned in paras. 11 and 12 and shown in Table 1, the project surpassed all the operational and financial targets that were set during approval of the project and of the expansion project.

35. As for the sustainability of the project entity, Grameenphone has demonstrated that it can thrive despite the unpredictable regulatory environment and intense competition. Its average revenue per user has been declining over the years, but this is true for the rest of the industry. The company has also found ways to continue expanding its subscriber base and increasing total revenues. These include the introduction of new products, price plans, and value-added services. Grameenphone is also future-proofing its operations by constantly expanding and upgrading its hardware and software, ensuring preparedness to offer the next generation mobile telephony services.

3. Contribution to Economic Development

36. Telecommunications projects serve the economy in two ways: (i) by being a business in themselves, generating employment, manufacturing, and other commercial benefits; and (ii) by facilitating economic activity such as finance, trade, or agriculture. This assessment focused only on the project as a business.

37. The project's contribution to economic development is measured primarily by the economic internal rate of return (EIRR). In line with ADB guidelines, since the real EIRR is greater than 20.0%, the project's contribution to economic development is rated *excellent*.

38. Grameenphone has been the largest corporate taxpayer in Bangladesh from 2007 to 2011. In 2011 alone, Grameenphone contributed Tk60.1 billion (\$747 million) to the National Exchequer. Since its inception until December 2011, Grameenphone has paid taxes and duties totaling Tk245.2 billion (\$3 billion).

39. Based on previous studies on the VPT program and a survey conducted for this report, some of the economic benefits of the program were that it (i) supplemented the household incomes of the VPT operators; (ii) allowed the VPT operators to expand

Grameenphone has been the largest corporate taxpayer in Bangladesh from 2007 to 2011

into other businesses, both related and unrelated to the mobile phone industry; (iii) allowed the VPT users to get better prices for their produce and supplies; and (iv) saved the users time and money by not having to travel (to make a call, conduct business, or visit family and friends).

4. Environmental, Social, Health, and Safety Performance

40. At the time of appraisal, ADB classified the project as category B for environment, as there was limited construction associated with the project and there were no anticipated adverse environmental impacts that could not be properly mitigated. The project was also given category C classifications for involuntary resettlement and indigenous peoples, as it was not expected to cause involuntary resettlement or affect indigenous peoples.

41. **Environmental performance.** In 2007, Grameenphone embarked on several climate change initiatives starting with the use of solar energy in its off-grid base transceiver stations (BTSs) or cell sites. By the end of 2011, Grameenphone had 50 BTSs running on solar with work in progress for the installation of solar power in another 110 sites. Thus far, the move has saved around 598,000 liters of fuel, which translates into a reduction of over 1,500 tons of carbon dioxide (CO₂).

42. In 2008, Grameenphone formally launched its Climate Change Program. Its target is to reduce CO₂ emissions by 40% by 2015 from the business-as-usual situation (with 2008 as the baseline). Aside from the solar energy project in off-grid sites, climate change initiatives entailed (i) the replacement of 7,272 BTSs with modern, energy-efficient equipment; (ii) the consolidation of core nodes from 40 to 20; and (iii) the replacement of 6,500 air conditioners in the BTS rooms with direct current ventilation systems. From these three initiatives, Grameenphone estimates savings so far of 125 gigawatt-hours of electricity and 83,000 liters of fuel, resulting in about 70,000 tons of CO₂ reduction.

43. In 2010, Grameenphone inaugurated GPHouse, its new headquarters, which it claims is the first true environment-friendly building in Bangladesh. The building's pioneering cogeneration system allows generation of its own electricity and the use of by-product heat in absorption chillers for internal cooling of the building, resulting in energy savings of about 60% compared with traditional building systems. This means yearly energy savings of about 11 gigawatt-hours and CO₂ reductions of 6,100 tons. The building also has a wastewater treatment plant that is saving up to 31% of regular water consumption, or about 12 million liters per year.

44. **Social performance.** The project purposely promoted social development and inclusive growth. Its VPT program has provided earning opportunities to thousands of rural women who serve as VPT operators, and has afforded telephone access to previously unserved areas. The number of VPT operators rose from 28 at the end of 1997 to nearly 700,000 at the end of 2011. Earlier studies (1999 to 2003) reported that the program provided modest incomes for the VPT operators. The more enterprising operators were also able to put up new businesses from their VPT earnings. Likewise, the program yielded economic and social benefits for VPT users, as they were able to (i) get better prices for their produce, (ii) save trips to the town center or the city, (iii) get in touch with family and friends, (iv) get remittance details from family members working abroad, and (v) inquire about health-related issues. The VPT program has received numerous international awards, including the GSM Association's "GSM in the Community Award" in 2000, the Petersburg Prize for "Use of Information Technology

Grameenphone estimates savings so far of 125 gigawatt hours of electricity and 83,000 liters of fuel, resulting in about 70,000 tons of CO₂ reduction

to Improve Poor People's Lives" in 2004, and the International Telecommunications Union's first "World Information Society Award" in 2006. The VPT program has been replicated in Cambodia, Haiti, Indonesia, the Philippines, Rwanda, and Uganda.

45. However, the VPT business has changed drastically over the years. In 2001, there was virtually no competition as there were less than 10,000 VPT operators and Grameenphone was the only cellular service operator with coverage in many areas. The captured market coupled with a reasonable margin over the bulk airtime rate meant decent profits for the VPT operators. An estimated 95% of the VPT operators then were women, so the program also promoted gender development. By the end of 2007, there were nearly 300,000 VPT operators and the other mobile service providers had caught up with Grameenphone in terms of network coverage. More importantly, prices of handsets and airtime rates had fallen so low that even the less affluent could afford to buy mobile phones. As a result, since 2008, the average monthly income of VPT operators has dropped considerably. Also, men have taken over as VPT operators.⁵ The number of VPT operators continues to grow and the program is still relevant, particularly in villages where a majority of the people still do not have the means to own phones. While the program's objective of providing economic opportunities for women proved unsustainable, at least it was able to achieve its other main objective of giving rural Bangladesh access to telephone services.

46. Another initiative of the company that promotes social development and inclusive growth is its network of community information centers. Started in 2006, these centers offer low-rate but high-speed voice, data, and other communication services to previously unconnected people. Grameenphone currently has 502 such centers in nearly 450 *upazilas* (subdistricts) and plans to establish at least one in each of the *upazilas*.

47. One of Grameenphone's value-added services is the CellBazaar, a user-generated market where buyers and sellers are able to trade basic goods (e.g., rice, fish, motorcycle, used goods) from their mobile phones. This earned Grameenphone the GSM Association's Global Mobile Award for "Best Use of Mobile Social and Economic Development" in February 2008.

48. **Health and safety performance.** Grameenphone regularly conducts training and awareness programs for employees and vendors on various health, safety, security, and environmental (HSSE) issues. For instance, in 2009 the company conducted 99 HSSE training and awareness programs for 3,294 employees and vendors. Topics covered in these programs include general safety awareness, first aid, working at heights, electric safety, road safety, fire fighting, and accident and incident reporting.

49. Grameenphone also carries out regular audits and inspections of suppliers and vendors. In 2008, a Danish television documentary exposed the poor working conditions at some of the companies that provide towers to Grameenphone and other mobile operators. Grameenphone realized that previous inspection routines had proved inadequate, so it immediately took steps to improve its inspections and intensify its awareness programs. The company also formed a board subcommittee to advise management on HSSE matters.

⁵ All 102 VPT operators surveyed for this evaluation report were males, but in 91% of the cases, the VPT account had been issued to one of their female family members.

50. In 2006, Grameenphone launched its HealthLine service, a medical call center staffed by licensed physicians that gives Grameenphone subscribers an opportunity to seek health-related advice or consultation through an interactive teleconference. Grameenphone was awarded the GSM Association's Global Mobile Award for "Best Use of Mobile Social and Economic Development" for its HealthLine service in 2007. Corporate social responsibility initiatives of Grameenphone in health and safety include the Safe Motherhood and Infant Care Program, Free Eye Camps, Free Cancer Treatment, National Immunization Day Awareness, and Empowering the Intellectually Challenged.

51. **Environmental, social, health, and safety performance rating.** The project standards are visible and replicable in the industry, which contributes to higher overall ESHS standards. The direct and wider positive impacts are sustainable and more than compensate for any negative impact caused by the project. The project's ESHS performance is rated *excellent*.

C. ADB Investment Profitability

52. **Equity investment.** ADB invested \$1.6 million in the ordinary shares of Grameenphone in 1999. The FIRR on ADB's investment exceeded the threshold for an excellent rating of 1.3 times the at-approval minimum return expectation. ADB investment profitability on the equity investment is therefore rated *excellent*.

53. **Loans.** For the Grameenphone Telecommunications Project,⁶ the ADB pricing was identical to that of IFC and CDC. For the Grameenphone Telecommunications Expansion Project,⁷ the ADB pricing was identical to that of IFC and Norfund.

54. The fees and margins on the two loans were also similar to those of other ADB nonsovereign infrastructure loans that were approved at about the same time. All principal repayments and interest payments were made on time. In line with ADB guidelines, since the project loans' fees and margins as multiples of the comparator loans are at least 0.9 times but below 1.5 times, ADB's investment profitability on the loans is rated *satisfactory*.⁸

55. **ADB investment profitability rating.** Considering the *excellent* rating for the equity investment and the *satisfactory* rating for the loans, ADB's overall investment profitability is rated *excellent*.

D. ADB Work Quality

56. ADB did satisfactory work in three categories: (i) screening, appraisal, and structuring; (ii) monitoring and supervision; and (iii) role and contribution.

⁶ ADB. 1997. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Bangladesh for the Grameenphone Telecommunications Project*. Manila.

⁷ ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Bangladesh for the Grameenphone Telecommunications Expansion Project*. Manila.

⁸ Multiples above 1.5 times are rated *excellent*, those below 0.9 times are rated *less than satisfactory*, and those below 0.7 times are rated *unsatisfactory*.

1. Screening, Appraisal, and Structuring

57. The project was first brought to the attention of ADB by Grameen Bank in December 1995. Two other project sponsors, Gonofone and Telenor, visited ADB in May and December 1996 to request financing totaling \$50 million. ADB recognized the tremendous potential of the project for achieving development, economic, and financial outcomes, but it was also cognizant of the risks associated with such a high-profile project. During fact finding in April 1997, the sponsors informed the ADB mission that the scope of the project would be expanded from what was originally planned at the concept clearance stage, but they did not provide a market study to justify the faster rollout and a financial model to illustrate the viability of the revised plan. ADB insisted that these be delivered to its satisfaction before completing the fact-finding mission. The expanded scope also meant an increase in the requested financing so ADB brought IFC and CDC to the project. The three institutions agreed in 1997 to jointly proceed.

58. The project completion report (PCR) on Grameenphone Telecommunications,⁹ which was completed in 2005, reported that the strategic project sponsor was dissatisfied with the slow processing by ADB and expressed in a letter of 17 July 1997 that IFC and CDC might be able to close the financing sooner, as they were more experienced in private sector telecommunications projects. However, considering that the letter was sent less than 3 months after the fact-finding mission and that not all of the assessments had been completed, ADB was prudent not to have fast-tracked the project. ADB conducted three more missions in 1997 before its Board approved the equity investment and loan in January 1998.

59. ADB's front-end work quality materially met its good practice standards. ADB's performance in screening, appraisal, and structuring is therefore rated *satisfactory*.

2. Monitoring and Supervision

60. For Grameenphone Telecommunications (footnote 6), ADB conducted review missions in 1998, 1999, 2002, and 2003. The PCR noted that it took more than 3 years for ADB to conduct its first review mission after financial closing of the project in July 1999. It cited capacity constraints at ADB and a strong strategic sponsor as the reasons why the project was not reviewed more regularly. The PCR nonetheless concluded that a high-profile project such as Grameenphone would have justified more regular visits. This evaluation report concurs with that assessment. ADB did not conduct any review mission for the Grameenphone Telecommunications Expansion (footnote 7).

61. A review of the project documents revealed that ADB received status reports from Grameenphone in May and June of 2000 but none thereafter until July 2002 (in preparation for ADB's first review mission). There were also instances when ADB had to request certain documents from IFC because ADB could not locate them in its files. Grameenphone began submitting more regular reports to ADB from 2005, including environmental and social annual monitoring reports, annual reviews of operations, status reports, and corporate annual reports.

⁹ ADB. 2005. *Project Completion Report: Equity Investment and Loan to Grameenphone Telecommunications Project in the People's Republic of Bangladesh*. Manila.

62. ADB's supervision practices were inadequate for monitoring the performance of the project and Grameenphone, particularly during the crucial early years. ADB's performance in monitoring and supervision is rated *less than satisfactory*.

3. ADB's Role and Contribution

63. The project was consistent with ADB's operational strategy¹⁰ to promote private sector development in Bangladesh, which included support for infrastructure development such as power, ports, gas, and telecommunications. It was also in line with ADB's medium-term priorities of creating better opportunities for the poor and improving human development.

64. The PCR assessed that ADB could have played a more central role in furthering the project and that it instead became a follower to CDC and IFC. However, a review of project documents revealed that ADB stayed engaged in and committed to the project. IFC was designated as the coordinator for the three institutional investors, but this does not necessarily diminish ADB's role and contribution. The PCR likewise criticized ADB for the slow processing of the equity investment and loan, citing that Grameen Bank first approached ADB as early as 1995. However, it was premature to process anything at this stage, because there was no project entity yet and MOPT had not granted the cellular service licenses. ADB also provided small-scale technical assistance in 1997 to support MOPT in sector development and reform issues, including promoting a strategic vision for the sector.

65. ADB's role and contribution were in line with its operating strategies, policies, and standards, and are rated *satisfactory*.

4. ADB's Overall Work Quality Rating

66. Based on the component ratings of *satisfactory* for screening, appraisal, and structuring; *less than satisfactory* for monitoring and supervision; and *satisfactory* for role and contribution. ADB's overall work quality is rated *less than satisfactory*.

E. ADB Additionality

67. ADB's equity investment and loans to Grameenphone were provided at a time when commercial lending was hard to come by. According to project documents, ADB and IFC even contacted commercial lenders to assess the availability of a complementary financing scheme, but the response was unfavorable mainly due to perceived country and project risks.

68. The project sponsors increased their request for financial assistance during fact finding. The revised project size required the participation of three financial institutions due to exposure limits. ADB finance and its role in bringing in both IFC and CDC were therefore seen as a necessary condition for the timely realization of the project. Without ADB participation, the project most likely would have gone ahead, but Grameenphone may not have been able to expand its network coverage and capacity as quickly as it did, which was a key element of its overall business strategy.

69. Based on the foregoing, ADB's additionality is rated *excellent*.

ADB finance and its role in bringing in both IFC and CDC were seen as necessary condition for the timely realization of the project

¹⁰ ADB. 1999. *Bangladesh: Country Operational Strategy—Responding to the Challenge of Poverty*. Manila.

F. Overall Project Rating

70. Table 2 summarizes the component ratings for the project and reflects the *highly successful* overall rating. ADB guidelines require an excellent rating for development outcomes and impact, and at least satisfactory ratings for the three other criteria, for a project to be rated highly successful overall. But they also allow exceptions when justified. This is one of those exceptions, as three of the criteria were rated *excellent* and one was rated *less than satisfactory*. In particular, the exceptionally high development outcomes and impact of the project clearly overshadow the *less than satisfactory* rating for ADB's work quality, a rating that was solely due to the inadequate monitoring and supervision of a well-progressing project. The project therefore merits an overall rating of *highly successful*.

Table 2: Performance of ADB's Investment in Grameenphone

Item	Unsatisfactory	Less than Satisfactory	Satisfactory	Excellent
A. Development Impact				X
1. Private sector development				X
2. Business success				X
3. Contribution to economic development				X
4. Environmental, social, health, and safety performance				X
B. ADB Investment Profitability				X
C. ADB Work Quality		X		
1. Screening, appraisal, and structuring			X	
2. Monitoring and supervision		X		
3. ADB role and contribution			X	
D. ADB Additionality				X
Overall assessment and rating		Highly successful		

ADB = Asian Development Bank.
Source: Asian Development Bank reports.

CHAPTER 3

Lessons and Issues

71. This section identifies (i) lessons learned from the project which ADB can use to improve the design and implementation of future projects, and (ii) issues arising from the evaluation.

A. Lessons

72. **The need for thorough review of legal documents.** The flaw in the wording in one of the agreements could have been avoided. ADB needs to thoroughly review all legal documents, particularly those that could cause it financial or reputational harm.

73. **The importance of strong project sponsors.** The project clearly demonstrated the importance of strong and committed project sponsors to help ensure the success of a project. Telenor had the technical competence, managerial skills, and extensive telecommunications experience to run a world-class telecommunications operation in Bangladesh. Grameen Bank, for its part, had the brand recognition and distribution network to help market Grameenphone's services in both urban and rural areas. Both companies have also observed high ethical standards. These are the types of sponsors that ADB should be looking for in future private sector projects.

B. Issues

74. **Fees and taxes.** The various fees and taxes that the government levies on the industry are very high. Other than those enumerated in para. 32, mobile operators also have to pay spectrum charges when renewing their licenses. The 2G (second-generation) licenses of four mobile operators that expired in November 2011 were not immediately renewed because the operators objected to the unduly high spectrum charges and the ambiguous way they were computed. The operators brought the matter to the High Court and although some of the cases are still pending, the licenses were renewed in August 2012, after MOPT and the Ministry of Finance intervened. All of these fees have made it very difficult for the operators to be profitable. In fact, only Grameenphone was making a profit as of 2011. The government is clearly trying to raise as much revenue from the fastest growing sector of the economy as possible. In June 2012, it announced that it planned to introduce yet another 2% tax on mobile phone usage, which consumers would pay when buying a new prepaid reload card or paying their monthly mobile bills. This move would only dampen demand, just like the SIM card tax. And at the rate that the mobile operators are losing money, there might be fewer players in the near future, which is not good for the industry, the consumers, and the country in the long run. ADB needs to consider raising these issues in policy dialogues with the government. In its comment to the draft performance evaluation report, the Private Sector Operations Department stated that it facilitated meetings for Grameenphone with the South Asia Regional Department so that the latter could take this issue up during policy discussions with the government.

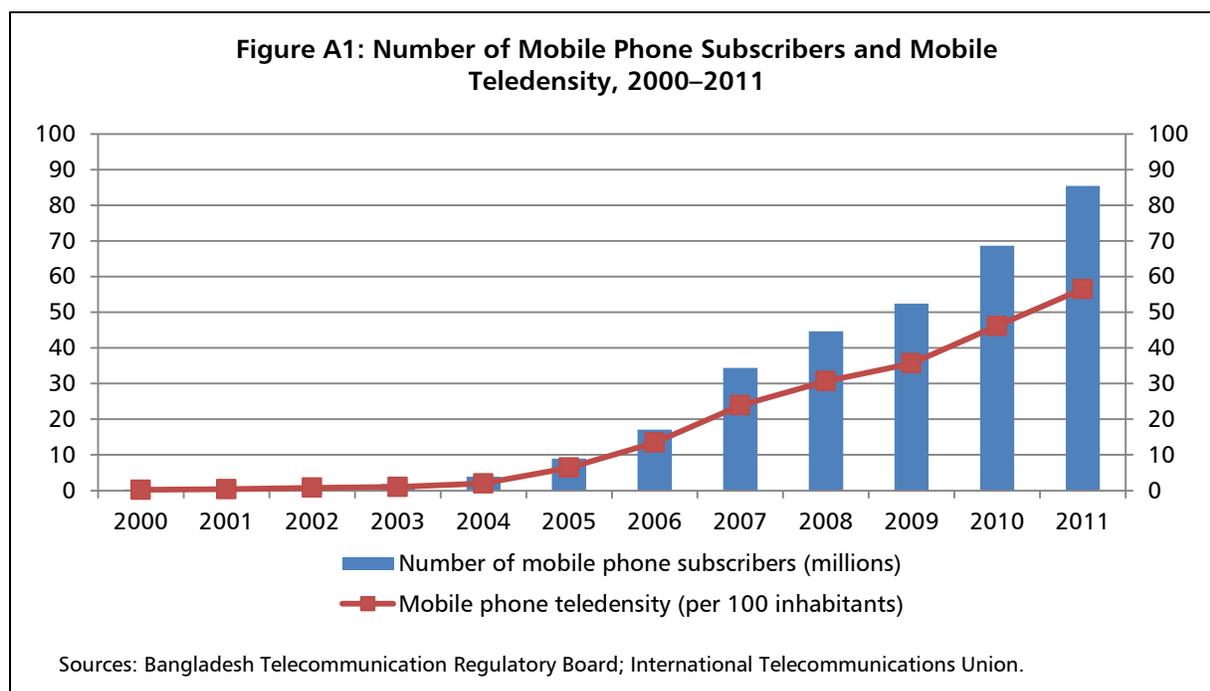
Appendixes

APPENDIX 1: THE BANGLADESH TELECOMMUNICATIONS SECTOR

A. Brief History

1. In 1996, Bangladesh had a telephone density of about 0.3 lines per 100 inhabitants—the 13th lowest in the world and third lowest in Asia at that time. Seventy percent of telephone lines were located in three metropolitan areas—Chittagong, Dhaka, and Khulna. The rest of the country had less than one telephone per 1,000 inhabitants. The sector players during this time were (i) the Bangladesh Telegraph and Telephone Board (BTTB), which was owned by the government and was the dominant service provider with about 350,000 subscribers; (ii) two rural service providers offering primarily pay telephone services in district centers with about 20,000 subscribers; and (iii) Citycell, a mobile phone operator with about 20,000 subscribers. In November 1996, the Ministry of Posts and Telecommunications (MOPT) licensed three additional companies to provide nationwide mobile telephone services: Grameenphone Limited (Grameenphone), Telekom Malaysia International, and Sheba Telecom.

2. The three new mobile operators started operations in 1997 with limited coverage in the capital city of Dhaka. With Grameenphone leading the way, the operators expanded their network coverage and introduced new products. The number of subscribers grew from less than 100,000 in 1998 to over 1 million in 2002. Two additional mobile operator licenses were issued in 2005 and 2007. As shown in Figure A1, the total number of mobile subscribers reached 85 million in 2011, while mobile teledensity improved to 56 per 100 inhabitants.



3. Despite the vast improvement in mobile teledensity, Bangladesh still ranks among the lowest in the region—28th out of 39 developing member countries of the Asian Development Bank, and 5th among 6 South Asian developing member countries, topping only Nepal with 44 lines per 100 inhabitants. Its fixed-line teledensity has also remained low, barely improving from 0.3 in 1996 to 1.06 in 2011.

B. Regulatory Framework

4. The provision of telecommunications services and regulation of the sector were originally carried out by the BTTB under the BTTB Ordinance of 1979. In 1995, the ordinance was amended with BTTB retaining responsibility for development and operation of the public telephone network and MOPT assuming responsibility for issuing licenses to new entrants and for regulating their operations. In 1998, the government adopted the National Telecommunications Policy, the main thrust of which was to allow the private sector to increase its role in telecommunications.

5. In 2001, the Bangladesh Telecommunication Regulatory Commission (BTRC) was established under the Bangladesh Telecommunication Act 2001 as an independent regulator. However, as per amendments to the Telecommunication Act 2001 in 2010, certain powers to regulate the telecommunications sector have been transferred back to MOPT.

6. Under previous licensing arrangements, all mobile operators were required to pay an annual license fee of Tk50 million, quarterly spectrum charges, and 5.5% of revenues. However, under the new licensing framework, operators will have to pay 6.5% of revenues (inclusive of a 1% contribution to a social obligation fund) and revised spectrum charge rates. On 9 June 2011, the SIM tax was reduced from Tk800 to Tk605 (SIM stands for subscriber identity module). SIM tax has to be paid on the purchase of a SIM. Handsets incur a 12% duty at import. Corporate income tax is 45% for mobile service providers, which falls to 35% if a company maintains a 10% listing on the country's exchanges.

C. Industry Players

7. Aside from Grameenphone, the five other mobile phone operators in Bangladesh are Orascom Telecom Bangladesh (Banglalink), Robi Axiata (Robi), Warid Telecom (Airtel), Teletalk, and Citycell.

8. Orascom Telecom Bangladesh was formerly known as Sheba Telecom and was a 100% Bangladeshi-owned company. It received its license in 1996 and began operations in 1997. In 2004, Orascom Telecom Holding (Egypt) bought 100% of Sheba Telecom. The telephone service was rebranded and launched as Banglalink in 2005. Within 1 year of operations, Banglalink attained a subscriber base of 1 million through its aggressive marketing and pricing strategy targeted at different age groups. As of the end of 2011, Orascom had 23.7 million subscribers and a market share of 27.8%. It also reported retained losses of Tk35.8 billion.

9. Robi Axiata is a joint venture between Axiata Group (Malaysia), owning 70%, and NTT DoCoMo (Japan), with a 30% stake. It was formerly known as Telekom Malaysia International (Bangladesh) and began operations in Bangladesh in 1997 with the brand name Aktel. In March 2010, the service name was rebranded as Robi and the company came to be known as Robi Axiata. As of the end of 2011, Axiata was the third-largest operator in the country, with a market share of 18.9% and a subscriber base of about 16.1 million. Although no annual reports were available, press releases reported that Robi finally showed net profits in the first two quarters of 2012.

10. Warid Telecom is the latest entrant of the six players, receiving a license in 2005 and starting operations in 2007. Warid Telecom was formed by the Abu Dhabi Group, one of the largest groups in the Middle East and in Pakistan. India's Bharti acquired a 70% stake in Warid in 2010 and the telephone service was relaunched as Airtel. Airtel had 6.0 million subscribers as of the end of 2011, representing 7.1% of the market.

11. Citycell was the first mobile service provider of Bangladesh. It was awarded a wireless communication license in 1989 and started operations in 1993. It is now owned by the Pacific Group (31%), Far East Telecom (24%), and SingTel (45%). Citycell is also the only operator using the CDMA

(Code Division Multiple Access) technology in Bangladesh. It applied for a change to GSM (Global System for Mobile Communications) as early as 2005, but got approval from the BTRC only in 2012. Despite a head start over competition, Citycell had the second-lowest number of subscribers at the end of 2011 with 1.8 million.

12. Teletalk, fully owned by the Government of Bangladesh, was incorporated in December 2004 as a public limited company. It is the smallest player in the industry with a 1.4% market share and 1.2 million subscribers.

APPENDIX 2: VILLAGE PAY TELEPHONE PROGRAM

A. Introduction

1. The village pay telephone (VPT) program is one of the key components of the Grameenphone project. From a development perspective, the program aimed to provide telephone services to people in rural areas. Villagers used to travel to the nearest town just to make a call. The program also sought to provide economic opportunities to rural women who serve as VPT operators.

2. From a business standpoint, the program allowed Grameenphone to target the rural segment of the market, thereby expanding its subscriber base faster than its competitors. The program was also expected to generate higher average revenue per user (ARPU) than the regular mobile service because of the higher traffic volumes per village phone.

B. Program Features

3. **Institutions involved.** Three institutions are involved in the VPT program: (i) Grameen Telecom (GTC) manages and operates the program, (ii) Grameenphone provides the cellular service, and (iii) Grameen Bank provides credit for the cellular phones and also collects payments for airtime charges.

4. **Selection of program operators.** The selection process starts with a GTC officer checking if the mobile signal strength in the candidate village is strong and stable enough to operate the village phone. Working with Grameen Bank, the GTC officer then identifies and encourages Grameen Bank members from the village to become VPT operators. Since Grameen Bank provides unsecured loans to the VPT operators for the purchase of the mobile phones, it requires that the prospective VPT operator (i) has a very good record of repayment of Grameen Bank loans, (ii) is literate or at least has children who are literate, (iii) preferably has a successful business, and (iv) resides near the center of the village.

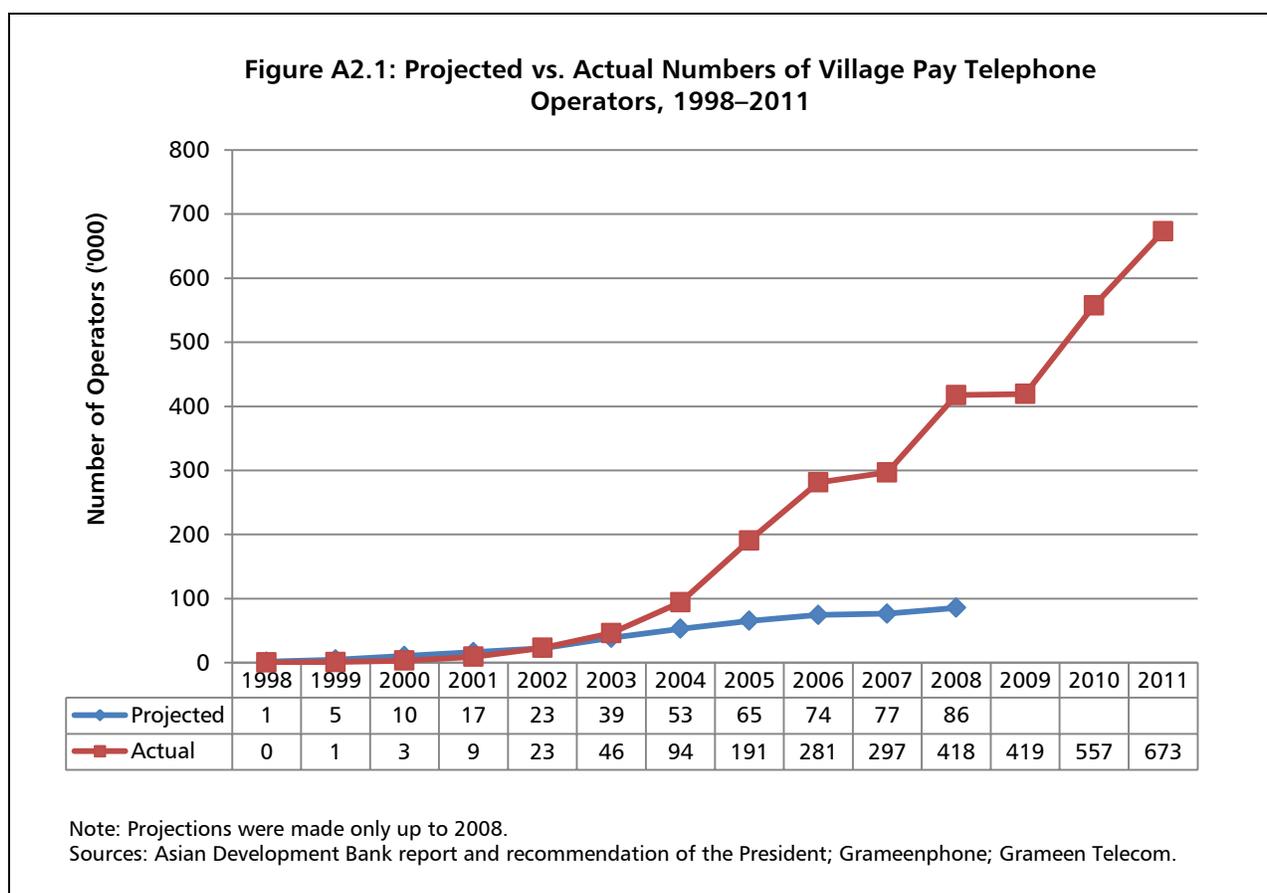
5. **Phone user subscription and training.** GTC buys a cellular phone user subscription from Grameenphone on behalf of the VPT operator. GTC also supplies the cellular phone (and antenna if necessary) and provides training on the use and maintenance of the phone and how to run the VPT business. GTC also provides the VPT operator with suggested call rates for outgoing and incoming calls and for peak and off-peak hours.

6. **Program mechanics.** A villager who wants to make an outgoing call visits the VPT center, which is either the residence or the place of business of the VPT operator. For incoming calls, the VPT operator usually takes the phone to the house of the call recipient. Alternatively, the caller makes a call at a predetermined time and the recipient is at the VPT center to take the call. The VPT operator usually charges extra for bringing the phone to the call recipient.

7. Grameenphone prepares a monthly bill for each VPT operator based on the bulk airtime rate under the program and the total number of minutes consumed. GTC sends the bill to the VPT operator and Grameen Bank collects the money for the airtime bill, the monthly fee for the line, a GTC service charge, applicable taxes and government fees, and the installment on the handset.

C. Progress and Impact

8. The VPT program started slower than expected. The report and recommendation of the President (RRP) for Grameenphone Telecommunications¹ estimated that there would be about 16,500 VPT operators by the end of 2001, but the actual figures were much lower at 9,200. However, by the time the second loan was appraised in December 2003, the number of operators had increased fivefold to 46,300, exceeding the projected 38,800 operators. The number of operators rose to 417,600 by the end of 2008, exceeding the projection of 85,500 in the RRP for Investment No. 7194. There were 672,955 active VPT operators as of the end of 2011. Figure A2.1 compares the projected and actual numbers of VPT operators from 1998 to 2011.



9. While the number of VPT operators continues to grow, their income continues to slide. VPT monthly ARPU declined from a high of Tk6,680 in April 2003 to only Tk330 by December 2011. Factors contributing to lower incomes included: (i) lower call rates and margins due to price wars; (ii) competition from other, non-Grameenphone operators and other VPT operators; and (iii) more people having their own phones as a result of lower handset and airtime costs.

¹ ADB. 1998. *Report and Recommendation of the President to the Board of Directors: Equity Investment to Bangladesh for the Grameenphone Telecommunications Project*. Manila.

10. There are several independent studies on the VPT program, most of which were done during its early years (1999–2003). The studies show that the VPT operators made decent profits that ranged from \$40 to \$300 and averaged \$70 per month. This represented a substantial 20%–50% of the VPT operators' household incomes. The more enterprising operators were also able to set up new businesses from their VPT earnings. An estimated 95% of the registered VPT operators then were women, so the program also promoted gender development.²

11. The program yielded economic and social benefits for VPT users as well, as they were able to (i) get better prices for their produce, (ii) save trips to the town center or the city, (iii) keep in touch with family and friends, (iv) get remittance details from family members working abroad, (v) get better exchange rates for the remittances, and (vi) inquire about health-related issues. The VPT program has received numerous international awards, including the GSM Association's "GSM in the Community Award" in 2000, the Petersburg Prize for "Use of Information Technology to Improve Poor People's Lives" in 2004, and the International Telecommunications Union's first "World information Society Award" in 2006. The VPT program has been replicated in Cambodia, Haiti, Indonesia, the Philippines, Rwanda, and Uganda.

D. Survey and Survey Results

12. **Methodology.** The performance evaluation team conducted a survey among VPT operators and users to establish the socioeconomic benefits of the VPT program. This entailed face-to-face interviews using a structured questionnaire. The sample size was 100 VPT operators and 300 end-users.

13. Multistage sampling was done as follows: (i) stage 1—random selection of 20 districts out of all the districts (except one of the districts had to be Dhaka); (ii) stage 2—random selection of 5 villages per district; (iii) stage 3—in each chosen village, one VPT operator was selected through purposive sampling; (iv) stage 4—in each chosen village, three households were selected via interval sampling, and in each selected household one end-user was interviewed. For eligibility, VPT operators had to have been operators for at least 12 months, while end-users had to have used the service in the past 12 months.

14. The survey was conducted from 22 November 2011 to 6 December 2011. The research firm contracted to do the survey interviewed 102 VPT operators and 306 VPT users.

15. **Findings on operators.** One of the interesting findings of the survey was that 100% of the VPT operators interviewed were males. However, only 9% of the respondents were members of Grameen Bank. The other 91% used VPT user subscriptions issued to female relatives who are members of Grameen Bank. A majority of the VPT operators (54%) were the only earning members of their households. All the operators were literate, and 85% had at least 6 years of schooling. The operators lived in villages with populations ranging from 400 to 20,000 and averaging 3,800. Nearly 66% of the respondents had monthly household incomes in the Tk6,000–Tk15,000 range.

² A study that was completed in March 2000 noted that while 95% of Grameen Bank members were women, 25% of the VPT operators interviewed for the study were men.

16. The respondents had been VPT operators from 2 to 18 years, averaging 11 years. Many of them had been active in trading (79%) or farming (35%) before they became VPT operators. A majority of the respondents (58%) had monthly incomes of Tk6,000 or less before they became VPT operators. By the time the survey was conducted, only 19% had monthly incomes of Tk6,000 or less. On a weighted average basis, the monthly household income was Tk7,300 before the respondents became VPT operators, and Tk11,500 as of November 2011. The improvement in the household incomes may be attributed partly to the VPT business and partly to inflation and other factors.

17. About 43% of the operators paid cash for the handsets they are using. Of the 57% that opted to pay the handsets off in monthly installments, a vast majority (78%) was able to do so in 1 year or less. The 21 respondents who were already operating in 2001 recalled that the per-minute cost of the airtime purchased from Grameen Telecom was Tk4.30 on average. This went down to Tk2.94 in 2006 (75 respondents) and to Tk1.13 in 2011 (102 respondents). The operators charge Tk2.00 per minute for outgoing domestic calls, or almost twice the airtime cost. For outgoing international calls, they charge premiums ranging from 2% to 50% and averaging 20% over standard international call rates.

18. Nearly half of the VPT operators (49%) had 10 to 20 regular customers, 25% had less than 10 regular customers, and 26% had anywhere from 25 to 200 regular customers. The average number of customers was around 23. The operators estimated that only 20% of their regular customers were female.

19. About half of the respondents (52%) estimated their monthly income from the VPT business at Tk100–Tk500, 24% estimated it at Tk501–Tk1,000, and 24% at Tk1,001–Tk5,000. The weighted average monthly income from the VPT was Tk830. A majority of the respondents (58%) estimated that their VPT business accounted for 10% or less of their household income, while 30% estimated that the business accounted for a substantially bigger percentage (20% to 35%) of their household income. The average was computed at 12% of household income.

20. An overwhelming majority (86%) of the operators said that their monthly income from the VPT business decreased between 2010 and 2011. They attributed this to more people in their village having their own cell phones (98%), competition from non-Grameenphone operators (55%), and lower margins (30%).

21. Almost 75% of the respondents were able to start other businesses as a result of being a VPT operator. Most of these businesses were related to mobile telephony, such as mobile phone repair (26%), flexiload business (36%), sales of SIM cards (4%), and cell phone handsets and accessories (5%). Non-related businesses were very diverse, but the more common ones were cosmetics shops (21%) and electronics repair (11%).

22. A majority of the respondents agreed or strongly agreed with statements that being a VPT operator (i) enhanced their status in the household (94%), (ii) elevated their status in the village (95%), (iii) boosted their self-confidence (96%), (iv) increased their knowledge about market prices of products and supplies (88%), and (v) increased their knowledge about health issues (75%). Similarly, a majority of the respondents agreed or strongly agreed with the statements that the VPT program (i) greatly improved the livelihood of and earning opportunities for the villagers (87%), (ii) greatly improved the health and well-being of the villagers (69%), (iii) greatly improved the safety and security of the villagers (95%), (iv) contributed immensely to poverty reduction in the village (82%), (v) contributed immensely to social development in the village (88%), and (vi) contributed immensely to empowering women in the village (75%). It should be noted that the first five questions were intended to find out if women believed that they were empowered by the program. But since all the respondents were men, the survey was not successful in determining this.

23. Forty-four of the respondents (43%) used only Grameenphone's VPT mobile services. The other 58 respondents used the services of at least one other mobile operator—72% used Robi, 69% used Banglalink, 17% used Citycell, 12% used Teletalk, and 9% used Airtel.

24. **Findings on users.** For the VPT user survey, a screening question for eligibility was whether the interviewee used the VPT service to make phone calls in the past 12 months. The survey team was also requested to count the number of interviews that were terminated because of ineligibility to find out how many were not using the service. One of the important findings was that only 4% of the people approached used the VPT service. The VPT users stated that 100% of the VPT operators they often use are males, which confirms the VPT operator survey finding.

25. A majority of the users interviewed were males (82%), married (78%), and literate (87%). Their ages ranged from 15 to 90 years, averaging 34 years. They lived in households with 2 to 21 members, averaging 5 members. The average monthly household income was Tk9,000 but almost half (49%) had incomes of Tk6,000 or less. Most of the respondents were active in farming and livestock (47%) or trading (44%).

26. For domestic calls, the users pay Tk2 per minute. The average duration of a domestic call is 5 minutes. Only 44 of the 306 respondents (14%) make regular international calls to family members working in Saudi Arabia (41%), the United Arab Emirates (30%), India (14%), Malaysia (11%), and a few other countries. The call rates varied widely even to the same country. For instance, the end-users paid anywhere from Tk10 to Tk30 per minute for outgoing calls to Saudi Arabia. This confirms the VPT operator survey findings that they charge a 2% to 50% premium for outgoing international calls. The average duration of an international call is 4 minutes. When asked how much they spend per month on VPT calls, 53% of the end-users said less than Tk100, 30% said Tk100–Tk200, and the remaining 17% said anywhere between Tk220 and Tk1,500.

27. Almost all the users (97%) said they use the VPT to keep in touch with family and friends. Eighty-eight of the respondents (36%) also use the VPT for business, specifically to check market prices for their products, call clients, and check prices of supplies. A vast majority of the respondents (92%) also said that the VPT call saves them a trip to the city, many of whom (53%) are more than 45 minutes away from the nearest one. A one-way trip to the city ranges from Tk10 to Tk300, averaging Tk55—or five times the cost of a 5-minute call.

28. An overwhelming majority of the respondents were satisfied or very satisfied with the quality of the calls using Grameenphone (96%) and the quality of their services (92%). A vast majority of the VPT user respondents also agreed or strongly agreed with the statements that the VPT program (i) greatly improved the livelihood of and earning opportunities for the villagers (96%), (ii) greatly improved the health and wellbeing of the villagers (89%), (iii) greatly improved the safety and security of the villagers (88%), (iv) contributed immensely to poverty reduction in the village (85%), (v) contributed immensely to social development in the village (85%), and (vi) contributed immensely to empowering women in the village (75%).

29. **Summary and conclusion.** The most interesting and unexpected finding of the survey was that men have taken over the VPT business. All the VPT operators interviewed were males and all the users interviewed also said that the VPT operators they usually go to are males. The method for selecting the VPT operator to be interviewed may have reduced the probability of women VPT operators to be chosen, because the interviewers purposely chose main business centers in each village to conduct the survey. Women are more likely to operate from home whereas men are more likely to operate from business centers. Nonetheless, it was apparent from the survey that it was common practice for women to be the registered VPT operator subscriber but that the men were the ones actually managing the business.

30. It also became clear from the survey, and was confirmed by the ARPU data from Grameen Telecom, that the earnings of the VPT operators have fallen substantially. At least some of those who started the VPT business early were able to put up other businesses. As stated by one Grameen Telecom official, "The program is not dead, but it is no longer the way out of poverty."³

31. There is also less demand for the VPT program because more people have their own phones as a result of more affordable handsets and airtime rates. For now, the VPT program remains relevant, at least for people who still cannot afford a phone.

³ R. Shaffer. 2007. Unplanned Obsolescence. *Fast Company*. <http://www.fastcompany.com/60302/unplanned-obsolence>.

APPENDIX 3: PRIVATE SECTOR DEVELOPMENT INDICATORS AND RATINGS

Indicators	Ratings ^a	Justifications and Annotations
1. Impact beyond the Company		
<p>1.1 Private sector expansion: A pioneering or high-profile project contributes by facilitating in its own right, or paving the way for, more private participation in the sector and the economy at large.</p>	Excellent	<p>The project has made a very substantial contribution to the growth of the telecommunications industry and to more private participation in the sector.</p> <p>The telecommunications sector has grown tremendously. As a component of GDP, it was the best-performing sector of the economy in the past 10 years, with a growth rate of 21.2% per year in constant prices from 2001 to 2010. Grameenphone contributed greatly to this growth. Its revenues averaged 36% of the sector's share in GDP during this period, and its net profits averaged 8%.</p> <p>The project has created a lot of earning opportunities. Aside from Grameenphone's 5,000 employees, an estimated 350,000 people benefit from the company by working for the dealers, retailers, vendors, suppliers, contractors, and other business partners of Grameenphone.</p> <p>The VPT program has created entrepreneurial opportunities for nearly 700,000 people who serve as VPT operators. Studies have shown that some of these operators diversified into other businesses, related or unrelated, such as mobile phone repair centers, electronic reload and scratch outlets, and trading.</p> <p>The success of Grameenphone may have also encouraged the entry of other foreign players:</p> <ul style="list-style-type: none"> (i) Orascom Telecom Holding (Egypt) bought 100% of Sheba Telecom (Bangladesh) in 2004; (ii) SingTel (Singapore) bought a 45% stake in Pacific Bangladesh Telecom in 2005; (iii) Abu Dhabi Group (United Arab Emirates) formed Warid Telecom and became the latest cellular service operator in 2007; (iv) NTT DoCoMo (Japan) bought the 30% share of AK Khan Group (Bangladesh) in Aktel in 2008; and (v) Bharti Airtel (India) bought a 70% stake in Warid in 2010.
<p>1.2 Competition: Places pressure on public and other sector players to increase efficiency and improve access and service levels in the industry.</p>	Excellent	<p>The decision of the government to award three additional cellular phone operator licenses in 1996 basically ensured that there was going to be competition in the telecommunications industry, but Grameenphone has played a critical</p>

Indicators	Ratings ^a	Justifications and Annotations
		<p>role by setting high operational, financial, and ethical standards for the rest of the industry to follow. The BTRC acknowledges that Grameenphone is the industry's "torchbearer".</p> <p>Since 1998, Grameenphone has had the biggest share of the mobile market despite the big head start by Citycell, which began operations in 1993, and the addition of two other players in 2005 and 2007. Although financial statements of the other operators are not available, the BTRC and AMTOB, as well as several publications, confirm that Grameenphone is currently the only profitable mobile phone operator.</p> <p>Grameenphone's strategy to invest heavily in infrastructure has paid off handsomely, as it was able to expand its subscriber base much faster than the competition due to its wider network coverage and higher system capacity. Starting in 2010, the company helped improve efficiency in the industry by entering into infrastructure-sharing arrangements with the other operators.</p>
<p>1.3 Innovation: Demonstrates efficient new products and services in areas such as marketing, distribution, tariffs, production, and technology; and ways to cover or contain cost, manage demand, etc.</p>	<p>Excellent</p>	<p>Grameenphone uses the same GSM platform that four of the other five operators are using. What sets it apart from the other operators is that it is usually the first to introduce new products and innovative, value added services to the market:</p> <ul style="list-style-type: none"> (i) First to launch the prepaid service in 1999 (ii) First to establish 24-hour call center (iii) First to offer EDGE services (for internet access) in 2005 (iv) Introduced HealthLine in 2006 (v) Introduced CellBazaar in 2006 <p>The VPT program is perhaps the project's greatest innovation.</p>
<p>1.4 Links: Relative to investments, the project contributes to notable upstream or downstream link effects to business clients, consumers, suppliers, key industries, etc., in support of growth.</p>	<p>Excellent</p>	<p>The project contributed to notable links. Grameenphone does business with 1,200 enterprises, around half of which are local. These include tower manufacturers, printers, civil works, food and water vendors, and suppliers of equipment and transport.</p> <p>Downstream links include around 14,000 retail outlets, 100,000 reload points, and nearly 700,000 VPT operators.</p>
<p>1.5 Catalytic element: Contributes by pioneering or catalyzing finance, and mobilizing or inducing more local or foreign market financing and foreign direct investment in the sector.</p>	<p>Satisfactory</p>	<p>In 2008, the company issued 425 unsecured and nonconvertible bonds, denominated at Tk10 million each, over two tranches; the first with a 540-day term, the other with a 720-day term. While the bonds are not listed on any of the bourses, the free transferability structure ensures that the financial instruments can be easily bought and sold over the counter. The bonds</p>

Indicators	Ratings ^a	Justifications and Annotations
		<p>were the first of their kind in the Bangladesh capital market. Notably, the Credit Rating Agency of Bangladesh rated both Grameenphone and the bonds AAA.</p> <p>In 2009, Grameenphone conducted the largest IPO in Bangladesh, which was three times oversubscribed. It raised Tk4.86 billion (\$70 million) from the offering. The shares were listed on the Dhaka Stock Exchange and the Chittagong Stock Exchange in the same year.</p> <p>Grameenphone's market capitalization represented 10.9% of the total market capitalization of the Dhaka exchange as of the end of 2011.</p>
<p>1.6 Affected laws, frameworks, regulations: Contributes to improving laws and sector regulation for liberalized markets for greater sector efficiency.</p>	<p>Not rated</p>	<p>The project has had minimal effects on the regulatory framework of the telecommunication industry. Grameenphone has gone to court several times to challenge various rulings by the BTRC, the industry regulator, particularly the taxes and fees being levied on it.</p>
<p>2. Company Impact with Wider Potential</p>		
<p>2.1 Skills contribution: Contributes to new strategic, managerial, and operational skills, with actual or potential wider replication in the sector and industry.</p>	<p>Excellent</p>	<p>The technological know-how and managerial expertise of Telenor has been instrumental in setting up an international-standard mobile phone operation in Bangladesh. Telenor has more than 155 years of telecommunication experience. Aside from Norway and Bangladesh, Telenor owns mobile telephony companies in Denmark, Finland, Hungary, India, Malaysia, Montenegro, Pakistan, Thailand, Serbia, and Sweden. Including its 31.7% ownership stake in VimpelCom, Telenor had more than 330 million mobile subscriptions worldwide as of 31 December 2011.</p> <p>Being one of the pioneers in developing the GSM service in Europe, Telenor has also helped transfer this knowledge to local employees.</p>
<p>2.2 Demonstration of new standards: As seen in ways to operate the business and compete, and in investee performance against relevant best industry benchmarks and standards.</p>	<p>Satisfactory</p>	<p>Grameenphone has the largest number of points-of-sale distribution, because it takes a more active role than competitors in partnering with distributors through training, co-branding and co-advertising.</p>
<p>2.3 Better governance: As evident in standards for corporate governance, stakeholder's relations, environmental, health, and safety performance, and energy conservation.</p>	<p>Excellent</p>	<p>Grameenphone has observed high standards of corporate governance. It takes its cue from the parent company of its major shareholder, Telenor.</p> <p>Grameenphone had been publishing annual reports even before it became a publicly listed company. The reports do not only summarize the company's operational and financial achievements for the year, but also include the</p>

Indicators	Ratings ^a	Justifications and Annotations
		<p>organizational structure of the company, the profiles of the board of directors and the management team, and their corporate governance practices.</p> <p>Grameenphone's control environment includes policies and procedures on financial reporting, operational excellence, business and financial review, management of assets, statutory and internal audit, internal control, dividends, risk management and mitigation, compliance with rules and regulations of the country, ethics and behavior, and investor relations.</p> <p>Some of the recent awards and recognition that Grameenphone received for its corporate governance practices were the South Asian Federation of Accountants (SAFA) award for "Best Presented Accounts and Corporate Governance Disclosures" in 2010 and the Institute of Chartered Accountants of Bangladesh (ICAB) award for "Best Published Accounts & Reports" in 2009 and 2010.</p>
Overall Private Sector Development Rating	Excellent	

ADB = Asian Development Bank, AMTOB = Association of Mobile Telecom Operators in Bangladesh, BTRC = Bangladesh Telecommunication Regulatory Commission, EDGE = enhanced data for global evolution, GDP = gross domestic product, GSM = Global System for Mobile Communications, IPO = initial public offering, VPT = village pay telephone.

^a Ratings scale: Unsatisfactory, Less than Satisfactory, Satisfactory, and Excellent. The rating is not an arithmetic mean of the individual indicator ratings, and these have no fixed weights. It considers actual impact (positive or negative) and potential further impacts as well as risk to its realization.

Source: Independent Evaluation Department.

APPENDIX 4: GRAMEENPHONE LIMITED—COMPANY PROFILE AND PERFORMANCE

A. History and Ownership

1. The Grameenphone project was the brainchild of Iqbal Qadir, a Bangladesh-born Wharton graduate who worked as an investment banker at Atrium Capital in New York. When he returned to Bangladesh in 1993 after being away for 20 years, he learned that there were only two phones per 1,000 inhabitants and that the Bangladesh Telegraph and Telephone Board, which had a monopoly of the fixed-line network in Bangladesh, was still using old analog equipment that routinely malfunctioned. Qadir saw an opportunity to expand telecommunications coverage, especially in rural Bangladesh. He pitched his idea to Muhammad Yunus, the founder of Grameen Bank. Yunus liked the idea but was initially unwilling to commit capital and put together the syndicate of technical and financial partners.¹

2. In 1994, Qadir established Gonofone Development Corporation to work on the venture. Gonofone means “phone for the masses” in Bengali. The project needed a technical partner, so Qadir talked to several American and European telecommunications companies but was rejected. Telenor Invest of Norway finally agreed to join the project in October 1995, just in time for the submission of proposals in November 1995 for the three cellular service licenses that the Ministry of Post and Telecommunications was bidding out.

3. In 1996, Grameenphone was incorporated as a private limited company. Aside from Telenor and Gonofone, the other initial owners of the company were Grameen Telecom, a nonprofit, wholly owned subsidiary of Grameen Bank, and Marubeni Corporation, one of Japan’s largest trading companies. Gonofone and Marubeni sold their shares to Telenor and Grameen Telecom in 2004. In 2009, Grameenphone conducted the biggest initial public offering (IPO) in Bangladesh. Table A4.1 shows the ownership structures of Grameenphone from 1996 to 2011.

Table A4.1: Ownership Structures of Grameenphone, 1996–2011
(%)

Company	Ownership Structure		
	Up to Buyout of Minority Stockholders (1996–2004)	After Buyout but Before Initial Public Offering (2004–2009)	Since Initial Public Offering (2009–2011)
Telenor Mobile Communications (formerly Telenor Invest)	51.0	62.0	55.8
Grameen Telecom	35.0	38.0	34.2
Marubeni Corporation	9.5	–	–
Gonofone Development	4.5	–	–
General public and other institutions	–	–	10.0
Total	100.0	100.0	100.0

Note: Excludes non-voting shares of the Asian Development Bank, International Finance Corporation, and Commonwealth Development Corporation.

Sources: Grameenphone annual reports and audited financial statements; Asian Development Bank report and recommendation of the President.

¹ D. Isenberg et. al. 2007. *Iqbal Qadir, Gonofone, and the Creation of GrameenPhone*. Harvard Business School.

4. In November 1996, MOPT granted Grameenphone and two other operators their cellular licenses. Grameenphone began commercial operations on 27 March 1997. Table A4.2 lists some of the company's milestones.

Table A4.2: Grameenphone Milestones

Year	Event
1996	Incorporated as a private limited company; awarded one of three new cellular licenses
1997	Began operations on Bangladesh Independence Day
1998	Launched mobile-to-mobile service (without landline connectivity)
1999	Launched the first prepaid service in the country
2001	Launched the WAP service to access the internet
2002	Achieved Bangladesh Business Award for "Best Joint Venture Enterprise"
2003	Launched prepaid service with landline connectivity; reached 1 million subscribers
2004	Reached 2 million subscribers
2005	Launched Electronic Recharge System, Djuice brand, EDGE, and voice SMS
2006	Launched HealthLine, Smile Prepaid & Xplore Postpaid, CellBazaar, Business Solutions for business class and community; reached 10 million subscribers
2007	Converted to a public limited company; launched new VAS, Bull Stock Information, Missed Call Alert, and PayForMe Service; reached 16 million subscribers
2008	Introduced BlackBerry service; reached 20 million subscribers
2009	Conducted largest IPO in Bangladesh; listed on the Dhaka Stock Exchange and Chittagong Stock Exchange; launched internet modem
2010	Launched MobiCash financial services, Ekota for small and medium-sized enterprises, Baadhon package; reached 30 million subscribers
2011	Launched My Zone, micro SIM cards, Spondon package with 1-second pulse; Customer Experience Lab, eCare solution; completed replacement of 7,272 BTSs; reached 36.5 million subscribers

BTS = base transceiver station, EDGE = enhanced data for global evolution, IPO = initial public offering, SIM = subscriber identity module, SMS = short messaging service, VAS = value-added service, WAP = wireless application protocol.

Source: Grameenphone annual reports.

B. Corporate Governance

5. Grameenphone has a nine-member board of directors, including a chairman who is elected from among the members. Telenor has five board seats and the Grameen Group has three board seats. The company started appointing an independent director in 2010 in compliance with the Corporate Governance Guidelines of the Securities and Exchange Commission. The board meets at least four times a year. It has organized four committees to advise and make recommendations to the board. These are the audit committee; the treasury committee; the human resources committee; and the health, safety, security, and environment committee.

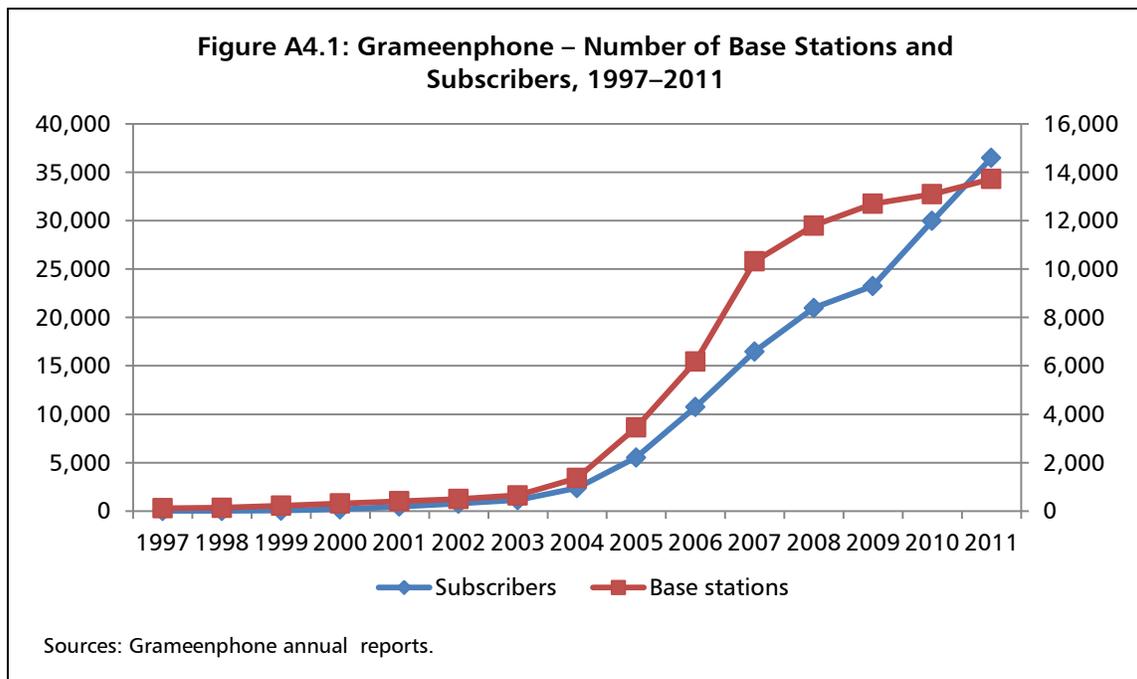
6. The management team is the executive committee of the company and comprises seven members. The members of the team are the chief executive officer, the deputy chief executive and chief financial officer, the chief people officer, the chief marketing officer, the chief communications officer, the chief corporate affairs officer, and the chief technology officer. The team meets weekly to monitor the business performance of the company.

7. Grameenphone’s control environment consists of policies and procedures on financial reporting, operational excellence, business and financial review, management of assets, statutory and internal audit, internal control, dividends, risk management and mitigation, compliance with rules and regulations of the country, ethics and behaviour, and investor relations. These are all described in the company’s annual reports.

C. Operating Performance

8. Grameenphone’s initial marketing strategy was to capture market share quickly by providing basic services at reasonable prices to the mass market. Factors critical to implementing this strategy were (i) the lease of the fiber-optic network of Bangladesh Railways (BR); (ii) the heavy investment in base transceiver stations (BTSs); (iii) the village pay telephone (VPT) program; (iv) the association with the Grameen organization; and (v) the technical know-how and managerial experience of Telenor.

9. Grameenphone’s lease of BR’s 1,800-kilometer (km) fiber-optic network allowed the company to immediately form a nationwide network to link urban and rural coverage areas into a single system. To ensure nationwide transmission backbone and technological redundancy, Grameenphone subsequently installed its own 2,600 km of optical fiber alongside highways and replaced 2,000 km of BR’s network. Another key element of Grameenphone’s strategy was its decision to invest heavily in BTSs or cell sites. Before the Asian Development Bank (ADB) approved its first loan and equity investment in January 1998, Grameenphone had 120 BTSs in the Dhaka and Chittagong districts. When ADB approved the second loan in January 2004, Grameenphone had 653 BTSs in 59 districts. Grameenphone continued to expand and upgrade its cell sites to extend coverage, minimize congestion, and maintain call quality. By the end of 2011, it had 13,725 BTSs covering all districts, 90% of the land area, and 99% of the population. Figure A4.1 shows the strong correlation (0.97) between the number of base stations and the number of subscribers of Grameenphone.



10. The VPT program and the company’s association with the Grameen organization were instrumental in capturing the rural segment of the market. Grameen Bank’s extensive distribution

network and credit facilities allowed rural women to purchase mobile handsets on installment and offer telephone services in their villages. In late 1997, there were just 28 VPT operators in as many villages. By the end of 2011, there were 672,955 active VPT operators in 83,000 of the 87,000 villages in Bangladesh. The VPT program is discussed in greater detail in Appendix 2.

11. Telenor’s technical expertise and managerial experience were instrumental in setting up an international-standard mobile phone operation in Bangladesh. Telenor has had more than 150 years of experience in the telecommunications business and was a pioneer in the development of the GSM technology (GSM stands for Global System for Mobile Communications, originally Groupe Spéciale Mobile).

12. The marketing strategy of Grameenphone worked—it had a 48% share of the market (in terms of mobile phone subscriptions) after its first full year of operations in 1998. This rose to 69% during 2000–2002. When the other operators began to catch up on coverage and call quality, Grameenphone’s market share dipped to an average of 62% during 2003–2006. Two new entrants and aggressive pricing strategies by the competition further eroded the company’s market share to 48% in 2007 and to 43% in 2011. Figure A4.2 shows the market shares of the six mobile operators from 2006 to 2011.

