

Unplanned Obsolescence

Grameen's famous Village Phone Program lifted thousands out of poverty-- and helped Muhammad Yunus win the Nobel Peace Prize. The problem: It's not working anymore.

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At first, they all came. Not the beggars, of course, but villagers of every other sort, including many of the poorest. Most came in rickshaws, but some walked long distances across the rice paddies to line up at the door of a mud-walled home, waiting in the dust and the dung, with the chickens and the cows, even during Bangladesh's monsoon season, when the rain on the metal roof could make it difficult to hear.

And then, one by one, each talked on Laily Begum's wondrous new possession, a cellular telephone. A caller might come to check on money that her husband was supposed to send from his job as a day laborer in Dubai, or to keep tabs on the son who had moved to Chittagong in hopes of finding seaport work, or merely for gossip and the novelty of talking with someone far away.

But that was in the beginning, a decade ago; these days, cell phones are so commonplace that most visitors come only for a haircut, a shave, groceries, or a place to sleep, all of which Begum offers now. The few wireless calls are no longer made from her home but from one of her nearby shops--usually the one with the barrels, drums, and cans of motor oil out front and lining its walls. In March, when I visited her home in Patira, a stretch of dusty intersections 90 minutes northeast of Dhaka, she told me, "Hardly anyone uses my phone anymore."

On March 26, 1997--chosen because that day was the anniversary of Bangladesh's independence from Pakistan--Begum became the first participant in GrameenPhone's Village Phone Program. Now widely known, the plan offers small loans, or microcredit, that enable people in one of the world's most impoverished countries to buy cell phones and rent them, call by call, to neighbors who can't afford telephones of their own.

A compact, 44-year-old former seamstress with a skeptical look, Begum previously had borrowed and repaid lesser amounts to buy a cow, then another cow, and then to open a grocery store and tea shop for her husband. Next, she borrowed 25,000 takas, the equivalent at the time of about \$580, to purchase her mobile telephone, a tall antenna, a heavy-duty battery, and some marketing materials. Almost immediately, she began earning more than that in monthly profits-- approximately \$800, or nearly twice as much in a month as the average Bangladeshi, even today, makes in an entire year.

A decade later, instead of begging on the streets and sleeping with cattle as she once had done, Begum shares a two-room brick house with her husband, two sons, a daughter, a television set, and a refrigerator. Next door, she has built a barn, shops, and temporary housing that she rents to five poor families. Today, her banker estimates her net worth at \$145,000, which may be more than everyone else in her village combined.

Begum's success has become legendary, embraced by the media and the world of economic development as an example of how microcredit and technology can help those born in poverty escape it, largely through their own entrepreneurship. The Grameen organization continues to boast that its Village Phone Program "has been incredibly successful ... establishing a clear path out of the poverty cycle" and in June published a manual, featuring a photograph of Begum, instructing microfinance lenders elsewhere how to follow its lead.

But as it turns out, the legend is far out of date. The proliferation and democratization of technology has bested the economics of microenterprise. In Bangladesh today, the only one making real money on GrameenPhone's wireless service is ... GrameenPhone.

GrameenPhone is a for-profit joint venture between Norway's [Telenor](#) and Grameen Telecom, a telecommunications affiliate of Grameen Bank, which won the Nobel Peace Prize last year together with its Bangladeshi founder, Muhammad Yunus. GrameenPhone shares Grameen Bank's fundamental philosophy--that targeted loans of modest sums can be profitable and bring millions out of poverty. In fact, it has overcome risks--spending \$1.2 billion, for example, on communications infrastructure in an impoverished land--that few others would have considered and has improved the lives of countless people.

All this has occurred in one of the most desperate nations on earth. Those of a certain age may remember Henry Kissinger's description of Bangladesh as a "bottomless basket," or George Harrison's all-star benefit concerts in the summer of 1971 as hundreds of thousands were dying in the war of independence from Pakistan. Usually, if we think of Bangladesh at all, we think of its poverty, violence, corruption, and disasters--its cyclones, droughts, and floods, its nationwide strikes, stalled traffic, militant bombings, pollution, erratic electricity, and beggars. Two out of every five Bangladeshis are officially classified as poor.

In aspiration and potential, however, Bangladesh is the Hong Kong of South Asia, with a resilient workforce, a growing middle class, and encouraging recent progress. The growth of real gross domestic product has increased to 6.7% last year from an annual average of 4.8% in the 1990s and 3.2% in the 1980s. Although the country's second-largest export continues to be its people--nearly 290,000 Bangladeshis work abroad, each sending home enough money to support 37 others--shipments of its principal manufactured exports, ready-made garments, have been rising 11% annually, despite recent loss of trade protection.

Grameen's Village Phone Program has mirrored that growth, expanding ten-thousand-fold in 10 years to include about 280,000 operators, mostly women known as "phone ladies." It has won fame because of its reputed earning power. "The typical village phone lady has an average income three times the national average," according to a 2005 United Nations manual explaining how to duplicate the program elsewhere. In the most recent book about the program, *You Can Hear Me Now*, published in February of this year, author Nicholas P. Sullivan writes, "It is widely accepted that village phone ladies can make anywhere from \$750 to \$1,200 a year."

The current reality, however, is something different. According to Grameen Telecom, the GrameenPhone affiliate that manages the program, profits per operator have been declining for years and in 2006 averaged less than \$70. "The program is not dead," says its manager, Mazharul Hannan, chief of technical services at Grameen Telecom, "but it is no longer a way out of poverty."

The reason is simple: Technology and GrameenPhone itself have made the village phone obsolete. Access to cell phones has expanded rapidly across Bangladesh, as in other developing nations. GrameenPhone, largest of the nation's six cellular providers, has more than 13 million subscribers, with yearly revenues of nearly \$700 million. In all, perhaps one in seven Bangladeshis owns a phone, and ownership is expected to reach as high as one in three in a year or so.

Dhaka is hot, humid, crowded, frenetic, and noisy. And across the city, cell phones are everywhere.

Ten years ago, Begum provided the sole telephone in Patira and the surrounding area, the only connection for nearly 10,000 people. Today, she must vie with 284 other Village Phone operators nearby, plus all the cell phones her neighbors have bought for themselves as prices have come down. As a result, Begum's phone rentals these days bring in monthly profits of only \$22. "If I didn't have so many other businesses," she told me, "I couldn't afford to be in this one." Says her loan officer, Salim Khan, general manager of a Grameen Bank branch: "She is fortunate that she began when she did. Today, poor women who go into

the phone business stay poor."

To understand the transformative power that cell phones have had in Bangladesh, one need only visit Dhaka, the capital. Dhaka is hot, humid, and flat, its skyline filled with cement buildings that seemingly aspire to East German monotony and dinginess. The city's air chokes with dust and the exhaust from ramshackle vehicles of every sort, patched together and resurfaced with fiberglass bonding compound, then gaily striped in turquoise, fuchsia, tangerine, chartreuse. Second globally only to Mumbai in the number of slum dwellers, the city is frenetic and noisy, with a constant beeping, honking, ringing, and coughing of buses, cars, rickshaws, and three-wheel taxis against the loud drone, in neighborhoods that can afford them, of electric generators. (Power fails several times a day.)

Yet across the city, cell phones are everywhere. In the Eastern Plaza, a multistory market building, several dozen cramped stalls offer phones exclusively. Because many handsets are smuggled into the country, suggested retail prices mean little, and bargaining is brisk.

Indeed, wireless has become broadly affordable--even in places that, until now, had no telephones of any sort. Advances in digital electronics have helped to lower the price of a cellular handset in poor nations from more than \$400 to about \$30. In practical terms, that's a reduction from more than the national average annual wage in those countries to less than the wages for a single month. As a result, many who once needed to use someone else's phone now can afford one of their own.

One afternoon, at the crowded livestock market near Dhaka's Gabtoli Bus Terminal, I met with cattle dealer Taiyeb Ali. He told me he sells about 120 animals--three times his usual volume--during the week leading up to Eid al-Adha, the second most important festival in the Islamic calendar, when families in Bangladesh slaughter cows by the hundreds of thousands. For most of his 25 years in the business, Ali had to spend as long as a month away from home selecting and buying animals near the border with India, the source of many cattle in Bangladesh. Then he bought a cellular phone, and these days, he stays in Dhaka when al-Adha approaches, ordering over the air once he's seen what customers are buying. "If demand is high, I buy expensive animals; if it's low, I buy cheaper ones," he told me. "It's very simple: I save time with the phone, and I make more money."

The wireless industry likes to give itself at least partial credit for Bangladesh's recent economic gains, and that claim is supported by recent economic research (partly financed, as it happens, by the industry). The mobile industry created 237,900 jobs in Bangladesh in a single year, according to Ovum Consulting, which also concluded that most of the benefit of mobile communications had gone to the poor. A study led by the London Business School concluded that in developing countries, a 10% increase in the use of cellular telephony increases GDP per capita by six-tenths of a percent. And according to McKinsey & Co., the overall benefits of cellular telephony can be as high as 8% of a nation's GDP.

A day after meeting Ali, I ferried by skiff to Karail, a warren of corrugated-iron-and-bamboo hovels across Lake Gulshan from the well-guarded villas and high-rises of Dhaka's most expensive and fashionable neighborhood, and near a large, elaborate mosque donated by Saddam Hussein. An estimated 100,000 squatters live in Karail, the city's largest shantytown. Their shacks are without ovens; cooking is done over common scrap-wood fires. Toilets empty into the lake, where children swim. Water and electricity are bought from thieves who divert public sources.

Here, I found Noor Alam, a slight, earnest 28-year-old who operates a sewing machine in a garment factory. Although he earns only \$1.20 a day, he had managed to save \$45 to buy a Nokia cell phone a month earlier, because, he said, the economics were so compelling. Rather than signing on as subscribers for a specific period of time, most Bangladeshis engage in any number of programs that allow them simply to pay before phoning, spending an average of just 16 cents a day on calls.

Alam thinks of home as the village he came from, and he used to return frequently to visit his mother, father, and nephew--a trip that took two days by bus and cost \$4.35 in fares, plus lost wages. To save money, he sent the new phone to his mother. He now calls her every other day by renting airtime at one of several phone shops in the slum. For calls his mother needs to make, Alam pays a phone-shop operator,

who then credits his mother's account.

"Now," he says, "I can be a good son and save money, too."

In the taxonomy of business, the Village Phone Program is a shared access model--a term that in the history of consumer technologies has included party lines, pay phones, Internet kiosks, radio receivers, television sets, and video-game consoles. Like those earlier products and services, its evolution has been, in hindsight, predictable: As innovations diffuse, ownership displaces rental.

In the 1980s, the government of India established "public call offices," small businesses that rented wired telephones to customers, call by call. "For about a decade, it was highly profitable," says Ashok Jhunjhunwala, a professor of electrical engineering at the Indian Institute of Technology Madras in Chennai, who has long studied the effects of computer and communications technologies on poverty. "But as more people got phones the profits disappeared."

Likewise, in the face of cheaper phones, accessible calling plans, and low-cost infrastructure, the phone ladies didn't stand a chance. Dawn Hartley, who manages the economic development fund of the GSM Association in London, a trade group that includes most wireless carriers, observes, "The outcome [for the Village Phone Program] was always inevitable. The shared access model is a halfway house between no one owning a mobile phone and everyone owning a mobile phone. Shared access models are a great bridge, and in some areas they will last a very long time, but by and large, they have a shelf life."

Not that the Village Phone Program is being abandoned. Indeed, it continues to recruit more operators. Although the program has become a marginal business for the typical phone lady, it may still contribute to GrameenPhone's corporate net income--which is already robust. Despite peak rates that are among the world's lowest, less than two cents a minute, it earns operating margins of 42%.

The Village Phone Program no longer sustains its entrepreneurs -- yet Grameen continues to recruit operators.

That success reflects a radically different way of doing business, geared to the poor: efficient and low-cost carrier networking, billing, and customer-service systems and methods. "The efficiency involved in this makes or breaks a mobile service," Paul Budde, an authority on the telecommunications industry in South Asia, explained in an email. But it goes deeper than that. Grameen, for example, signs up most new customers these days without even supplying handsets. Vendors need only provide SIM cards, the small, plastic memory circuitry that enables the network to identify a handset; where a customer gets the phone is his affair. And Grameen saves itself the cost of carrying all that phone inventory.

In much the same way, the Village Phone Program has served as a lever to efficiently expand GrameenPhone's very lucrative market. GrameenPhone's employees and managers also seem genuinely convinced of their duty to reduce poverty in Bangladesh. It is encouraging Village Phone operator-entrepreneurs to supplement incomes by selling SIM cards and over-the-air calling credits. In pilot projects, customers are paying utility bills over the phone and buying and selling goods via text messages. The company has provided more than 70,000 street beggars with interest-free loans, handsets, and wireless accounts, encouraging them to earn money by reselling airtime.

For now, GrameenPhone is pinning most of its follow-on hopes on what it calls Community Information Centers, small kiosks--561 established already--in outlying villages that, for fees of 42 cents an hour, will offer such services as online browsing, agricultural and health-care information, digital photography, video telephony via Web cams, and electronic access to government reports and forms.

Such kiosks have met with little success in other countries, and GrameenPhone concedes its plan is ambitious. "The business is similar to renting phones, but more difficult," said Mohammed Shafiqul Islam Sikdar, a deputy manager in the program. "With voice, the need was obvious; people want to talk to each other. With computer kiosks, it's not as clear what villagers will pay for and whether they will pay enough. Also, our entrepreneurs in this case have to be literate and have some technical skills. The capital

requirements are greater, and as the sponsor, we're going to have to spend much more time and effort in marketing, support, and training. But we are in no hurry. We will make it work."

Meantime, GrameenPhone is cooperating with nonprofits and other companies to expand the Village Phone Program beyond the borders of Bangladesh. Pilot programs are under way or being considered in Cambodia, Cameroon, Senegal, Mali, and the Democratic Republic of Congo. The Grameen Foundation, on whose board Muhammad Yunus sits, has reproduced the program in Uganda and Rwanda, and is encouraging microfinance institutions elsewhere to clone more.

The effort is noble--and surely, the Village Phone Program has helped create a telecommunications infrastructure that supports economic development and greater prosperity for folks like Taiyeb Ali and Noor Alam. But the expansion effort is also disingenuous. In Grameen's promotional material for such programs, Yunus proclaims, "If a poor woman gets hold of one mobile phone in the village, then this is a sure bet that her entire family can move out of poverty in two or three years." In some indigent backwaters, that may still be true. But it's misleading, at best, to pretend that Bangladesh is among them.

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