

# North Korean Telecommunications: On Hold

*Stacey Banks*

## Biographical Statement

Stacey Banks is an instructor of international finance at the University of Detroit Mercy and Cleary University. Before this, Stacey worked as a consultant in international logistics and as a management-level federal officer with the U.S. Customs Service Office of Regulatory Audit. Stacey is also an administrator with the Institute for North Korea.

## Abstract

The reclusive country's opening of a large free economic trade zone in 1991, where foreign enterprises may exist, and the establishment of an industrial park in 2004 with tenants from South Korea, indicate a relatively new initiative to attract foreign direct investment. The desire to attract investment must come with an acknowledgement of the need for modern infrastructure, including an up-to-date telecommunications network. While North Korea has shown that it has infrastructure in place to allow national Internet availability and wireless phone communication, all such operations are on hold while North Korea wrestles with its hermit ideology.

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2004 with tenants from South Korea, indicate a relatively new initiative to attract foreign direct investment. The desire to attract investment must come with an acknowledgement of the need for modern infrastructure, including an up-to-date telecommunications network. While North Korea has shown that it now has infrastructure in place to allow national Internet availability and wireless phone communication, all such operations are on hold while North Korea wrestles with its hermit ideology.

North Korea has long adhered to a policy of maintaining independence and self-reliance. The Great Leader, Kim Il Sung, proposed the concept of *juche*, or national self-reliance, to a meeting of workers in the 1950s. *Juche* grew to become a cult-like concept with North Koreans—a mantra for workers and schoolchildren. *Juche* has continued to flourish under the Dear Leader, Kim Jong Il. This concept of national self-reliance has necessarily limited the number of transactions with and the amount of investment received from foreign corporations. But North Korea's policy of self-reliance does not strictly forbid interaction with foreign nations. Kim Il Sung himself once clarified that independence and self-sufficiency were not inconsistent with foreign trade. In 1984, Kim further broadened the definition of foreign trade to include export processing (Cotton, 1996). This clarification opened the door for this form of foreign direct investment and all of its accompanying benefits: an improved capital position, increased taxes, decreased unemployment, and technology transfer. In order for North Korea to partake of these advantages, an infrastructure capable of enticing foreign investment must be in place.

More than a decade after the opening of its first free economic trade zone (FETZ), North Korea's infrastructure remains in a sorry state. The existing rail and road network is reportedly extensive but decrepit. Few seaports can handle large ships or containers. The FETZ, in the far northeast near the border with China and Russia, is readily accessible from within North Korea only by helicopter. The lack of usable infrastructure makes it challenging for North Korea to compete for investment funds with other countries where—although similar in factors of population, labor cost, and availability of raw materials—infrastructure is better established. The telecommunications sector may be the only exception to the rule of substandard infrastructure in North Korea. Strides have been made in telecommunications updates, yet the updated network is unavailable for use.

## Loxley Pacific

North Korea's first foray into improvements in telecommunications was made as part of its preparations for the implementation of the FETZ established in the Rajin-Sonbong area. This FETZ, established in 1991, was designed to entice foreign direct investment by allowing foreign firms to operate wholly owned businesses within the zone while receiving the benefits of preferential tax and tariff treatment (Noland & Flake, 1997). Specific tax incentives were offered for funds used for the provision of infrastructure. Due to the fall of communism in the Soviet Union and

China's transition to a more market-orientated economy, North Korea had lost connections with these two countries that had been relied on to provide "aid, trade, and armaments." Development of this zone was seen as being of major importance for North Korean economy and its regime (Cotton, 1996). The establishment of the zone was also anticipated as a prelude to a more open, market-oriented economy.

In 1995, Loxley Pacific Company Ltd., a subsidiary of Loxley Public Company Ltd. of Thailand, was awarded a 30-year concession to install land-line telephone, paging, and intranet services within the FETZ. Loxley Pacific had obtained this concession through its participation with the North Korean government in a joint venture known as Northeast Asia Telephone and Telecommunications (Neat&T). Neat&T is owned 70 percent by Loxley Pacific and 30 percent by the North Korean state-owned Korean Post and Telecommunications. Neat&T operated 900 land-line phones in the zone in 2000 and 2,000 land-line phones in 2001. The total number of land-line phones was expected to reach 5,000 by 2002 (Plengmaneeapun, 2002).

By 1996, investment in the zone had reached only 20 percent of the amount initially pledged. At this stage, North Korea, along with United Nations organizations, held a trade and investment conference meant to increase investment. This conference allowed an opportunity for foreigners to assess the zone's potential. It was found that the continued lack of infrastructure on the whole was a "severe impediment to the development of the zone" (Noland & Flake, 1997). A 2004 report on North Korea's infrastructure showed that the two ports (Rajin and Songbong) together accounted for less than 20 percent of the share of North Korea's foreign trade. Indeed, the FETZ is considered to be unsuccessful, with the lack of success blamed foremost on undeveloped infrastructure (Kojima, 1998). Loxley Pacific had, at the time of the 1996 conference, invested nearly \$15 million in the FETZ in the form of fiber-optic cables and phone and fax services provided to FETZ businesses. Loxley Pacific anticipated a total investment in the zone of \$36 million by 1998 (Noland & Flake, 1997).

In 2002, Loxley Pacific planned to extend its involvement in North Korean telecommunications by introducing mobile phone service in the Rajin-Songbong FETZ. Through their connections with Neat&T, Loxley Pacific had obtained a license to operate cellular services within the zone. The plan was to be implemented in July 2002 with a target of 5,000 subscribers in the first two months. At the announcement of the plan, Neat&T had invested 130 million Thai baht, or more than \$3 million U.S., in the zone for installation of a cellular network (Plengmaneeapun, 2002).

Neat&T looked forward to great success. Revenue from cellular airtime charges within the zone was to reach 9 million baht (approximately \$209,000 U.S.) in the first year. The service was to reach the point of making a profit within a few years due to the growing economy in the FETZ supported by foreign investment and casino gambling (the FETZ was also to include a tourist trade). The FETZ venture was to be so successful as to eventually entice Pyongyang to allow Neat&T a license to expand its cellular coverage beyond the FETZ, perhaps even to the nation's borders (Plengmaneeapun, 2002). The investment appears to have not fared well: Lox-

ley's mobile phone business in the Rajin-Songbong FETZ was reported to be "not brisk" in a June 2002 article posted in *Business Asia*.

## The South Korean Consortium and CDMA

In July 2002, IT firms from rival South Korean chaebols Samsung Electronics and LG Electronics (makers of handsets), Korea Telecom (South Korea's largest land-line carrier), and SK Telecom (South Korea's largest cell-phone carrier), plus Hyundai, visited North Korea for a meeting with the Ministry of Posts and Telecommunications. This meeting was approved by South Korea's Ministry of Information and Communication. The consortium was formed to combine capital to offset the risk of doing business in North Korea. At this meeting, the group was able to obtain an "outline deal" to initiate mobile phone service in Pyongyang and the nearby port city of Nampo. The plan was to be put into place beginning in 2002. The estimated cost of the project was \$24 million to \$32 million U.S. The group planned to provide cellular service to approximately 40,000 users, all of whom would be foreigners or top-level North Korean government officials (McMillan, 2002).

It has been reported that the U.S. government put pressure on South Korea to block this plan, fearing that the use of high-tech cell phones by soldiers would be a disadvantage to the U.S. military. The United States could well exert such pressure since a U.S. company, Qualcomm, owns the patent on CDMA (Code Division Multiple Access) technology. This meant that the South Korean businesses involved in the proposal would need a U.S. government permit to export this technology to the North. CDMA is a cellular technology developed by Qualcomm and used by more than 60 million subscribers worldwide. GSM (Global System for Mobile communications) is a nonproprietary cellular technology in use worldwide with an estimate of more than 1 billion subscribers as of February 2004. Although the United States could block the import of CDMA technology, GSM, used by Loxley Pacific, could still be adopted in North Korea. This response from the United States put Loxley Pacific in an enviable position to enter the North Korea wireless market. As a provider of nonproprietary technology and with helpful allies in the Korean Post and Telecommunications bureau, its position seemed secure.

The official Chinese news agency, Xinhua, reported in April 2003 that North Korea had put into use an international GSM cellular service and expected to finish construction of its domestic wireless service by 2007. The international cellular service was aimed at foreigners residing in the country, such as the staff of joint ventures or foreign trade companies. The international wireless system was reported to be separate from the local system, with its users unable to dial or receive local calls. As for the domestic wireless service, there was reported to be a service which covered Pyongyang, Nampo, and Rajin.

In September 2003, the North Korean state-controlled radio station, Central Broadcasting Station, announced the launching of a mobile phone network in several major North Korean cities. Estimates of the number of subscribers who used

this network varied greatly. There were reported to be some 300 high-ranking government official subscribers in 2002 using the domestic cellular network which covered Pyongyang, Nampo, and Rajin. *The Washington Post* reported in May 2004 that the estimated number of cell phones in use in Pyongyang had increased from 3,000 in 2002 to approximately 20,000 (Faiola, 2004).

The proliferation of cell phones in North Korea was also witnessed firsthand. When international tourists and journalists were allowed to visit Pyongyang in May 2002 to attend the grand Arirang festival, the journalists reported evidence of “fairly strong cellular signals” on their handsets. On a tour of North Korea in April 2004, a member of the U.N. World Food Program noted a large number of cell phones in use in public. These cell phones would have been available to those who could afford the approximately \$1,000 registration fee, mostly Communist Party members (Faiola, May 2004).

Although some reports regarding the North Korean cellular network could not say for certain whether the system had been developed by Loxley Pacific, statements from the company confirm this: A Loxley Pacific representative stated that the mobile phone network in Pyongyang had a capacity of up to 400,000 users.

In May 2004, international news media began to report that North Korea had banned the use of cell phones and had begun to confiscate cell phones from its citizens. It has been suggested that the ban was due to a deadly train explosion in the country in April 2004 which North Korean officials stated was triggered by a mobile phone.

## **KCC Europe and North Korea's Internet Connection**

Internet availability in North Korea has come as a surprise to even the most cultured: Madeline Albright is reported to have been shocked when Kim Jong-Il asked her for her e-mail address when they met in Pyongyang in 2000. What is well-known is that there has been a government intranet available for a number of years. This intranet, while certainly not providing all of the benefits of the Internet, has elevated the modernization of North Korean telecommunications. North Korean researchers who have the means to do so can use the intranet to gain access to information stored at North Korean institutions and universities. The Central Scientific and Technological Information Agency (CSTIA), under the Academy of Sciences, developed the DPRK Science & Technology Intranet in 1997. This intranet consists of a browser, an e-mail program, news groups, a search engine, and a file transfer system all developed by CSTIA. The intranet is not accessible by foreigners. As for current Internet usage in North Korea, the North Korean government has been able to embrace the Internet as a means of acquiring information, yet use this vast source of information in a manner that protects its ideology. Those few researchers who have gained permission from the North Korean government may acquire foreign data through an Internet connection routed through the Ministry

of Posts and Telecommunications. It is assumed that this usage is heavily monitored (Mercado, 2004).

Jan Holtermann, a former employee of the North Korean embassy in Berlin, founded KCC Europe to bring Internet access to North Korea. A contract to offer Internet services, using filtering software similar to that in use in China and Cuba, was signed in January 2003, although news reports of this signing did not surface until December 2003. Internet access was to be available beginning in February 2004 to select users who will be able to send e-mail. Even fewer subscribers would be able to view web information. Holtermann invested 1 million euros in the network's infrastructure and initially expected narrow profits due to the low number of users. Holtermann won the contract despite competition from Chinese providers. The service is provided in partnership with the state-run Korea Computer Center. The service works through a satellite link to Internet servers in Berlin (Gluckman, 2004). North Korea's Internet availability is said to be at "operation readiness level" as of July 2004. Yet the Internet system, like the wireless phone system, is idle.

## Current State

The improvements in telecom have been made by foreign corporations hoping for a return of profits from the users of the network. Although this impetus for the foreign firms to provide capital and technology explains why telecom is the first infrastructure to be modernized, it is ironic that it is so. No other sector of infrastructure is as dangerous to the regime: no improvement in rail, road, port, or utilities can bring such an unfettered importation of liberalism.

North Korea's wireless phone service and Internet service remain ready to go and only await a change of mind-set and a go-ahead signal from the Dear Leader. The possibility of North Korea implementing modern communications seems to ebb and flow, and each wave of apparent desire to join the telecommunications world brings this initiative a little closer to realization. Recently, South Korean President Roh Moo-hyun and his ruling Uri party pressed ahead with plans to repeal South Korea's National Security Law, which since 1948 has prohibited, among other things, open support of and unauthorized communications with North Korea (Faiola, Nov 2004). With the passage of the repeal of this law, perhaps North Korea leaders will open up their systems enough to allow modern communications with their fellow Koreans. This would be a good, tentative first step.

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