

# **Trade, Development and Poverty Linkage: A Case Study of Cellular Phone in Bangladesh**

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## **I. Introduction**

An undisrupted and transparent flow of information has become an integral part of a modern democratic society. Such a flow of information is thought to be pro-poor as the poor usually have difficulties in accessing information and the cost of the information gap is large enough to affect their living standards. Information, in its various forms and the ways it is received, always has a distinct and important role to play for economic development as well as overall social progress. Information dissemination and sharing are important for development. Better access to information changes the way people think or do their businesses. For an agricultural and rural based country like Bangladesh a better flow of information has the potential to play a vital role in improving the level of economic security and the rate of progress. In recent years information related economic activities have increased substantially and also ‘Information and Communication Technology’ (ICT) has become an important element of development policy making. According to Balit *et. al.* (1996) “*The least expensive input for rural development is knowledge*”. The role of ICT for development is being increasingly recognized by policymakers across countries. Importantly, ICT helps rural development and food security as it affects agro-meteorology, production technologies, commodities, credit, land and labor markets, laws and regulations, management and training (Calvelo-Rios, 2000).

In this paper we explore the ‘trade, development and poverty linkage’ in the light of the highly expanding cellular phone sector in Bangladesh. The rest of the paper is organized as follows: Section II analyzes the growth of the cellular phone sector; Section III discusses the contribution of the sector to poverty reduction and economic progress;

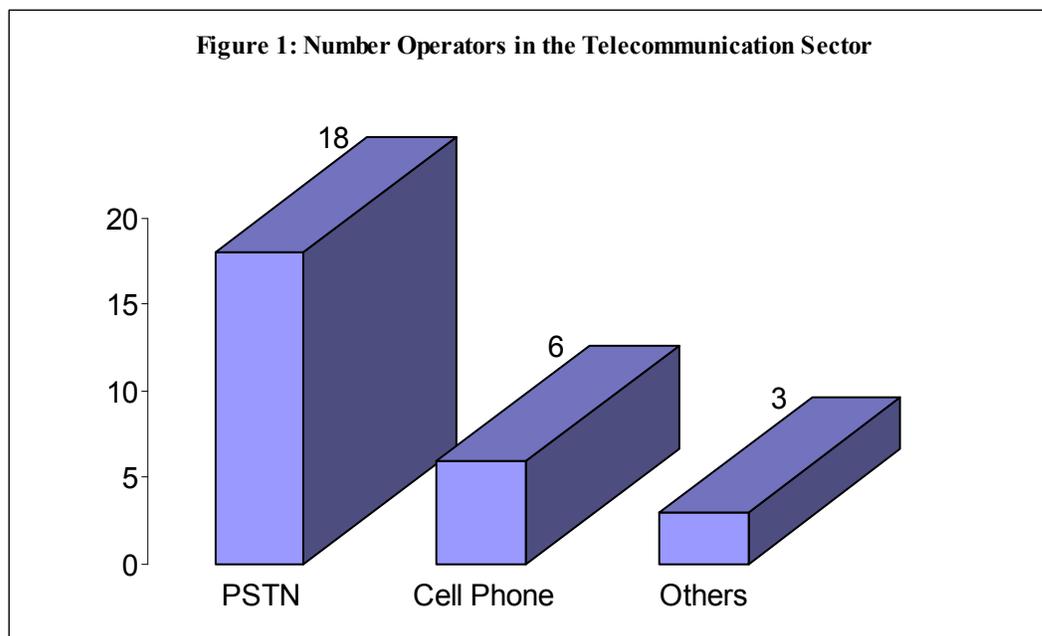
Section IV presents the stakeholders' views regarding the cell phone sector and the liberalization in this sector, while Section V concludes the paper.

## **II. The Growth of the Cellular Phone Sector:**

### **2.1. The changing telecommunication and trade policy and evolution of the cellular phone sector:**

After the independence in 1971, Bangladesh followed an inward-looking development strategy. The trade and industrialization policy environment was characterized by massive nationalization of industries, high import tariffs, quantitative restrictions etc. Bangladesh Telegraph and Telephone Department was formed under the Ministry of Posts and Telecommunications which aimed to run the telecommunication services on commercial basis. In 1996 Bangladesh Telegraph and Telephone Department was transformed into a corporate body. In 1979 Bangladesh Telegraph and Telephone Board (BTTB), effectively a monopoly service provider, was created.

The decade of 1980s was marked by the slow introduction of various liberalization policies in the trade and industrial environment. In 1989, for the first time, a private company named Bangladesh Telecom Ltd (BTL) was allowed to provide cellular phone service in Bangladesh (later the Pacific Bangladesh Telecom Ltd. (PBTL) carried out the responsibility). In the same year Bangladesh Rural Telecom Authority (BRTA) was issued a PSTN license by the government to provide telecommunication services in rural areas with an exclusivity of 30 years.



In the 1990s Bangladesh adopted trade liberalization at a faster pace which brought dramatic changes in the countries trade and industrial environment. Level of protection was falling significantly while the openness of the economy was rising. In 1993 the BRTA license was modified to cover 199 northern upazilas and the exclusivity was reduced to 25 years and also the government issued PSTN license to a private operator, Sheba Telecom (Pvt.) Ltd, to cover rural areas in 191 southern upazilas with an exclusivity right of 25 years. However the BRTA became extinct in 2004 as the owners took different licenses. In 2001 the WorldTel got the permission to install and operate 3 lakhs fixed lines in the Dhaka Metropolitan Exchange Area with an exclusivity of 4 years (A 2005 Supreme Court decision has made the exclusivity right illegal and invalid).

**Table 1: Basic Information about the Cellular Phone Operators**

Operator	Type of Service	Area Covered	License Issue	Commencement of Service	License Period (years)
PBTL/Citycell	AMPS and CDMA Cellular Service	Nationwide	1989	1993	20
Grameen Phone	GSM Cellular Service	Nationwide	1996	1997	15
TMIB/Aktel	GSM Cellular	Nationwide	1996	1997	15

Sheba telecom/Banglalink	Service GSM Cellular Service	Nationwide	1996	1998	15
Teletalk Bangladesh Ltd.	GSM Cellular Service	Nationwide	2004	2005	15
Warid Telecom	GSM Cellular Service	Nationwide	2005		15

The first privately-run cellular service, Citycell, began its operation finally in 1994 (PBTL got the license in 1989) and under the protective regulatory environment created by the government, it operated like a monopoly charging sky-high prices and making supernormal profit. Later, in 1996, Grameen phone (GP), TM International Bangladesh (TMIB) and Sheba Telecom (Pvt.) Ltd, three private companies, were given licenses (all for 15 years) to provide cellular phone services. GP and TMIB began their services in 1997 while Sheba Telecom (Pvt.) Ltd entered the market in 1998. In 2004 Bangladesh Telegraph and Telephone Board (BTTB) was given a license by the government to provide cellular phone services. In 2004 interconnection between telecom operators became a mandatory which was a need for years. In 2005 a license was issued to the Warid Telecom Ltd. to provide cellular phone services for 15 years. However this 6<sup>th</sup> operator is yet to formally enter the market.

Amid the immense need for an effective regulatory body, Bangladesh Telecommunication Act, 2001 established Bangladesh Telecommunication Regulatory Commission (BTRC) which started functioning in the following year with the basic objective of liberalizing and creating competitive environment to attract local/foreign investors which would ultimately help a desired growth of the sector. The BTRC relaxed the PSTN licensing system by adopting an open licensing regime with no restriction on the number of operators with a view to promote private sector participation.

In recent years the BTRC has permitted a shift in the 900 MHz frequency by allowing the 1800 MHz frequency too. This will, for sure, help the cell phone operators to expand their networks and to improve the quality of services provided. The Grameen Phone received a VSAT license for her own IT use.

In 2004 the Government has approved the use of Voice over Internet Protocol (VOIP). However the BTRC is yet to formulate the guidelines and provide licenses. If brought into action, the cell phone users will be able to make overseas calls at a very cheap rate, a facility that is presently being enjoyed by the BTTB subscribers.

In the annual budget for 2004-2005, the import tariff on mobile phone handsets was set at a flat rate of taka 1500, which was as high as taka 4000 in the previous year. In the 2005-06 budget, the import duty was lowered to taka 300. However, the government imposed a new charge of taka 900 for each new connection thus raising the level of the barriers of entry.

In the year 2004-05 people observed an intense competition in the cell phone market characterized by the introduction of new products and services at lower prices by the operators in an attempt to strengthen their respective positions. Also the operators followed aggressive policies in regard of promotion and communication in the market. The Grameen Phone signed separate agreements with the other operators for voice and SMS traffic. This has greatly added to the consumer satisfaction. The interconnection agreement with the BTTB, the state-owned monopoly provider of fixed line services, has also been undertaken by different operators.

The companies has began to introduced the EDGE technology which if fully implemented would enable the subscribers to access the high speed data and internet facilities. Since the rural people will have the access to internet (the information highway), this is likely to abridge the 'digital disparity' between rural and urban areas.

## **2.2. In-depth Analysis of the Sector:**

### **2.2.1. Size and Growth of the Cellular Phone Sector:**

During the last couple of years the cellular phone sector has registered a phenomenal growth. In 1997 the growth was 550% owing to the entry of a second company in the market ending a five-year monopoly of PBTL (Citycell) and also to the narrow subscriber

base. However during the last 2 years, even when the subscriber base is high (compared to the initial stage), the sector has grown at a rate over 100%. The same is likely to happen in the running year too. The cell phone subscribers now comprise around 90% of the total telecommunication subscribers.

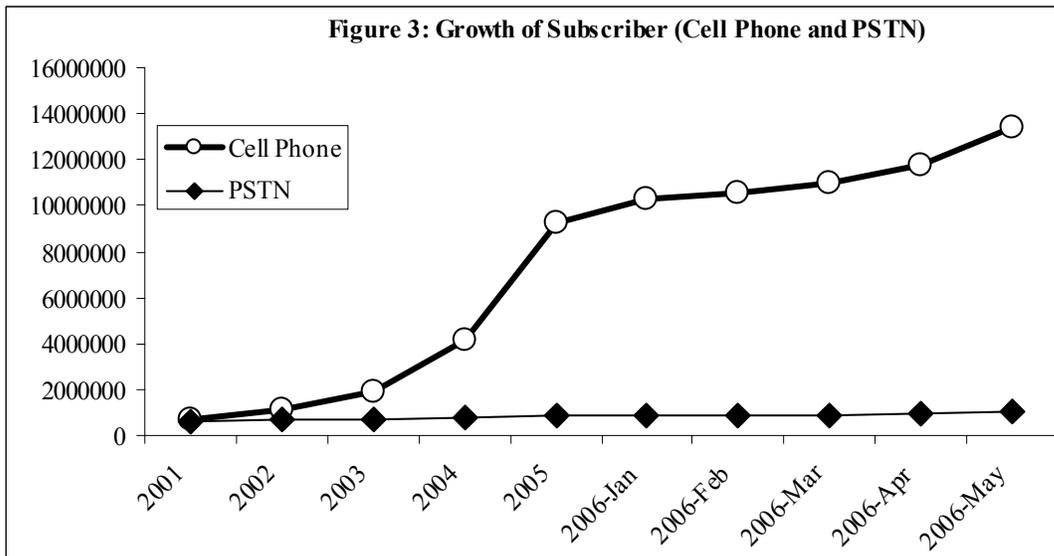
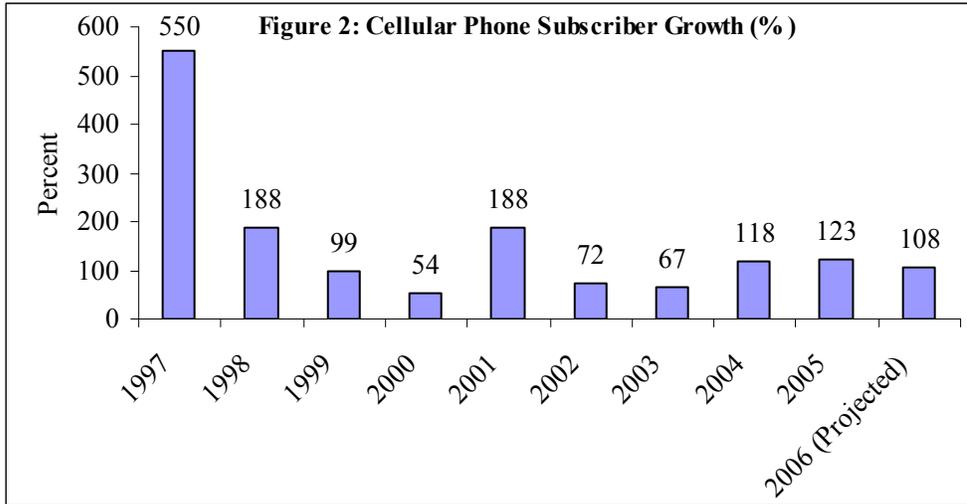
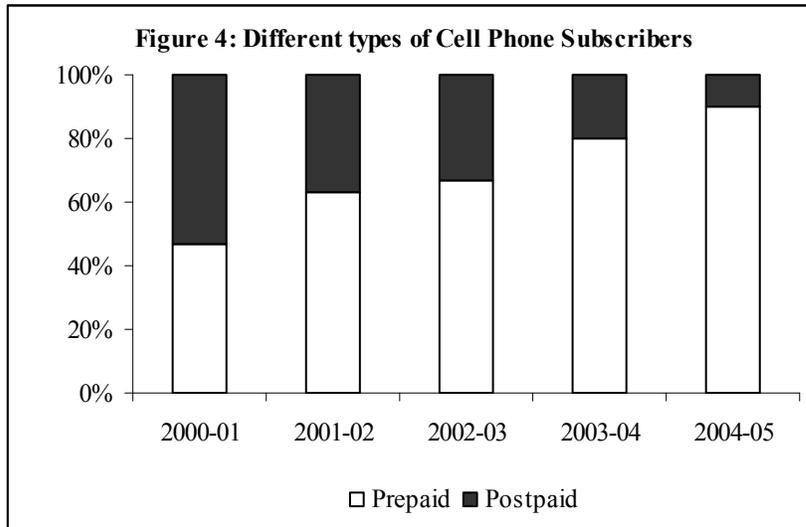
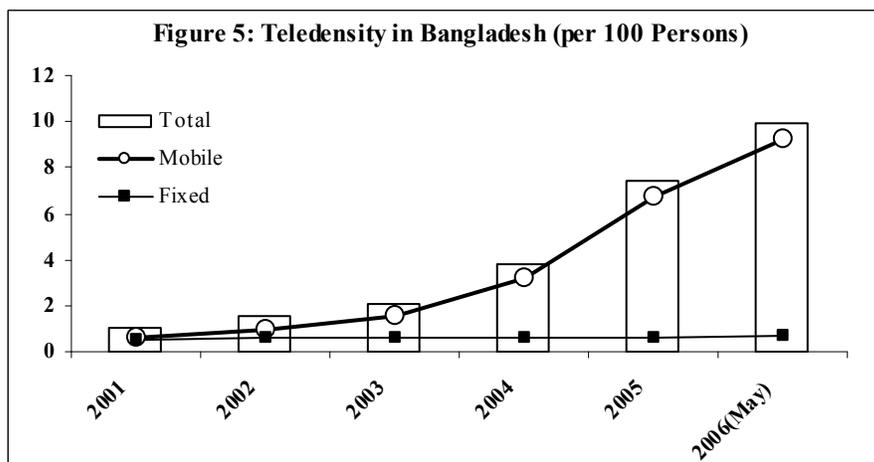


Figure 3 makes a comparison between cell phone and PSTN in terms of the growth of subscribers. In 2001 there were 660,000 cell phone subscribers relative to 560,000 PSTN subscribers. By the mid-2006, these numbers have increased to 13,000,000 and 1,000,000

respectively. Whereas in 2001 the number of cell phone subscribers was 1.18 times of the number of landline subscribers, in 2006 this ratio is 13:1.



In Bangladesh the cell phone operators offer two types of services based on the bill paying system. From the figure above it is evident that over the years the number of prepaid subscribers has increased. In 2000-01 53% of the subscribers were postpaid users and the remaining 47% were prepaid users. But in 2004-05, 90% of the subscribers are prepaid users whereas only 10% are using the postpaid system. It can well be argued that the prepaid system is more user-friendly.



The cellular phone companies are playing a crucial role in increasing the country's telephone penetration rate which is one of the lowest in the world. Figure 5 shows the teledensity per 100 people in Bangladesh over the last 5 years. In 2001, the teledensity for fixed telephone was .49 and up to May 2006 it increased only to become .69. This fact of insignificant improvement in landline teledensity is evident from the almost horizontal line in the figure. On the contrary, the teledensity for cellular phone has increased from mere .58 in 2001 to 9.28 in 2006 (May). When both cellular phone and landline phone are considered, teledensity rose from 1.07 to 9.97 between 2001 and 2006 (May). Though the cell phone companies with their spectacular growth have set up a large network with a wide coverage around the country, the teledensity is still among the lowest in the world.

**Factors helping the growth of cellular phone sector:**

- a. Deregulation measures in the telecommunication sector.
- b. Lower level of teledensity.
- c. Inadequate and inefficient fixed phone infra-structure.
- d. Increased competition in the cellular phone sector resulting from the entry of two new operators that resulted in some alluring offers from the competing companies to expand/retain the subscriber base.
- e. Reaching the people through improved network and easy availability of cell phones. On the other hand BTTB is characterized by long waiting time, limited network and capacity and outdated technology.

**2.2.2. The competitive environment in the sector:**

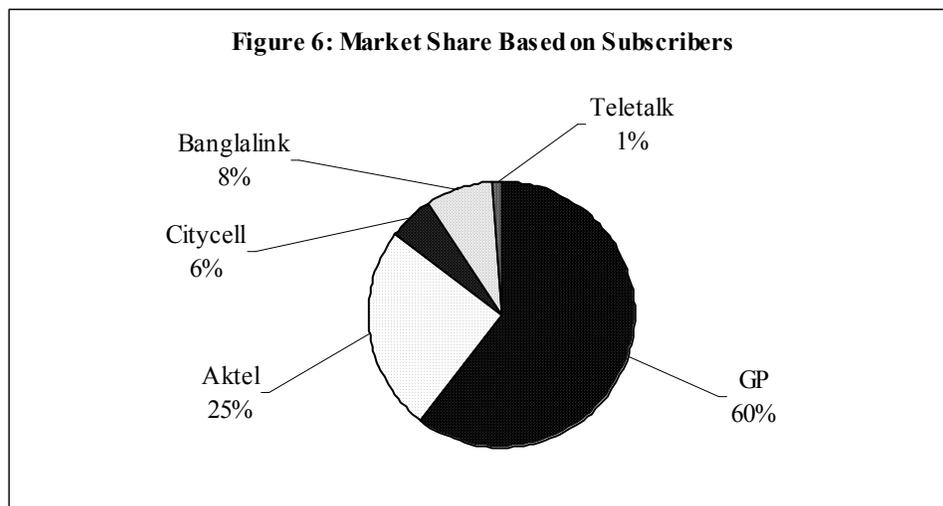
In 1989 the government issued license to only one operator to provide cellular phone service. The operator, the Citycell, entered the market in 1993 and enjoyed monopoly power for 4 years. In this period the growth of the sector was very slow, and the cell phone was only for people in the upper (income) echelon of the society. The second cell phone operator, the GP, entered the market in 1997. Though the call charge fell, it was not sufficient to transform cell phone's image from a 'luxury' to a 'necessity'. However, gradually the scenario changed due to increased competition among the operators. Probably the most important changes came when the Orascom took over the Sheba

Telecom Ltd and began functioning as Banglalink. To capture the market it came with some lucrative offers of lower call charges that forced other operators to reduce their call rate. In 2005 another operator, the ‘teletalk’, entered the market with low call rates and PSTN access (Teletalk is a BTTB project). So the price of cell phone service has fallen with the increased level of competition leading to enlarged consumer benefits.

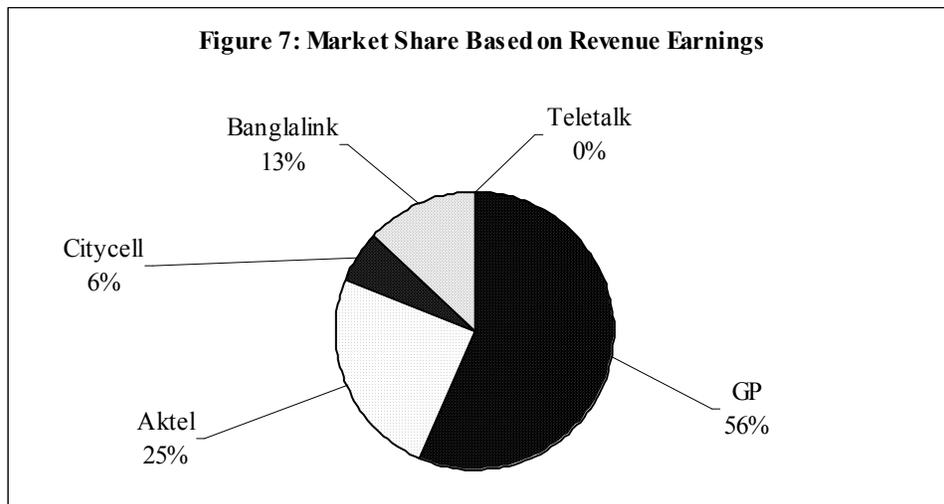
**Table 2: Minimum and Maximum Call Rates in the Last Two Years**

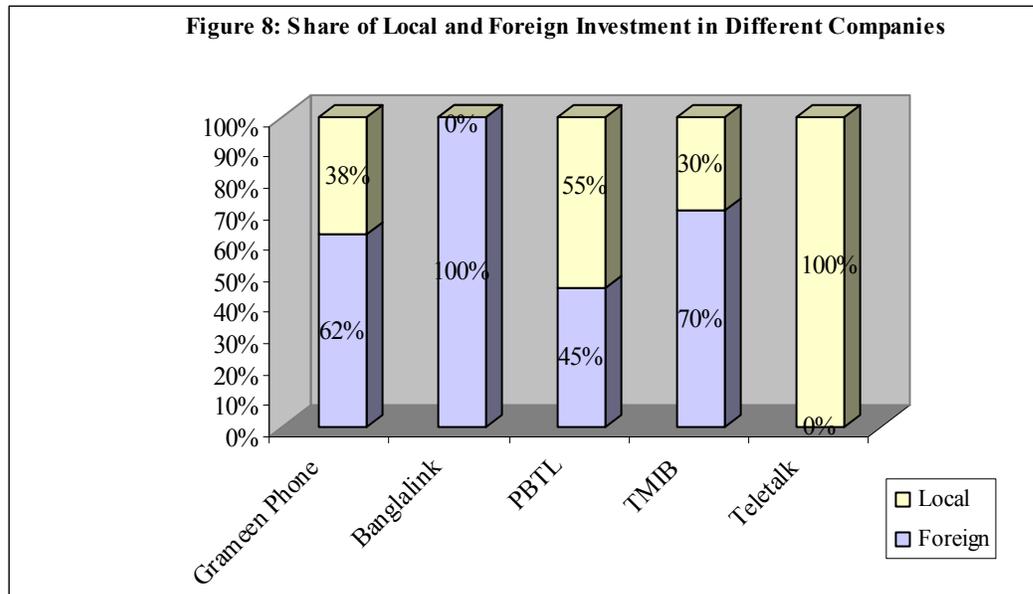
Year	Pre paid		Post paid	
	Minimum rate (Taka per minute)	Maximum rate (Taka per minute)	Minimum rate (Taka per minute)	Maximum rate (Taka per minute)
2004	2.00	7.00	1.50	4.00
2005	0.75	4.80	0.80	4.00

The increased competition in the cell phone sector in recent year has certainly raised the consumer benefit. Following the table above, between 2004 and 2005, the minimum call rate per minute for pre paid subscribers has fallen for 2.00 taka/min to 0.75 taka/min whereas the maximum call rate has fallen from 7.00 taka/min to 4.80 taka/min in the same period. On the other hand for post paid subscribers, the minimum rate has decreased from 1.50 taka/min to .80 taka/min while the maximum rate has remained unchanged between 2004 and 2005. So the pre paid subscribers (who form almost 90% of total subscribers) has benefited most from this increased competition compared to the post paid subscribers.



However it is a highly concentrated market as only 5 firms are currently providing the services. The three largest operators (GP, Aktel and Banglalink) hold 93% of the market share in terms of the number of subscribers and 94% of the total market when the revenue earning is considered [See figure 6 and figure 7 below]. So the concentration ratio is higher for the cell phone sector. Here it is worth mentioning that given the scale economies due to advanced technology and marketing strategies, oligopoly is the most likely outcome in such markets. But it remains to the regulatory body to extract the most efficient outcome from the market participant in such a structure.





The liberalization in the telecommunication sector has also attracted a large amount of foreign investment. The Banglalink is owned totally by a foreign investor whereas the whole investment in teletalk is from a local source. In GP, Aktel (TMIB), and Citycell (PBTL) the share of foreign investment is 62%, 70% and 45% respectively. Since the government allows 100% foreign equity and the foreign investors can repatriate their share of profit completely (and since the market is expanding rapidly), a number of foreign firms have shown their interest to operate in the market.

To keep pace with the rapid expansion of the sector the companies are making huge investments. For example the AKTEL made an investment of taka 3400 million to enter the market. The company's investment in 2004 and 2005 was taka 2124 million and taka 11693 million respectively. While entering the market the Grameen Phone made an investment of USD 52 million. In 2004 and 2005 the company's investment was USD 189 million and USD 388 million respectively. The investments decisions of these two companies in the last 2 years indicate how rapidly the sector is expanding with a huge potentiality.

The telecommunication sector, especially the cellular phone sector has cropped up as the most promising as well as the highest growing sector. With nearly USD 1 billion investment in the pipeline, the sector will certainly remain the same for years to come. A

number of land phone companies offering fixed line phones in the main cities of the country are likely to enter the market soon. As a result intense competition is expected in the coming years. And it is also expected that under the proper regulatory supervision, the operators in their struggle to strengthen their position in the market will introduce more products while ensuring better quality at the same time.

### **2.2.3 Employment Generation:**

The rapid growth of the cell phone sector has an important impact in terms of employment generation-----both direct and indirect. The expansion of this sector during the last decade has created a discernible demand for skilled labor which has also its bearing on the academic as well as professional degrees sought by the young generation. These increased working opportunities have also other positive externalities which are realized through the reduced extent of unemployment.

#### ***Direct employment***

Direct employment in the Grameen Phone during the first two years of its operation was mere 591 which reached 3970 in 2006. Among them 2490 (63 percent) are semi-skilled while the rest (1480, 37 percent) is skilled labor. 84 percent of the employees are males while females constitute 16 percent of the employees. Though most of the employees are males, relatively more females are employed in comparison with the national statistics (especially when compared to the public sector). 99.5 percent (3950) of the employees are local people while foreign nationals are only .5 percent (20) of total employees.

The Citycell started with 80 skilled labors and now 611 skilled employees (as of February 2006) are working here. Within the first 2 years of its operation, the AKTEL employed 112 workers (only 4 of them were foreign nationals) and now (as of August 2006) 1265 people are working (25 of them are foreigners). This statistics is for skilled labor only<sup>1</sup>. 86 percent of the employees are males and the rest (14 percent) are females.

#### ***Indirect Employment:***

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<sup>1</sup> Information regarding workers of other skill levels was not available.

The indirect employment opportunities generated by the highly expanding cell phone sector certainly exceeds the direct employment opportunities by far. Centering this sector a huge network of dealers, sub dealers, agents, distributors, suppliers and contractors has been formed. A large number of people are engaged in those activities. Many people are involved in the retail business of SIM and scratch card sales and telephone services. The demand for stationary, printing and technical services has increased substantially. The cell phone companies are spending a significant amount of money for advertising which has led to the inception as well as expansion of many advertising firms. Also a number of legal and professional bodies have benefited from the expansion of this sector.

***Improving the Skill Level:***

The companies are also taking some care to raise the skill level of their employees. The management is providing different types of training to their employees. They involve:

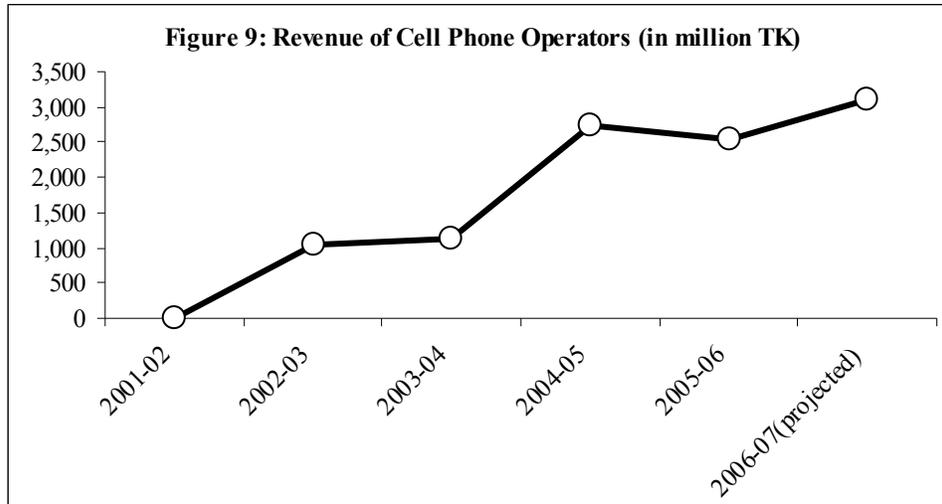
- a. Foreign training
- b. Local training.
- c. In-house training.
- d. Education loans.

***Labor Mobility:***

Though the sector is expanding at a high rate and the number of employees of various skill levels is rising as well, the within sector labor mobility has been quite low. For example, the Grameen Phone has employed around 600 customer managers at different customer care centers throughout the country. Their service is contractual and no provision for promotion (though they receive salary increments). A reason for this low mobility is perhaps the ready availability of workers with different skill levels. Also those contractual agreements are more cost-effective from the companies' point of views. However when the industry matures, this scenario is likely to change.

**2.2.4. Earnings of the Cell Phone sector:**

Figure 9 displays the revenue of the cell phone operators in recent years. The largest increase in revenue took place between 2003-04 and 2004-05. Though the revenue fell slightly in 2005-06, it is expected to rise in the current year.



The total gross revenue of the Grameen Phone was taka 231 million in 1997 which stood at taka 29627 million in 2005, almost 128 times of the initial year. The AKTEL earned revenue of taka 177 million in 1998 and it earned taka 9276 million as revenue in 2005, the latter being 52 times of what it was in the inception year.

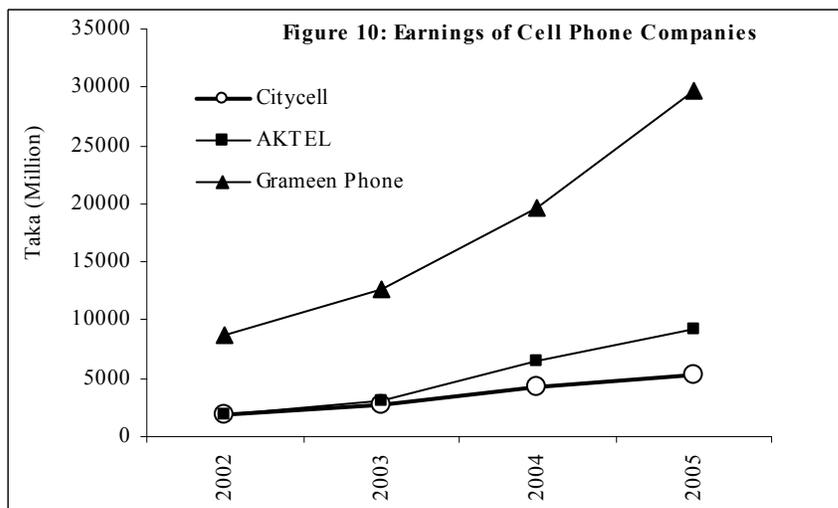
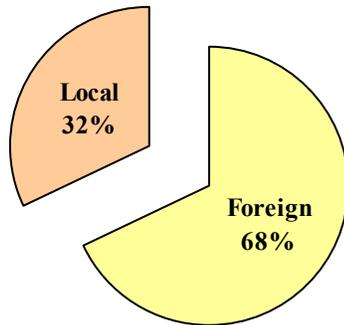


Figure 10 displays the revenue of 3 cell phone companies during the last four years. From the figure it is evident that for all those companies the revenue earnings have registered significant increases.

**Figure 11: Distribution of Revenue Of the Cell Phone Sector (2004-05)**



The revenue is distributed according to the investment shares of investors. As a result the greater part of this revenue has accrued to the foreign investors. Following figure 10, in 2004-05, distribution of revenue was 32% to local investors and 68% to foreign investors.

### **2.2.5 Constraints:**

The cell phone operators regard government bureaucracy and political instability as major hindrances. However these two obstacles are often considered as two common problems for investors----both existing and potential. The country usually ranks among the poorest performers in terms of investment climate and corruption. Widespread corruption (involving unofficial payment) in the public institutions usually raises the cost of doing business. It also gives a wrong signal to potential investors.

The cell phone operators viewed various types of license fees and annual fees etc. imposed by the BTRC as constraints. Also taxes being levied on SIM card and scratch card are increasing their prices substantially. Moreover, the supplementary duty imposed by the National Board of Revenue (NBR) raise the price of the service provided.

In the last two or three years, the competition has increased substantially in the cellular phone sector. When interviewed, the Citycell, the once monopoly service provider, described massive competition as a challenge. However this is not a constraint since in an increasingly competitive arena, the inefficient firms are likely to suffer and some of them

even be driven out of the market if their operating policies are not adjusted to the changing market.

### **2.2.6 Corporate and Social Responsibilities:**

The cellular phone companies are supporting various socio-cultural activities. They have various Corporate and Social Responsibility (CSR) programs as they consider CSR as an integral part of their overall operation. Ranging from sponsoring games and sports to donation for tsunami-affected children of Srilanka and Maldives, a wide variety of programs have been undertaken by the companies. However, not all the programs are beyond the mere profit-making motive since many of the CSR programs are carried out only to build or enhance a positive market image.

#### **Case study: Corporate and Social Responsibilities of the AKTEL:**

Chittagong Skills Development Center (CSDC) is the first industry-led, non-profit skills training center in Bangladesh. Its basic objective is to provide a better quality and cost-effective skills training to its corporate members and other private companies involved. CSDC consists of multinational and local companies, business association, non-government organizations, government and multi-lateral agencies including the AKTEL, Ericsson, Bangladesh Board of Investment and the World Bank. CSDC has many advantages as the corporate members share their training resources, technologies, costs, trainers, space and equipment thus ensuring a demand backed timely training without huge investment and delay of building infrastructure. The center thus provides high quality training in a cost-effective manner reducing the dependency on foreign training. This consequently will extend support to a sustained industrial growth and improved competitiveness in the global arena.

By participating in this training, the AKTEL aims to foster the potentials of individual employees while achieving both the company's business goals as well as the employees' professional goals. Through rigorous and continuous employee skills development the company attempts to enhance professional learning, motivation and excellence to meet changing business needs and ensure the company's long run success.

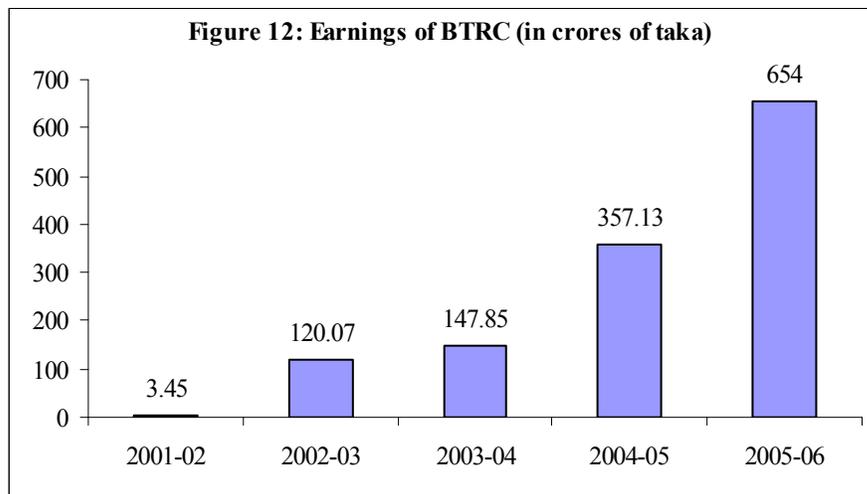
The company sponsored Dhaka Premier Division Cricket League 2005-06, a prestigious and popular domestic cricket tournament. It also sponsored the Armed Forces Day Open Golf Tournament 2005. It has donated a substantial amount to a mosque. The company also conduct a scholarship program for meritorious and financially insolvent students of Bangladeshi student and each year send three such students to the Multi Media University, Malaysia. Recently the company has sponsored a debate competition. Again AKTEL's CSR program covers four broad areas---enlightenment through education, assurance of better health, environmental protection and poverty alleviation. Under this program the company has donated computer and mobile phone to a school in Chittagong.

Source: Chittagong Skill Development Center.

### III. Contribution of the Cellular Phone Sector to Poverty Reduction and Economic Progress:

10 years earlier the telecommunication services were inadequate with a teledensity of less than 1%. A highly undeveloped telecommunication sector was a major obstacle for the expansion of business. It also affected the everyday livings of the people. However in the last 8/9 years, thanks to the rapid expansion of the cell phone sector, the adverse impact of the undeveloped telecommunication sector has been mitigated. The cellular phone sector has revolutionized the way people think, the way they talk and also the way they do their businesses.

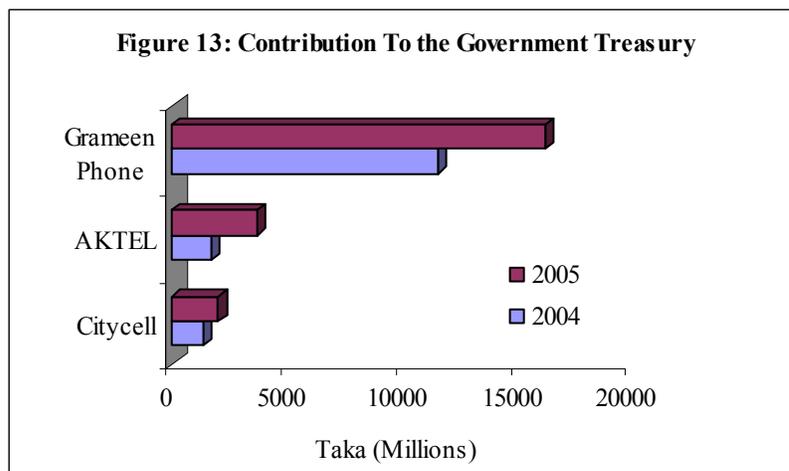
#### 3.1. Contribution to Government Exchequer:



The earnings of the BTRC have substantially increased because of the rapid growth of the cell phone sector. In 2001-02, the BTRC earned an amount of revenue equivalent to Taka 3.45 crores while in 2005-06 that stood around Taka 654 crores. Given the slower growth of PSTN subscribers, the lion's share of this increase can be attributed to the highly growing cell phone sector.

The GOB has granted licenses to 6 cellular phone operators to provide mobile services nationwide. Each year the government earns an increasingly larger amount of revenue

from the cell phone sector. The revenue comes in the form of annual license fee which has a fixed as well as a variable component. The fixed amount varies depending on the maturity of the license as it is US \$400,000 for the first five years, US \$800,000 for the second five years and US \$1,600,000 for the third five years. The variable portion of the annual fee is calculated as 1% of the collected rent and call charges. Moreover the Government also receives application fee and an entry fee. For example, the Warid Telecom, the last of the 6 operators to receive a license, paid Taka 20 million as application fee whereas it paid US \$50 million as entry fee.



The cell phone sector has become an increasingly larger contributor to the government exchequer. For example the Grameen Phone has become one of the largest contributors to the Government exchequer. Since its beginning, in the first 8 years of operation the company has contributed around taka 30.46 billion to the treasury on account of various taxes, levies, license fees and interconnection charges. In 2005 the Grameen Phone's contribution to the Government treasury was taka 16209 million which much higher compared to its inception period. Similarly the AKTEL was contributing taka 92 million in 1998 and now it contributes around taka 3677 million to the treasury. Also, from 2004 to 2005, the Citycell's contribution to the treasury has risen from taka 1330 million to taka 2000 million. The contribution of the sector is expected to grow with the expansion and growth of the organizations.

**3.2. Consumer Surplus:** At the individual level the degree of communication has become more frequent and easier after the advent of cell phone. The consumer surplus has increased since a phone call costs much less than a physical trip or other alternatives of information transference. This surplus will depend on the essentiality or the value of the information. The savings range from 2.5% to 10% of mean monthly income for a rural household.

**3.3. Linking the Relatives:** In recent years labor migration (mobility), both intra country and inter country, has increased. Cellular phone has become the prime way to establish a link between the migrant and his/her relatives residing at some other places. Probably the benefit has been higher for the rural people where the fixed line facility is highly limited and where many people work outside the locality (in cities or outside the countries most as unskilled labors).

**3.4. Remittances:** Information about remittances is now more accurately and frequently available to the family members residing in the country particularly in a rural village. Thus the risk of remittance transfers from overseas has largely diminished.

**3.5. Employment Creation:**

*Direct employment generation impact:* GP, the leading cellular phone company of the country had an employment size of 1004 at the end of 2004. Most of these people are well educated young generation. If all the market operators are considered and the growth of the sector in the last 2 years is taken into account the direct employment in the sector may well be 6-8 thousand.

*Indirect employment generation:* The cell phone has provided a large number of people to be self employed by starting phone business. And this number is likely to be much higher than the direct employment figure (Probably around 2.5-3 lakhs).

**3.6. Better Market Information and Access:** Market information is now more readily available resulting in better market access and coverage and it has benefited the rural and small traders most. Pricing of rural commodities (agricultural products, handicrafts etc.) has largely improved. The role of middlemen has largely diminished as traders can now

directly talk to each other and gauge the prevailing market situation more correctly. For a number of commodities (mainly from rural areas) significant market expansion has taken place. All these are likely to have positive influence on output and productivity. Because of instant information exchange facility provided by the cell phones, market adjustments have become quicker. A better flow of market information also raises the efficiency of the market through greater competition and diminishing the levels of uncertainty and transaction costs.

**3.7. Uncertainty:** ‘What is the price of uncertainty?’ If asked though people will answer differently, probably all will be unanimous on the ground that they are willing to pay a price for a reduced level of uncertainty. Perhaps the most important and genuine impact of cellular phone is that it ensures instant flow of information between individuals thus helps to create a sense of certainty. Hence, increased and more accurate flow of information has diminished the extent and impact of uncertainty at the individual level. However the benefit from diminished uncertainty largely depends on the relationship (correlation/connection) between individuals (ranging from kinship to trade).

**3.8. Improved Decision Making:** The increased use of cellular phone has improved the decision making process where previously information gap was playing a role.

**3.9. Empowering Rural Females:** In rural areas many women now are the owners of cellular phones. They use it for communication and more importantly they sell the phone service and earn a significant portion of family income. Also female traders (women selling various home made products) have benefited from the cell phone. So the advent of cellular phone has directly/indirectly increased the economic opportunities for women which in turn imply a higher level of female empowerment.

**3.10. Health Information:** With the help of the cellular phone people are now able to communicate with health service providers more easily.

**3.11. Community Services:** The cell phone companies are involved with various community services:

- a. Fund raising program for human welfare.
- b. Promoting sports and sponsoring various sports tournament.
- c. Participation in flood relief program.

- d. Promoting various issues to raise social consciousness (promoting awareness about earthquake, supporting the Acid Survivors Foundation etc).
- e. Helping the disabled children (supporting their education and improvement of learning ability).
- f. Helping the orphan children.
- g. Computer donation program (The Grameen Phone donated 100 computers to schools in rural areas whereas the AKTEL donated computers in a school in Chittagong).
- h. Distributing warm clothes among the distressed people during winter.
- i. The Grameen Phone has contributed to some UNICEF assisted programs to improve the quality of primary education in the country.
- j. The cell phone companies have also sponsored a number of socio-cultural events like poetry festivals, art exhibitions etc.

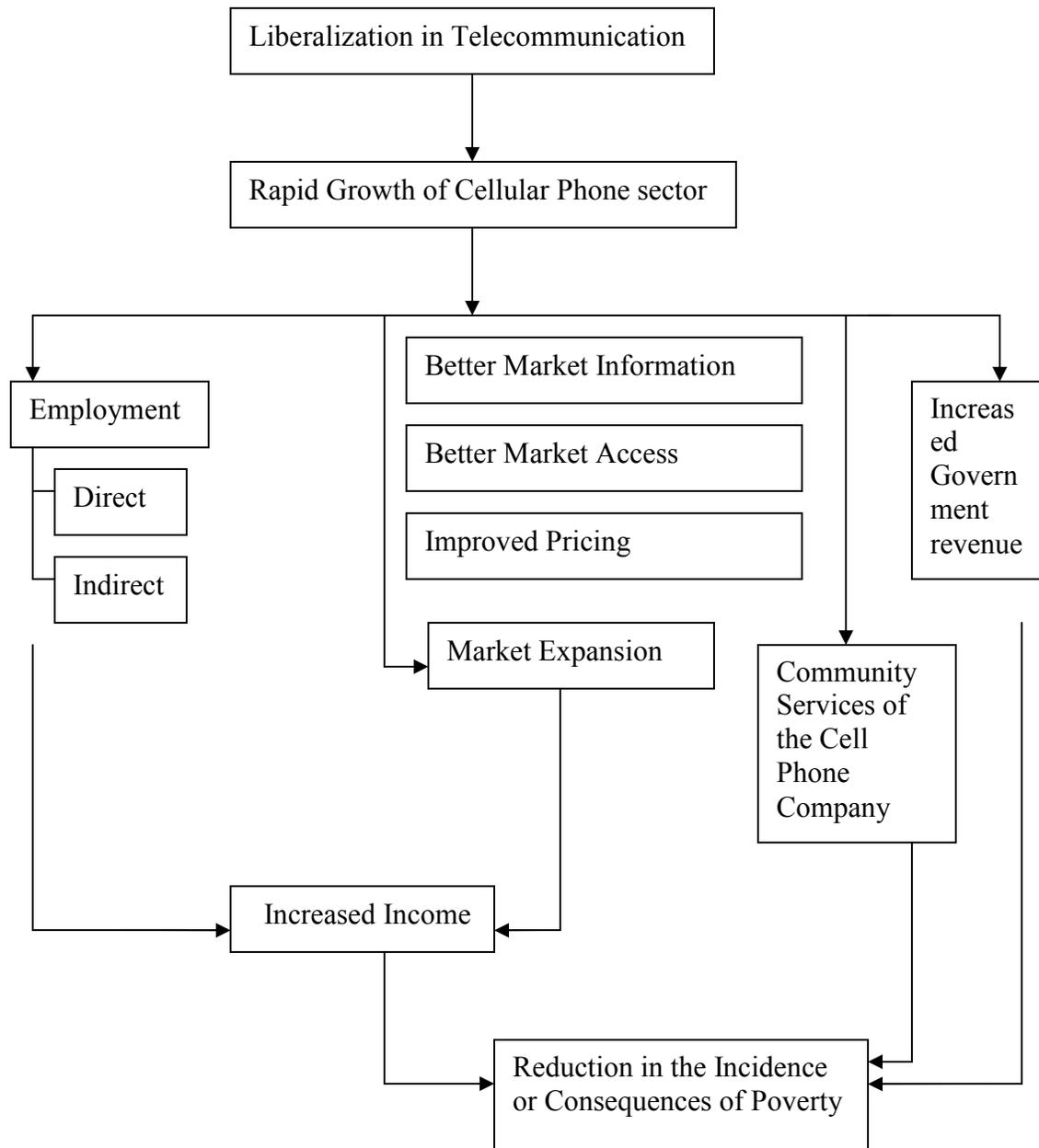


Chart: The cell phone sector and poverty reduction

**Poverty Reduction:** The cell phone sector is exerting direct and indirect impacts on poverty alleviation. Owing to the liberalization measures in the telecommunication sector, the evolution of the cellular phone industry took place and now it is experiencing a rapid growth (more than 100% per year). This sector has generated both direct and indirect employment opportunities for many people. Especially the indirect employment

generation has been immense. Also the improved flow of information between individuals has increased overall market environment by reducing the uncertainty related obstacles and thus resulting in market expansion (in terms of quantity or revenue). All these are the direct sources of income. So the evolution and the growth of the cell phone sector have influenced the existing poverty situation by providing new/more income opportunities for people. Also the government is receiving huge revenue from this sector which may enable the government to take more anti-poverty measures as more resources are now available. The cell phone companies are also involved with a number of community services, some of which help the poor most (flood relief program, fun for human welfare, computers for rural schools). Hence, the cellular phone industry has important contribution in reducing the incidence or the consequences of poverty.

**Case Study: The Village Phone (VP):** The GP introduced the village phone program in 1997 somewhat successfully combining rural development with telecommunications investment. The number of village phone is now 110,000. 44% of the VP calls are social calls while 42% are discussions of financial matters (remittances). A phone in a village is not only a means to communicate but also a tool to fight against poverty and hardship. Household enterprises are now more able to take advantage of market information to raise the profit level and decrease production expenses. The village phone is also a source of income for the operating family. The income of the village phone operators is around 24% of the household income on average and in some instances it is as high as 40% of the family income. Since the village phone is usually given only to females, it has also contributed to women empowerment.

Jamirunnesa, a village phone user of Jolarpar, a village 20 miles north of Dhaka, uses her cell phone to inquire about the latest poultry prices (she owns a poultry farm). Monir, her neighbor, comes here to talk with his brother who works in Malaysia. Jamirunnesa, the 38 year old mother of four, bought the phone with loans from the Grameen Bank. The woman having no formal education now earns Taka 2500 monthly as profits from the cell phone. She has repaid the bank loan that she took 10 years earlier and now owns a poultry farm and also a piece of farm land. She even saves a portion of her income in a commercial bank. The village phone has changed the life of many rural families in Bangladesh.

**Source:** 1. *Grameen Phone Annual Report*, 2004.

2. Don Richardson, Ricardo Ramirez, Moinul Haq. *Grameen Telecom's Village Phone Programme in Rural Bangladesh: a Multi-Media Case Study*. March 17, 2000

3. The Portsmouth Herald. *Cellular phone services transform Bangladesh villages*. Tuesday, February 22, 2000.

#### **IV. The stakeholders' views regarding the Cell phone sector and the extent of liberalization:**

Interviews were carried out with some key and informed stakeholders to better understand the weaknesses, constraints and prospects of the cellular phone sector. The stakeholders interviewed are:

1. The regulatory authority: BTRC
2. The service providers: Grameen Phone, Aktel, Banglalink, Citycell and Teletalk.
3. Consumers: Consumers were selected from different segments of the society (urban users, village phone users, rural traders etc.).

It is interesting to note that most of the stakeholders were aware of the impact of the liberalization though most of the consumers were not aware of the exact regulatory changes that had taken place.

The stakeholders were unanimous on the fact that the access to cellular phone services has increased highly in recent years. Almost all of them directly/indirectly pointed to the teledensity of the country that has increased from 1.07 to 9.97 in the last 5 years. This was recognized as a great achievement and they felt that this success almost wholly owe to the increased liberalization of the cellular phone sector.

Due to increased competition the call charges have fallen significantly in the last decade. In the mid 1990s when the Citycell was the sole operator in the market, it charged more than taka 90 thousand for a handset plus connection. The same company, in 2006, was offering a handset with connection only at taka 2999. This is what increased competition has caused. All the consumers interviewed mention this benefit of increased competition. In 2001, the call charge was taka 16 per minute. But now it ranges between taka 1.00 and taka 4.40. Even then, many of the stakeholders believe that the call charge is still higher and further competition will reduce it leading to greater consumer benefit. The stakeholders also mentioned that liberalization has increased the choices of the

consumers. At present a variety of handsets are available in the market whereas few years earlier the cell phone companies were offering handset plus connection hence limited choice for consumers. Also the service-options offered by the operators have also increased (to a large extent such offers came after Orascom bought Sheba and started operating as the name of Banglalink ).

Among all the sectors in Bangladesh, the stakeholders think that, the cell phone sector has experienced the most rapid growth in recent years. A huge amount of foreign investment has flown to this sector which has certainly benefited the local investors as without sufficient fund they were unable to come forward with investment in this sector.

Many of the stakeholders think that the rapid growth of the cell phone sector has created demand for skilled labors. Most of the employee in this sector is young in age and their high paid job has ensured economic security to at least 6-8 thousand families which mean almost 30-40 thousand people have benefited from the direct employment opportunities offered by the cell phone companies. The indirect employment generation by the cell phone sector is even more. Many retailers or service centers have grown. Also many people have started businesses by selling phone calls. The impact has been such that many stakeholders believe that around 2.5-3 lakhs people have been saved from the web of unemployment by the indirect employment generation impact of the cell phone sector.

Diffusion of technology is also another aspect of the sector's contribution that has been identified by the stakeholders. Local employees are being introduced to advanced technologies and they are being trained thus raising their level technical skills.

Though the stakeholders appreciated the current level of competitiveness in the sector, they think that the degree of competition must be increased by allowing more firms to operate in the market. Though the market has moved far away from being a monopolistic one, there are only a few operators in the market. According to the stakeholders, the role of the regulatory body is crucial here since collusive oligopoly may arise in its 'tacit' form. However, some of the consumers accused that the cell phone companies are

influencing the regulatory authority in not allowing large international companies to enter the market.

The service providers comment that the tax burden on handset and telecom equipment is high in Bangladesh. In their opinion this is hindering the growth of the sector. Also the tax on handset is raising its price and keeping it above many consumers' willingness-to-pay level. This tax on handset is also encouraging the smuggling of handset and many think that around 40% of the handsets available in the local market have entered the country illegally.

According to the stakeholders inadequate PSTN access for the cell phone is also an obstacle for its growth. At present only 10% of the cell phone users can make calls to fixed phone users. The stakeholders think that all the cell phone subscribers should be allowed the PSTN access.

Some of the stakeholders held the view that lower access to electricity is also a problem because in many rural areas people do not use cell phone for difficulties in recharging the battery. According to them if cell phone could be charged using the sunlight, then its use would have been much higher.

In 2004-05, the cell phone companies earned a total amount of USD 49.9 mill. 68% of the investment in the cell phone sector is foreign investment. If those foreign investors transfer all their earnings outside the country, which they are allowed to do, that will draw around 10% of the country's foreign reserve. It should be a great concern since this may significantly influence the value of the local currency. This view was reflected in the opinions of the stakeholders. Some of them went far to say that the repatriation of profits by foreign investors was a reason for the depreciation of Taka in recent times.

## **V. Conclusion:**

There is no denying that because of liberalization in the telecommunication sector, the cellular phone industry has developed and now growing at more than 100% per year. Though at the beginning there was a monopoly operator, in recent years the level of competition has increased in the sector. However there are further scopes of market efficiency as well as consumer benefit if the level of competition is increased by allowing more firms to operate in the market.

Six years earlier Bangladesh had the region's highest tariff rate on handset import (65%) which has fallen significantly in recent years. But still the mobile set tax is Taka 300 per set. The stakeholders think that the high price of the hand set is an obstacle to the sector's growth. The policymakers should think over this issue.

One concern is that though the subscriber base is expanding significantly, the cell phone operators are often unable to provide good quality service to all the subscribers. Problem with the network is a common phenomenon with most of the operators if the subscriber is in some remote village, far away from big cities. The cell phone companies should concentrate on network building and the improvement of the quality of service.

The major portion of the population is still not connected. Rural access to cell phone is still very low compared to urban areas. Hence, the current growth of cell phone sector seems to be biased against rural areas especially against the poor people even though some efforts have been taken to reach the poor. To reach the poor handset price and call charge should be reduced or special offers for the poor should be introduced. However, the government may use a part of the revenue earned from the sector to help the expansion of ICT infrastructure in rural regions.

Since a large portion of the country is still out of the network of mobile phone, the cell phone companies should increase the number of base stations to increase the area under the network. Not all the companies have introduced new products, services and

technologies in the domestic market. Though the 1800 MHz frequency base stations are likely to improve the quality and enhance the call handling capacity of the base stations thus certainly adding to the consumer satisfaction, the cell phone operators are yet to deploy 1800 MHz frequency base stations all over the country.

The regulatory authority should ensure a fair playing field for each and every operators of the country just to make sure that none gets any unreasonable advantage over their fellow operators.

The regulatory authority and the cell phone operators should act together to improve the access of new subscribers, especially that of the poor people. If they can be reached, the low telephone penetration rate of the country will increase and the live and livings of a large segment of people will be changed.

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