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Women Empowerment through Mobile Phone: Case Study of Bangladesh

By Dr. Mizanur Rahman

Abstract- Telecommunication particularly Mobile technology is one of the most powerful tools worldwide. Mobile phones play a foremost part in development programs around the world. The diffusion of mobile phones performs a great role in development programs along with overall empowerment in developing countries. Telecommunication is most powerful to combat poverty and give the people a chance to change their fate, their economy, their society and to empower themselves to change the world, especially for women. Large sections of women in Bangladesh are living in rural areas. The majority of them are still tradition-bound and are in a disadvantageous position. Because of inequality in women's access to and participation in all communication systems and their lack of sufficient mobility to promote their contribution to society, women are deprived in every aspect of life. Mobility is a very important factor for women's empowerment. The Mobile phone revealed the opportunities and freedom for women to make their own choices, improve their social network, change their attitudes and change their life.

Keywords: *empowerment, women empowerment, telecommunication, mobile phone, sustainable development, mobility, power, choice, dimensions, and indicators of empowerment.*

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Women Empowerment through Mobile Phone: Case Study of Bangladesh

Dr. Mizanur Rahman

Abstract- Telecommunication particularly Mobile technology is one of the most powerful tools worldwide. Mobile phones play a foremost part in development programs around the world. The diffusion of mobile phones performs a great role in development programs along with overall empowerment in developing countries. Telecommunication is most powerful to combat poverty and give the people a chance to change their fate, their economy, their society and to empower themselves to change the world, especially for women. Large sections of women in Bangladesh are living in rural areas. The majority of them are still tradition-bound and are in a disadvantageous position. Because of inequality in women's access to and participation in all communication systems and their lack of sufficient mobility to promote their contribution to society, women are deprived in every aspect of life. Mobility is a very important factor for women's empowerment. The Mobile phone revealed the opportunities and freedom for women to make their own choices, improve their social network, change their attitudes and change their life. The objective of the study is to identify the impacts of mobile phones on empowering women of Bangladesh. Some successful case studies of women empowerment in Bangladesh are also discussed in the study

Keywords: empowerment, women empowerment, telecommunication, mobile phone, sustainable development, mobility, power, choice, dimensions, and indicators of empowerment.

I. Introduction

Mobile phone is most powerful to combat poverty and give people a chance to change their fate, their economy, their society and to empower themselves to change the world, especially for women. Mobility is a very important factor for women's empowerment. The Mobile phone revealed the opportunities and freedom for women to make their own choices, improve their social network, change their attitudes and change their life. The diffusion of mobile phones performs a great role in development programs along with the social, economic, political, and overall empowerment of women in developing countries. Women contribute a lot to improve the well-being of families, communities, and society. Empowering women through mobile phones can accelerate social and economic development individually, nationally, and globally.

The use of mobile phones by women has improved expressively in the past decade. In the early days of the introduction of the mobile phone, it was perceived as a symbol of luxury for urban users in wealthy countries. But now mobile phone becomes a part and parcel of every day's life that touches the lives of women from remote farming societies to swarming megacities.

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II. What is Women Empowerment

'Empowerment' has been used to represent a wide range of concepts and to describe a proliferation of outcomes [1]. Women's empowerment is found to be a multidimensional process having a considerable impact on many aspects of life, including social standing, family relationships, and emotional and physical health conditions along with financial stability [2]. The empowerment of women is an important and most substantial approach to development. Projects, Policies, and their implementation without concerning the female position and their empowerment in the society have an adverse impact on development globally. The empowerment of women is an important and most substantial approach to development. Empowerment has turned out to be one of the most widely discussed 'development terms' over the decades. Worldwide different groups, governments, and non-government organizations, international aid agencies are working from their respective fields to promote the empowerment of women. Women's empowerment is one of the most important elements for the development of any nation.

One of the leading and frequently cited conceptual thinkers on women empowerment is Professor Naila Kabeer. [3] Prof. Kabeer defines power as the capacity to make choices. Hence, those who are disempowered are either deprived or limited in their choices. Empowerment is a process that gives power to the underprivileged and deprived in society and increases their ability to make strategic choices. Dr. Kabeer's definition is parallel to the World Bank's understanding that empowerment enhances an "individual's or group's capacity to make choices and transform those choices into desired actions and outcomes." [4] [5] [6] Empowerment is a process that occurs over time, making women agents who formulate choices, control resources, and make strategic life choices [4] [5] [6] Consequently, the existence of feasible choices to accomplish desired outcomes is central to the concept of empowerment. Dr. Kabeer explains that some choices have greater significance in

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terms of consequences than other choices [5] [6] [7] and makes a distinction between first and second-order choices. First-order choices are strategic life choices that are critical to how we want our lives, for instance, the choice of livelihood, whom to marry, whether to have children, etc. Second-order choices are often framed by first-order choices and are less consequential. They are important for life quality but do not define life's parameters [8] Kabeer also explains that exercising strategic choices should not limit one's ability to make future decisions [7] Kabeer outlines three dimensions of empowerment, explaining these are the pathways through which empowerment occurs [7] The first of these three dimensions is resources, which can be understood as the conditions of choice, meaning one recognizes and can choose alternative options, or as this referred to in Kabeer's diagram, pre-conditions. The second dimension is the agency, which is a process by which one distinguishes between strategic life choices and second-order choices and makes choices in either arena [8] Resources and agency are thought of as substances for empowerment. Some of the other literature and writers define these terms are often referred to as control, awareness, or power [9] And lastly, the third dimension is achievements, which refers to the consequences of the choices made [8] Change in one dimension can lead to changes in the others [7] These three dimensions can be seen as interacting in the figure below.



Figure 1: Prof. Naila Kabeer's Conceptual Framework of Women's Empowerment.

Women empowerment is a process, through which women achieve the ability to control, take ownership over resources and make strategies of life choices [Kabeer, 2001].

a) *Women Empowerment: Framework of Dimensions and Indicators*

The stated table incorporated the list of most commonly used dimensions of women's empowerment. The contexts recommend that women's empowerment needs to occur along the following dimensions: economic, socio-cultural, familial and interpersonal, legal, political, and psychological. [10]

Table 1: Measuring Women Empowerment: Framework of dimensions and indicators.

Dimension	Household	Community	Broader Arenas
Economic	Women's control over income, ownership of assets, relative contribution to family support; access to and control of family resources.	Women's access to employment, ownership of assets and land; access to credit; involvement and/or representation in local trade associations; access to markets	Women's representation in high paying jobs; number of women CEO's; representation of women's economic interests in macro-economic policies, state and budgets.
Socio-Cultural	Women's freedom of movement; lack of discrimination against women and girls; commitment to educating girls/daughters, Participation in domestic decision making, control over sexual relations, contraception, time of marriage, spouse selection, ability to make childbearing decisions, freedom from violence.	Women's visibility in and access to social spaces; access to modern transportation; participation in extra-familial groups and social networks; shift in patriarchal norms (such as son preference); symbolic representation of the female in myth and ritual.	Women's literacy and access to a broad range of educational options; Positive media images of women, their roles and contributions. Regional and national trends favoring women in things like age of marriage, political, legal and religious support for such shifts, health systems providing easy access to contraception, reproductive health service.

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Familial and Interpersonal	Participation in domestic decision-making; control over sexual relations; ability to make childbearing decisions, use contraception, access abortion; control over spouse selection and marriage timing; freedom from domestic violence	Shifts in marriage and kinship systems indicating greater value and autonomy for women (e.g. later marriages, self-selection of spouses, reduction in the practice of dowry; acceptability of divorce); local campaigns against domestic violence	Regional/national trends in timing of marriage, options for divorce; political, legal, religious support for (or lack of active opposition to) such shifts; systems providing easy access to contraception, safe abortion, reproductive health services
Legal	Knowledge of legal rights and mechanisms; domestic support for exercising rights.	Community mobilization for rights; campaigns for rights awareness; effective local enforcement of legal rights.	Laws supporting women's rights, access to resources and options; Advocacy for rights and legislation; use of judicial system to redress rights violations.
Political	Knowledge of political system and means of access to it; domestic support for political engagement; exercising the right to vote.	Women's involvement or mobilization in the local political system/campaigns; support for specific candidates or legislation; representation in local bodies of government	Women's representation in regional and national bodies of government; strength as a voting bloc; representation of women's interests in effective lobbies and interest groups
Psychological	Self-esteem; self-efficacy; psychological well-being	Collective awareness of injustice, potential of mobilization	Women's sense of inclusion and entitlement; systemic acceptance of women's entitlement and inclusion

Source: Malhotra, A., Schuler, S. R. and Boender, C. (2002), "Measuring Women's Empowerment as a Variable in International Development". Working paper. Washington, DC: World Bank. (Background Paper for the World Bank Workshop on Poverty and Gender: New Perspectives, Final Version: June 28, 2002)

These dimensions are very broad in scope though, and within each dimension, there is a range of sub-domains within which women may be empowered. The table cluster commonly and potentially useful indicators within various arenas and spheres of life.

Empowerment has turned out to be one of the most widely discussed 'development terms' in present days. Empowerment is a process that gives power to the underprivileged and deprived in society and increases their ability to make strategic choices. Women empowerment is dynamic, multidimensional, interlinked approach and an all-inclusive concept and having a considerable impact on women's life. It contains many aspects of life, including social status, family relations, emotional, psychological, and physical conditions, the financial situation of women. Empowerment of women is the process of enriching economic, social, and political status along with the psychological deliverance of women, the traditionally underprivileged segment in society.

III. Mobile Phone and Women: Global Scenario

Evidence has been mounting for decades that empowering women leads to positive economic and social changes globally. The most powerful ways to spread development, by increasing women's access to information, education, health care, and financial services, which in turn allows them to improve their quality of life, their families, and communities. Empowering more women with mobile phones can accelerate social, political, psychological, and economic development.

As per GSMA intelligence, the world-renowned, and industry-leading audit and consultancy firm Deloitte in 2007 found that a 10% increase in mobile phone penetration rates is linked to an increase of 1.2% of GDP in a low and middle-income country. [11] [Women and Mobile: A Global Opportunity, 2010]

In low and middle-income countries there is a direct relationship between a mobile phone with economic & business growth accompanied by social development. This is also admitted that empowered women play a substantial role in enlightening and improving standards of living for members of society. People at the base of the economic pyramid especially women need to be empowered with the right tools to find employment and build businesses that will enable them to eventually escape poverty. Among the foremost important of these tools is a mobile phone. In the past few years, mobile phone ownership between women in low and middle-income countries has increased rapidly.

To better understand the extent of the mobile usage of women, GSMA Connected Women in conjunction with Altai Consulting with the help of the U.S. Agency for International Development (USAID), the

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Australian Department of Foreign Affairs and Trade (DFAT), and the GSMA conducted a massive research work and analysis on the report "Connected Women 2015: Bridging the gender gap: Mobile access and usage in low and middle-income countries". [12]

The findings focus points and highlights of the research were very ingenious. The results clearly indicated that the use of mobile phones ensured women's empowerment. The key highlights of the research are stated below.

IV. Research Methodology

The research was based on underneath main sources of primary and secondary information, explicitly: 11,000 closed-ended, face-to-face interviews with both men and women conducted in 11 countries: (Niger, India, the Democratic Republic of the Congo (DRC), Mexico, Indonesia, China, Turkey, Kenya, Colombia, Egypt, and Jordan.)

- 77 focus group discussions with both men and women were conducted in 11 countries.
- 123 expert interviews conducted at country and global levels.
- Market research and usage data from mobile network operators in more than 35 countries.
- Mobile operators voluntarily shared anonymous, gender-disaggregated data at their disposal.
- Research reports and secondary data sets on gender and ICT from the mobile industry, international development organizations, academics, and other sources.

According to the report of GSMA Connected Women 2015, some of the highlights are:

V. Mobile Phones Empower Women

In the report, there are thousands of women were interviewed across 11 countries, including both mobile phone users and non-users:

- ❑ At least 89% in every country said mobile phones help them stay in touch with friends and family;
- ❑ At least 74% in every country said it saves time;
- ❑ At least 68% in every country reported that they feel safer with a mobile phone;
- ❑ At least 58% in every country said they felt more autonomous and independent; and
- ❑ At least 60% of women in 10 out of 11 countries said mobile phone ownership save them money, And
- ❑ At least 60% of women in every country claimed that a mobile phone helps make running errands (shops/Grocery shopping-bargaining) either more convenient or less expensive.
- ❑ Among all the participating countries, at least 64% of working women say they have greater access to business and employment opportunities due to mobile. And this is consistently higher than non-working women.
- ❑ Female students report that mobile phones give them or would give them comparatively easy access to mobile internet. And the mobile internet gives them better access to educational opportunities at higher rates than both working and non-working women in all countries.

Earlier in 2010, to apprehend the range of the mobile phone usage, together, the GSMA Development Fund, the Cherie Blair Foundation and Vital Wave Consulting have produced the groundbreaking report "Women and Mobile: A Global Opportunity: A study on the mobile phone gender gap in low and middle-income countries". The report reveals for the first time the magnitude of impact of the mobile phone between women in low and middle income countries. [11] [Women and Mobile: A Global Opportunity, 2010]. Some of the key findings of the groundbreaking survey are:

- ❑ Among the mobile user, nine in ten women feel safer because of their mobile phones.
- ❑ Across the world, women are using the power of mobile phones to unlock economic opportunities.
- ❑ Women business owners especially perceive the mobile phone as a very essential productivity tool for their business, with more than half of the respondents saying they have used a mobile phone to earn additional income;
- ❑ About 85% of women report that they feel more independent because of their mobile phones.
- ❑ In all the countries, mobile ownership provides distinct benefits to women including better access to health, education, business, and employment opportunities.
- ❑ Women surveyed across low and middle-income countries on three continents believe that mobile helps them lead a more safe, secure, connected, and productive life.

VI. Women Empowerment: Benefit for Women to use Mobile Phones

Across the world mobile phone ownership provides distinct benefits to women such as improved access to education, health, business and employment opportunities along with empowered them economically, socially, politically and psychologically. According to the survey conducted by GSMA intelligence on women across low and middle-income countries on different continents and more than 2,000 women were participated in the survey, believed that a mobile phone helps women lead more secure, connected and productive lives. The women surveyed across the countries have responded the below statements absolutely.

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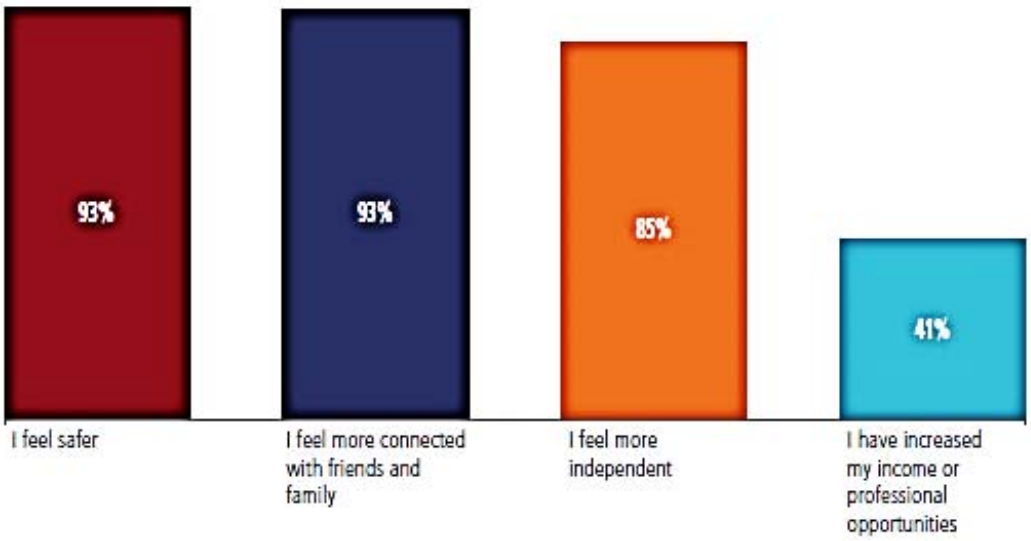

Source: GSMA Development Fund, Cherie Blair Foundation, and Vital Wave Consulting, 2010, "Women and Mobile: A Global Opportunity: A study on the mobile phone gender gap in low and middle-income countries". Web: http://www.cherieblair foundation.org/women-and-mobile-a-global-opportunity/

Figure 2: Positive outcomes and feelings associated with mobile phone ownership.

a) *"I Feel Safer Because I Own a Mobile Phone"*

As seen in the figure above, nine in ten women reported feeling safer and more connected because of their mobile phones. The need for safety can be high for women in some areas of low and middle-income countries. Situations that may have previously provoked anxiety for women have been reduced or eliminated through the presence of a communication channel. Women mobile users and owners of each age, location, and socio-economic status mention the increased feeling of safety and security that comes with mobile phone uses and ownership. Reinforcing how mobile phones address this universal need is a compelling way to communicate the benefits of a mobile phone to women.

b) *"I Feel More Connected Because I Own a Mobile Phone"*

Communicating with family and friends is a core activity of everyday life. At the same time, development and globalization are making individuals more mobile, reducing the time family members spend together at home. In many countries, migration of family members to different places, cities, or even abroad is distancing these individuals including women from their families and friends. In this situation, a mobile are often an important tool for maintaining contact with the family member. Nine in ten women surveyed report feeling more connected with friends and family because they own and use a mobile phone.

The men within the family also appreciate this level of connection. Almost all of the homemakers who received a mobile phone from their husbands note that it was given to them so that they could better stay connected with family and friends.

c) *"I Feel More Independent Because I Own a Mobile Phone"*

Due to continuous growth and expansion of economy in low and middle-income countries, more opportunities are created for women both inside and outside of the home. Women increasingly have the chance to go to school, work outside their homes or even find employment outside of their immediate towns and villages. Ownership and uses of mobile phone help to raise a sense of independence. Women need to take advantage of these opportunities by using the mobile phone as a tool to stay in touch with their family at home. Among the women mobile owners surveyed, 85% report feeling more independent because of their mobile phone.

VII. Contribution of Mobile phone for Empowerment of Women in Bangladesh: Case Study

In Bangladesh, women's engrossment in telecommunication technology changes the behavioral aspect of women's lifestyle and thereby affects the society and economy as a whole. Mobile telecommunication introduces inordinate advancement and new development of women's empowerment, which refers to using, exchanging, and producing information and knowledge to advance women's status and quality of life.

Bangladesh is the second leading exporter of textiles and garments in the world. Though the majority

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of employment is in agriculture, comprising nearly 50% of the workforce and contributing 17% of the country's GDP. The country has diversified its economy through a growing industrial sector which contributes 29% of GDP. Another significant contributor to the development of the economy has been the propagation of telecommunications.

a) Case Study of Bangladesh: the Village Phone Program

The Village Phone Program, started in 1997, with the assistance of Grameenphone, Grameen Telecom operated the national Village Phone program, alongside its own parent Grameen Bank. Grameenphone acting as the sole provider of telecommunications services to rural areas of Bangladesh. Most Village Phone operators are women living in rural and remote areas. According to Grameenphone and Grameen Telecom till September 2006, there were more than 255,000 Village Phones in operation in 55,000 villages around Bangladesh and among them 97% were women. The village phone program provides a good income-earning opportunity to rural women of Bangladesh. This program has given economic freedom to more than 400,000 Village Phone Operators and their families who were women. Moreover, the Program is a unique initiative to provide universal access to telecommunications services in remote, rural areas. The Program enables rural people who normally cannot afford to own a telephone to avail of the service while providing the Village Phone women operators an opportunity to earn a living. [13]

i. *The objectives of "Village Phone Program"*

The key objectives of the village phone program are as follows:

- ✓ To provide easy access to telephones when needed all over rural Bangladesh specially for women;
- ✓ To introduce a new income-generating source for women;
- ✓ To bring the potential of the "Information Revolution" to the doorsteps of women and villagers;
- ✓ To introduce telecommunications as a new weapon against poverty for women and rural people.

ii. *The uniqueness of the Village Phone Program*

The Village Phone program contains many rural developments to empowered women:

- ❑ The program was the first rural development micro-credit facility for women in a developing country. The target of the program was to create micro-enterprises based on information and communication technology (ICT) and services
- ❑ The program was the first rural development micro-credit facility for women in a developing country to support the creation of businesses using digital, mobile telephony for their benefit.
- ❑ The program was the first private sector rural telecom initiative for establishing micro-enterprise that specifically targets poor village women.
- ❑ The program was the first telecommunications sector initiative with an unequivocal purpose of rural poverty reduction. [13]

iii. *Impacts on Women empowerment and poverty reduction*

- The Village Phone program yields significant positive social and economic impacts, including relatively large consumer surplus and immeasurable quality of life benefits for the women.
- The main reasons the village phone owners stated for using the mobile phones are discussions of financial matters with family, including discussions of remittances (42%) and social calls to family and friends (44%), accounting for 86% of all calls. This was reported by Grameen bank.
- Bangladesh is a labor-exporting country with many rural villagers (predominantly men) working in the Middle East Countries. The Village Phone acts as a powerful instrument to reduce the risk involved in remittance transfers to their family members, and assist in obtaining accurate information.
- Using a mobile phone for social calls to family and friends frequently involves the share of information about market prices, market trends and currency exchange rates, etc. These make the Village Phone an important tool for enabling household enterprises to take advantage of market information to increase profits and reduce production expenses for women.
- Significantly, the income that women owners generate from the Village Phone is about 24% of the household income on average. In some cases, it was as high as 40% of the household income. Village Phone women operators have become socially and economically empowered with the uses of their mobile phones. [13]

b) Community Information Centers

To empower rural communities particularly women, the most important issue is access to unrestrained communication to the world for advancing social and economic developments. Technologies particularly telecommunication can create new types of economic activities, innovate employment opportunities and enhance social interaction and networking among people.

To create a sustainable structure that equally entails the utilization of significant resources to alleviate poverty, empower women, and develop a culture of education and information, Grameenphone- the leading mobile operator of Bangladesh has developed shared premises to promote social entrepreneurship. This initiative has been developed to alleviate poverty by enclosing the gap in communication through the

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provision of access to information to rural people, especially for women.

Grameenphone Community Information Center (CIC) is aimed at providing internet access and other communications services to rural areas. In February 2006, 16 CICs were established across the country as a pilot project. In this project, Grameenphone provides GSM along with internet services i.e. EDGE/GPRS/3G infrastructure and technical support, and others partners are involved in selecting and training entrepreneurs to run the village centers. In the respective areas, these CICs are used for a wide diversity of business and personal purposes. From accessing health and agricultural information to using government services to video conferencing with relatives overseas, CICs are used. Here mobile operator also trains the women entrepreneurs so that they can give people advice on how to set up an e-mail account and best make use of the Internet.

Grameenphone CIC project is giving more than 20 million people the chance to use and access to internet and e-mail for the first time. Following a successful pilot project, Grameenphone planned to launch 560 centers in communities throughout Bangladesh by the end of 2006. Within a very short period, the project has become a massive operation with over 500 Community Information Canters operating in nearly 450 Upazilla's (sub-district). The centers are now located almost in each Upazila (sub-district) of Bangladesh. As a result, up to 15 villages containing up to 40,000 people including women are within the reach of each CIC. In this information center, there are desktop computers connected to Grameenphone's existing GSM mobile network as well as available GPRS/EDGE/3G technology to offer voice, data services, and internet uses.

This initiative by the mobile operator through mobile communication serves local community needs. Bridging the "digital divide" by providing information access to rural people including women. Alleviated poverty and empowered women. [14][15]

c) Empowering women through JITA (A Care –Social Business)

JITA – Bangladesh a Care –Social Business, is dedicated to empowering women through a network of enterprises, creating employment opportunities, and improving access to markets for underprivileged consumers through a mobile communications channel. [16] To create a replicable network that will help generate income opportunity for rural destitute women, JITA, a joint venture social business of CARE International and Danone Communities, was originated in 2004 as Rural Sales Program which was driven through Grameenphone's strong sales network and product. The project has been designed in a way that helps to empower women. JITA creates consumer impact on health-hygiene-energy through an innovative network of enterprises of women entrepreneurs selling door to door. This allowed companies and products to reach out to the remotest areas of the country where it was difficult to reach communities by traditional means. The project accomplishes an innovative system of enterprises consisting of distribution hubs, delivery service persons, and sales ladies branded as Aparajitas. Its marketing channel of women who purchase stock from the hubs and sell door to door to the rural base of the consumers through this project. JITA has enabled women to have a stable livelihood through the sale of particular products like Grameenphone's mobile scratch card or recharge services (mobile electronic recharge), in addition, selected products of BATA, Unilever, etc. [16].

Within a year JITA has reached 3 million consumers, all by empowering 7,650 women across 48 districts and helped in developing 255 enterprises with base employment of 510. Grameenphone has also taken initiative in providing the women with training on selling mobile electronic recharge (mobile scratch cards and mobile Flexiload) systems which helped them have a sustainable livelihood.

i. *Objective achieved*

- ❑ 11,000 underprivileged women empowered through income and employment.
- ❑ 450 enterprises developed through increased linkages with companies.
- ❑ 1,000 of employment creation.
- ❑ Improved access to markets for 7 million underprivileged consumers mostly women. [16]

In Bangladesh, the current doctor-patient ratio is only 5.26 per 10,000 population. In rural areas, the ratio is far worse. Moreover in rural areas patients live far away from health care delivery sites along with a great shortage of doctors and physicians. Different medical service through mobile phones by the ministry of health & family welfare Bangladesh are:

d) Health Service through Mobile Phone for women

The main challenges of the health system of Bangladesh are accessibility and affordability for rural and remote areas. The same goes for women as well.

Considering the issue in mind and a mobile phone has been given to each district and sub-district hospital of Bangladesh as a Mobile hotline for health service. The numbers of these mobile phones have been publicized locally. Doctors receive calls and provide services in these numbers 24 hours a day. Local people including women get free health advice and services by calling these numbers without coming to hospitals in person. Mobile communication has created the opportunity to get medical advice and services for women who are living in rural and remote areas.

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After launching this mobile support for medical service, communication with doctors is instantly available no matter whether it is late night, an acute health problem, or a long distance from the hospital. Patients including women who are not able to come to a hospital can take advice from the doctor through mobile phone.

e) Telemedicine Service

With the instruction and help of the Ministry of health & family welfare, Bangladesh, high-quality telemedicine service has been provided in different highly specialized hospitals in the country. Among these, there are 2 specialized hospitals namely "Bangabandhu Sheikh Mujib Medical University" and "National Institute of Cardiovascular Diseases". In addition, 3 district hospitals i.e. Shatkhira, Nilphamari, and Gopalganj, and 3 sub-district hospitals i.e. Pirgonj, Dakope, and Debhata are also providing this service. Through this service, admitted patients in district and sub-district level hospitals can take necessary suggestions from the doctors of specialized hospitals. In addition, web-camera has been given in each sub-district, district, medical college, and post-graduate institute hospitals, so that rural people especially women can get support easily. These hospitals, therefore, can also give telemedicine service through video conferencing platform with the help of mobile data service i.e. 3G/EDGE. Which is very helpful for women also.

f) Pregnancy Care Advice for Women through SMS

Women in remote, rural areas along with urban areas as well are not able to visit the hospital for many reasons. It is even more difficult for pregnant women. Considering the fact in mind Ministry of health & family welfare, Bangladesh launches the "Pregnancy Care Advice for Women through SMS". Here the pregnant woman can get appropriate advice through SMS if she registers herself with the service through her mobile phone. This pregnancy care advice service is operated by the MIS unit of DGSH (Directorate General of Health Service).

The registration process of this service is easy. In the SMS option of the mobile, she needs to type the following codes and send them to 16345 to avail of the service. The format is: *"dghs reg lmp_date mobile_no. name"* Example: *dghs reg 14082016 01713XXXXXX Tahmina* (Explanation: lmp is the last menstrual period in the format of ddmmyyyy. Mobile number is that the phone number where she wants to receive the SMS advice. Name is her name.)

On successful registration, she will receive an instant SMS reply from the shortcode, which will thank her for registration, inform her expected date of delivery, and advise for the following. Afterward, she will receive SMS with medical advice and suggestions automatically from time to time. The advice is jointly developed by doctors, a group of subject experts from academic institutions, WHO, UNICEF, and the reproductive health program of the ministry.

g) Health Care Call Centre 16263

Along with SMS-based Pregnancy Care Advice for women, the government of Bangladesh has launched a mobile-based health care call center and helpline in a bid to provide cost-effective, equitable, and quality healthcare service to the people including women with 24-hour services and advice from doctors. The call center number is 16263 and anyone can reach this health care service from their mobile whenever required. The service has been introduced by the DGHS (Directorate General of Health Services) with funding from UKAID in Bangladesh.

h) Safe Motherhood and Infant Care (SMIC)

Everywhere motherhood is notable as one of the most extraordinary times in a woman's life. Safe motherhood is not only vital to avoid premature and painful maternal and child deaths, but also to nurture a healthy and prosperous nation. As a result, reducing the infant death rate and improving maternal health were identified as two of the United Nations' eight-millennium development goals. Grameenphone's Safe Motherhood & Infant Care Project is meant to make sure, moreover to ensure free yet quality safe motherhood and infant care services to poor mothers and their infants throughout Bangladesh. The SMIC project also aims to support necessary infrastructure development and the expansion of basic healthcare services, especially in hard-to-reach and remote areas of the country. The project was launched in 2007.

The program has launched in partnership with Pathfinder International and USAID's network of Smiling Sun clinics in 61 districts. In this SMIC project, free primary healthcare services are being provided by health professionals via 318 static clinics, 8000 satellite clinics, and 6000 community-based health workers across the country. In addition, Grameenphone has introduced clinics-on-wheels (i.e. mobile mini-hospital) to enrich these existing service touch-points, to reinforce the accessibility of services in remote areas. During the project period (2007-2010) a complete of 1,703,767 maternal and child care services were provided to economically disadvantaged mothers and infants. [17]

i) Education through Mobile

Mobile phones ensure inclusive and equitable quality education for all including women. Mobile technology promotes lifelong learning opportunities for women. This technology support students and teachers in integrating mobile technologies into the classroom. Mobile also enables access to greater learning opportunities for women in urban hubs and remote locations.

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BBC Janala, Bangladesh is a large-scale mobile-based English teaching tool, which is very helpful for women. This opportunity has effectively transformed mobile phones into a low-cost educational tool. Any mobile user can dial a short code from her mobile to access bilingual audio lessons and can learn and improve their English language.

j) Procedures of online school

The idea of "Online School" is that the teacher conducts class from a distant location using video conferencing technology with the help of moderators within the actual class environment. The main objective of the Online School is to ensure quality education for underprivileged and isolated children living in the urban slums and remote areas. In August 2011, the first online school has started with 80 Students. The program was very successful, an assessment of performance was done among similar types of schools (Banani School and Rayerbazaar School) and Online School. The findings were clear and very positive. The mobile operator has already launched this "Online School" program in 10 schools located in Gazipur, Gaibandha, Rajshahi, Madaripur Bandarban, Teknaf, Rangpur, Dinajpur, Hobigonj, and Laxmipur. [17]

k) Mobile Helpline Centre for Violence against Women

Research conducted by the UN in 2006 on gender-based violence reported that one in every three women in the world was the victim of violence. Correspondingly a nationwide study conducted in Bangladesh in 2008 by the "Multi-Sectorial Program" on "Violence against Women" reported that 58 percent of the respondents between the age of 10 and 49 were the victims of violence.

The most common form of violence is physical assault which is followed by sexual assault and harassment against women and girls. Psychological or mental violence either separately or inclusively occurs with other forms of violence. Though this type of is high but the victims are not aware of such violence. In addition, the social stigma, sense of insecurity, ignorance about the legal provisions, supports, and services of the women victims remain silent. To break the silence, stop violence against women, and empower women psychologically 'The Ministry of Women and Children Affairs' established the National Helpline Centre for Violence against Women and Children.

This mobile helpline is a toll-free number and available 24 hours a day, seven days a week. It is accessible from all parts of Bangladesh and any woman can make a call from her mobile phone. It's a confidential service that offers legal advice, police assistance, telephone counseling, referrals to other organization's services, information regarding violence and psychological harassment issues against women. [18]

Main Features of the Helpline Centre

According to the Bangladesh Ministry of Women and Children Affairs the main features of this helpline center are:

- Centre remains open 24/7 and 365 days of the year.
- Confidential Helpline for one-to-one communication to get support for women.
- The hotline agents maintain a database of GO and NGOs who can provide various support instantly.
- Referral support for women in making links with other relevant services and stakeholders.
- The program develops social network and raise awareness between mass people to combat Violence against Women. [18]

Service and Supports

As per the guideline of the Bangladesh Ministry of Women and Children Affairs the main support and services provide by the helpline are:

- ✓ Rescue
- ✓ Legal Aid
- ✓ Police assistance
- ✓ Give suggestions
- ✓ Counseling Service
- ✓ Medical assistance
- ✓ Awareness raising
- ✓ Help to arrange arbitration
- ✓ Link-up victims to other services
- ✓ Protect and prevent Early marriage
- ✓ Provide authentic information and contact details for various supports to women.

Types of call attend by helpline center

National Helpline center for violence against women and children attends the following types of calls: [18]

- Early Marriage
- Psychological Torture
- Harassment over Phone
- Pornography
- Marital Rape
- Extra Marital Relationship
- Dower
- Custody of Children
- Physical Assault
- Burn
- Eve Teasing/ Sexual Harassment
- Rape
- Polygamy
- Divorce
- Maintenance
- Kidnapping

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- Rescue
- Property Related
- Missing
- Threats
- Betray
- Trafficking, etc. [18]

Helpline category wise calls statistics (report up to January 2021)

Types of Services	June to Dec'12	2013	2014	2015	2016	2017	2018	2019	2020	January 2021	Total Number
Medical Facilities	103	101	394	356	312	398	1283	3051	2020	101	8099
Counseling	174	156	760	453	1124	1476	1373	2319	679	32	8546
Police assistance	263	257	713	1471	4108	4730	22812	51276	13938	883	100451
Legal Help	1615	1420	2726	3163	8761	12307	63827	129071	22967	2220	248077
Information	1784	9039	36927	67228	94803	370613	551342	162352	318246	5872	3058206
Others	885	1604	2965	3308	4650	3734	10111	23788	963337	71617	10853999
Total	**4824**	**12577**	**44485**	**75979**	**113758**	**393258**	**650748**	**1811857**	**1321167**	**80725**	**4509378**

Source: Ministry of Women and Children Affairs http://www.mspvaw.gov.bd/ and (http://nhc.gov.bd/index.php?option=com_content&view=article&id=39)

l) e-Krishok

Bangladesh is an agricultural country and most of the people are small and marginal farmers. The future of sustainable agricultural growth and food security in Bangladesh fully depends on the performance of small and marginal farmers. But still, they are not able to maximize the benefits of its full potential due to lack of availability and access to relevant information on agriculture, extension, and market.

Mobile operator Grameenphone, in association with the Bangladesh Institute of ICT in Development (BIID) and Department of Agricultural Extension (DAE), launched a campaign named "Smart Farmer, Smart Future" to empower the farmers. The project was basically on the use of ICT-enabled extension and market linkage services on mobile and internet-based advisory services. The program was rolled out under BIID's 'e-Krishok', an innovative tool pioneering the application of information technologies in agricultural practice in remote rural areas that connects illiterate, semiliterate, and literate farmers from remote areas to an expert in their districts for seeking personalized advice for their agricultural activities.

The "Smart Farmer, Smart Future" campaign was designed by BIID to promote awareness, training, and idea generation in the field of agriculture. The campaign leads to the Smart Village initiative to ensure the demonstration of the power of the Internet to the rural communities to improve livelihood and empower people including rural women.

The program represents an enormous breakthrough that goes beyond the delivery of price and market information through mobile phones. It has become a source of knowledge, data, and information transfer for farmers from agriculture scientists, functionaries, and markets through the use of mobiles. The program increases efficiency, productivity and improves their livelihood. It's being believed that increasing their productivity and income will make a major contribution towards the reduction of hunger and poverty, empower women and, in the long term, support rural development in Bangladesh.

m) Krishi (Agricultural) Call Centre 16123 by Ministry of Agriculture

The Department of Agricultural Extension (DAE) has launched an agriculture call center for farmers to provide information on agriculture, fisheries, livestock, or any other agriculture-related problems to the farmers on dated June 14, 2014, officially. The Call Center number is 16123. The women who are involved in agricultural activities are now able to receive necessary information by calling 16123 from any mobile phone. They can reach this call center and may receive relevant and expert advice, information, and guideline regarding agriculture, fisheries, and livestock, or any other problems immediately. The call center executives are agriculture graduates who are responding to their queries. Thus the women who are involved in agriculture, fisheries or livestock, or any other agro product are directly benefited through their mobile phone.

n) Mobile Technologies and Political Empowerment

Democratic government and development organizations have promoted participation and participatory models in both policy advice and program implementation for years. At this time, mobile technologies are doing just that by offering new opportunities for enhancing access and participation for greater numbers of people, especially for women.

Access to and the use of mobile technologies opens the possibility of new communication channels

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and gives 'voice' to women who previously had none. M-governance initiatives through mobile phones provide greater inclusion and fostering broader participation of women. It is noteworthy that m-governance has its potential to strengthen the 'demand' side of the governance equation by giving people the opportunity to demand better services, while governments act as suppliers of both services and information. M-governance can thus provide women with critical tools to better engage with public institutions.

Mobiles are allowing women to be engaged in political and socio-economic decision-making processes, offering new avenues for achieving key governance goals related to elections, civic engagement, and access to information. Presently the most well-known and important platform for communicating, collecting, and mapping inputs from citizens is mobile phones. The mobile platform enables and includes women for election-related information and communication. Only a basic mobile phone with SMS capacity has allowed and aware them for this participation. Mobile phones have become an important tool for civil society organizations, advocacy groups, and individual activists including women of Bangladesh. Not only fostering local mobilization but also for national issues of the country. Civic campaigning and mobilization are being enhanced by mobile platforms that allow organizations to reach large numbers of women with new information with a simple SMS subscription which creates political awareness to women.

VIII. Findings from the Case studies

Mobile Telecommunication has a profound impact on national economies worldwide. Both in developed and developing countries, mobile phones have contributed to too many aspects of economic, political, and social life. Women are about half of the Bangladesh population though, their social eminence and condition both in urban and rural areas remain very low. The lives of women in Bangladesh have engrossed around their traditional roles. During the period 1980s, 82% of the women lived in rural areas whereas only 10% of the women were involved in professional services. Today, Bangladesh stands globally as an example of women empowerment and leadership.

The contribution of women is evident in every sphere of society and it is perpetually increasing due to their empowerment. Their active participation in every sector of society has made a great impact on national development. Here mobile phone is playing a key role in women's empowerment. Mobile phones have been established to be one of the most powerful tools for their empowerment.

Women feel safer with a mobile phone in both urban and rural areas and communities. Women with a mobile phone feel more connected and can access any emergency numbers and contacts whenever required which makes them more psychologically empowered.

Mobile technology is used by victims of sexual and gender-based violence to report crimes and capture witness evidence. "National Helpline Centre for Violence against Women and Children" by the Ministry of Women and Children Affairs of Bangladesh is an instance of psychological empowerment of women. This mobile hotline line is helping to stop violence against women and to empower women psychologically.

Mobile technology can also be used to educate citizens including women about their legal rights and train them in collecting forensic evidence. Mobile technologies also enable women to communicate with law enforcement agencies whenever required and provide access to justice including seeking and receiving legal advice.

For female farmers, who rarely receive expert assistance from extension workers or other agricultural professionals, mobile phones are an effective tool for accessing "just-in-time information" to increase their productivity through different agriculture-related helpline from mobile operators and government organizations. Moreover, mobile phones are providing women with access to information about shifts in crop and weather patterns caused by climate change and natural disasters.

Mobile technology has been used to improve women's health including improving access to life-saving health services during delivery, increasing use of health information during and following pregnancy, and improving the availability and quality of health services in the community and health facilities through "Telemedicine Service", "Telemedicine Service in Community Clinics", "Pregnancy Care Advice for Women through SMS", "Health Care Call Centre", "Safe Motherhood and Infant Care" etc. by mobile operators, government and non-government organizations.

In the case of education and literacy mobile phones are playing a very significant role through the online school, SMS, and IVR-based literacy programs. Which have become a very effective tool in teaching literacy and promoting girls' education in Bangladesh.

Mobility and Independence are ensured by using the mobile phone. Women of Bangladesh feel more independent with a mobile phone and can work with confidence. Women recognize mobile phones as a tool for improving their safety and peace of mind in Bangladesh.

IX. Conclusion

Mobile phones play a foremost part in development programs round the world. The diffusion of mobile telecommunication performs a great role in development programs along with social, economic,

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political and overall empowerment in developing countries. Telecommunication is most powerful to combat poverty and give the people a chance to change their fate, their economy, their society and to empower themselves to change the world, especially for women. In Bangladesh, women's engrossment in mobile telecommunication technology changes the behavioral aspect of women's lifestyle and thereby affects the society and economy as a whole. The mobile phones introduces inordinate advancement and new development of women's empowerment. Women have used mobile phones to organize themselves, advocate change, and participate in civic and community affairs. Utilizing mobile technology becomes a powerful catalyst to advance women's status and their quality of life.

The study demonstrates women empowerment stories of Bangladesh through mobile phone. Here the main discussion point is how mobile phone ensures overall empowerment of women in Bangladesh. The case studies which are discussed in this section are: Village Phone program, Community Information Center (CIC), JITA a social business program, Mobile Health Helpline, The mHealth platform, Telemedicine Service by Ministry of Health & Family Welfare Bangladesh, e-Krishok by mobile operators, Mobile applications for Agricultures, 'Krishi Call Centre' by Ministry of Agriculture, Mobile Financial Service, National Helpline Centre for Violence against Women and Children by Ministry of Women and Children Affairs, etc. are the absolute example of women empowerment in Bangladesh. Mobile phone is transforming overall socio-economic, political and psychological lifespan of women in Bangladesh. And thus empowered women of Bangladesh inclusively.

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