ROLE OF MOBILE COMMUNICATION IN RURAL DEVELOPMENT: A STUDY ON IMPHAL WEST DISTRICT OF MANIPUR

ABSTRACT

Mobile phone service was initiated in the year 2004 in Manipur. Today, 57.5% Manipuri's households have telephone or mobile phone with 74.4% in urban areas and 48.9% in rural areas (Census, 2011). Mobile phone plays a vital role in our day to day life, especially in rural areas with the emergence of mobile phone that has reduced the expenditure of travelling and transportation cost and saved time and money. The simplicity, availability everywhere and multifunctional uses of mobile phone made it a basic need for everybody and it is considered as the effective medium which would overcome the barriers of illiteracy and remoteness. Now a day mobile is being used as for banking transactions, make payments, order the things, health care, spread of information and even as multi -media tool too. With the growth of mobile users, paradigm shift in the system of governance is expected. The mobile communication is able to provide all benefits to the every member of the community and many of its unexplored functions can change the way of interaction of rural people. Mobile can be used as a tool of dissemination of information and informed citizenry can be created. This primary function of mobile communication itself is a powerful tool of protecting interest of the mass. The Government is very keen to provide all infrastructural facilities related to telecommunication in the rural economy so that more socio-economic transformation may take place in the Indian economy. Thus, there is need to examine various issues and dimensions of the telecommunication sector and their impact on socio-economic development in the economy in general and on rural economy in particular. The present study is focus on the rural areas of Manipur, how mobile communication is benefiting the rural people is the supreme objectives of the study. The study also examines various aspects of rural development and its correlation with mobile communication.

Demographic wise observation also made to bring more clarity in the potentiality of mobile communication for rural development. In support of the study origin and growth of telecommunication service, cellular service and the potentiality of mobile communication and its application in different sector of economic development and human resource development is highlighted. In the first chapter of the study, Locale of the study, Objectives, Review of Literature, Significance and Research Methodology are complied. The introduction part of this chapter highlights the potential of mobile communication in enhancing socio-economic system particularly for rural areas, which is characterized by poor road and transportation, poverty, unemployment and illiterate etc. Mobile communication has become a powerful tool of development and poverty reduction through empowerment of masses. It is one of the key inputs for inclusive and sustainable growth, in areas of poverty reduction, employment generation, gender equity, balanced regional development and special protection for weaker section of the society. With the introduction of mobile cellular rural teledensity has been increasing. The Government of India also taking various measures under Universal Service Obligation Fund (USOF) for expansion of mobile phones in remote and rural areas. Introduction of mobile application apps such as mGovernance, mHealth, mBanking, mEducation, mAgriculture etc. accelerated the speed of development process in rural areas. In addition to this, the chapter highlights the origin and growth of telecommunication and its various stages of development. According to Constitution and Convention of the International Telecommunication Union (ITU), "telecommunication is any transmission, emission or reception of signs, writing, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems". The history of telecommunication can be marked out with the development of semaphore the visual telegraph in 1790 by a French inventor, Claude Chappe. In 1835, Samuel Morse patented the first electrical telegraph. In March 10, 1876 Alexander Graham Bell invented telephone. In 1895, Gugleilmo Marconi made another contribution in the field of electronic communication. He further developed the telegraph of Morse by introducing wireless telegraphy. Marconi's wireless telegraphy which made a transmission from, ship in New York

Harbour to the Twin Lights in Highlands in New Jersey in 1899 laid the foundation of wireless communication. However, the origin of mobile phone or cellular phone can be traced back to the development of car phone in the 1940s in the laboratories of AT&T and Bell. On June 17, 1946 in Saint Louis, Missouri, AT&T and one of its regional telephone companies, South-Western Bell, began operating Mobile Telephone Service (MTS) in the car (Peterson cited in Farley, 2005). As a turning point in the development of cellular phone Bell introduced Improved Mobile Phone Service (IMTS) in 1964 replacing its old MTS. IMTS enable direct dialing, automatic channel selection, and reduced bandwidth from between 25 and 30 KHz. Finally, in October 17, 1973 Martin Cooper of Motorola made the first handheld mobile phone. The introduction of cell phone before 1970 were all automobile bases, it was after Cooper's introduction of handheld cell phone present day cell phones were started making in various countries.

In second chapter, past and present telecommunication scenario in India is highlighted and its different stages of development. This chapter also provides a brief telecommunication scenario of northeast India and Manipur. India had its first experience of telegraph during colonial period. Telegraph line was laid in India in 1839, the year in which Samuel Morse laid the first telegraph line. On 28th January, 1882 the first formal telephone service was established in India (G.G, 2014). Telecommunication system of India during colonial period was a means for controlling and exercised the power of colonial government. During the colonial period, telegraph system set up in India was controlled by the government in contrast to the system set up in its mother country which was operated by the private firms. Within 20 years of its introduction every major town of the Indian colony had telegraph office. In 1881, Oriental Telephone Company Limited of England a private firm opened a telephone exchange in Calcutta, Bombay, Madras and Ahmadabad. On 28th January 1882 the first formal telephone service was established (G.G, 2014). After Independence India's telecommunication sector still remained under the government monopoly. All the foreign telecommunication companies were nationalized and form Post, Telephone and Telegraph, a monopoly run by the Government of India. Post independence telecommunication sector of India was very

poor due to lack of engineers or bureaucrats who had experienced in developing new technologies in their own labs. On the other hand the new nations face the problems of illiterate, poverty, unemployment and other social issues. In such critical situation the Department of Post, Telephone and Telegraph was used as tools to provide job opportunity to reduce poverty and unemployment. As a result half of the Post, Telephone and Telegraph staffs were illiterate (Mody, 1997). Reformation in the telecommunications sector was witnessed in the 1980s under the leadership of the then Prime Minister Rajiv Gandhi and Satyen Pitroda, a U.S.-returned expatriate Indian (Singhal and Rogers, 2001). In 1984, Centre for Development of Telematics (C-DOT) was established as an autonomous body with an objective of developing new technologies and promoting research in the field of telecom (DOT annual report, 2006-07). In 1985 the Department of Telecommunication (DOT) was created after separation from Posts and Telegraphs Department. In 1989 the Telecom Commission was established as an executive body under the ministry of communications with administrative and financial powers of the Government of India. It deals with various aspects of telecommunications and to implement the government's policy in matters concerning telecommunications. Demonopolization in the telecommunications sector was initiated with the announcement of new economic policy in 1984 and new industrial policy 1991 (Mody, 1997). After these initiatives telecom equipment manufacturing was de-licensed in 1991 and value added services were open to private sector in 1992 (TRAI, 2012). With the Demonopolization of Indian telecommunication sector, Telecom Regulatory Authority of India (TRAI) was established in 1997, as an independent regulatory agency for the telecom sector. In 2000, the TRAI was amended by the TRAI amendment Act, 2000. Under this amended Act, a clear distinction is made between recommendatory and regulatory functions of TRAI as envisaged under sub-section (I) of section 11 of the Act. Further, in the year 2000 Telecom Disputes Settlement and Appellate Tribunal (TDSAT) was created by the government under the TRAI Act, 1997 to settle and abdicate disputes involving licensor, licensee, and a group of consumers.

Liberalization of telecommunication sector in 1990s paved the way for introduction of mobile phone services in India. The government of India initiated the process to introduce mobile phone service in 1992. In this year the government invited competitive bids for two non-exclusive cellular mobile licenses for a ten year period, extendable by five years, for the four metropolitan cities of Delhi, Mumbai, Kolkata and Chennai. For providing Cellular Mobile Telecom Service (CMTS), the country is divided into 23 service areas consisting of 19 Telecom Service Areas and 4 Metro Service Areas. In the beginning in November 1994, eight licenses were issued to private companies of four metro cities of Delhi, Mumbai, Kolkata and Chennai. Among the cities, Kolkata made the history of India's first cellular mobile service provider. In August 1995, the then Chief Minister of Kolkata Jyoti Bashu made the historic call to Union Telecom Minister Sukhram through Modi Telstra Mobile. In early stage the subscriber rate of cellular mobile service was very poor in comparison to wireline service. In the beginning the users of the mobile phone were primarily urban elites, corporate leaders, businessmen, professionals, and upper income families (Singhal and Rogers, 2001). The reason for delayed in diffusion of mobile phone was the high price of mobile phone and tariffs, and moreover negative attitude of consumer on mobile phone. In completion of five years of its introduction the subscriber rate marked only 1.2 million in comparing to 21.59 million wireline subscriber, growing at the growth rate of 0.86%. On completion of ten years of its introduction, the subscriber rate of cellular mobile service surpassed the subscriber rate of wireline service. In 2005, the subscriber rate of mobile phone was 52.22 million compared to 41.43 million wireline subscriber. The contributing factor of such changed in the cellular mobile service is reduced in mobile phone, price and tariffs, encouraging regulatory environment, increasing income levels and changed of perception of public upon mobile phone. Growth rate of mobile phone gained momentum from 2005 and surpassed the wireline. By the year 2014 mobile subscriber reached 904.51 million and that of wireline was 28.50 million. The expansion of telecommunication network can be classified into three stages. Stage 1: refers to the period before 1990 where the sector was under government monopoly. Stage 2: refers to the period 1991-2000, where de-

monopolization and reformation was taking place. Stage 3: refers to post 2001, which is the era of wireless. In the first stage the growth of telecommunication was very slow, corresponding to the period 1981-1990 the sector witnessed a Compound Annual Growth Rate of 10 per cent only. During this stage growth in telecom sector services was primarily driven by the public sector, showing very marginal growth. Second stage marked the turning point in the growth of telecommunication. In this stage the foundation of growth of Indian telecommunication was laid. Demonopolization and reformation of telecommunication sector were taking place in this stage. During this stage telecommunication sector was opened up for private participation, which in turn increased competition among the operators. Telecommunication equipment manufacture began in the country during this stage. The two national telecom policy announced in 1994 and 1999 contribute a remarkable change in the sector. Today, Indian telecommunication network is the second largest network in the world after China. The overall telecom subscriber base, including both wireline and wireless increased from 28.53 million in March 2000 to 951.34 million in March 2012. In March 2013, the overall telecom subscriber base decreased to 898.01 million. The overall telecom subscriber base again increased to 933.01 million in March 2014.

The expansion of telecommunication network has narrow down the rural and the urban digital divide up to some extent. The overall teledensity of rural areas in March 2000 stood at 0.68 percent only. After ten years, i.e., in March 2010, the overall teledensity of rural area escalates to 24.56 percent. In March 2014, the overall rural teledensity marked 44.01 percent. From March 2000 to March 2014, the overall teledensity of rural area is growing at 14.84 percent. Zooming into urban area the overall teledensity in March 2000 stood at 8.23 percent. In March 2010, the overall teledensity of urban area escalates to 122.00 percent. In March 2014, the overall teledensity of urban area stood at 145.46 percent. The overall teledensity of urban area is growing at 71.71 percent from March 2000 to March 2014. In March 2010, the overall telephone subscriber base of rural areas stood at 200.68 million as against 420.6 million of urban areas in the same period. From March 2010 to March 2014, the overall telephone

subscriber base of rural areas has witnessed a continuous growth rate. During the same period the overall telephone subscriber base of rural areas registered an increase of 177.06 million.

Internet service in India was initiated in 1995 by VSNL. It was opened for private participation in 1998 with a view to encourage its growth and penetration. In its initial stages the penetration of internet service in India was very slow. In March 1997, India's internet subscribers, including both wireline and wireless stood at 0.09 million only. The subscribers rate of internet service in India gain momentum in March 2007, with 40.47 million subscribers as against 6.94 million subscribers of March 2006. The access of internet service in the country is driven by wireless sector. In March 2013, the wireless internet subscribers stood at 143.2 million as compared to 21.61 million wireline internet subscribers. In March 2014, the wireless internet subscriber escalates to 233.09 million as compared to 18.50 million wireline internet subscribers. Regarding the broadband services, the broadband subscribers in the country stood at 0.18 million in March 2005 and the same is escalates to 13.81 million in March 2012. On 18th July 2013, the department of telecommunication had revised the definition of broadband. As per revised definition, the minimum download speed for the broadband services was increased from 256 kbps to 512 kbps and the wireless data services were also included in the revised definition of broadband service. As per revised definition the subscriber base of broadband in March 2013, it increased from 15.05 million to 60.87 million in March 2014. Presently, India with its 23 telecom circles and 973.35 million wireless subscribers as on 30th April, 2015 is the second largest cellular network in the world after China. Such achievement is the fruit of significant reformation of telecommunication policy of the country. The overall teledensity of the country as on March 2015 stood at 79.38 percent of which rural teledensity marked at 48.37 percent as against 148.61 percent urban teledensity. The wireless teledensity of the country increased from 72.94% at the end of March, 2014 to 77.46% as on 30th April, 2015. During the same period urban and rural wireless teledensity was increased from 139.86% to 143.64% and 43.27% to 47.79% respectively.

The Northeast region of India is split into three telecom Licensed Service Areas (LSAs). Namely, they are Assam telecom LSA, Northeast telecom LSA and West Bengal telecom LSA. The Assam telecom LSA covers only the state of Assam. The Northeast LSAs covers six states viz. Tripura, Meghalaya, Mizoram, Arunachal Pradesh, Nagaland, and Manipur. Sikkim is in the West Bengal telecom LSA. For the operational purposes BSNL has further split up the Northeast telecom LSA into Northeast-I (Meghalaya, Tripura, and Mizoram) and Northeast-II (Arunachal Pradesh, Nagaland, and Manipur) Telecom circles (TRAI, 2013). Services provider operates in the Northeast region are BSNL as public sector undertaking and in private sector, Airtel, Aircel, Vodafone, Reliance, Idea, and Dishnet Wireless Ltd (TRAI, 2013-2014). Among the service provider operate in NER, BSNL is the only service provider which operates in both GSM and CDMA. In terms of providing both wireline and wireless services, BSNL and Vodafone is the only service provider in NER (TRAI, 2013-2014). Among the Northeast states Assam has the highest wireless subscriber base with 1,45,48,912 as on May 2013 followed by Tripura (20,82,530) and Manipur (20,49,004). Among the wireless service provider Bharti Airtel holds the top position with 8693632 subscribers as on April 2015 followed by Aircel (7350424) and Vodafone (4505298).

Mobile phone service was initiated in Manipur on 2004 by BSNL with two BTS installed each at Imphal West's Babupara and Imphal East's Khuman Lampak. However, the steps for installation of BTS for providing mobile phone service in Manipur were started from December 2003. In the first phase of providing mobile service, BSNL provides service to 1600 customers. As on May 2013, the subscriber base of BSNL in Manipur had reached 1,70,755. On August 2010, 3G service was launched in Manipur under the Phase-V program of BSNL for expansion of telecommunications services. As on December 2015, there are 313 BTS of BSNL installed in Manipur of which 75 BTS are installed at Imphal West District. Among the districts highest numbers of BTS are installed at Imphal West. BSNL is the first mobile service provider in Manipur and is the only operator providing wireline services in the state. After BSNL, Aircel, Reliance, Airtel, Vodafone, Idea start providing mobile communication service. 3G services in

Manipur is very poor, all the District Headquarters have not been fully covered by 3G services. Out of 2547 inhabited villages of Manipur base on 2011 census only 209 villages are covered by 3G and 2257 villages have no 3G coverage. At present Aircel, Reliance, BSNL and Airtel have 3G spectrum in Manipur. 83.3% of the urban population is covered by 3G services and there are total 51 towns, of which 19 are yet to get 3G coverage (TRAI).

In the third chapter of the study, various aspect of rural development and its correlation with mobile communication is examines. Further, the chapter also highlights the importance of different aspect of development in developing a nation particularly for rural areas. For instance, agriculture is the main source of livelihood for rural people as they derived their income from agricultural sector. The sector employs about 40 percent of the total labor force in countries with annual per capita incomes ranging from $ 400 to $1,800 (World Bank, 2008). In India around half the country's total workforce and over two-third of the rural workforce is from agriculture sector (IRDR, 2013). Agriculture, which is the main occupation of the rural people has been facing a range of problems. Majority of the Indian farmers is still practiced traditional way of cultivation and are unaware of new techniques. Moreover, majority of them are small and marginal farmers which have limited resources to influence in growing and marketing their products. Infrastructure constraint, supply chain inefficiency, lack of information that could increase productivity, lack of market and price of the product they produced are the range of problems the rural farmers of Indian faces. Insufficient extension services and poor access to information further widen the gap in the adoption of technology and lead to poor productivity levels (Mittal, Gandhi and Tripathi, 2010). The problems outlined above which is come across by the rural farmers can be addressed through mobile communication. Mobile communication has the potentiality to expand the market, inform about the market price, zoom distance and reduce interaction cost between stakeholders, increasing communication between farmers and expert etc. In short mobile communication has the potentiality to help farmers starting from production to sales.

mkrishi, Kisan call center, IFFCO kisan sanchar limited, Avaaj Otalo, etc are the example of mobile base application for agriculture operating in India.

Another important sector for rural development is the health sector of rural people. Existing health facilities of rural areas is very ill-fated. Rural people are less aware about the health issues and the health facilities providing to them are less accessible. Due to poverty and lack of knowledge on health, rural people are less considers to their health problems. Developing health sector of rural areas is pivotal since there is a noteworthy contribution of rural people in developing of the nation. To improve the health services and to control the spread of diseases and to reduce infant mortality rate and maternal mortality rate due to lack of adequate health services, special attention needs to be given to the health sector of rural areas. The health problems faces by rural people can be healed-up through Information and Communication Technologies (ICTs) like mobile phone, email and internet. Mobile phone through its multi-media functions has the potential to narrow down the health problems face in rural areas. Through mobile phone one can access to email and internet and other more mobile apps services. Recognizing the potential of mobile communication in the health sector, several organizations and government used mobile communication in the strategy for rural health planning. Under National rural Health Mission mobile phone is distributed to ASHA for facilitating communication with villagers and health professionals. Another evidence for application of mobile communication in the health sector is in a program initiated by Gram Vaani, an organization which is employing mobile communication technology in several health care projects. As a part of United Nation Millennium Development Program mobile base text messaging is used to identify malnutrition among rural children in Malawi using a system called Rapid SMS. Through this system, health workers in rural areas were able to send weight and height information in two minutes instead of the two months needed under the previous system.

Education is also an important sector for development, it the healer of all the problems and issues which is come across in the path of development. It is a treasure of

knowledge and without it, delays in development. Education is a major determinant in the achievement of demographic goals, be they the reduction in infant mortality rates, maternal mortality rates or the fall in female fertility rates (MHRD). The importance of education in nation building was recognized as crucial input, to achieve this objective National Literacy Mission (NLM) was set up by the Late Prime Minister of India, Shri Rajiv Gandhi in 1988. Further, to strengthen the goal of nation building, the Government of India has announced education as a fundamental right; hence Right to Education (RTE) Act 2009 came into effect on 1st April, 2010. Despite of all the efforts for development of education, challenges still remain. In developing countries, on average, only 54% of children of the appropriate age attend secondary level of schooling (UN, 2008). In India, according to 2011 census literacy rate of rural India is 58.7% compared to 79.9% of urban areas. The education sector of rural areas in comparison to urban areas is very unfortunate. Due to poverty and infrastructure constraint rural areas is far lack behind in education comparing to urban areas. Inadequate educational institution, lack of teachers or negligence of teachers in going to rural areas, poor road and limited public transportation, lack of educational grant or aids etc. are the problems faced in rural education sector. To some extent, the gap in establishing a good education system in rural areas can be mend-up by ICTs like computer, internet, email and mobile phone, etc. ICTs have the potential to empower teachers and learners by facilitating communication and interactions, offering new modes of service delivery mechanism, and in creating monitoring system. Mobile phone which is easily accessible in rural areas has the greater impact on advancing education system in rural areas. Through mobile phone one can access to internet and email which is the emerging key ingredients in teaching and learning process. Considering the importance of mobile phone in advancing education system, India launched its locally manufactured 'Aakash' tablet in October 2011 for widespread distribution in school. Through mobile communication teachers could contact parents to enquire about their child's whereabouts (Puri cited in Minges, 2012).

Mobile phone also can enhance the governing system of the government. The government has made efforts and initiated various schemes and programs for rural

development. However, all the efforts made by government for developing rural areas does not reach the anticipation level. Hundreds of cores are sanctioned for rural development programs, but still delay in development. The reason for the failure of all the efforts made by the government is enormous. Some possible factor might be, existing programs are inappropriate to the rural people, wrong strategies for implementation of the program, the communication gap between the rural people and the government machinery, or lack of participation of rural people in development program or lack of participation of rural people in designing development program. Intermediary bias is also a problem in the implementation of the development program. The challenges of governance come across in the development process can be addressed through mobile communication. It has the potential for enhancing service delivery mechanism of government and can facilitate communication between government and public. In present generation mobile communication is the fastest means of communication. It has the ability to deliver information or service to every door step of public without time constraint. SMS for public utility services initiated by Mysore government is an example of capability of mobile communication for good governance. Realizing the potential of ICTs the Government of India launched National e-Governance Plan (NeGP) on 2006, to enhance the service delivery mechanism of government and to create transparency and accountability in government service. To boost up the NeGP the government of India recently launched "Digital India" with a vision to transform India into a digitally empowered society and knowledge economy.

Rural people are also engaging in various kinds of non-agricultural occupation such as carpenter, weaver, craftsman, pottery, blacksmith, labourer etc. The non-agricultural occupation is still out of the sight of government or NGOs. Vocational training and skill development training are very less in rural areas. Villagers who own agricultural land also engaged in other occupation after the agricultural season ends. Due to lack of secure job villagers are forced to combine different occupation in a desperate bid to survive. Villagers are also seeking an alternative job in town to escape from rural confines. Majority of the villagers who migrate to urban areas are overwhelmingly from

the poorer, uneducated and un-skill group. They face a range of problems in searching job, especially, for those villagers who are newly migrating to urban areas. In search of a job they are wandering in urban areas and also earned little amount. Half of their earnings are expending in fooding or lodging or in travelling costs. On the other hand, for those villagers who are confined in rural areas and engaged in non-agricultural occupation also face the problems of lack of raw materials, new tools for large scale production, lack of financial support, market and transportation etc. In this regard, mobile phones contribute to reduce poverty and improve rural livelihoods by expanding and strengthening social networks, increase people's ability to deal with emergencies, cut down travel costs, maximizing the outcomes of necessary journey, increase temporal accessibility, and amplify the efficiency of activities (Sife, Kiondo and Macha, 2010). Mobile phones can improve access to and use of information, thereby reducing search costs, improving co-ordination among agents, and increasing market efficiency (Aker and Mbiti, 2010). Through mobile communication villagers can improve their main source of earning for livelihood. Mobile communication can facilitate in expansion of market, reduce travelling costs, access to credit, expansion of communication network and provides with greater job opportunity.

In the fourth chapter, which is the analysis part of primary data has highlights the socio-economic profile of the respondents, media usage habit of respondents, problem faced in using mobile phone, and mobile phone usage pattern of the respondents. The chapter also highlights the correlation and effectiveness of mobile phone in various development activities of respondents demographic wise. In media usage habit of the respondents the study has found that radio, TV, newspaper and internet are all get access by the respondents. However, radio, TV and newspaper are the popular mass media among the respondents. The study has found that mobile phone is not a new phenomenon among the respondents. The majority of the respondents have access to mobile phone service in the early stage of its beginning. However, due to low income, possession of more than one mobile phone in a family is very low. Regarding the types of service use by the respondents, voice calling and SMS are very common. Using of the internet and

social networking site is very low among the respondents. The mobile phone is widely used for surfing the internet while computer or laptop is hardly used in surfing internet. There is a sign of internet access in every class of respondents belonging to different occupation or activities, with student group has the highest percentage. The problems of network and electricity are common problems encounter in rural areas. Use of mobile communication in agricultural related activities across different demographic profile of respondents is highly evidenced from the study. Interestingly, respondents are taking benefit of mobile communication through basic service of telecommunication only. There is no evidence of using specially designed mobile application for agriculture and for marketing purposes. In non-agricultural activities the acceptance of mobile communication in marketing purposes, in searching job, in establishing a chain of network is well evidence from the study. Through this chain of network villagers empowers themselves in their daily activities to earn their livelihood. The problems of searching jobs and wastage of time and money are overcome through mobile communication. In cross examination of villagers belonging to different demography the acceptance of mobile communication in their occupation or activities is well evidenced from the study. From the findings of the study it is evidenced that mobile phone is popularly used for educational purposes in rural areas. The majority of the students uses a mobile phone for surfing internet. Due to poor economic condition, possession of a laptop or computer in rural areas is very rare. Mobile phone on the other hand is cheap and easily affordable and has multi-media features. Having such advantages the acceptance rate of mobile phone is high among the rural people. The student community of the rural area is mostly getting benefit from mobile communication in terms of using the internet. They use internet through mobile phone for educational related activities such as for searching study material or for a project or assignment or for exam related activities. They are also using social networking site and e-mail for subscribing e-journal, newspaper, magazine etc. and for entertainment purposes. Mobile communication also facilitates them in searching new educational institute for further study. They also subscribe SMS related to job news, sports news, political news, exam result, etc.

In the health sector, villagers belonging to both genders effectively use mobile communication for health communication. There is also evidence of effectively used of mobile communication across various age groups, educational status and among different income level. In communication with government machinery, mobile communication plays an effective role. Villagers use mobile communication to get access to the development services and to get information on newly implement development program. Both male and female villagers use mobile communication for communicating government machinery to get access to developmental services. Villagers belonging to different age groups, educational status and different income level have also used mobile communication for communicating with government machinery. Such as, to get access to items distributed under PDS and to get access to information or facilities for rural housing scheme, rural sanitation program, rural employment, rural drinking water scheme, etc. Finally, in the last chapter of the study, summary of the finding, conclusion, suggestion, and a model of mobile communication for development is complied.

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