UGC Sponsored Minor Project

Uses Dynamics of Mobile Phone Technology in Households and Its Contribution to Village Upliftment: A Case Study of Sonitpur District in Assam

Project Proposal Title: Effects of Mobile Phone Uses in Households—A Case Study of Sonitpur District, Assam [UGC letter No. F. F No 6-148/2012 (HRP)]

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Utilization Certificate

It is certified that the grant of Rs. 67,500.00 (Rupees sixty seven thousand five hundred only) received from the University Grants Commission as 1st instalment under the scheme of support for Minor Research Project entitled Effects of Mobile Phone uses in Households – A case study of Sonitpur District Assam vide UGC letter No. F. F No 6-148/2012 (HRP) has been fully utilized for the purpose for which it was sanctioned and in accordance with the terms and conditions laid down by the University Grants Commission.

Kapou Malakar

SIGNATURE OF THE
PROJECT INVESTIGATOR

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Outline of the Project

The aim of the study is to identify the actual needs of households and find out different uses of mobile phone and subsequent benefits a household derives from such uses. The study delineates the scope for the meaningful uses of mobile phone technology by the women residents of household and its ensuing increased participation in household activities and in community. The primary objective of the survey is to find out types of effective access to technologies do individual have at home and in community settings. Along the line, the study attempts to find out the nature and extent of the use of technologies facilitated by this access and situations where meaningful use/engagement with technologies arises. It discusses impending development schemes or intervention programs by the government and private bodies that connect telecommunication to village upliftment. Following this, the available basic amenities in villages to identify several areas where progress could be made by to create communication infrastructure that facilitates sustaining community building and a livelihood for participants specially women participants have been mapped.

The mixed methods approach is adopted that includes quantitative and qualitative procedures: a survey with 40 households from each 14 villages of Sonitpur District, Assam; focus group discussions and interviews with village leaders and women of Sonitpur District of Assam. The survey and focus group discussion retrieves data of socio-economic context such as income, consumption, changing livelihood strategies, productivity, credit, access to services and infrastructure as well as safety and security, social capital etc. The questionnaire includes questions on work and 'leisure' patterns, current daily routines, income, social contact with kinfolk, friends, participation in local community enterprises, competence and uses patterns related to mobile phone by the individual members of a family/households in various social contexts and so on. The discussion chapter assesses the ability of the individual member of household to process and evaluate information. The adoption and subsequent use of smart phone or the use of available multimedia features in mobile phone has been assessed. The motivation and capability of the individual members of household to access information from the formal institutions of the market, state and civil society have been appraised further**.**

Chapter 1

Introduction

Most of the earlier studies of the 1970s and 1980s reflect on consuming the benefits of owning and using ICT goods which is summed up in productivity paradox. Productivity paradox describes the relationship between owning, using ICT and its positive growth effects in productivity. Mansell and When's study on knowledge society explains how economic success of many Asian countries has been determined by the production of ICT goods and services (Mansell and When's, 1998). A study across Asia-Pacific region (Hanna, Guy, and Arnold 1995, Freeman, 1988) demonstrates that countries i.e. South Korea, Thailand, Taiwan and India with higher levels of annual growth in ICT consumption have exhibited the highest levels of GDP growth and productivity growth.

On the other hand, a strong correlation between the growth in productivity and GDP alongside the ICT consumption, during 1984 and 1990 has been demonstrated by various studies in India. Use of technology alone cannot make a robust impact on productivity gains of users. Instead, positive attitude of the members of households towards adoption of a technology and progressively improved skills to effectively assume the benefits of technology can ensure productivity gain. In order to enhance the productivity of household members, effective co-ordination between households, community and state level alongside the changes in obsolete schemes is essential. New technologies such as low cost wireless solutions (cellular phones, multi-access radios, etc.) and satellite systems are becoming commercially feasible options for rural areas and distant regions. Post liberalization has accentuated pro-private sector policy environments, deregulated and sufficiently competitive market, as a result experiencing universal access to ICT services especially in rural areas seems no longer a distant dream. Liberalized market has not only proliferated numerous technologies in society but also induced competition among market players for cheap access to ICTs and more expansion of market. Payphones and phone shops are multiplied in numbers in Assam and are found to be financially viable for most of rural private entrepreneurs.

However, ease of access and affordability has remained unsolved issue for the rural poor in terms of their desire to use ICTs services individually. On the other hand, relative disadvantages of women compared to men and competing demands on their time both as homemakers and workers inhibit their access to ICTs. Relatively higher levels of illiteracy among female population, the lower level of female participation in the formal economy further exacerbated gender inequality for access.

The danger of the policy debate lies around the capabilities of emerging technologies over the real information needs of the poor. The poor use to suffer from constraints such as assessing and applying information through ICTs. Lack of human cognitive capabilities, locational disadvantage in terms of urban and rural location, gender inequalities, affordability tend to aggravate the problem more.

According to the Indian Census of 2011, 69 percent of the total Indian population lives in rural areas. Numerous issues such as a high degree of poverty, low per capita income, lack of livelihood opportunities, poor infrastructure, low literacy, poor healthcare facilities, nominal of inter and intra-community communication have characterized developmental challenges in rural India. Viewing the enabling role of mobile phone as a contemporary potent tool to breakdown the rural–urban developmental gap by providing information on a variety of economic and social issues, it is worthy enough to take mobile phone as an instrument for development. Mobile phone has enabled and eased to obtain need-based user-centric information and services at an affordable cost (Aker and Mbiti 2010). Income losses owing to asymmetric access to information, costly communication for access to relevant information pose to be barriers of socioeconomic development. Particularly those small producers, fishermen or farmers, when unable to secure price information from various markets to sell their products, mobile phone emerges to be a solution.

ICT is often promoted as a solution to a range of social ills in developing countries. The potentialities of mobile phone to address numerous issues and establish an improved society by empowering and emancipating the one at the margin can't be ignored. Governments and international agencies spend huge amounts of money on projects aimed at promoting the use of mobile phone as the latest information and communication technology (ICT) in developing countries (World Bank Report,2000). The immediate aim of such investment is typically economic growth which is meant to produce employment, create welfare, and improve the lot of all members of society.

The usages of technology tend to have positive results which are conducive to individual or collective emancipation. In many poor countries of South Asia and Africa, the market or commercial approach to ICT promotion has excluded the poor who cannot afford to pay for services. Free access to the services will be the pre-condition to the popularity of the services among the poor villagers. In recent years many non-commercial community-based initiatives supported through external funding (i.e., NGOs, international development centers, or bilateral donors) have flourished throughout Africa and South Asia with the purpose of extending ICT access to the poor. In many instances, external funds from USAID and other donor agencies have supported government, non-government and private organizations in working with the poor such as enterprise development institutions, educational establishments, clinics and health centers, agricultural extension services, etc.

There is a direct correlation between increase in tele-density and growth of GDP. Universally, most of the states or local governments miserably missed the reported observation by World Bank that 10 percent increase in tele-density would lead to 1.4 percent increase in GDP. Nevertheless, tele-density of the North East region, particularly of Assam is still much lower than the national average. State-wise average penetration rates of mobile phone in Assam is 13.67 percent out of which rural mobile phone tele-density counts for 3.85 percent as oppose to 72.46 percent of

urban mobile phone tele-density (Singh S. 2010). According to Department for Development of the North Eastern Region (DONER) estimate, the overall tele-density in Assam is only 10.65 percent compared to the national average of 20 percent. This indicates the existed huge disparities in the country in terms of uneven distribution of telecommunication access.

Cellular phone services were introduced in the North East after a delay of eight years (TRAI, 2013). Most of the service providers also face problems in getting permissions to lay cables and getting land for installing base trans-receiver stations. Electricity supply and its quality, the condition of the roads that hampers transportation of materials are some of the major problems in cellular expansion in rural Assam. Frequent bandhs and road blockades also lead to time overrun and cost escalation.

In the seventh special North Eastern Council summit on IT and Telecom in 2007 , it was insisted on to work towards a 'One India Plan for Bandwidth' in order to lessen the suffering of North-East States in the face of higher cost of bandwidth in the region compared to other regions of the country. It was decided that both North East Council and Power Grid Corporation of India would work in co-action for funding and for laying down the over ground network cables by using network of electric towers and poles respectively. This decision was taken to address the problem of laying underground optical fibers in hilly terrain. (TRAI, 2013).

'North Eastern Region Vision 2020' lays special emphasis on advancing of telecom facilities in the region of North East in line with the economic growth agenda for the region. Although various endeavors have been taken from time to time in order to improve telecom connectivity and tele-density in the region, the results have not been very promising so far.

Indian Government Approach to Telecommunication and ICT Development

Telecommunications was not perceived as prioritized sector for investment by the Government during the immediate post-independence formative years of the Indian economy. Telecommunication was not considered as one of the key infrastructures for rapid economic development as a result of which the quality, quantity and range of services provided by the Government was poor, inadequate and unequal for the users.

The structural shift in Indian economy from the production of merchandise such as agriculture and manufacture to service recognized the role of information for rapid economic and social development of the country. It also recognized the importance of world class telecommunication infrastructure which has already witnessed rapid

changes in the last five years in India. This leads to far reaching developments in Information Technology (IT), consumer electronics and media industries across the globe. Liberalization created the expectation that the participation of private sectors in the Indian telecom industry can provide a fillip to technology up-gradation and help to bridge the gap in adoption of new technology. 'Valetta Action Plan' (VAP)[3],a four-year strategic plan was adopted in 1998 by World Telecommunication Development Conference (WTDC) and it involves International Telecommunications Union (ITU) to accomplish the goals (Pigato, 2001).

The path towards technology-induced development in India with a particular focus on Information and communication technology was introduced in 1984 by the Congress Government under Rajiv Gandhi. After assuming power, Rajiv Gandhi adopted policy on informatization of Indian society as an effective route to development, corresponding a massive programme of computerization of public sectors, administrative departments and the commercial undertakings. By 1985, large public sector undertakings such as railways, banking operations, and schools have been computerized.

After liberalization most of the telecommunication policies were framed in macro level focused on sectorial development of telecommunication in the form of licenses instead of any social induced development by employing telecommunication in various developmental programme. A high-power National Task Force on Information Technology and Software Development was set up in 1998 in order to prepare the blue print for establishing a wide network of empowered taskforce at all governmental and non-governmental levels.

The first report of the Task Force contained information action plan in the form of 108 recommendations including telecommunication policies and procedures, fiscal incentives and financial matters, promotion of IT in schools and rural areas, cyber laws, simplification of labour laws and procedural simplifications and so on. The third report contains the long-term national IT policy (IT Action Plan: Part III) have been taken up with concerned ministries.

The second report submitted by this entity pertaining to development, manufacture and export of IT hardware and set a software export target of US 50 billion by the year 2008 (IT action Plan: Part II). The Task force recommendations brought to the withdrawal of the monopoly of VSNL in Internet gateways, reduced the custom duties on the software and removed restrictions on the location of software.

The shortage of proper power supply and the enormous gap between demand and supply of bandwidth pose to be the barrier to effective communication by information communication technology. The task force recommendations ask for the defense forces to provide connectivity to civilian establishments for enhancing penetration of information and communication technology in remote location of the country.

The Tenth Five-year Plan (Government of India, 2001) identifies telecommunications as a critical part of infrastructure in an emerging knowledge-based economy. The plan strategized the development parameters, directed towards increases in GDP or per capita income and overall human development. To maintain the comparative advantage of telecommunication over other information and communication technology in India, the telecommunication policy of the Government has to prioritize the convergence of data, voice and image transmission, the use of bandwidth and high-speed internet connectivity.

National Informatics Centre (NIC) created online databases (NICNET) at the panchayat level in order to provide updated information available for public. Atal Bihari Vajpayee, then Prime Minister of India declared in the ASSOCHAM (Associated Chambers of Commerce and Industry of India) Summit on "India in a knowledge millennium" that the knowledge-based society will seek urgent solution to the present challenges in Government (Raj, 2000). Knowledge based society aids to build a just, equitable social order free from the culture of secrecy, corruption and hierarchy. The Task Force has recommended the creation of citizen charters and development of a smart card programme (Government of India, 2001).Government of India has been increasingly stressed on the use of Information and communication technology to produce wealth for the nation and to enable development. Further, much importance has been given to harness the opportunities provided by convergence of communication technologies and to facilitate the use of mobile phone and internet to optimize the services of Electronic Governance.

Taking into account the increasing convergence between telecommunication and IT, a Communication Bill was drafted by the Government of India, followed by the Information Technology Act that was notified and brought into force on 17th October 2000. Moreover, under 12th five year plan, "the Information Technology for Masses", a planned scheme of DeitY, the Working Group on information and IT sector has been set up with an ambitious target of establishing at least 100 million internet connections, opening up IT kiosks and cyber cafes for covering entire India.

Government's Measures towards Improving Rural Tele density

Lack of political will, vested interests of bureaucracy, procedural delays in implementation of the recommendations have eroded many expected rural beneficiaries (Bhatia, 1998). However, the telecommunication service expansion is largely limited to urban areas. According to TRAI, 2009, tele density of urban areas stands at 81.38 percent as of December 31, 2008 whereas, rural tele density follows only 12.62 percent. Out of the total mobile phone subscribers in India, the share of rural subscribers was 33.6 percent and the rural mobile tele density was 31.1 percent (TRAI,

2014). The growth and spread of telecom services in the past few years in India has been driven by mobile services. As on 31st January 2011, the number of mobile phone subscribers in India stood at over 771 million and the mobile tele density was 64.7 percent (DoT report, 2011). Limited reach of internet access by rural people and more than 771 million mobile phone subscribers made government think of this unique proposition to develop a mobile digital society and to reach the residents and deliver public services.

Improved village connectivity has been one parameter to attain inclusive economic growth in India. Accordingly, easy and affordable access to telecommunication services in rural India has been the priority for telecom operators. Government of India and service providers have been attempting to realize the priority agenda through partnership and sharing of responsibilities. Since 1970, Government of India has been adopted various policy initiatives with an objective to improve rural tele-density. These policy initiatives includes Creation of Universal Service Obligation Fund (USOF) and Universal Service Levy (USL), programs for Provision of Village Level Connectivity, private sector operators contribution to rural roll out of services, access deficit charges and so on.
In December 2003, Department of Telecommunications, government of India has passed the Universal Service Obligation Fund (USOF) with an aim to provide access to telecommunication services to the people in rural and remote areas at affordable and reasonable prices (DoT report, 2011).

USOF was designed to be implemented initially as two streams, Stream I and II focusing on fixed wireless coverage for both public and private services. Later in 2006, with the amendments in Indian Telegraph Act, the provision of mobile services was included in Stream III in the framework of USOF (TRAI, 2013). Later, streams IV, V and VI were added to cover provision of broadband connectivity to villages in a phased manner, creation of general infrastructure in rural and remote areas for development of telecommunication facilities and induction of new technological developments in the telecom sector in rural and remote areas respectively. Government later made it obligatory for private operators to provide 10 % of their service dispositions in rural areas in view of the fact that private operators are not interested for rural roll out of telecom services.

Under the aegis of the Universal Service Obligation (USO) program, Reliance Communications has commenced the rollout of the “World's Largest and Fastest Rural Infrastructure”. Accordingly, the Reliance Communications has commissioned 8,982 Base Terminal Stations (BTSs), which would provide telecom services in 2,34,000 villages in India that do not have any telecom connectivity at present. USOF subsidy support scheme is also being utilized for sharing wireless infrastructure in rural areas with about 19,000 towers by 2010 (“Mission Rural”, 2007).

National Telecommunication Policy (NTP), 1999, declaration has facilitated renovation of large number of both fixed service operators (FSO) and mobile telecom services (CMTS) licensees to Unified Access Service License

(UASL). However, UASL regime with no explicit rural roll out programs has ensured the increasing participation of the private sectors which served indirectly the obligation for rural roll out of services (TRAI, 2013).

In 2003, TRAI came out with a framework for the imposition of Access Deficit Charges (ADC) to be paid by all operators-public as well as private to fixed service operators in order to spread services across rural areas. This has made the fixed wireless operators to compensate for higher call charges, especially in rural areas. BSNL has been maintained to be the dominant fixed line operator in rural areas and became the major recipient of the payments of ADC. As a result, the relative cost of mobile-to-mobile calls has become cheaper, that leads to sudden spurt in growth of mobile services, since initially Access Deficit Charges was applicable only on calls that is originated, transited and terminated in a fixed network.

Further, TRAI recommended that Bharat Sanchar Nigam Ltd.'s (BSNL) rural obligations should be supported through the USOF through a Universal Service Levy (USL). Nevertheless, telecom reach in rural areas remains far from satisfactory both in terms of access to facilities and in broadband/ internet penetration. However, a review of TRAI 2008 recommendations brings out a discouraging picture of rural roll out of telecom services.

National Telecom Policy (NTP) 2012 recommendation stresses on increasing rural tele-density and improved broadband connectivity in villages in India. The NTP recommendation aims to increase rural tele-density to 70 percent by 2017 and 100 percent by 2020, from the current 40 percent in India. The Government of India through Universal Service Obligation Fund has prioritized North Eastern region of India to provide financial support to 56,000 villages, thus, reduce the gap in connectivity in remote sites. Foreign direct investment has been increased to 100 percent during UPA Government. Alongside this developments, UPA government, then, issued unified licenses during 2010-2011 to operators who won spectrum in the third round of airwaves auction in order to reduce competition among public and private sectors in rolling out services and to achieve parity in pricing. The Telecom Commission earmarked an expenditure of Rs.3,000 crore for rendering connectivity to 56,000 villages those which are distinguished as telecom shadow areas under the Universal Service Obligation Fund (USOF).

Chapter 2

Review of Literature

Ensuing Growth Stats of Telecommunication in Rural India

The government initiatives at different period of time are set in motion, aimed at developing sound telecom infrastructure in the rural areas. The initial objective of Department of Telecommunication (DoT) policy was to provide a village public telephone (VPT) in each of 607,491 villages. The village public telephones (VPT) was introduced in March 31st, 1995 has been increased in numbers from 0.68 per 100 during 1999-2000 to 8.35 in December 2007. The Annual Report 2007-08 of Department of Telecommunications specified that the operation and maintenance of 527,000 VPTs in the country would be borne by USO Fund.

As per Government record, as on March 2009, around 123.51million fixed and WLL connections and 57167 VPTs have been provided in rural areas as on March 2009. Roughly 85% of the villages in India have been covered by the VPTs. More than 3 lakh PCOs are provided base in the rural areas to render community access to telecommunication. Moreover, mobile public call office (PCO) service under Mobile Gramin Sanchar Sewak Scheme (GSS) has been brought out to make telecom service at the doorstep of villagers. There was significant growth in the number of STD/ISD PCOs, increased from 57,119 in March 1994 to 272,989 in March 1999. Many ex-servicemen, unemployed youth and people belonging to economically disadvantaged group of the society receive an employment opportunity to eke out living after getting license to run a PCO, STD or ISD.
Sanchar Dhabas (Internet Kiosks) were also set up in 3500 block headquarters out of the total 6337 blocks across the country to provide internet services. The structure and composition of telecom growth has also undergone a qualitative change with the share of wireless phones going up to 85.6 percent in December 2007 as compared to its share of 14.9 percent in March 2002. The USOF subsidy support scheme is also being employed for sharing wireless infrastructure in rural areas with around 19,000 towers by 2010 (DoT, 2012).

In April 2013, India ended with 867.02 million mobile connections, which included 345.85 million rural connections that comprises 40.59 percent rural tele density as per TRAI monthly estimate report. GSM mobile operators added 16.6 lakh new rural subscribers to take the overall base in such areas to 27.43 crore. Vodafone increased its rural subscriber base to 8.39 crore at the end of October, 2013 after adding maximum of 7.7 lakh new users. Bharti Airtel, which has maximum rural subscribers, added 6 lakh new users during the month and its base stood at 8.74 crore. Idea Cellular added 3.7 lakh to its registered base of 6.95 crore and Aircel added 60,000 new users to its subscriber base of 2.33 crore by the year 2013. Uninor, however, lost 1.4 lakh rural subscribers during the month, which led its base shrinking to 1.01 crore at the end of October, 2013. The total rural subscribers as on

September 2013 is recorded to be 35.66 crore that includes 35.03 crore of wireless and 63.1 lakh of wireline users. The total rural teledensity stood at 41.70 percent as on September 2013. The total rural subscribers as on September 2013 stood at 35.66 crore of which 35.03 crore are wireless and 63.1 lakh are wireline users (COAI report ,2013).

Current Government initiative towards Telecommunication for Rural Development

India's debt-ridden telecom industry has been battling with regulatory uncertainty for over a year. Of late, Department of Information Technology has stressed on building a supportive ecosystem for the growth of electronics and telecommunications manufacturing activities in the country. In the inaugural session of annual India Telecom summit, Prime Minister Manmohan Singh articulated the startling estimation of India's import of electronic products which will worth about $300 billion by 2020, which will be more than the value of oil imports (TRAI,2011).

Government formulated preferential Market Access policy to improve domestic sourcing and to develop local manufacturing ecosystem. The policy put a mandate on government departments to procure equipment locally.
UPA Government has launched a Mobile Seva initiative in 2013 to enable all state and central government departments and agencies to offer their services closer home to all the citizens through mobile based delivery channels. As on date, around 833 departments of Central and State Government are reportedly using Mobile Seva to utilize the benefit of optimized SMS services for interdepartmental co-ordination, and more than 55.25 crore SMS notifications including various services have been sent to citizens. Mobile Seva enables the integration of the mobile platform with the common e Governance infrastructure consisting of State Data Centers (SDCs), State Wide Area Networks (SWANs), State and National Service Delivery Gateways (SSDGs/NSDG). Mobile Seva enables a government department to integrate both web and mobile based services seamlessly and enable citizens to directly interact with Government Departments through SMS (DoT, 2006).

DeitY, Department of Electronics and Information Technology developed Mobile Applications Store (m-App Store) as part of Mobile Seva and currently hosts over 240 live mobile applications, which can be downloaded and installed free of cost on a mobile phone by any person. About 254 public services are made available through SMS on 166 and 9223166166 via mobile apps.

Government has rationalized taxes on mobile phones and considers mobile phones and tablets as goods of special importance under Central Sales Tax (CST) Act of 1956. This leads to reduce cost of the gadgets by 7-8 percent and restrain state governments to levy tax on the goods or products of special importance to 5 % in place of 12.5 %

under CST Act, 1956. Selected states of India including Maharashtra, Gujarat, Tamil Nadu, Chattisgarh, Madhya Pradesh are recommended to practice this rule (Ministry of Finance, 2013).

The telecom Secretary MF Farooqui stated that only 2G airwaves in 1800 MHz , 900 MHz, and 45MHz bands units in respective states of Delhi, Mumbai and Kolkata will be available for auction. However, government was indecisive about auctioning of the 2300 MHz band to carry high speed data to support 3G services.

The UPA Prime Minister Monmohan Singh stressed on the need to bridge the rural-urban divide in the area of electronics and telecommunications during 2013-14. Accordingly, a program to provide financial aid from the Universal Service Obligation Fund would offer mobile communication services in as many as 56,000 uncovered villages of the country.

In Phagi village in Rajasthan, as per the decision of the Ministry of Communication and Information Technology, about 1,000 below the poverty line (BPL) households have been received free cell phone and free BSNL sponsored mobile connection as a part of a corporate social responsibility initiative ("Mobile phones to", 2014).
DoT has opted for distributing handset on a conditional basis when at least one member of every rural household complete 100 days of work under the MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) in 2012 is to be provided with a mobile phone("Net-enabled mobile", 2013).The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme proposes to provide net-enabled mobile phones to 2.5 crore people with a recharge of Rs.30 per month to be provided for free for two years. This will entitle the users 30 Mbps net or data usage, 30 minutes of talk time, and 30 SMSs per month.

The Government introduced another scheme in 2013 called Har Haath Mein Mobile (a mobile in every hand) ushered in Bharat mobile scheme to cover six million families living below the poverty line with a mobile phone worth Rs. 200 with local talk time. In all probability, 50 percent of the expenditure would be borne by the bidder to provide the service and the rest from the USO fund (Lakshmi, 2013). Although most of the Government scheme on to freebies such as laptops and television sets is periodical in nature which come to exist during election with the pursuit of increasing vote arithmetic of the political party, unconnected beneficiaries get access to the welfare programmes of the government. The Government of India's decision to distribute millions of phones to the poor under the Bharat Mobile Scheme for free has created favorable market for local indigenous cell phone manufacturer to promote "Made in India" products as well as entice some of the players to set up manufacturing units in India. Telecom merchants with their manufacturing units in India are also eligible to participate in the bidding process for the Indian government's plan to distribute free mobile phones.

Department of Telecom has emphasized on to yield many new Indian brands and to get legitimized among increasingly vast mobile phone user base. Currently Nokia & Samsung have manufacturing units in India and many cell phone brands are imported. In 2013, two domestic handset firms Karbonn and Lava International launched their smartphones, while another domestic company, Maxx Mobiles introduced low-cost feature phone targeted at the rural market. Maxx Mobiles GPRS enabled feature phone with utility function comprising a dual SIM slot, expandable memory up to 16 GB, camera, and a LED torch is priced at Rs. 1,932, which is specifically targeted for the rural customers ("Maxx Mobile", 2013). New Delhi has decided the disbursal flow of Rs. 10,000-crore fund to promote local telecom manufacturing, of which a whopping Rs. 9,000 crores will be channeled to Indian telecom product companies (TRAI, 2011).

The Government of India proposes another mega scheme to woo the poor in order to bridge the digital divide in the country. According to the scheme, Centre would spend Rs. 7,860 crores to distribute 2.5 crore mobile phones and 90 lakh tablets free of cost to targeted beneficiaries over the next four years starting 2014-15. Bharat Sanchar Nigam Ltd has implemented the programme on behalf of the Government. The administrative and distribution charges for each mobile phone that worth Rs. 320 with talk time for 75 minutes, a package of 75 SMSs and 500 MB data usage per month. Tablet beneficiary will get device and data connectivity for a maximum period of 2 years for Rs. 900.

Another scheme which disbursed the amount of Rs. 4,850 crores under Universal Service Obligation Fund (USOF) propose to benefit women member of the family. Universal Service Obligation Fund reinforces the obligation of government to make the access to telecommunication services universal to people in rural and remote areas at affordable and reasonable prices. Thus, in the first initial year, twenty-five lakh people will be provided with the handsets, while another 50 lakhs more beneficiaries will be added in the next year. According to the proposal, the scheme would enable people of rural areas to access information related to education, healthcare, agriculture, financial services, employment and other occupational queries. The operators will take responsibility to provide the connectivity, the devices with accessories, as well as warranty for three years.

The customized embedded opening screens of the mobile phones will give details of the scheme and the allocated number will act as a level of authentication to provide access to health records, land records and payment transfers. India has 260 million unique mobile users across its cities and villages. The total number of handsets counted in 2012 was just 221.6 million units. The numbers of unique mobile users in villages are found to be nearly 104 million that indicates 40% mobile penetration in rural India. Out of 38 million Internet users in rural India, only 12% could access the Internet on their mobile phones as of June 2012 (IAMAI, 2013).

Telecommunication in North Eastern Region

As per the current licensing scheme, the states of North East Regions are distributed in three Telecom Licensed Service Areas (LSAs). The North East Telecom Licensed Service Area includes six states of North East excluding Assam. The State of Assam comes in Assam LSA. The slow and constricted telecom services in the NER as compared to other states of India made the Department of Telecommunication to raise concerns. Of the total 45,214 villages of NER, 9190 inhabited villages do not have even basic voice coverage (TRAI, 2014).

The low tele-density and the pitiable existing Quality of Services (QoS) as rendered by Telecom Service Providers (TSPs) has characterized the North Eastern States. The challenges that the North East Region have been suffering count in poor quality of existing transmission bandwidth at the State Capital and District Head Quarters. Until the year 2012, existing infrastructure in the region could not even support the basic 2G mobile coverage. Telecom Regulatory Authority of India have put forth in its recommendations for a comprehensive Telecom Plan after analyzing various gaps regarding the telecom connectivity and poor quality of services in the North east Region. Accordingly, NER is prioritized for 'state-of-the-art' connectivity for data and the existing infrastructure under the TRAI Act of section 11.

Broadband for all in North East

In order to achieve the pursuit of 'broadband for all', Bharat Broadband Network Limited (BBNL) has implemented National Optical Fibre Network (NOFN) as a gateway to rural development. BBNL unlike BSNL has partnered with private sectors for providing other services in the remote places on a viable business model. BSNL, PGCIL and RailTel, have significant contribution in laying down OFC network across India. Bharat Broadband Nigam limited (BBNL) has emphasized on incentives around useful and priority services via NOFN infrastructure and not to make this high-capacity access network bandwidth free for citizens. Presently, BBNL implemented two projects- one of which is connecting District Head Quarters (DHQs) to Block Head Quarters (BHQs) as funded by Universal Service Obligation Fund and another for connecting BHQs to Gram Panchayats (TRAI,2013). Pilots to install OFC based connectivity have already been executed in three states- Ajmer (Arian Block covering 30 Village Panchayats), Vishakhapatnam (Paravada Block covering 17 Village Panchayats) North Tripura (covering 17 Village Panchayats under Panisagar Block).Companies like Reliance, Airtel have made significant amount of investment establishing access network in Assam and other NER complementing the NOFN infrastructure and designed commercially viable models to offer citizen services.

Project Initiative for USOF in North East Region

Universal Service Obligation Fund has prioritized the development of common infrastructure to make telecom facilities accessible in rural and remote areas of North East Region. As part of this venture, USOF addressed the gap between Block Head Quarters & District Head Quarters regarding fast connectivity through Optical Fibre Cable. An agreement was signed with BSNL on 12th February, 2010 (based on open tender) in order to augment, create and management of intra-District SDHQ-DHQ OFC network for carrying rural and remote area traffic on bandwidth sharing basis in the Assam LSA This OFC Scheme has been undertaken on a Build, Operate & Own (BOO) basis**.** Accordingly, BSNL has to center on building, operating, owning and managing OFC network and other infrastructure across intra-district. Telecom Service Providers in the Assam LSA will be sharing 70 percent of the subsidized bandwidth at a rate of 26.22 percent of the current ceiling tariffs as approved by TRAI. Another agreement has been signed with Railtel in January 2012 for expansion, construction and running intra-district SDHQ to DHQ OFC network for Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura (TRAI, 2013).

Status of Telecommunication in Assam

As of now, the state of Assam comprises 27 Districts, 53 sub-divisions, 219 Community Development Blocks and 2202 Gram Panchayats. The total population of Assam, as per 2001 Census is 2,53,55,528, of which rural population accounts for 2,19,76,940 (86.68%) and urban population records 33,78,588 (13.32%). Assam has total number of 26312 villages as per 2001-Census, of which 25124 are inhabited and remaining 1188 are un-inhabited. The average household size varies from 5 to 6 members per household. However, in Assam, there are 8931 villages without a Village Public Telephone (VPT). Northeastern summit on IT and telecom in 2007 suggested that 8652 villages should be provided VPTs on wireline/ fixed wireless terminals while 279 villages which are remotely located and cannot be provided telephone on conventional technologies shall be provided VPTs using Digital Satellite Phone Terminals (DSPTs). 3185 villages have been provided VPTs as on 31.03.2006 and the remaining villages will be provided with VPTs by November, 2007. [8] Nevertheless, tele-density of the North East region, particularly of Assam is still much lower than the national average.

Although India is by far the largest South Asian country in terms of population and economy there are huge disparities existing in the country in terms of uneven distribution of telecommunication access. Many less developed states in India have state-wise average penetration rates of mobile phone below 20 per cent, including Bihar (12.13%) Assam (13.67%), Andaman & Nicobar Islands (17.94%), Uttar Pradesh (15.58%), West Bengal (13.78%) Orissa (14.28%), Madhya Pradesh (19.54%), Uttranchal (10.37%) Jharkhand (3.49%) and Chhattisgarh (4.18%).

Assam is having total tele-density of 13.67% out of which rural tele-density counts for 3.85% as oppose to 72.46% of urban tele-density (Singh S. 2010). According to Department for Development of the North Eastern Region (DONER), the tele-density in Assam is only 10.65 percent compared to the national average of 20 percent.

The telecom network in rural areas expanded during Tenth Plan (2002-07). The number of phones in rural areas increased from 9.01 million in March 2002 to 494.06 million by August 2009. The rural tele density increased from 1.21% in March 2002 to 17.12% in August 2009. The all-India rural tele-density is much less as compared to urban tele-density of 98.70% in August 2009. The corresponding Assam tele-density figures are about 14.9% (rural) and 75% (urban). There is a need to address this issue to build up strong telecom connectivity in rural/ remote areas because access to voice and data services will play a crucial role in the overall development and growth of the rural areas. [8] The Assam Telecom circle was formed in January 1987 after bifurcation of the erstwhile North-Eastern Circle. Telecommunication facilities in the state have been growing steadily in recent years. The Headquarters of the circle is located at Guwahati. As on 31st March 2003, the number of telephone exchanges in the State stand at 567, of which 153 are located in urban areas and 414 in rural areas. The telephone density in the State is measured in relation to telephone coverage per 100 population which stands 1.84% in Assam as against 3.8 % at all India level. There were nearly 4.79 lakh telephone connections working in the State till the end of March, 2003. The total revenue realized during the year 2002-2003 was Rs 274.44 crores (Economic survey, Assam 2003).

The above statistics of the density of telephone in Assam shows the rate of growth of number of people having telephones at home. With such rate of growth and various schemes and policies of the government especially for the north east region has made communication more feasible in the state.

Wireless Tele Density of the State

As on May 2013, there are 14.38 million wireless subscribers in Assam and wireless tele-density of the State notches 88.28%. Of the 27 DHQs, 20 are connected by OFC ring, whereas 6 DHQs are on linear OFC. All these DHQs are connected by digital microwave link. Digital Wavelength Division Multiplexing (DWDM) and Synchronous Digital Hierarchy (SDH) transmission systems are used to connect Guwahati to Kolkata, Siliguri, Coochbehar and Alipurduar . All the DHQs and towns in Assam are covered by 2G mobile network. Out of total 25496 villages in Assam, 22611 villages are covered by 2G mobile. Still 2885 villages do not have mobile coverage to date. Even the USOF funded project that aims to connect DHQs to Block HQs has also suffered in Karbi Anglong and Dima Hasao Districts. About 40% of the BTSs was proposed for Karbi Anglong and Dima Hasao district. Installation of new BTSs, as proposed, was a challenge in these districts.

The roll-out of 3G services in Assam is largely limited to DHQs. High reserve price for spectrum have made the operations of Tata Teleservices unviable in the circle of Assam, J&K and North East. Bharti Airtel has launched its 3G services in Assam telecom circle in 2012-13 which claim to have fast mobile internet access, video streaming, video calling, Mobile TV, social networking on-the-go and high-definition game using Airtel 3G services. Trailers of various Assamese movies on the mobile phones are offered at high speed. The charges of 3G local, STD and Roaming Video Call has reduced to 5 paisa per second as offered by Airtel. Airtel has also launched 'internet usage calculator' to find the current internet data usage. ", said Mr. George Mathen, COO – Assam and North East, Mobile Services, Airtel [10].

In Assam, Aircel, Airtel (Bharti Hexacom) BSNL and Reliance Telecom Ltd. (RTL), have launched 3G spectrum. Reliance Communications has already launched the Reliance 3G Services in **Assam** and **North East** Telecom circles. In the first phase, Reliance launched commercial 3G Mobile, High Speed Wireless Broadband services with speed up to 28 Mbps and Live Mobile TV service in Guwahati, Jorhat **(Assam)** and Shillong **(North East)**. Apart from only **3G Data Plans**, Reliance also launched some 3G service **Combo plans** with bundled tariff that include Voice, Data and SMS, starting from Rs.199 in Assam and Shilling [11]. Reliance Jio Infocomm Ltd (RJIL), has started rolling out 4G networks services in two telecom services of Assam and Northeast region in 2013. Around 800 mobile towers have been installed across the state of Assam. The work of laying optical fiber network (OFC) has started across the region[12]. The developmental goal of rolling out 3G and 4G services will be realized in the creation of job opportunities for the users of the region.

Challenges in Rolling Out Telecom Services in NER States

USOF supported the installation of many BTS sites in the states of the north eastern region for a period of 5 years till 2013. Some Telecom Service Providers anticipated the non-viability in continuing and maintaining the sites without the support of USOF. Precarious and perennial power cut, circumscribed provision of electricity supply which is available only for 14 hours a day, and of consecutive flow of Diesel Generators (DGs) as restricted by time (between 6 pm to 6 am), high captive charges are levied for running DGs, have exacerbated difficulties in telecom installations by Telecom Service Providers in NER States. Inadequate sunlight and deterred climatic conditions have made the use of solar power ineffective for running a Base Transmission Station in NER. Insurgency made free movement of people restricted in some North East States especially during night hours. Numerous uprisings for separate states followed by economic blockades have created delay in operations and maintenance essential for telecom services.

Lack of proper road connectivity is a problem for most NER States in remote hilly locations. This has resulted impediments in installing, well-functioning and maintaining of telecom infrastructure in NER. Hilly landscape of the Most NER States is incompatible for the installation of Base Trans-Receiver Station (BTS) for wireless coverage. In fact, laying of Optical Fiber Cable (OFC) is not physically and economically viable across the hilly terrain of North east. As a fact of the matter, limited number of OFC Points of Presence (POP) in the NER States which has resulted pertinent bandwidth problem and slow data transmission. Road widening work and frequent landslides lead to fiber cuts, thus, a continued disruption to services. Regular cut of underground OFC is more prominent in rural area is un-coordination in road construction in terms of digging and repairing as a part of activities under Government sponsored employment security scheme such as Mahatma Gandhi National Rural Employment Guarantee (MGNREGS) and Pradhan Mantri Gram Sadak Yojana (PMGSY). Under NOFN project in 2013, several lakhs route-km of OFC are announced to be laid under in rural Assam. However, lack of a strong mandate and the absence of harmonization in the activities of local authorities-Rural Panchayat body and multiple entities such as rural electricity, PWD, Gas, Water, and of NOFN implementation partners have already resulted significant waste of financial resource. There are many telecom service providers who are looking for basking out the lucrative market for telecom in north east region. Local authorities in rural Assam are being reported to charge huge amount for making Right of Way (ROW) permission in laying optical fibers. Moreover, government in many states have not ensured a single-window clearance system to facilitate telecom service providers in setting up of telecom infrastructure. In many rural areas, local authorities are reportedly unsupportive to accommodate any new technological innovation.

Permissions regarding erection of telecom tower for installing of BTS by Local authorities or village headman is routinely delayed as well as denied. After the earthquake in 2011, erection of Roof Top Towers (RTT) is banned in a few states due to which building of Ground Based Tower (GBT) remains to be the available option. However, land acquisition for raising a Ground Based Tower is not free from hitches because of unclear land titles and commercial land usage clauses. Although VSAT has been another viable alternative for north east region is the however, the approvals for VSAT connectivity takes time and the charges for bandwidth connectivity under VSAT option is high to afford for villagers particularly.

Changing Family Trends and Composition in India

According to the statistics of Ministry of Home Affairs, Social Studies Division, 1991, the total population of India is 846 million and they are lived in 152 million households. Households in India are grouped into rural and urban

categories where numbers of rural households' count for 112 million and 40 million are recorded as urban households. 43% of the all-rural based families live below the poverty line and almost half of the urban poor families live in slums (Gulati, 1995). According to Census of India, 1981, Indian families constitute largely of nuclear families with joint families forming about a fifth of the total households (Census of India, 1981). Around 46 % households are found as belong to nuclear type while 27 % households are found as belong to joint type as per census survey of 1992-93. In the preponderance of joint family system, the female-headed household was quite an uncommon phenomenon, however, about 10 percent of all the households are reportedly headed by women (National Family Health Survey, 1994). The phenomenon of female-headed household represents change in authority structure within the family characterized by the absence of husbands either by separation or death, by transfer in job and by swelling migration of men for employment (Mullatti, 1992).

An alternative pattern in the Indian family system has been noticed over the last fifteen years as families of single parent, families headed by female, families of dual earners and childless families have been conspicuous (Skolnick & Skolnick 1980).
The changes existing demographic characteristics and socio-economic-political-cultural milieu of the society have influenced the structural changes in family. As a result, the family members, their roles and relationships along with accompanying values have been re-configured.

In Sonitpur District, patriarchal authority is found to vary among families, with the existence of both 'traditional' patriarchal patterns and modified patriarchal forms of authority as influenced by male's education, occupation and income. As compared to 1981 census, the pattern of change in different family types in urban areas is almost the same as in the rural areas in 1992-93. As compared to urban areas, the number of single member households in rural areas are less proportionate to urban areas. Migration to urban places in search of job, settlement for job has made it obvious to have a single stay for quite a longer time.

Chapter 3:
Methodology

Three different methodologies have been employed in this project: survey method, focus group discussion and personal interview. The study employed questionnaire-based survey to collect data on the meaningful use of mobile phone technology by women and their household participation. A 'Structured questionnaire', is administered as a primary instrument for data collection to elicit information on demographic and psychographic aspects of the household respondents. The surveys became more meaningful when interpreted in light of critical qualitative information. Another set of methods, predominantly qualitative in nature based on unobtrusive and nonparticipant observation as well as archival materials is used. Through executing participant observation, the study has made comparative evaluation of several clusters/ groups of people. The use of the combination of qualitative (participant observation) and quantitative (survey method) approach helped to confidently interpret data from a theoretical perspective. Eight interviews were carried out including NGO personnel, representative of Government officials & public operators, representative of Private Fixed Operators, Industry Associations, Village representatives, women participants of SHG, individual women of a few households. A face-to-face interview method involves the choice of researcher (Miller 1990), when the interviewer can proceed in a semi-structured manner by raising desired topics for discussion. In execution of semi-structured interview, the themes to be discussed with interviewee are known beforehand and all the themes relevant to the study are discussed. The informal interview situation includes open-ended questions asked on certain topics with incorporation of additional subjects. Data are obtained through very informal conversations with members of SHGs. This study investigated the experiences of the Women members of SHGs with respect to their business, lifestyle and family participation.

Objectives of the Study

- To assess the gender-specific uses patterns and perceptions of mobile phone among households.
- To examine the gender gap in the acceptance and use of mobile phone and mobile enabled services.
- To examine various obstacles to use mobile phone that are faced by women.
- To discuss the role of existing CBOs in creating an enabling environment to empower women.

Research Questions

1. What is the nature and extent of the use of technologies facilitated by accessible village amenities? Under what circumstances does meaningful use/engagement arise?

2. What are the different types of effective access to information and communication technologies do individual have at home, work and community settings?

3. What are the short-term and longer-term effects of the use of technology?

4. How does the use of mobile phone technology increase the contribution of women residents of a household to the community?

5. What are the constraints faced by households in accessing information?

6. What are the explicit information requirements of a household and women populations considering gender differences and social patterns?

7. What are the strategic livelihood constraints in the select areas?

8. How do mobile phones help to enhance life skills like education, health and credit information for the rural populace?

Population of the Survey

The sample of survey respondents during first phase comprise mainly of households of select villages of Sonitpur District. From 14 developmental blocks in Sonitpur District, 14 Gaon Panchayats from each block are chosen. One village from each Gaon Panchayats and forty households from each village are chosen for the survey. Overall sample size from development block are 560 households. One ward specific survey is conducted. Two wards are chosen from Tezpur and Dhekiajuli Municipal Boards. Chosen population for 'ward' survey are **80 households**. Therefore, overall samples are **640 households**. There are six focus group discussion carried out in select villages on convenient basis involving women members of households, members of Gaon panchayat including Gaon-burha and village people. Case specific personal interview is carried out in the villages on the basis of deliberative sampling with Gaon-burha, Block development officers, technology experts and village people. Interview with the owners of Arunodoy Kendras was also held during the field visit. The executive head of BSNL and Reliance Assam are interviewed. In addition, discussions were held with various stakeholders such as mobile phone service providers, local vendors and so on. The secondary data were collected mostly from government departments, books, journals, newspapers etc.

Chapter 4:

Data Interpretation and Analysis

The study is though cross sectional, yet focus on the women population of the villages, more specifically the woman of the households. There is a considerable variation in the attitude among the respondents of village households towards the use of mobile phone. The study examines the pragmatic and affective attitude of women in their uses of mobile phone. Three segments of users were delineated on the basis of the use of functional characteristic, intensity characteristic, and image characteristic of mobile phone.

Pragmatic users are functional users who consider the utility of the device rather than fun and enjoyment while using. Pragmatic users are practical enough not to concern about design and appearance of the mobile phone they possess. Affective users care a lot about the look of the mobile phone and other people's judgments towards the mobile phone. The third category of users have weaker attitude towards mobile phone that don't enjoy the uses.

Mobile phones enable the adult members of households to draw complex interactions and coordination between different portfolio of income sources and geographically distant productive activities, thus, allow rural households to engage in many activities simultaneously which can further be translated into their improved income earning and cost savings. Cell phone helps to reduce travel time and monetary costs; decrease physical risks; and accomplish any task related journey. Mobile phone amplifies efficiency in activities by increasing temporal accessibility, enable prompt communication in any business-related activities and allow people to manage several activities regardless of their physical location.

Almost half (49 percent) of women positively assured that mobile phone usage has improved coordination of rituals, festivals such as marriage, funerals, religious activities and other social functions. Coordination of social events is mostly achieved through sending short messages to multiple recipients. Use of mobile phone reduces time and monetary costs associated with the coordination of social activities. Mobile communication is used to enrich the social capital in the common, shared and collective cultural ambience of the village societies.

Another important use of mobile phone is getting support during emergencies. Since there is a lack of necessary social services in many rural areas, mobile phones can be used to seek for help during urgent situations. The phones were also used to consult distant veterinarians in case of livestock problems. In the surveyed villages, participants of households reported that incidents of maternal mortality have dropped compared to previous years after the use of cell phone which facilitates speedy and instantaneous communication to hospitals. There are many households use mobile phones to report crime to police and warn other villagers and co-ordinate meetings to find out a solution to any community problem.

Mobile phones have reduced the cost of accessing information, between potential employers and employees. Small producers gained access to market prices in different locations. Phones have enabled rural people to access knowledge about crop and livestock rearing. In the fields of education and health, mobile phones have increased access to information in villages. Cheapening access to information and knowledge, thus contributes in enhancing capabilities and enables cost reduction and increase production.

Transaction costs have been reduced, with default information search feature which is used by literate users. The phone also enables small producers to reduce their transportation and wastage costs by making deliveries more in line with the demands of consumers. Reduced transportation and transaction costs, and denser interactions between buyers and sellers in the market be in the product market or the labour market, have resulted benefits accruing to access to better information and knowledge.

General uses of mobile phone in Household:

The composition of the surveyed households varies across the villages, however, households in Sonitpur District is largely traditional, extended but less joint and conjugal. There are single-parent families, isolated from kin and 'female households', where mother is the only breadwinner with a little support from friends and relatives. Households can expect likely support from the community members based on their relationship with neighborhood and village community. The allocation of time in mobile phone in correspond to time spent in households and market (working/ labour force) reveals that working mothers in this sample households spent an average of 68.46 hours per week (51.56 hours in home, child maintenance/ kinship maintenance, 16.9 hours in the market), while men spent on mobile phone an average of 52.85 hours (3.44 hours in the home, 49.41 hours in the market). In households with a child aged three or younger, average time women give to child care per week would be 64.4 hours in comparison to her husband.

With the possession of a converged mobile phone, household production and child care tend to be performed in the absence of direct supervision as the presence of mother for a child can be substituted by the time given to mobile phone in co-coordinating, monitoring and caregiving activities. The mother possessing a mobile phone can probably set her own work-pace and time devoted to child care may be considered pleasurable enough to serve as a fair substitute for leisure time.

Use of Mobile phone technology has transformed the traditional notion of parental authority as mediated through face-to-face negotiation. Parents exert certain degree of mediated control over children in public space by giving

permission to use mobile phone. Phone oriented technology such as location tracking, texting, and phoning help parents to keep track of their children. This has established the practice of 'remote mothering' as cited by Geser (2004) in his study.

Mobile phone allows parents the space and freedom to do their job , simultaneously performing the duty of child rearing by keeping their children in instant notice (Davie et al., 2004).

Mobile phone ownership provides improved access to health, education, business and employment prospects for households once members of households are being connected. Women surveyed across low and middle-income households in Sonitpur District believe that a mobile phone helps them to connect with others in their needs and to lead a more secure, and productive life. Women business owners in particular perceive the phone as an essential productivity tool which has supported them to unlock economic opportunities, with more than half saying they have used a mobile phone to earn additional income. 85% of women state that they have started feeling more independent by owning a mobile phone, however, the amount of time they spent in household has not reduced.

Functional use of mobile phone

Household occupations, level of spending on mobile phone:

Household income per month is the indicator of economic prosperity of the household. The survey findings bring out that total income of some households rest in 15000-20000 from the primary sector. However, income from the secondary sources adds another 6000 in the household and the contributor of this amount is mostly the women and young folk in the household. Survey findings on the ratio of income earned from primary and secondary occupation bring out that 40 percent of total households are found in 20:80 category where 20 percent of total households fall in 40: 60 categories while 60 percent households fall in 50:50 category.

The financial status of household is represented in the monthly expenditure on various basic needs and on communication services that further show a significant and interesting difference between rural and urban or semi-urban regions. The rural household users have only one third of the purchasing power compared to two other groups. However, both rural and urban households spend almost the same amount of money on mobile phone.

The level of spending on mobile phone suggests that many households give huge worth to a mobile phone. Women members of those households fall in the income bracket of Rs.1500 to 3000 are relatively hesitant to keep a mobile phone in their custody are of late found to be motivated to purchase and to own a phone to primarily stay connected with friends and family members. These women spend almost 10% of their monthly household income on average

on the mobile phone services which has embraced the return of enhancing relational capability, autonomy, thus increase participation in household decision and maintain the function of shaping altruism in household. Survey findings show that rural women who are working outside home, in farms and other enterprises have considered mobile phones as a tool to improve their standard of living. Nearly all working women in household own a mobile phone. After owning a mobile phone rural women can easily find a part time employment or engagement for them to stand on their feet or to generate additional income for household. Farmer's households are found using mobile phones to improve farming practices and maximize the sale of their goods.

Gender Divide in Mobile phone adoption

Household members are found to use cell phone for the purposes such as formal and official information searching, research, and reading news. Use of mobile internet for information seeking purpose, of late, has been popular in rural Sonitpur district. These users members of households mostly belong to the age bracket of 18 to 40 years and use smart phone converged with internet technology for email and chatting with friends, colleague and relatives.

Almost all women respondents of the surveyed households (100 percent) are found capable of individually handling the very basic functions of making and receiving calls in mobile phone. The majority of women do not satisfy the degree of SMS literacy. 56 percent of the surveyed women view text messages out of which only 43 percent women are able to send text messages. Many of those SMS illiterate women are literate and have sound knowledge in English. Majority of housewives among the womenfolk of surveyed households are apprehensive about sending SMS on account of possible mistakes and subsequent fear of putting themselves into uneasy and embarrassed position at the receiver's end. 17 percent women with primary education can send text messages. 28 percent women with primary education can only view but can't send a text message. 31 percent of women with education up to secondary level can view text messages while 14 percent women with secondary education can send a text message. 3 percent of total women with higher education can view but can't send text messages while six percent of total surveyed women with higher education can send text messages (Figure 6.4).

On the other hand, women are found to avoid using complex functions of mobile phones. Women above 35 years of age with primary education have relatively less score on mobile phone literacy, while women at or below 35 years of age with secondary education or above score relatively high on mobile phone literacy. Only 6 percent women can access internet through mobile phone (Figure 7.1). 50 percent of women are aware of mobile internet but they have not tried to use internet through mobile phone (Figure 7.2). Moreover, it was interesting to note that those women who lived in extended joint family (nearly 60 percent lived in extended joint family) scored relatively high on mobile phone literacy. This can be attributed to regular support in close interaction to the wider circle of a

joint family compared to those who live in nuclear family. Regarding the specific telecommunication needs, 46 percent of total women surveyed in Sonitpur District prefer to have a best priced handset; 20 percent women consider good connectivity as the first preference; 14 percent women consider full talk time on all recharge as the most preferred requirement. Other telecommunication needs such as free SMS (7 percent), lower call rate for those women who participate in community groups (6 percent), Free SIM (1 percent), VAS offer (3 percent) do not count much as compared to subsidized handset and good connectivity.

50 percent of surveyed women do not possess a high-end mobile phone, smartphone with all essential features, while only 10 percent women have owned smart phone.10 percent of surveyed men are found to own smartphone or a phone with technologically enhanced features (See figure 7.5). Only 4 percent of men with a high end mobile phone have known to and used GPS to get the detail of route and distance. Women are found to have curiosity to know about GPS and other advance features. However, majority of women require support and assistance from others to operate application of mobile phone (See figure 7.1;6.5). A smaller number of women (3 percent) use video application of mobile phone whereas 32 percent of men love to use video function of mobile phone. Neither women nor men like to avail the book reading application on mobile phone (3 percent) (Figure 7.1). Only 6 percent women in comparison to 21 percent men use instant messaging apps and prefer to connect with near and dear one anytime anywhere. Those 6 percent women with internet literacy do shopping via mobile phone, pay bills through mobile phone (Figure 7.2) as compared to 21 percent men. Both men and women in Sonitpur District are found to be avid users of clock and calendar features of mobile phone. Still men users of clock (90 percent) and calendar (87 percent) are found more than women (68 percent and 65 percent respectively) (Figure 7.1).

Figure 7.2

SL No	Mobile Internet use	**Control Group N=640**	Percentage (%)
1	Are not aware of mobile internet	0	0
2	Aware of mobile internet but have not accessed it	320	50
3	Access to job portal	0	0
4	Browse social networking site or What's app	40	6.25
5	Taking part in discussion on mobile discussion sites or forum	0	0

6	Google through mobile to retrieve information	40	6.25
7	Mobile shopping	40	6.25
8	Paying bills through mobile phone	40	6.25

37 percent of total surveyed households have used mobile phone for last two to six years, 51 percent of the total households have used mobile phone for seven to eleven years and 10 percent of households have a long experience with mobile phone for more than 11 years (See Figure 5.7). These old users have said that they are more informed about health, environment problem in their neighborhood than before after keeping a mobile phone in their custody. 12 percent of women use mobile phone to check exam results and 20 percent women are regularly in touch with teachers to know about school meetings, children's educational progress in school (See Figure 7.3).

More men than women were found to have used applications of mobile phone (See Figure 7.1). 43 percent women compared to 46 percent men use SMS. 25 percent of total women as against 34 percent of men use camera; only 3 percent women show interest in recording as compared to 17 percent men; 25 percent of women use calculator function compared to 35 percent of total men (See Figure 7.1). Many women of low income households said that they don't understand the use the calculator function. This finding indicates an opportunity to train women on how to use this application to increase informed decision making, efficient and informed action to lead to greater productivity. Survey findings show that men are more fascinated to use mobile phone to listen to music (28 percent) as against only 4 percent of total women.

Out of 290 women with occupation in surveyed households in Sonitpur District, 79 percent are engaged in informal or unorganized work or sectors in villages whereas only 20 percent of women are regularly salaried (See Figure 2.2). Women with occupation are avid user of mobile phone, they use the phone to communicate with clients, suppliers or producers, which further indicates how mobile phone can facilitate business communication. It is also found that many of these women in informal work contribute to the respective household economy by selling their handicraft products like mats, clothes etc. The use of mobile phones has helped women rural traders to find a better market and check out price information, make advance arrangements with suppliers and customers. Enabling prompt communication for business information, mobile phone can reduce costs and speed up transaction processes; thus, improve rural businesses (See Figure 7.3). 37.5 percent of total women of the surveyed households are farmers and use mobile phone to obtain information about crop or livestock production (See Figure 2.1). This indicates the connection of women members of the households with production decisions. It has made it evident that relational

capability has been improved with the use of the mobile phone which has resulted benefits in business and earning of income.

76 percent of women perceive transportation and operational efficiency to be a primary beneficial impact of the mobile phone; they consider mobile phone as a cheap, fastest and convenient substitute to transportation (Figure 7.3). 59 percent of total women started feeling comfortable to go out after possessing mobile phone.17 percent women at home started meeting officials; 37 percent of total surveyed women have started attending village meeting; 14 percent of total women have motivated to actively participate in local political process (See Figure 8.1.2). 21 percent of women use mobile phone to communicate with business client; 17 percent women use mobile phone to reach new contacts and opportunities (Figure7.3). As per the findings on capability indicators, 28 percent of women stated that they have gained respect in their families and they have started taking active participation in decision making, become more mobile and independent. They said that these changes owe to the uses of mobile phone. 59 percent of women have experienced a sense of increasing influence in society as they could manage so many activities themselves with the help of the mobile phone without literally dependent on the male members of the household (Figure 8.1.2).

However, many farming households have not even tried innovation on agricultural services and mandi prices on different commodities or use of market light app and so on. Only 3 percent of total households are aware of mobile krishi and tried to access information via using app (See Figure 7.3). Majority of households are unaware of such services. Around 65 percent of women members of households are found to use mobile phone to make invitations to relatives and friends on occasions and 60 percent of surveyed women are found to use mobile phone to communicate with children's school teachers.

40 percent of total women members of surveyed households are mostly marginal women workers in the villages. These women have been using the mobile phone to communicate with clients, suppliers or producers belonging to associations, which indicates a connection with marketing decisions. 35 percent of total women of the surveyed households are farmers and are found to use mobile phone to obtain information about crop or livestock production. This indicates the connection of women members of the households with production decisions. It has made it evident that relational capability has been improved with the use of the mobile phone which has resulted benefits in business and earning of income.

Mobile phone ownership provides improved access to health, education, business and employment prospects for households after they are being connected. Women surveyed across low and middle-income households in Sonitpur District believe that a mobile phone helps them to connect with others in times of need and lead a more productive

and secured life. Women business owners, in particular, perceive the phone as an essential productivity tool which has supported them to unlock economic opportunities, with more than half saying they have used a mobile phone to earn additional income. 85 percent of women state that they have started feeling more independent with a mobile phone, however, the amount of time they spent in household has not reduced. It is also found that many women contribute to the respective household economy by selling their handicraft products like mats, clothes etc.

The use of mobile phones has helped women rural traders to find a better market and check out price information, to make advance arrangements with suppliers and customers. Enabling prompt communication of business information, mobile phone can reduce cost and speed up transaction processes, thus, improve rural businesses. Survey findings show that rural women who are working outside home, in farms and other enterprises have considered mobile phones as a tool to improve their standard of living. Nearly all working women in households own a mobile phone. Many a times, it is after owning a mobile phone, rural women can easily find a part time employment or a small engagement for them to stand on their feet or a means to generate additional income for household. Farmer's households are found using mobile phones to improve farming practices and maximize the sale of their goods.

Figure 7.3

Sl. No	Use of mobile phone to update information as per explicit information needs	Control Group N= 640	Percentage (%)
1	Talk only use	640	100
2	Market information such as use of market light app	20	3.125
3	Mobile Krishi	20	3.125
4	Weather information	-	
5	Mobile Health or use for Health information	260	40.625
6	Talking to clients (business purpose)	140	21.875
7	Use of mobile phone as a substitute to transportation	489	76.40625
8	Retrieve information about disasters	60	9.375
9	Checking Examination Results	80	12.5
10	Searching employment opportunities	90	14.0625
11	Mobile phone to reach new contacts and opportunities.	110	17.1875

12	M-banking or money transfer	30	4.6875
13	Use mobile phone to communicate with children's school teachers	130	20.3125

The percentage of women (50 percent) and men (49 percent) who perceived transportation and operational efficiency as the primary beneficial impact of the mobile phone was nearly equal. However, a greater percentage of men (64 percent) than of women (44 percent) felt that the mobile phone increased their ability to reach new contacts and opportunities. Men associate the benefits of mobile phones with increasing contacts and opportunities could be due to the fact that men are more mobile than women.

Women, production activities and use of mobile phone:

It is found that most of the household assets such as land, houses, vehicles, livestock and electronic equipment of households are specially possessed by men in households. Women, on the other hand, typically possessed smaller assets such as clothes, utensils, poultry etc. Jointly owned assets are fewer and this typically includes furniture, farm tools and sometimes business accounts. Mobile phones are found to be possessed by both men and women members of households. There is no pronounced difference in the ownership of these assets between rural and urban areas. It is found that women tend to rely more on their husband, neighbor and relatives for immediate information than on the communication sources, i.e. radio, TV etc. More men than women consider mass media and ICT as an important source of information.

Women, while fulfilling domestic needs in households are equally engaged in production and selling of handicrafts and participation in market. Women's contribution to the household economy through the sale of their handicraft products like mats, clothes are other instances found in survey areas. Majority of women in rural Sonitpur District are found to be engaged in the agricultural labor force. This declines the notion that farmers are essentially men when women can at best assist male farmer in agricultural production. More women than men use mobile phones for agriculture emergency assistance, which dismantle the usual assumption that women use mobile phone only to maintain kinship, rather women do make multiple use of mobile phone in order to increase agricultural productivity in rural India. The existing use of mobile phone by women is found to sell surplus agricultural products for profit. This finding further underscores the necessity for integrating women as stakeholder in participating in content designing and arrangement for training sessions for women to make them literate in using mobile phone for retrieving fast agriculture and business information and fulfill the local needs.

Due to poverty, many women could not mobilize resources for engagement in other livelihood activities and they are compelled to confine within four boundaries of home. A total of 10 percent of the surveyed rural women are engaged in agriculture and prevalent farming practices. Another 20 percent of rural women consider agriculture to be the first employment for them while 45 percent of rural women prefer agriculture at the formative and dependent stages of their existence. Due to non-entry into formal job market and nature of hereditary occupation compelled many women to take up agriculture and allied services without any formal training. 15 percent constitute such category. 70 percent of total surveyed women have education up to secondary level. 70 percent of total women employed in agriculture have digital literacy in relation to use of computer, internet and converged function of mobile phone.

Mobile phones have also helped a great deal in increasing both productivity and income in the field of vegetable farming in rural areas. Vegetable-growing farmers sell their vegetables at the local market situated within a radius of 10-15 km from villages. They enquire about the price of vegetables from other markets situated in a radius of around 100-200 km through their mobile phones and accordingly decide the appropriate sale price of their vegetables at the local market. This has helped them secure better prices, reduce wastage, provide timely service and ensure easier access to buyers.

Regarding the interest of women's engagement with farming, many women are of the opinion that institutional support services for agriculture and extension education, credit provision can motivate them to take agriculture as a source of livelihood. Women opine that mobile phone can facilitate networking among themselves, thus provide incentives to encourage collaboration and group activity among them.

Besides agriculture, many women are found to be involved in crafts and commercial activities. Local social norms and values are likely to influence the productive use of mobile phones. Nonfarm activities have been a part and parcel of the household economy in rural areas and women are found to engage as predominant participants and contributors in informal economy. The majority of the population in the country are already engaged in informal unorganized sector of economy. The survey findings reveal that large numbers of women are engaged in contract based economic activities such as weaving of baskets, sewing and selling of farm products.

The study reveals gender differences in mobile phone uses in rural Sonitpur District. The study reveals that lack of knowledge regarding how to use the device and the underlying cost factor dissuade women not to own and use a mobile phone. The study found that men's use of mobile phone is related to business purpose, while women's use of mobile phone is related to kinship maintenance. Increase monthly expenditure on mobile phone on buying pre-paid does not lead to the increase in household earning or income. Use of mobile phone is positively related to

increase autonomy and economic independence of women member of the household. Hence, average expenditure on mobile phone will lead to increase income in households. Increase use of mobile phone by women members of the household is negatively co-related with the information seeking attitude. Increase use of mobile phone is positively related to household management. The responsibilities towards household tasks restrict women to travel. Comparatively less frequent travel to their male counterparts' limits women to make new contacts and expose to opportunities outside home. Use of mobile phone allow rural women to save travelling time between the market and suppliers, introduce women to market and toll product prices thus, assist in the constant juggling of paid and unpaid family activities. The women in the surveyed household positively accommodate mobile phone as a means to quick and easy access to information on situations of probable risk and uncertainty, finding out children's and spouse's whereabouts and delays in returning home and so on. Finally, the women accepted mobile phone as time-saver, cost effective technology that aids to manage effective co-ordination between meetings and travelling.

Since men in households own mobile phone for relatively earlier and longer than women do, men earn more familiarity with the device and learn new uses. The perceived usefulness of mobile phone for increasing contacts and job opportunities are realized more by men than women. This limits the business use of mobile phone for women. Men are found to leverage more from heterogeneous ties than women in use of mobile phone for business purpose. The adoption of mobile phones with advanced features by women in rural areas suggests that mobile phones are becoming affordable and accessible in rural areas.

Being a tool to share feelings and experiences with a further scope for enrichment, mobile phone in custody of a woman can open avenues to address the issues which were previously considered beyond women's capacity. Mobile phone has become catalyst to knowledge networking for women by broadening the scope of activities. Women can experience the much-required flexibility breaking the time and space distance at home or private space and office or community or public space by navigating in between with access to mobile phone. The provision of flexi-timing is important for housewife as well as for working women as it saves the working women from social isolation by helping division of work at the household.

A typical mobile phone user in Sonitpur District thus makes some 5-10 calls per day. He/she uses the silent mode and SMS messages and is rather pragmatic (but not too pragmatic), perceiving mobile phone as a communication tool. However, it seems that one third of the users also find it fun to use the mobile phone. In addition, roughly one tenth of mobile phone users cares somehow about the appearance of their mobile phones and may thus develop a specific relationship to their device.

It is found out that the users are open to the use of new technology products although few women and elderly members in the household have to face difficulty in learning the gadgets. Learning to use the mobile phone beyond its essential functions such as making a call and receiving a call as per them was not considered necessary by most of the respondents belonging to women and elderly section. The respondents irrespective of Gender assert the importance of learning a technology in order to save time and become efficient in household daily activities. However, they prefer to learn to operate a Mixer grinder or a microwave oven over a mobile phone technology and other ICT. In regard to allowing children to own and use a mobile phone, the women and elderly respondents believe that children should be given cell phone only after a certain age once they attain certain level maturity and responsibility to make proper use of a mobile phone.

The working women in the surveyed households are found to engage in profession such as teacher, nurse, angwanbadi workers, women own a tailoring business, domestic workers, women shopkeeper, wage laborer and so on. A difference is noticed between working women and only homemakers in the attitude regarding the attached importance to own and use of mobile phone. Almost all surveyed working women except a few wage laborers are found to use a mobile phone regularly whereas housewives are found to use mobile phone occasionally. Women, only homemakers attach a low importance to the recreation and hobbies that are derived from and associated with communication technology. Working women prefer to devote the free time to family/children. Women give high priority to family than self which shows high on collectivism in studying the variables called individualism vs. collectivism.

Role of SHGs in Empowering Women

Among the existed community groups or organizations, women are mostly seen participating in SHGs to other groups. SHGs are small, economical, homogeneous, affinity groups of rural poor with full of potentialities to contribute to village upliftment. In every group, it is found to have at least two or three persons having primary education that can keep records and undertake other administrative tasks. An amount of Rs. 10 to Rs.50 per month is required to contribute by individual members of SHGs. For rural women of Sonitpur District, this amount is affordable as a participation cost. Operational efficiency of all the SHGs is not same. Many SHGs are plagued by internal problems and lack of effective leadership which result discontinuation or temporary breaking off the same. SHGs are not restricted its activities in microfinance, loan disbursement, debit and credit facilities for women. SHGs are found to be involved in numbers of undertakings, i.e., vegetable cultivation, dairy farming, promotion of micro-entrepreneurs. After joining SHGs, many women experience change in their agency with an increased income. Increasing income has brought due stability in household economy and reduced the cost of the credit.

Barriers to Effective Use of Mobile Phone

Failure of various government sponsored ICT (Information and Communication technology) scheme in Assam such as CIC (Community Information Centre) shows the lack of interest of rural households to take the benefit of such schemes. Prejudices among women folk on the supposed difficulties to operate Internet, technology-phobia, the cost of operation and owning, lack of time beyond household management, child rearing, and informal activities, lack of skills, even lack of knowledge regarding the benefits of ICTs close to their socio-economic realities have failed ICT related projects in rural areas. Around 82 percent fall under BPL category households who at large depend on petty sources of income, such as carpentry, fish vending, masonry, driving etc. and without any permanent source of income. Everyday fluctuations in income creates a scarcity in household income. To add to that condition, when men had a greater access to and control over household income coupled with other priorities of the household that is obliged to be met with limited financial resources, women are left with limited choice to possess a mobile phone. The traditional gender norms impose women to focus on household basic needs which makes it difficult to freely bear the cost of using and maintaining a mobile phone and take advantage of it.

Women, who themselves own a mobile phone have full control over the use of phone and rendered autonomous space a phone creates. In many cases, women use phone of her spouse, which limits women's access and control over the phone. The cost of communication is a factor which will determine the benefits and opportunities that can be obtained from the access to mobile phone. BPL (Below Poverty Line) households especially BPL women lack opportunity to get the benefit from mobile telephony. Within these households, conforming to traditional gender stereotyping the husband is usually being the protector and the head of the household becomes the main decision-maker with regard to household finances. The women's use of mobile phones was largely controlled by the spouse having the control over household finances. Poverty issues constrain women to keep a mobile phone with them, so keeping a mobile phone is a relatively less priority for them.

Gender-friendly Recommendations

The women's acts of sociability, leisure and entertainment, security and safety, and need for information are socially and functionally defined which designs the use of mobile phone by them. Women who are confined to the boundaries of four walls of the household, mobile phones essentially function as a tool to develop and maintain external social networks with friends and other acquaintances and to generate social capital. Both Mobile phone and internet have the potential to break down the perceived isolation of women by connecting to other likeminded women and men. Access to outside home social networks also provided them a sense of identity outside of the

family. Many women have identified mobile phone as a channel of emotional relief to the women during hard times. Support network generated through the mobile phone has helped to ease a stressful situation by facilitating instantaneous contact with their loved ones, simultaneously without violating their privacy. The emancipating effects of mobile phones find reflection in the gradual erosion of physical, spatial temporal boundaries that was socially constructed for women by creating a free space for them.

Most of the women in surveyed households could not relate the benefits of information and communication technology into their living. Limited or no access to roads or transport, credit and other development inputs are some factors that are responsible for shaping ignorant perception of women towards operating information and communication technology. Access to affordable services and availability of infrastructure such as disposal of electricity, transport and proper security mechanism in the society are major requirement if ICTs are to be used for women's economic empowerment. To use internet and to get the benefit from internet requires a great amount of support from institutions like family, school, government and private sectors to create an enabling environment. Any schemes or sponsored internet facilities by Government and Private Bodies has to be accompanied by additional services and training.

Owning and access to mobile telephony and internet can aid women to search for job for themselves and increase information, opportunities and interaction. Policies related to universal access to mobile telephony and to community access to internet at affordable prices can necessarily empower women.

The growth of cyber cafes and kiosks has been rapid in India, although it has spread in Assam after a decade, cybercafés have already acquired a national base. Expansion of public telephone and ICT access points, libraries, information centers or cyber cafes constitute few strategies to increase access to internet in remote areas by making the digital end reach to marginalized groups. Government has already initiated various projects related to tele centers. Government can consider to make tele centers a part of existing institutions such as health centers, schools and community centers and provide subsidized services via tele centers.

The factors such as locational disadvantage, an inappropriate opening time which is often not consistent with the household time schedule, issues related to security and lack of requisite transport facilities pose to be constraints on the access to internet facilities for women. The multiple roles and responsibilities of women may at times limit them to find time to use services of internet kiosks or café. Survey finding reveals women's comfort with women-only training environments. Avenues such as free of cost training programs, incentive to participation has to be introduced to increase women's interest to participate in such program.

Lack of native content in vernacular languages continues to be a major barrier in effective use of internet and mobile phone by women for economic autonomy. Multimedia can be developed to provide information both in written and verbal language. Developing relevant and useful content in local language is a challenge which can be partially met by introducing multimedia training arrangement by providing information both in verbal and written language.

Affordability and cost of Information and Communication Technologies has been a greatest barrier to access and use of ICT by women. Personal ownership of computer and internet may not be feasible in the foreseeable future for the vast majority of women in rural Assam however, mobile phone technology can surpass the visible constraints which can in fact cater to the information needs and interest of women. Hence possessing a mobile phone technology and receiving requisite services can possibly address the gender based digital divide.

Evenhanded equitable access to mobile phone and internet facilities will make receiving and producing information at ease and relevant to women, thus render them to desire for autonomy and become independent. In order to identify benefits of mobile phone, women themselves have to participate and deliberate upon designing and developing mobile phone and find innovative uses in consistent to their needs and preferences.

The prominent cultural behavior to the use of mobile phone among women lies in their attitude to attach low priority to self and a calculative mentality towards time and money. There is an emphasize on the virtues of obedience and conformity of social norms in Indian society and this sharpen the mindset of the women of specific age group. Owing to general respect for money creates hindrance in exploring a mobile phone or playing with it for the fear of damage. Wastefulness is often seen. Techno fright due to lack of understanding of the device.

Other cultural barriers that restrict the uses of mobile phone are: a calculative mentality towards resources driven by long term orientation. Low confidence and tendency to depend on other. Confidence on own intuitions are low and most actions are verified before being performed. Uses relied heavily on instructions and asked a lot of questions. Vocal instructions are performed over written.

Chapter 5:
Discussion: Scope of the Study

SHG for Communication Infrastructure Construct

Role and operation of SHGs: SHGs are small, economical, homogeneous, affinity groups of rural poor with full of potentialities to contribute to Village upliftment. A study of select SHGs in Sonitpur District delineates how it becomes the way for economic independence for many rural women. The special capacity building programs include functional literacy and skill training with an aim to build the capability of women micro-entrepreneurs in vegetable cultivation and dairy farming sectors which enable them to adopt scientific practices to increase the productivity of their enterprises. Mobile phone has been a communication linkage with the SHG members, bank, business partners and clients, government and members of panchayati raj.

SHG has mobilized women from poor and disadvantaged communities of the village. Skill training is carried out in resident households of the SHG women. This value added training enables poor women to acquire specific activity based skills and increases their income. Many SHG women have started new enterprises by using the newly learnt skill and expand existing enterprises and seek employment.

Communication Infrastructure Construct

The study investigates the integrated story telling network which focuses on existing local media, agency of residents and their participation in community organizations. The integrated story telling network has the 'carrying capabilities', capacity to accommodate multiple stories over time and integrate volume of new stories as they emerge in a dynamic environment. The study is directed to find out the role of micro-story teller: agency of women residents of village households in a community without leaving the meso-stroytelling context. Communication infrastructure theory claims to connect micro-storytellers: individual women's account with meso-storytellers, for instance, neighborhood organization such as Community Information Centre (CIC), Arunodoy kendras, local Cooperative or credit society and SHG in wiring themselves across the available and accessible mobile information infrastructure.

The word 'SHG' is archetypal to existing community-based organizations those which have contributed to village upliftment by invariably bringing forth majority participation of rural women. The survey found that the existing line of Community Information Centre (CIC) and the participation of local residents in CIC for information. This CIC can be converted to center for content production.

The dimension of accessibility of telecommunication allows to establish a connection between individual women agency and women at CBOs which can continue with regular interaction of everyday activities. The framework essentially highlights the importance of infrastructure development in order to establish a continuous communication among micro-meso and macro level actors. Community based organization represents neighborhood storytelling assets as each woman participant of CBOs/SHGs usually has a narrative of everyday life to share. Without ensuring accessibility to communication and information technology at a mass scale, working of functional capacity of the story telling network that is derived from improved communication infrastructure cannot be delivered.

Presence of different institutional set up in the village such as educational structure and instition, health centre, mandi market, library, CIC and so on apart from CBOS and SHGs reflects the level of socio-economic development of the village and existing resources that can contribute to build human and social capital. Physical location of these structures and institution is one determining factor for women participation in such institution as concern related to safety, security and ease of reach could motivate women participation. Communication Infrastructure theory provides an empirically-tested model illustrating the ways in which communication processes (such as community storytelling) work within the ecological constraints of technological and socio-economic factors.
Nearly 85 percent of resident households say that they had availed or accepted the access to the amenities. They visited the centers an average of 11 times per month and stayed nearly 2 hours per visit. It represents access to such amenities and participation in such organization can contribute to a functioning storytelling network.

Village Upliftment

An intervention program can expect to aid village upliftment and can create and build self-reliant communities in villages through integrated development programme. The interventionist approach of NGOs in partnership with Government and private sector can possibly dictate to build partnership with local stakeholders including the panchayat heads, villagers and other government and non-governmental organizations which in turn helps in implementing various development initiatives.

NGO intervention would help to address a broad range of development needs of the villages. This integrated development initiative can promote entrepreneurship in villages, conducting medical camps, enrolling drop outs in schools, providing IT enabled services in villages. The functions carried out by NGO or charities of private sector, i.e. adoption of village for a certain period could result in training the some of the village volunteers who are unemployed yet. Making the villagers capable to track developmental activities thus, promote ownership of projects

by the villages themselves. Volunteers of the village can ensure to make the villagers believe in the development activities, constantly motivate the villagers and create awareness on various matters. Interventionist approach can encourage village households to actively participate in the village development, to attend Gram Sabha meetings and get involved in the decision making.

Integrated village development approach could engage SHGs or community groups in the village and enable to sustain income generating opportunities for village women, which will further be instrumental to make them self-reliant in alleviating poverty and underdevelopment in the region. An NGO through Self-Help Group program can make women resident of the village engage in skill training and capacity building activities which are essentially based on a community model invariably designed to make women participants learn about society formation, governance, management and become entrepreneurs at the village level.

Collective Action of Women and SHGs

Organizational capacity of women will remain in dormancy until and unless they get due exposure to participate in any organizational set up outside their family life. The participation of women outside the family and household responsibilities will be expressed in the form of collective action. It is on the prerogative of any community organization to reformulate their strategy and codes of conduct so that
they can address women's practical and strategic gender interest. Many household women will be empowered only

if there is an affordable child care provision for working women of low-income households. In order to protect wage of working women in the informal economy and to further extend social safeguard to women workers, it is sought after to accommodate both NGO and state at one platform through collaboration and lobbying. The states

which could better embody the sponsored link and collaboration between Government and Civil Society Organizations have experienced less of uneven participation and more of sustaining engaged participation of women.

Empowerment when combines economic independence represents the organizational capacity of working women who are either self-employed or wage workers. The incorporation of provision of training and skills development around a broad agenda of livelihoods, life skills and legal rights would be essentially helpful to women workers. They could not only overcome their lack of formal education, but also gain self-confidence and recognize the value of their own contributions.

Within the informal economy, the Self-Help Group forged a hybrid form of organization, combining the collective bargaining role of unions with the developmental role of co-operatives. SHG functions as a role model for the newly found organizations of informal or unorganized workers unlike formal trade union. Many newly formed SHGs have taken into consideration about the multiple roles of women as mothers, workers, and accordingly endeavor to address practical gender concerns such as safety of travel at night and support for child care in addition to concerns or intentions of traditional trade union such as wages and working conditions.

According to recent statistic, bulk of India's work force is employed under highly informal conditions where there are no written contracts, provisions for social security and legal protection for the employees. Responsibilities related to caring pose to be biggest constraints towards participation of women in labour force and to any public activities of a community. Johnson's (2005) work in Colombian context expresses constraints related to child care which is a setback to judge the capacity and profit of women entrepreneurs. Mid-Day Meal Scheme in India is designed to provide cooked lunches for school children, however, aiding to free up any working women particularly widowed mothers (Dreze and Goyal, 2003) from the duty to feed their children in the afternoon. Any provision of child care obviously brings immediate relevance to wage workers by opening new avenues in the labor market. There is remarkably little research on child care arrangement and financing in development countries that can benefit working mothers. Instances of Mobile Crèches in India have been exemplary to provide basic support to those women who are into the construction sites.

Female participation in workforce varies across states in India. Participation is lower in those states where there is less initiative to sponsor wage labor for women with a weak tradition of female wage labor. Where the program has been successful, it has had a knock-on effect on agricultural wages, thus raising returns to the most poorly paid activity in the economy.

The intervention schemes in rural areas such as India's National Employment Guarantee Scheme have increased the demand for wage labor among poorer households. This scheme, exceeding the minimum quota requirement has appealed many women to do job, registered a strong demand for work among women (Sudarshan, 2011).

Government sponsored schemes are relatively more beneficial to male than to female earnings. However, welfare provision of schemes could bring on a greater difference to the likelihood of women finding a job (Hanna, Guy, and Arnold, 1995).

The available data suggests that women have fewer training opportunities than men. Even distribution of skills in the society reinforces a gender stereotypical attitude. Women are mostly found to be engaged in hairdressing or tailoring while men are engaged in diverse forms of employments that include mechanics, carpenters, tailors, craft workers and metal workers and so on. The policy focuses on quality of educational need to go beyond primary education, instead give attention to vocational and technical education for increasing women's productivity and employability. Women's engagement into less productive jobs results simultaneously lower returns. An evaluation of government funded job training programs reports that from increased likelihood of employment would benefit the disadvantaged young and women cohorts (Ibarran and Shady, 2008). The minimum wage has featured as an important demand for workers at the poorer end of the wage distribution because it sets a floor to exploitation as well as signaling the minimum worth of their labour (Elson, 1999).

In India, a recent study has been found that women workers hardly ever use the Equal Remuneration Act to make their demands. However large numbers of workers in the informal economy had fought struggles for better pay under the Minimum Wages Act (ISST, 2011). It appeared that many preferred to use minimum wage legislation, partly because they find it easier to argue for and partly it is less likely to generate gender conflicts within home.

The study found that the reform had a strong effect in increasing women's share in paid work, in increasing access to occupations that are non-home based, in year-round employment that had higher educational requirements and hence were likely to be of better quality. However, an overall expansion in employment will not, on its own, overcome the various gender-related constraints that have curtailed women's capacity to take advantage of existing employment opportunities on fairer terms.

It is found in various earlier studies that any mechanism to transform the society and to bring changes among population would not only be material, but also relational, cognitive, and behavioural. There have also been landmark texts cutting across the social development and social welfare spectrum (Hardiman and Midgley, 1982; MacPherson, 1982;) address economic and social development within a more holistic vision.

Existing policy has included a provision for legitimate sphere of concern beyond narrow conceptions of social service provision by a national government which includes a broader livelihood issues. There are less numbers of existing literatures which eventually suggest reform in social policy and development. The internationalization and globalization of economic, social and political forces have generated new pressures that require a rethinking of how social policy reforms can most effectively respond to these changes. Applied social policy has been considered

synonymous with government and other institutional intervention to provide social services. Social policy which is based on Keynesian model suggests economic planning which stresses on public investment in order to generate employment. Principal of welfare has been seen embraced by the Keynesian approach to social policy which envisages welfare through social security and government funding for key social sectors such as health, education and housing. Social policy is made equated with government intervention that includes range of programs in order to support the socially disadvantaged and the needy through statutory regulation. It was generally held that the benefits of growth, will automatically improve their welfare.

Modernization approach of 1950s looks at growth through public spending a wasteful diversion; rather urban-based industrialization would inevitably 'trickle down' to the wider population generating employment while alleviating poverty. According to this 'residual model' of social welfare, government intervention to meet social needs was to be minimized (Hardiman and Midgley, 1982).

The paradigm of 'rural development' has grown since the early 1970s which has destabilized modernization as a universal prescription for economic and social advancement. Rural development is redefined as a process whose central preoccupation is the wellbeing of the entire population in the countryside, focusing in particular on the needs of the poor. Western-based model of rural development is not sufficient to meet the needs of rural community. A broader paradigm for rural development can be realized only when it incorporates into its fold, the macro-development goals such as the production of commercial export crops, higher living standard for some groups and the strengthening of nationhood through institution building. A social policy perspective to rural development does not limit to necessitate a concern to offer statutory welfare services such as health care and education. Instead, social policy perspective of rural development maintains a holistic livelihoods approach that embraces all those production-based and other aspects of people's lives that contribute to their well-being.

Access to secure shelter and basic services has traditionally been considered one of the most vital components of social policy. Both have also been directly linked to the level of overall national development not only in the sense that higher income countries have better housing conditions and services, but in the sense that development effort must be committed to addressing needs. Basic services include water supply and sanitation, transport, health and education services.

The framework rural development can serve as an analytical tool for understanding the dynamism and complexity of people's livelihoods and causes of poverty or insecurity. Rural areas are characterized by persistently high levels of poverty and deprivation in spite of decades of national economic growth. Agricultural production remains a vital contributor to the overall process of economic growth, while small producers themselves are major suppliers of

staple food crops. The direct participation of rural people in the design and implementation of development interventions that address poverty alleviation and natural resource conservation goals is essential.

The rural poor invariably prioritize on ‘jobs. In view of scarcity of jobs, it is difficult to construct livelihoods. A livelihoods perspective of rural development acknowledges the importance not only of productive processes, but also of reproduction (domestic work and child care), consumption and social relations in ensuring sustainable livelihoods (Beall, 2002a).

There are also substantial variations in the livelihood systems pursued by different individuals within the same household. One dimension of rural livelihoods includes income generation strategies which approach to investigate the practice and participation of people who are involved in informal economy. Income generation strategies not only foster informal ties among people that provide social security though social networks but also result a much-expected movements or mobility among people. Socialization is the key to rural livelihood and income generation strategies are based on social relationships and is located along a continuum, linking households to communities and wider political processes. Intervention scheme or perspective of NGO can harness the continuum of social relationship in rural India and promote an effective end meeting socialization which would essentially enhance income generating strategies and livelihood of households of rural community.

Chapter 6:
Summary & Conclusion

Technology can be a means to enrich family life and family's environment. Communication technology can be an effective tool to disseminate and diffuse information among family members and thus, be helpful in strengthening the family unit and to promote women and child development. Mobile telephony (Technology) makes effective use of human resources and gives value for time. Mobile phone is perceived as a labour saving device which is the main focus of household model to human development. Adoption of mobile phone by all the members of the Household represents pro-social attitude of the family. Access to and owning mobile phone can increase connectivity among the household members, within or outside the household. It has the potential to improve the reliability, trust and confidence between the household and society if it is used appropriately with a utilitarian concern. Technology leads to economic growth and increased productivity in the household. Member of household can easily switch to multiple identities. Development is not far away in a wired society and networked community that can overcome the time and space distance.

An adoption of mobile technology has changed the outcome of household economy, occupation and employment, work ethics and practices in households and creates new societal values and ideas. Mobile phone adoption can ensure both Human and non-human communication, interpersonal and multimedia communication through which household members can aware of health and well-being of family members, friends, and relatives. Adoption and effective use of mobile phone aids to reconstruct household values, imbibe new gender discourses regarding women rights and gender equity, give visibility and transparency to women abuses and injustice.

Human development quintessentially entails not only economic prosperity, but also leading a healthy and learned life while enjoying guaranteed human rights, participatory rights and adequate social, cultural and political freedom. The need for expansion and utilization of human capabilities are also underscored in the human development paradigm.

Globalization and technological changes have given birth to various dynamic initiatives and several innovative models to create job including among more vulnerable groups in developing countries and thus, increase their welfare and livelihood opportunities. These initiatives have the capacity and scope to adequately reach the most vulnerable and disempowered section of the society. However, there are challenges around the complexities of monitoring and evaluating the impact of the initiatives, both in terms of quality assurance of employees and job satisfaction.

Mobile phone technology with its multiplier effects enable to ensure higher productivity and thus generate employment and support to raise income of the users. Mobile phone has proved to raise demand for farm and non-farm products and services of the rural farmers in Sonitpur District, thereby, surge the opportunity for the farmers to sell the product and services and earn some extra money. Interactive and easy interfaces of mobile online job portal reduce the cost and time of searching for jobs and thus, provides the real-time information to those more specifically to youth and unorganized workers who are hitherto excluded from such information pool.

The situation related to frictional unemployment when people look for first job can be improved by creating more awareness regarding new job openings. Government needs to take effective steps to encourage seasonal industries such as tourism and farming and reassure people by providing opportunity to involve in off season jobs. The transition from industrial to information economy has created structural unemployment. This long-term unemployment is accompanied by changing perception, values and behavior of individuals in the society, accrued to a machine drive attitude. Avenues such as retraining, on job training and by making people occupationally flexible will be helpful to reduce structural unemployment.

Secondly, SHGs are evidently effective to assemble local stakeholders including local government, community groups, mobile operators and women entrepreneurs. It is observed that many women are willing to take up skill training under the guidance of NGO to start microenterprises as an important means to augment their income and livelihood. Service solutions such as health, education, microfinance can be designed to deliver to women through community-organized self-help groups (SHGs). However, any technological adaptation has to be accompanied with transformation in human resource in order to increase productivity and performance. Building ICT skills from below, through education and training, would form part of a long-term strategy for transforming the skills base of developing countries. User centric initiative related to mobile phone can expect to maximize benefits and minimize risks. This inference can be heightened by the saturated demand of mobile phone in rural areas and rural people's interest in converged technologies. Hence, along with MVAS, the village access point should focus on the technical education to community residents free of cost or if necessary, with highly subsidized rate in order to empower the individual and a community.

At the national level, integrating gender dimension into policies of food and agriculture, water, energy, infrastructure and industry for a better inclusive approach to social development. Most importantly, impact assessments have to be carried out on all policies related to science, technology and development (STI) and STI for development to ensure the policy benefits of all irrespective of gender. In order to create an enabling environment for women's organizations and networks, temporary special measures through support policies and a subsequent appropriate mechanism have to be built.

Gender-sensitive STI policy-making emphasizes on the coherence across regulations, policies and program. Gender sensitive STI policy has to encompass evidence-based, participatory approaches, and regular gender-sensitive monitoring and evaluation. Applying a gender lens to STI policy is not only important for promoting gender equality; it also makes economic sense, given the integral and critical role played by women in development. The integration of a gender perspective into the policy will reflect the aims, concerns, situation and abilities of women throughout the policy-making process, from analyses and design to implementation and monitoring.

Annexure 1

Surveyed Villages

(Qualitative study of select villages of Sonitpur District)

Assam: The geographical area of Assam covers 78,438 km^2 and 30,285 sq mi (2.4% of the area of country). Assam is bordered with six North East States viz. Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Meghalaya. It also shares boundary with Bhutan and Bangladesh in the North and East side. There are 33 districts and 153 Sub-Districts/Blocks, 214 towns and 26395 villages in the State. As per census 2011, population is recorded 31,205576 with 14.08% urban population. The population density of Assam is 397 person per Sq Km.

Locational Overview of Sonitpur District: With 37 million people and an area of 945,000 square km, Sonitpur remains one of the most urbanized districts of Assam. There are villages in peripheral surrounding of the District dominated by the ethnic communities such as Bodos, Mishing,Nepali and Aadibasi Community. Most of the inhabitants, despite having their own local language, adore the Assamese language as their own and speak in Assamese. Assamese is the lingua franca of the region.

Summary of the Villages Surveyed

Tarajan Village under Dhekiajuli Development Block

Tarajan village is situated in the north west of Sonitpur District. The Tarajan village is aggregation of two adjoining villages- Tarajan Pathar (Purani Tarajan) and New Tarajan. New Trajan is inhabited by Muslim community most of which came to settle in the village after the year 1962. The surveyed village is Purani Tarajan located in Panbari panchayat in the Dhekiajuli Development block. There is no pukka road connected to the village and only visible road connection shows some gravel kucha narrow lane and ‘aali’ drawn in across the vast cultivable field. Three years ago, one primary school got established in the vicinity of the village. No other educational structures and institutions are established nearby for which those minority of villagers who wish for higher study, even for getting into a higher secondary school, colleges, they usually travel to Dhekiajuli. However, a high school has been set up few years ago on the way to Purani Tarajan village along the Panbari locality which is at a distance of 2 km from the village. Purani Tarajan village is thinly populated and inhabited by the Adivasi people. According to Mahendra Rajowar, there are only 36 families comprising the village. Two to four households in the village received

electricity. However, there was no electricity until 2009. The average income of the village household is between Rs.8000/- to Rs.10,000/- per family. However, families of Tarajan village are living in a deplorable condition, they are economically poor and deprived of basic necessities. Most of the households possess a BPL card which is used to buy household ration.

There is no health care facility, no PHC in the village. One post office is situated at a distance of 3 km from the village. Most of the villagers send and deposit money in the post office as there is no Bank Branches in and around the village.

Until July, 2012 few village households received WLL telephone (one disk, one panel and a handset) for a period of three years which is now found outdated and out of connection.

Village households use boring machine to irrigate their cultivation. The village head has mentioned that only two people (two households) in their villages own a boring machine. The village head is provided a mobile phone from Block Development Office which is out of order now. The family members of the village household told that they have sold the BDO offered mobile phone and has bought a new one.

Most of the village heads complain about the handset and the connection scheme. It is entirely limited to the circle of government and many times cell is not giving a lasting service. For the villagers the major drinking water source is tube well or hand pump and well. Water in the well is found within 8/10 feet from the ground level. Cable and other media technologies are far beyond to be existed in the village. There is no drainage system passed through the village. No co-operative society and self-help group is functioning in the village.

There is no credit society in the village. However, in Garmara, one kilometer away from the village, one Self Help Group leads saving account scheme which is used by most of the villagers of Tarajan for one time. There is no proper sanitation in the village. Percentage of households with latrine facility will be less than 40%. Panchayat head quarter is located one and half kilometer away from the village. There is one Anganwadi-noon meal Centre in the village within half kilometer radius.

Everyone in the village of or above 16 years of old is found to have a mobile phone. For charging the phone, members of the households (villagers) have to go to nearby village or to Dhekiajuli Town. There are no grocery shops within 3 km vicinity in the villages. For buying essentials, the villagers have to move to Panibari Centre which is 5 kilometer away from the main village location.

Namonigaon Village under Rangapara Development Block

The Namoni gaon is one of the ancient villages adjacent to Rangapra Town. The village is surrounded by Hatibari Tea estate in the north, Depota River in the south, Namoni gaon Tea Estate in the east while Rangapara Town is in the west. Originally, the village was thinly populated with a few Assamese, Adibasi, Bodo, Punjabi, Nepali and Bengali people. Cultivation was the main livelihood of the people in the past. During 1960s, people came from different places in search of work in tea estates, and slowly settled in some of the nearby agricultural lands of Rangapara Town. Also, after the extension of Rangapara-Tangla Railway line, people of different communities had infiltrated either for Railway Service or for contract and supply etc. and get settled in the Namonigaon Village. It would be worthwhile to mention that, today, almost 14 thousand people from various caste, creed, languages and religions live together with integrity who understand and speak Assamese language for the common purpose and interest. However, Namonigaon village is now divided into two parts as Namonigaon -1 and Namonigaon-2. One part is now under Rangapara Town Committee, while other part of the village is a Gram Panchayat under Rangapara Anchalic Panchayat Committee. With the constitution of Rangapara Block in 1992, the area was started developing slowly. Until 1970s, there was only one LP school. With increasing numbers of population, Schools, Clubs, Religious Institution and Government Offices are built across the village. Apart from Namonigaon M.E School, some private schools like Green Dale, The Diamond, Sankardeva Sishu Niketan have been established three to five years back. Two Anganwadi Centres are located in the village. With the active support of some of the personnel of the village namely Sri Nagen Basumatary, Durlabh Sarma, Nizamul Hazarika, Tafaid Ahmed, Ratul Sarma, one club was established in 1979 which is currently known as Namonigaon Milan Sangha and Library. Since its inception, various cultural festivals such as Silpi Divas, Rabha Divas have been organized every year apart from Bihu Festivals. However, during Rangali Bihu Festival, a committee is formed every year which has completed Silver Jubilee in the year 2013. Some of the existing structures in the village comprising a temple of Mother Goddess (Aai Bhagawati Mandir), and Lord Shiva, two temples of Goddess Kali, one in the village and another in nearby Daushi lake; one Buddhist Monestry, one Anjuman Madrassa, two cremation grounds, one for the Muslims and the other for the Hindus. 'Namghar' is the village is the location of participation of many aged women of villages along side the existing 'Mahila Samiti' office in the village. Women members of the mahila samiti is quite active in various cultural activities in the village.

With the increasing population in the village, agricultural lands for cultivation have been fallen into shortage. Villagers are mainly dependent on business, self-employment, Govt. and Pvt. Services. The percentage of highly educated people is comparatively less. However, the new generation has come forward and has been working as doctors, engineers, lecturers, Govt. officials in different places outside the village. In terms of composition of household, the average family size comprises of 6 members.

Rangapara Town is almost 2 kilometers away from the village. There are three PCOs, one internet café inside the vicinity of Namonigaon Village, younger one in the household has to move to town for surfing net due to inadequate accessibility of computer and internet. The Community Information Centre of Rangapara, Bengali H.S School is opened for the students of Namonigaon schools and schools in the adjoining areas. CIC is converted to Internet Café now, access and use of which is open to all villagers at a nominal fee.

Other available institutions in the village are One Post office, Bank Branches of UCO, SBI, Assam Co-operative Apex bank, UBI which are located within the radius of 2 km apart from a Satellite Branch of LICI. The condition of PWD Road connected to Tezpur is in waning condition. In spite of that, villagers commute by bus and minibus service for attending the district offices as per their necessities. The main two roads connecting the Rangapara town are pucca, and road development activities inside the village are carried by a few conscious social workers of the village. Social workers like Sri Nagen Basumatary Pankaj Nath, Dipak Baruah have made major contribution to the village development and various community works. It is observed that all families in the village use mobile phone barring one or two and almost all users are happy to use phone in everyday life.

Niz Borchola Village under Borchola Development Block

Niz Borchola is a thickly populated agriculture-based village under Borchola Development Block. It is almost 15 km away from Dhekiajuli Town via Sirajuli with pucca road connected to Highway from Sirajuli Centre. Daily bus service is made available to commute from Dhekiajuli town to the village interior with 4 to 5 times frequency per day. Borchola H.S. School is situated near the right side of the main road just before reaching the Niz Borchola village.

There are almost 85 families in the village comprising of mainly Koch, Bodo and Nepali ethnicity. Earlier, it was a dense forest with 12/13 families of Bodo and Nepali origin. These families of Bodo and Nepali have gone to the interior forest side now. 48% of total households belong to BPL category. Inside the village, the roads are either gravel or semi pucca. The land is very fertile and productive. The families grow agricultural products such as khariff crops- paddy, oilseeds, pulses etc. Some of the families have started small tea plantation in the nearby open area of land. Some of the families have started poultries and fisheries nearer to their boundaries of the household premises. Three/four families have started small tea plantation apart from other cultivation. A section of the people is engaged in small business and trade while others are fully devoted to their cultivation. The overall condition of the village households is good. The average household income of the family is almost Rs.20,000/- per month. A small section of households is engaged in services like teachers, clerks etc. in Govt. and semi-Govt. offices. Apart from the H.S

Schools, there are two L.P Schools and three Anganwadi Centers. There is neither PCOs nor internet café. The Arunoday Centre is in Doomdooma market place, 6 km away from the Borchola village where one PCO is also located.

Village households own tube well and well for drinking water. Water supply scheme has introduced a few roadside taps in the villages. No drainage system is found. However, 62% of households use sanitary latrine. Electricity connectivity is there, but there is no facility of street lights in the village. The irrigation system through Deep Tube Well is installed around a few cultivation fields. However, all cultivators do not avail the same. Only 18 % people use LPG cylinders for cooking. There are two co-operative societies, one credit society and three self-help groups in the village. No commercial and agricultural bank is found in the village.

Bhalukekhowa Village under Bihaguri Development Block

Bhalukekhowa Gaon is an ancient village under (No 2) Bihaguri Anchalik Panchayat in Bihaguri Block, two km southeast from the highway. The village is thickly populated comprising of 434 families and almost 90% of the people are dependent on cultivation. The average members per households are five. Out of the total 434 households in the village, 227 families belong to OBC. 180 households are recorded under BPL Category. There is no SC, ST family in the village. A number of 27 households are headed by female in the village. Road, in the village is pucca to an extent and the remaining roads are of gravel and kuchcha. Two LP schools, two Anganwadi Centers, and one small library are found as a common institutional structure in the village. Only one fair price shop is found in the village. The average income per family per month is around 25,000/-. A good number of families are living from hand to mouth working as daily labourer either in agricultural sector or in non-agricultural sector.

For high school and higher secondary education, the students come to Bihaguri H.S Schools and Bihaguri Girls High Schools which are adjacent to National Highway at Bihaguri. National Highway is 2.5 km away from the village. There is no PCOs, internet cafés at the interior part of the village; villagers have to come out to Bihaguri Centre to avail the internet facilities. There is a Arunoday Centre, internet café and a co-operative society at the Centre of Bihaguri Higway. A Community Information Centre at Bihaguri Higher Secondary School that has been inactive for last four years with the discontinuation of grants from the Government. Bihaguri College is situated almost 5 km away from the village. The Bihaguri Block Office is situated at a distance of 4 km and the newly constructed Tezpur Medical College and Hospital at Bihaguri is located 4.5 km from south west of the Bhalukekhowa village. Almost 86 % of the households surveyed use two to three mobile phones. Though there is no government and private sector banks within the village, villagers come to Bihaguri Centre for banking

transactions from UCO Bank (one branch), Assam Gramin Bikash Bank (one branch) and SBI (one branch). The Post Office in the Bihaguri Centre is near to the Highway which is about 1 km away from the village. The PHC in the village is placed at the distance of 1 km from the heart of the village. A daily evening market is found at the Bihaguri Highway where the vegetable and other commodities are sold by local vendors. There is a central library called Chandranath Sarma Memorial Library in Bihaguri within 3.5 km range. Though there is rural water supply project of PHED in Bihaguri, it has reached only a part of the villagers at Bhalukekhowa. For drinking water, people are dependent on tube-well, hand pump and well. 80% of total households (both Male & female) are self-employed in agricultural sector, and 20%of total households are in non-agricultural sector. Almost 40% of total village households are employed as regular waged and salaried employee. On surveying the the structure of the houses in the village, it is found that , 40%, 15% and 45 % of households are respectively pucca, half pucca and kutcha. There is no forest area within the radius of 5 km and no industry or factory is found in the village.

Dhenudhara Village under Chaiduar Development Block

Dhenudhara is an old village under Gohpur Town Committee under Pub Chaiduar Block established in 1817 with only 15 families as per an octogenarian habitant. The village is situated in the southeast of Gohpur town connected with Gohpur –Howajan Road with 3 / 4 connecting bye lanes. The surveyed village is situated at a distance of 3.5 km away from the Gohpur Town, which has become an urban agglomeration since 2003.

At present, the village is inhibited by105 families. Families are dependent on cultivation and the main crops are paddy, various pulses, and maize. The land quality for the cultivation is fertile and crops grow heavily without any chemical manure. However, organic manure is used by some of the families for khariff crops. The people in the village are hardworking, simple and busy with cultivation and firming. A few village households are engaged in tea plantation in two/three bighas of land since last 6 years. Majorities of total 105 families belong to OBC communities, with 19 higher cast brahmins families and 7 SC families.

Hindu Bengalis families of the village are slowly merged with Assamese culture and societies. Nearly 12 % of the total village households are affluent with an occupation such as doctors, advocates, lecturers of college, and teachers. 12 % of the total numbers of families are engaged in business apart from cultivation. Total households headed by females are 6 in number. The voter list mentions the number of male and female in the village, with a ratio of 400 males and 375 females. Total population of the village is around 1089 including minors. Total Male and female engaged in Agricultural sector are 85 and 50 respectively. Male and female self-employed in non-agricultural sector are 15 and 20 respectively. Male and female employed as regular wage/salaried employee are18 and 5 respectively. Total unemployed youth would count around 55.

The village households own personal tube well and well for drinking water. There are no credit societies in the village. One Co-operative society is found nearby Gopalpur village, 4 km away from the surveyed village. There are 4 self-help groups in the village. There is no adult education facility in the village. Only one fair price shop is available in the village. There, are three Anganwadi noon-meal Centre and one Pre-Primary, one L.P School, one High School within the radius of 2 km in the village. For Higher Secondary School and College education, student commutes to Gohpur Town. There is a public health sub-centre in the interior most part of the village and the main PHC is situated in Gohpur town. No factory is found within the 7 km radius in the village. Construction of one new bridge is keeping up since 2011on Satrang River, in the vicinity of 5 km of the village. Bank Branches and post office are located in the Gohpur town. A public library is situated in the Gohpur town. One Community Information Centre is set up Gohpur H.S School, yet not functional fully. Village people commute to the town for marketing of commodities and other belongings.

Electricity connection is provided along with limited number of 5 street lights across the village. No renewable source of energy is found in the village. No government-controlled irrigation system is found in the village. However, two families are found to have boring pump for irrigation at tea plantation and cultivation. The Railway Station is 2.5 km away from the village. The branches of SBI, Assam Co-operative Apex Bank and UCO Bank branches are located in Gohpur Town, distance of which is 2.5 km far from the village interior part.

Hydabari Village under Sakomota Development Block

The Hydabari Village is originally known as Haldhibari , an 140 year old village thinly populated having firms and cultivable lands. The families are mostly poor and belong to BPL category living on cultivation and minor business. Majority of the village families are belonging to Bodo, Adivasi, Koch-Rajbangsi ethnicity and some families are of Bihari origin. There are around 100 ST (Bodo), 70 Adibashi, 15 SC, 35 OBC families in the village with 25 Bihari families. 68% villagers are under BPL category, another 3% BPL category people have not registered for BPL Card. In the last 40 years, a good number of landless small businessman and labour class households of Biswanath Chariali Town have settled in the village purchasing the lands at nominal amount. The village head, Sri Mohan Kumar, who belong to Adivasi community, informed that as per his register, there are 287 families with total population of 1591 in the village. Almost 35 % people who are small businessman and of labour class have only the dwelling house in one to two kathas of lands having no other cultivable lands. There are two LP schools, one High School, one Private junior college in the village. The Primary Health Centre for the village is located in Japani Basti, 2 km away from the village interior. There is a market near by the Gram Panchayat office. The Library is run by the Hydabari Jubak Sangha. There is no Arunoday Centre, however, one internet café is found 3 km away in Kochgaon, Internet café

can be accessed in Biswanath Chariali which is 5 km away from the village. The only Adult Education Centre since 1983 has been closed. The villagers are simple, co-operative and peaceful though they belong to different communities. Structures of the houses are kutcha and thatched. However, houses of Assam type pucca full wall are found by the main road. There are some families who are under BPL category but the BPL card is yet to be issued. The average income of the families per month is around Rs. 8000/- to 15,000/- only. Almost 70% people uses mobile phones. A few families in the village are found not possessing a single mobile phone. There is no Bank Branches in the village except one post office which serve the monetary purpose. 15 households have bank account in Biswanath Chariali Bank .The power supply is not regular for which people have to use kerosene lamps. A few households are found to sleep at around 7-30 to 8.00 pm in the evening. Villagers use tube well and well for drinking water. Almost 43 % of total households use sanitary latrine.

Jarani Village under Pub Chaiduar Development Block

The Kokila –Jarani village under Dubia Gaon Panchayat is popularly known as Jarani Village in Pub Chaiduar Block. The village is located at 160 km distance from Tezpur. The village is inhibited by poor people living on cultivation only. Almost 65% villagers comprise Ahom community and belong to OBC. There are total 122 number of families in the village with no SC, ST family. As per records, total male members in the village are found 457 against 468 number of females out of 925 total population. Number of females headed households are 21. There are 73 numbers of households under BPL Category. Another 12 to 15 families which are under BPL category, yet to be recorded in the list for lack of guidance and due to their own ignorance. The village is situated towards north of National Highway and it is almost 1.5 km away from the National Highway. The road in the village interior is mixed with half pucca and gravel. Existing educational structures in the village comprise one pre-primary, one High School and one Anganwadi Centre. No adult education institute is there in the village. The Village Panchayat Office is situated in one corner of the village. There is no co-operative society in the village, but some people avail the facility from the co-operative society at Dubia which is at a distance of 6 km. There are four self-help groups formed in the village. There is one fair price shop in the village and the weekly market sits 3.5 km away from the village. Neither PCO nor internet café is available in the village. Villagers are required to go either to Gohpur town or Dubia for accessing internet facility which is at a distance of 12 km from the village interior. Villagers generally commute to Dubia on foot or bicycle. The Dubia Railway Station is almost 6 km away from the village. The Mandi market is situated at a distance of 10 km at north of the village. There is no provision for Arunoday Kendra and Kishan Call Centre existed nearby village.

Though the village is well supplied with electricity, eight families are yet to have the electricity facility. The power supply is not regular throughout the entire day. One family is found to have renewable source of energy (Gobar gas project) which lit only two/three bulbs. Though there is mini water supply project of Public Health Engineering Department in the village, water does not flow through the taps in the roadside regularly for which, people are dependent on tube well and well for drinking water. Sanitary latrine is used by almost 42% of the families in the village. Out of the total 122 families, 20% families live in kutcha thatched house, 50% live in half pucca and rest 30 % houses are with pucca, plastered fully with Assam type construction. Only six number of families in the village belong to well-to-do background. There is no factory or industry constructed in the village or in adjoining area. Almost 68% of the total villagers use mobile phones.

Bora Chuburi (Ratowa)Village under Baghmara Development Block

Originally, there were only 20 families in the Ratowa village. During sixties, some people had settled down coming from Bihali and Baghmara and adjoining areas by clearing some forest and unregistered lands. At present, there are almost 100 families in the village. Earlier the lands were very fertile and agricultural production was heavy. With increasing population in the village, the fertile lands labels have been reduced currently. A part of Ratowa village called Bora Chuburi is surveyed where most of the families belong to lower middle class and poor milieu. However, there are three to four well to do families with a business occupation or service. 55% of the houses are kutcha mud plastered, 28% are half-walled with pucca floors and remaining 17 % are full-walled plastered house of Assam type (Pucca). 75% of the families belong to OBC community and 58% are under BPL category. There are around 53% male and 47% female population inhabit in the village as per the village head. The household or families headed by females are nine in number. Most of the households are into agricultural works and few households are dependent on small trade and business in village.

Existing educational structures in Bora Chuburi comprise one L.P School, two Anganwadi Centers. The High school is almost 5 km away from the village. The main road of the village that reaches to the Highway is pucca for 3 km and rest is gravel road and katcha. The village is connected with electricity though the power supply is not regular throughout the day. Well to do families are seen using generators and inverters. There is one Kishan Call Centre just at the entrance of the village near the Highway. There is no daily or weekly market sit in the village. For purchasing essential commodities, people come to the Centre place located at the Highway though two/three shops are sited in the interior part of the village. There is no available telecommunication and internet facilities such as PCO or internet café in the village. There are no co-operative societies formed yet in the village. Neither NGOs

have intervened through village development project nor any civil society group /self-help groups are formed in the village. Although one sub centre of the PHC is located in the village, yet the villagers are not benefited much from the PHC sub centre due to non-availability of consultant and medicine and they go to Baghmara PHC for medical consultation. Families in the village use tube well and well for drinking water though part of the village is connected by water supply of PHED, Govt. of Assam. Sanitation is well maintained across the village as most of the families use sanitary and semi sanitary toilets. 60% of total families use gas cylinder for cooking and rest are dependent on kerosene and woods as fuel. There is no renewable source of energy in the village. There is no big forestry within the vicinity of the village. 62 % of the total surveyed households in the village use mobile phones. There is no Bank Branches in the village.

Dahkin Panibharal Village under Biswanath Development Block

Dakhin Panibharal village (Panibharal Panchayat) under Biswanath Chariali Development Block is almost 6 km away from the Biswanath Chariali Town towards Biswanath Ghat. The road from the town is pucca pitched to Biswanath Ghat whereas the south west route of the village is stony. The road becomes muddy during rainy season. Households of the village are mostly belonging to Assamese-Nepali ethnicity. The composition of village families are poor, lower middle class dependent on cultivation with a few rich those who started small tea gardens with fresh and new plantation apart from paddy cultivation. Almost all the families possess jersey cows, when per cow gives 15 to 30 liters of milk per day. There is a co-operative society of milk sellers in the village. A larger forest area, part of Kaziranga sanctuary is placed in the south west part of the village, which is almost 6 km away from the heart of the village. The sight of the rhinos, deer and tigers are quite usual for villagers. The distance of the village is equal to the distance between Biswanath Chariali Town to Biswanath Ghat (Bank of Brahmaputra). The Scenic beauty of the village is pleasing. The Anchalic Panchayat Office comprising of 10 villages is situated at the heart of the village which is nearby the main road in front of the Panibharal Natya Mandir which was established in 1945. Around 900 families were enlisted as BPL families out of which 35 families are inhabitants of Dakhin Panibharal Gaon. Some of these families are found to apply for Indira Abash Yojana. According to Sri G. Kafle, one octogenarian citizen of the village, the village is as ancient as 235 years having only 25/26 families initially. During that time, the village was surrounded by dense forestry and existing families were co-habited with wild animals. At present times too, it has been quite often villagers have to meet the herds of buffalos, elephants, deer and some rhinos and tigers. In the past, families were belonging to peasantry owning 30 to 40 bighas* of land per family. At present, there are 117 families in the Dakhin Panibharal village. The existing structures in the village comprising 3 pre-primary schools, 2 L.P schools, one MV school and one High School and three Anganwadi Centers. The Biswanath Chariali H.S. School is 3 km away from the village. A Firm Machinery Training Institute is located at a distance of 2.5 km from the village. The Biswanath Chariali Agricultural College under Jorhat Agricultural University is situated almost 4.5

km away from the village. A big campus of 'Maharshi Yogapith' is situated almost 2 km away from the village on the right side of the road towards, Biswanath Ghat. The entire village including Dakhin Panibharal is equipped with electricity and power supply. Street lights are standing tall in the main road. Residents of the village are very peaceful, laborious and cooperative. There are 4/5 families having highly qualified persons who are working outside the country. Along the main road, a small market with some 7 shops including a fair price shop and a restaurant is sited near the Panibharal Anchalic Panchyat Office. Two PCOs and a computer training Centre are available telecommunication and internet facilities in the village. However, no internet café is located in the nearby areas of the village. 72 % of total households use sanitary and semi-sanitary latrines as per an Anwanbadi worker. Drainage system passes through the village. Families use tube wells for drinking water. LPG cylinders and woods are used by the families as a fuel for cooking purpose. Two families are found to use the benefit of Gobar gas plant as a renewable source of energy for their own. Almost all the families use mobile phone for their business and personal use. A good number of families are still using kerosene lamps when there is no electricity and power supply. Average monthly income per family per month is around Rs.12000.A small Branch of SBI , some newly formed self-help groups and a Co-operative Credit society are found in the village.

Pathekkuri Village under Sootea Development Block

Pathekkuri village is thickly populated, situated 2.5 km north of the National Highway Road in Madhyam Naduar Panchyat under Sootea Block. The Roads inside the village are pucca and gravel mixed. The families belong to lower middle class baring a few poor families. The families are dependent mainly on cultivation and very laborious. Almost in every alternate family there is a service holder either in Govt. service, semi govt. service or private service. Most of the houses are found to be either full-walled plastered or half-walled concrete accompanied with a small garden in front of the house. A public library at the heart of the village is the center of attraction of the village with computing facility which get regular grants from Government to purchase books. The library is congested, needs more numbers of reading rooms with provision of racks for accommodating books. The students and younger generation are found to be interested to borrow books and spent time in the library. Close to the library, located the village Namghar which is a meeting platform for older generation of the village, although namghar is a gathering space for village women at different interval.

**Bigha us a traditional unit of land measurement used in India. It varies in size in different parts of India.It is usually less than an acre or 0.4 hectare. In Assam, one Bigha consist of 5 Katha. Bigha is 14400 ft2 (1337.8 m2). Katha is another unit of land measurement use in India and Bangladesh.*

The villagers are very culturally attuned, soft spoken and quite helpful to each other. In the Bihu festivals and other local festivals are held at the in the open space of the village usually in front of the library and Namghar where the villagers assemble.

The village consists of 133 families. The ratio of male and female population is 51% and 49 % respectively. The females also help the males in the field during the plantation and harvesting season of the agricultural products. A good number of families in the village were found to participate in the Gandhiji's movement for freedom. One elderly citizen let us know that he along with a few others personally met Binova Bhave and traveled with him for Bhudan Movement. The existing educational structures inside the village comprise one high School, one Pre-primary, one LP Scools, one Sankardeb Sishu Niketan and one Anganwadi Centre. The average income per family is Rs.20, 000 per month. 46% of total families belong to BPL category whereas 54 % of total families are from APL category in the village. Villagers use to participate in the developmental activities of the village. Neither PCOs nor internet café is found in the village interior. However, one 'Sahaj' is located just at the entrance of the village beside the National Highway (NH). There are no bank branches in the village. For banking transaction, villagers travel to Sootea Market Centre at NH. The village is connected with electricity accompanied by street lights along with an improved and well managed sanitary system. Villagers use well and tube well for drinking water. Each family of the village possesses one or more than one mobile phone. Almost all the households possess a television; a few households own a radio set too. No renewable source of energy is found to be used by villagers. There is a provision of well-arranged drainage facility covering some part of the village. The village is accommodated with a government-controlled irrigation system. Two self-help groups and one co-operative society are already formed in the village and running without hassles. One handloom and textile Centre came up in the village 10 years ago. Sootea College is located at a distance of 6 km from the village interior and the students use to commute by bicycle and on foot. The Post office and PHC are 2 km and 3 km away from the village respectively. The Railway station is situated at a distance of 6 km from the village.

Jahajduba Village under Gabharu Development Block

Jahajduba is a small village under Gabharu Block, road connected to the village is katcha. There are all together 87 families out of which 80 % are pomua muslims, or migrants and economically poor. 79% families are under BPL category though a good numbers of them are yet to be categorized as BPL. The land composition of the village is sandy. Villagers live on cultivation on paddy, jute, sugarcane, Potato, oil seeds and other khariff crops. They use chemical manure in the cultivation field. In some households, both male and female members are working as daily laborers, thela pullers (a carriage) or vegetable sellers. All the village households are religious and goes to Masjid for prayers. There is one L.P School in the village which is the only educational structure inside the village. For

High school education, students of the village commute on foot or cycling to Panch-mile High school. Though there are two/ three shops in the village, village households come to Panch-mile for marketing and other purchases. There is one Anganwadi Centre in the village. No bank Branches or post office in the village is found. There is no small or medium industry in the village. The average family income per month is around 7000/-. Only 8% of the total population has secondary education as per the records of Block office with 30 % having primary education and rest 62 % of households are without any formal education. But the interesting feature is that, almost each family is having mobile connectivity, even though some of the people are illiterate. The electricity connection is there but 40% of the families are without electricity connection and use kerosene lamps and candles. Most of the village household respondents said that they go to bed at around 7-30 pm in the evening and gets up early at 4.00am in the morning and get themselves busy with their day to day work. Villagers are simple and laborious.

Behali T.E Village under Behali Development Block

Behali T.E is a small settlement of Adivasi people under Serelia Panchayat in Behali Block. The Behali T.E authority established the village with some 45 labor quarters for their stay. Subsequently, with the growth of population, some Adivasi people have built their residential houses for their families near the quarters in vacant land. Total numbers of families at present in this Tea Estate settlement are 120. In front of the village parallel to National Highway, there exists a large play ground with two churches. The street alongside the quarter is pucca. Streets in basti area is kutcha and of gravel surface. Around 24% of total families are dependent on cultivation.

The village is equipped with electricity and power supply. Among the surveyed households, around 20%, 30%, and 50% are respectively pukka, semi-pukka and kutcha. There are two Anganwadi noon meal centers and one pre-primary, one primary, one high school built inside the Adivasi settlement in Bihali. The Higher Secondary school is located 4 km away from the village interior. Other educational institutions inside the village comprise two colleges - one Govt. college in Bargang and another private college at a distance of 2 km from the village interior. The police station and veterinary sub-Centre are 2 km away from the village. The village is accommodated with the structures such as Post office and PHC, both are located at a distance of 1 km from the village. There is no Bank Branches in the village. For banking transaction, villager usually travel to another 5 km. There is one co-operative society store from where the people collect their ration and commodities. Another co-operative credit society is existed specially meant for the Adivasi households. Other existing commercial structures comprise one fair price shop, seven other different shops and a restaurant. There is tea factory within the vicinity of 3 km in the village. No PCOs or internet café is found in and around the village. For internet access and conventional telecommunication facility, villagers are required to travel to another 4 /5 km. Villagers use tube well and well for drinking water. 60 % of total households got sanitary latrine provision.

The Behali Railway station is located 7 km away from the village. The bus connectivity is fair as the village settlement is close to highway.

Annexure 2

Questionnaire

Uses Dynamics of Mobile Phone Technology in Households and Its Contribution to Village Upliftment: A Case Study of Sonitpur District in Assam

Descriptive identification of households and mobile phone uses

Name of the head of the Family ……		Reference year
Place of Residence (Urban, Rural): **RELIGIOUS affiliation** Are you a native resident of the community? Yes_____ No_____	**CASTE affiliation**	
Mobile phone no		
Name of the Village		
Panchayat		**Code:**
Block		**1,2,3,4……..**
Tehsil/Sub-Division		
District and State		

1. *Household composition or profile*

1.1 Which composition of families/household you fall into

1) Conjugal
2) Nuclear family
3) Nuclear family Female headed
4) Joint Extend
5) Joint Extended Female Headed
6) Joint family Female headed or Single parent

1.2 *Educational level of the head of family*

1) Illiterate
2) Literate-up to Primary
3) Middle complete
4) High school and above

1.3 *Ages of the members of family*

1) Number of members less than 18 years
2) Number of members 18- 35 years
3) Number of members 36-60 years
4) Number of members above 60

Remarks

1.4 Mention the Size of family

1) Small; Nuclear family of 1-3 members

2) Medium; Nuclear family of 4-6 members

3) Semi-Large; joint type of family of 7-9 members

4) Large: joint extended family of 10 and above

2. Employment status of the household

1) Self employed
   a. Agricultural sector Farmer/poultry farm/pig farm/cow farm
   b. Non-agricultural sector shop keepers , carpentry, contractor

2) Salaried employee/regular wage
   a. Agricultural sector Govt. job holder /private job holder
   b. Non-agricultural sector Govt. job holder/private job holder

3) Rural laborer, daily wage earner including daily wage earner mechanics

4) Unemployed between age 15-24

5) Not in labor force/pension holders

2.1 Mention the labor supply per farming household

1) Number. of men farm workers ☐

2) Number of women farm workers ☐

2.2 Mention the occupation of the women members of the household

1) Formal…….

2) Informal…….

2.3 Mention the household income per month

1) Less than 3000

2) 4000-9000

3) 10000-15000

4) 16000-21000

5) Above 21000

2.4 Additional income a household receive from Secondary / Unorganised / Informal source

1) 2000-3000

2) 4000-6000

3) 7000-9000

4) Above 10000

2.5 Mention the ratio of income earned from primary and secondary occupation.

1) 20: 80

2) 40: 60

3) 50:50

2.6 The proposition of income of a household -

1) Cash ☐ 2) Others ☐

2.7 Put the distribution of monthly household expenditure on the Information and communication sources and basic needs more or less approx. as per the following margin [100 ±(1) 500±(2) 1000±(3) 2000±(4) 3500±(5) 5000±(6)]

1) Books and Journals

2) Newspapers & Periodicals
3) Library Charges
4) Education
5) Tuition Fees
6) Transport
7) Food & Clothing
8) Heath
9) TV
10) Internet
11) Mobile phone

3. *Allocation of time per day, male and female members of households spend in household and market*

		Female member	Male member
1)	Time spends in labore force/ market/working		
2)	Time spends in household/ caring/informal activities		

4. Poverty indicators of households

4.1 Do you hold APL/BPL cards? 1) APL ☐ 2) BPL ☐

4.2 Tick the structure of your Household**?** Temporary/Semi-temporary/Permanent

4.3 Mention available household facilities

1) Electricity for lighting ☐
2) Kerosene for lighting ☐
3) Use LPG ☐
4) Firewood ☐
5) Sanitary/toilets ☐
6) Sources of drinking water ☐

5. Information Related to Availability, Accessibility and Affordability of Mobile Phone Technology

5.1 Does each member of the household possess a mobile phone ? Yes ____ No_____

5.2 Have you often suffered from network connectivity loss? Yes _____ No____
Further comment_____

5.3 Have you often suffered from power shortage while using mobile phone? Yes ____ No_____

5.4 Do you think that mobile phone is more beneficial than other means of communication?

5.5 Have you ever borrowed a friend's cellular phone for use ? Yes _____ No_____

5.6 The maximum and minimum recharge you purchase for a month

1) Maximum _____ 2) Minimum _____

5.7 Since how long have you used a mobile phone?

1)2-6 years 2)7-11years 3) More than 11years

5.8 Which connections you prefer most ?

1)Reliance 2) Aircel 3) BSNL 4) Airtel

5) Vodaphone 6) Other

5.9 Have you met any problems in registering a SIM number for your mobile phone ?

Yes_____ No____ If yes, mention_____

5.10 Has your income level increased after using mobile phone? Yes ____ No____

5.11 What is the approximate scale of your increased income after using a mobile phone?

1)10% 2)30% 3) 50% 4)80%

5.12 Is economic development of your household possible without the mobile phone use?

Yes _____ No_____

6 Uses of mobile phone by Women Residents of households

6.1 Educational Qualification of the Female Members of Household

1) Primary Education
2) Secondary education
3) Higher education
4) Vocational training

6.2 SMS Literacy as per English literate

1) Read English and Can View Text Messages but Cannot Send Text Messages
2) Write English and Can Send Text Messages
3) Cant View And Can't Send Text Messages

6.3 SMS Literacy

1) View Text Message But Can't Send
2) View and Can Send Text Messages

6.4 Degree of SMS literacy as per level of education

1) Primary education and can send text messages
2) Primary and can only view text messages
3) Primary education but cannot send SMS
4) Secondary education and can send text message
5) Secondary education and can view text messages
6) Secondary education but cannot send SMS
7) Higher education and can send text messages
8) Higher education and can view text messages

9) Higher education and cannot send text messages

6.5 Parameters to assess the domestication of mobile phone technology by Women Residents of Households

1) Are you friendly with the mobile phone key buttons/key pad? Yes____ No____
2) Do you know how to save number in the phonebook? Yes _____ No_____
3) Do you know how to set date, time and an alarm? Yes_____ No_____
4) Do you know how opening a Menu button? Yes _____ No_____
5) Do you know how to write a message or SMS and to send it ? Yes_____ No_____
6) Do you know how to use Bluetooth? Yes No
7) Do you know how to use calculator? Yes No
8) Do you know how to use a touch navigation when there is a touch screen? Yes _____ No _____
9) Do you know how to search internet through google, open a you tube video and to check internet connection? Yes_____ No_____
10) Do you know how to use social media and instant messaging applications? Yes_____ No_____
11) Do you know how to record and send a video through Bluetooth and social media and instant messaging applications? Yes_____ No_____
12) Do you know how to use camera, click a photo and send the photo through Bluetooth and social media and instant messaging applications ? Yes_____ No_____

6.6 What are the specific telecommunication needs of women residents of household? (Tick in order of preference as 1, 2, 3 for 1st, 2nd and 3rd ……. preference)

1) Best priced handset/subsidized
2) Connectivity offer
3) VAS offer
4) Free SIM
5) Lower call rate
6) Full talktime on all recharge
7) Free SMS

6.7 What are the challenges women residents of household face in accessing MVAS (avoid if not applicable)

1) Illiteracy
2) Not trained or skilled enough
3) Language difficulty
4) Conspicuous content
5) Handset screen difficulty
6) Not consistent with the need or no relevance
7) Format of the content video/text/audio is not compatible
8) Not delivered timely

7 Availability and Usability of Applications and service Components of Mobile Phone Technology

7.1 Mark or tick on numbers of applications in your mobile phone that are (1) Not available (2)Available but not Used (3)

		Female			Male		
		Not Available	Available but not used	Available and used	Not Available	Available but not used	Available and used
1	Calling purpose						
2	Use of SMS						
3	Use of beeping services						
4	Use of camera						
5	Use of recorder						
6	Use of calculator						
7	Use of headphone to listen to music						
8	Use of touch screen						
9	Use of internet or google						
10	Use for communication-social media, what's app or Hike						
11	Use of Bluetooth						
12	Use of calendar						
13	Use of clock						
14	Game						
15	GPS						
16	Video						
17	Book Reading						
18	Use of Online Shopping						

7.2 Gender Based uses & connectedness of Mobile Internet

1	Are not aware of mobile internet	Female	Male
2	Aware of mobile internet but have not accessed it		
3	Access to job portal		
4	Browse social networking site or What's app		
5	Taking part in discussion on mobile discussion sites or forum		
6	Google through mobile to retrieve information		
7	Mobile shopping		
8	Paying bills through mobile phone		

7.3 Gender distribution of Uses of Mobile phone to update information as per explicit individual information needs of households [Mark (multiple pick) of the following instances when you use mobile phone to update yourself with information.]

1) 'Talk only' use
2) Market information such as use of market light app
3) Mobile Krishi
4) Weather information
5) Mobile Health or use for Health information
6) Talking to clients (business purpose)
7) mobile phone as a substitute to transportation
8) Information about Disasters
9) Checking Examination Results
10) Searching employment Opportunities
11) Mobile phone to reach new contacts and opportunities.
12) M-banking or money transfer
13) Other service subscription
14) Use mobile phone to communicate with children's school teachers

8. Uses effects of Mobile phone technology in exceeding capabilities of women residents of households

8.1) Use of mobile has enhanced self-esteem and made more independent. Yes_____ No_____

If agree or disagree, mention why_____

8.1.2 Capability indicators that define increased self-esteem of women residents of households. Mark or tick (Yes= 1, No=2) of the following indicators

1) Go out of home freely
2) Meet officials
3) Attend village meeting
4) Actively participate in local political process
5) Gain family respect
6) Gain influence in society

8.2) Use of mobile has increased accountability. Yes _____ No_____

If agree or disagree, mention why_____

8.2.1 Capability indicators that define increased sense of accountability of women residents of households. Mark or tick (Yes= 1, No=2) of the following indicators

1) Listen to each other more
2) Discuss issues together
3) Sense of reciprocity enhanced
4) Help to oversee family responsibility

8.3) Use of mobile phone has improved the standard of living. Yes _____ No_____

If agree or disagree, mention why_____

8.3.1 Capability indicators that define improved standard of living of women residents of households. Mark or tick (Yes= 1, No=2) of the following indicators

1) Increased economic stability
2) Reduced cost of credit
3) Increased income

4) Increased safety and security

5) Reduced boredom

8.4) Use of mobile phone has increased the level of your participation in your community? Yes _____ No_____

If agree or disagree, mention why_____

8.5) Use of mobile phone increased scope of entrepreneurial activities in the residing community? Yes _____ No_____

If agree or disagree, mention why_____

9. Gender Distribution of Access to Communication Infrastructure at Home and in Community

9.1 Mark or Tick on the Access Parameters Given Below

		Female	Male
1.	Access to Communication Technology at home as well as at community setting, CIC, SAHAJ, Aronoydoy Kendra		
1.1	Access to Communication Technology at home but don't access at community setting, CIC, SAHAJ, Aronoydoy Kendra		
1.2	Access to Communication Technology at community setting, CIC, SAHAJ, Aronoydoy Kendra but don't access at Communication Technology at home		
2	Access to Communication Technology at home but don't participate in SHGs		
2.1	Participate to SHGs but don't access to Communication Technology at home		
3	Access to Communication Technology at home but don't access to library,		
3.1	Access to library, but don't access to Communication Technology at home		
4	Access to Communication Technology at home but don't access to cooperatives		
4.1	Access to Communication Technology at home but don't access to Market and credit		

4.2	Access to cooperatives, Market and credit but don't access to Communication Technology at home		
5	Access to Communication Technology at home but don't access to local PHC		
5.1	Access to local PHC but don't access to Communication Technology at home		

9.2 How frequently you access to Internet Café/CIC/Arunodoy Kendra

		Female	Male
1)	Once/twice/thrice a week		
2)	Once a month		
3)	Once in six months		
4)	Once in one year		
5)	Have not visited yet		

9.2.1 Mark the barriers (Multiple pick at a time) to access to Communication technology at home and at community (For Women Residents)

1) Supposed difficulties
2) Technology phobia
3) Cost of operation
4) Lack of time beyond household management
5) Child rearing
6) Lack of skills
7) Lack of knowledge/ information regarding benefits of ICT
8) Inappropriate opening timing, not consistent with household timing
9) Lack of requisite transport facilities
10) Lack of security

9.3 Tick the CIC services given below that you have accessed so far

1) Commodity/ Mandi Marketing Information/ Rural Market
2) Rural News Paper (Information of the Gaon)
3) Health Service Information
4) Customer complain

9.4 Mention the distance nearest Internet café/ CIC/Arunodoy Kendra

---

9.5 Are you trained in any programme offered by CIC i.e. CAP (Computer awareness Program)/ CCCA (Certificate Course in Computer application)/ ACAP (Advanced CAP)/ CCC (Course on Computer Concepts) of DOEACC/ Computer Literacy Program of IGNOU/ Internet

_____

_____

9.6 Have you ever engaged in ICT sales service such as Computer (Hardware and Software), Mobile Phone Sale, TOP-UP-recharges ? Yes ___ No____

If yes, then mention the nature of service _____

9.7 Do you possess Adhaar card/UID card? Yes ____ No ____

9.8 If given choice to receive information from information Centre , the nature of service you prefer most will be-

1) Voice services (want to listen to a person from opposite end)

2) Computational voice services

10. Information on Interventionist approach : Intervention Programme of Gram Panchayat/ SHGs-NGOs/ State or Central Government

10.1 Have you ever/ quite often taken participation in meeting of Village Society, Panchayat, Village Development Committee, with Business Partners or Clients ?

_____

10.2 Are you a beneficiary of income enhancement program of State/ Central Government?

_____

10.3 Are you a beneficiary of any social welfare program of State/ Central Government?

_____

10.4 Have you ever/ quite often participated in any skill development or capacity development program of an NGO ?

_____

10.5 Capability indicators that is experienced by women residents of households after involvement in NGOs/SHGs. Mark or tick (Yes= 1, No=2) of the following

1) Greater economic stability
2) Reduced cost of credit
3) Obtain entrepreneurial skills
4) Acquired an identity at home & in society
5) Improve group dynamics
6) Improve marketing skills
7) Improve Financial skills
8) Better business decision
9) Engaged in managerial work
10) Gained more access to schemes and scholarship
11) Gained more access to legal information

10.6 General socio-economic barriers that pose to be motivational constraints for women residents of household to participate in face community Groups & enterprises i.e. SHG/CIC/ Internet café/ Arunoy Kendra/Cooperative or Credit society (Mark tick on multiple conditions if applicable)

1) Poor living conditions
2) livelihood security
3) Illiteracy, lack of proper employment
4) Socially unorganized set up
5) Gender inequality
6) Health problems
7) Scientifically less advanced

8) Constraints in accessing information 10.7 General constraints women face after participating in community Groups & enterprises i.e. SHGs/CIC/Internet café /Arunoydoy Kendra/ Cooperative or Credit society (Mark tick on multiple conditions if applicable) **1)** Marketing is considered to be tough **2)** Hectic procedures in preparing minutes, reports, meetings, banking etc. **3)** Community groups & enterprises became an additional burden to them besides household Thank you **********	

Table/ Figures

1. Communication Infrastructure Perspective

Sl. No	Basic amenities available in Villages	No of Villages 14		
1.	Electrified /Not Electrified	12		
2.	Cooperative society	11		
3.	Commercial bank/agricultural bank	10		
5.	Self-help group	10		
8.	Credit society	11		
		1 to 5 km distance	5 to 10 km distance	10 to 20 km distance
9.	Police Station	3	9	2
10.	Medicine Shop-phc	7	6	1
11.	Mandi-Market	4	8	2
12.	Primary School-Secondary School	1	13	
13.	Higher Secondary School	-	12	2
14.	Postoffice-PCO	6	7	5

Table 1

2. Employment status in Control group

Sl. No	Employment status in Control group	Total Numbers of surveyed Population
1	Self employed	60
1.1	Agricultural sector Farmer/poultry farm/pig farm/cow farm	80
1.2	Nonagricultural sector shop keepers , carpentry, contractor	120
2	Salaried employee/regular wage	60
2.1	Agricultural sector Govt. job holder /private job holders	30
2.1	Nonagricultural sector Govt. job holder/private job holders	90
3	Rural laborers daily wage earner including daily wage earner mechanics	90
4	Unemployed	60
4.1	Unemployed between age 15-24	-
5	Not in labor force/pension holders	50
6	Total surveyed population employed/unemployed	640

Table 2

3. Distribution of Respondents in terms of their experience with Mobile Phone in a control environment

Sl. No.	User's experience with Mobile Phone	Control Group, N =640
1	Friendly with Key pad	320
2	Know to use Touch Screen features	60
3	Suffered from network connectivity loss	280
4	Suffered from power shortage	40
5	Borrowing cell phone	20
6	Increased participation	380
7	Encouraged entrepreneurship in community	40
8	Mobile phone is at per and even better than other form of communication technology	530
9	Increasing autonomy	600
10	Mobile makes less tolerant	540
11	Increasing productivity	620
12	Increasing safety & Security	340
13	Increasing Income	380
14r	Increasing decision making power	320
16	Increased accountability towards a business	20
17	Oversee family responsibilities	590
18	Makes you happy	
20	Economic development of household is possible	570
21	Problem in activating mobile no	40

Table 3

4. Distribution of Respondent Households by the Uses of Different types of Information Services (Content services)

Sl. No	Different purposes	Control group (N=640)
1	Day to day talk	640
2	Market information	20
3	Krishi	-
4	Weather information	-
5	Health information	20
6	Talking to clients (business purpose)	120
7	Information About Disasters	60
8	Checking Examination Results	80
9	Searching employment Opportunities	45

Table 4

5. Mobile internet connectedness of Village residents

Mobile internet connectedness	Assam N=640
Are not aware of mobile internet	--
Aware of mobile internet but have not accessed it	Approx. Half
Access to job portal	0
Browse social networking site or What's app	11
Taking part in discussion on mobile discussion sites or forum	0
Google through mobile to retrieve information	21
Mobile shopping	21
Paying bills through mobile phone	21

Table 5

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Report Government and Private Organizations

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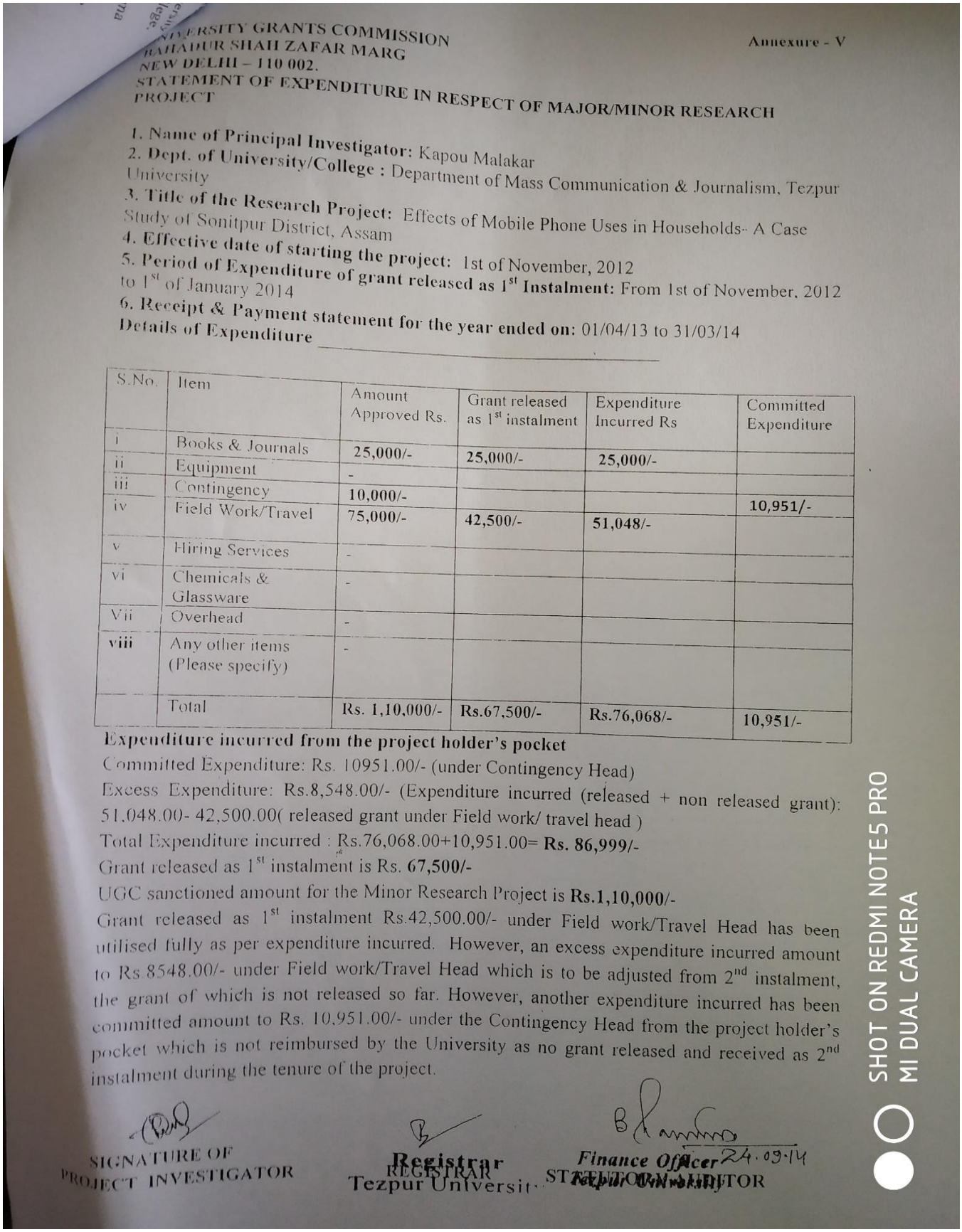
Annexure 3



UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI – 110 002.

Annexure - V

STATEMENT OF EXPENDITURE IN RESPECT OF MAJOR/MINOR RESEARCH PROJECT

1. **Name of Principal Investigator:** Kapou Malakar
2. **Dept. of University/College :** Department of Mass Communication & Journalism, Tezpur University
3. **Title of the Research Project:** Effects of Mobile Phone Uses in Households- A Case Study of Sonitpur District, Assam
4. **Effective date of starting the project:** 1st of November, 2012
5. **Period of Expenditure of grant released as 1st Instalment:** From 1st of November, 2012 to 1st of January 2014
6. **Receipt & Payment statement for the year ended on:** 01/04/13 to 31/03/14

Details of Expenditure

S.No.	Item	Amount Approved Rs.	Grant released as 1st instalment	Expenditure Incurred Rs	Committed Expenditure
i	Books & Journals	25,000/-	25,000/-	25,000/-	
ii	Equipment	-			
iii	Contingency	10,000/-			10,951/-
iv	Field Work/Travel	75,000/-	42,500/-	51,048/-	
v	Hiring Services	-			
vi	Chemicals & Glassware	-			
Vii	Overhead	-			
viii	Any other items (Please specify)	-			
	Total	Rs. 1,10,000/-	Rs.67,500/-	Rs.76,068/-	10,951/-

Expenditure incurred from the project holder's pocket

Committed Expenditure: Rs. 10951.00/- (under Contingency Head)

Excess Expenditure: Rs.8,548.00/- (Expenditure incurred (released + non released grant): 51,048.00- 42,500.00(released grant under Field work/ travel head)

Total Expenditure incurred : Rs.76,068.00+10,951.00= **Rs. 86,999/-**

Grant released as 1st instalment is Rs. **67,500/-**

UGC sanctioned amount for the Minor Research Project is **Rs.1,10,000/-**

Grant released as 1st instalment Rs.42,500.00/- under Field work/Travel Head has been utilised fully as per expenditure incurred. However, an excess expenditure incurred amount to Rs.8548.00/- under Field work/Travel Head which is to be adjusted from 2nd instalment, the grant of which is not released so far. However, another expenditure incurred has been committed amount to Rs. 10,951.00/- under the Contingency Head from the project holder's pocket which is not reimbursed by the University as no grant released and received as 2nd instalment during the tenure of the project.

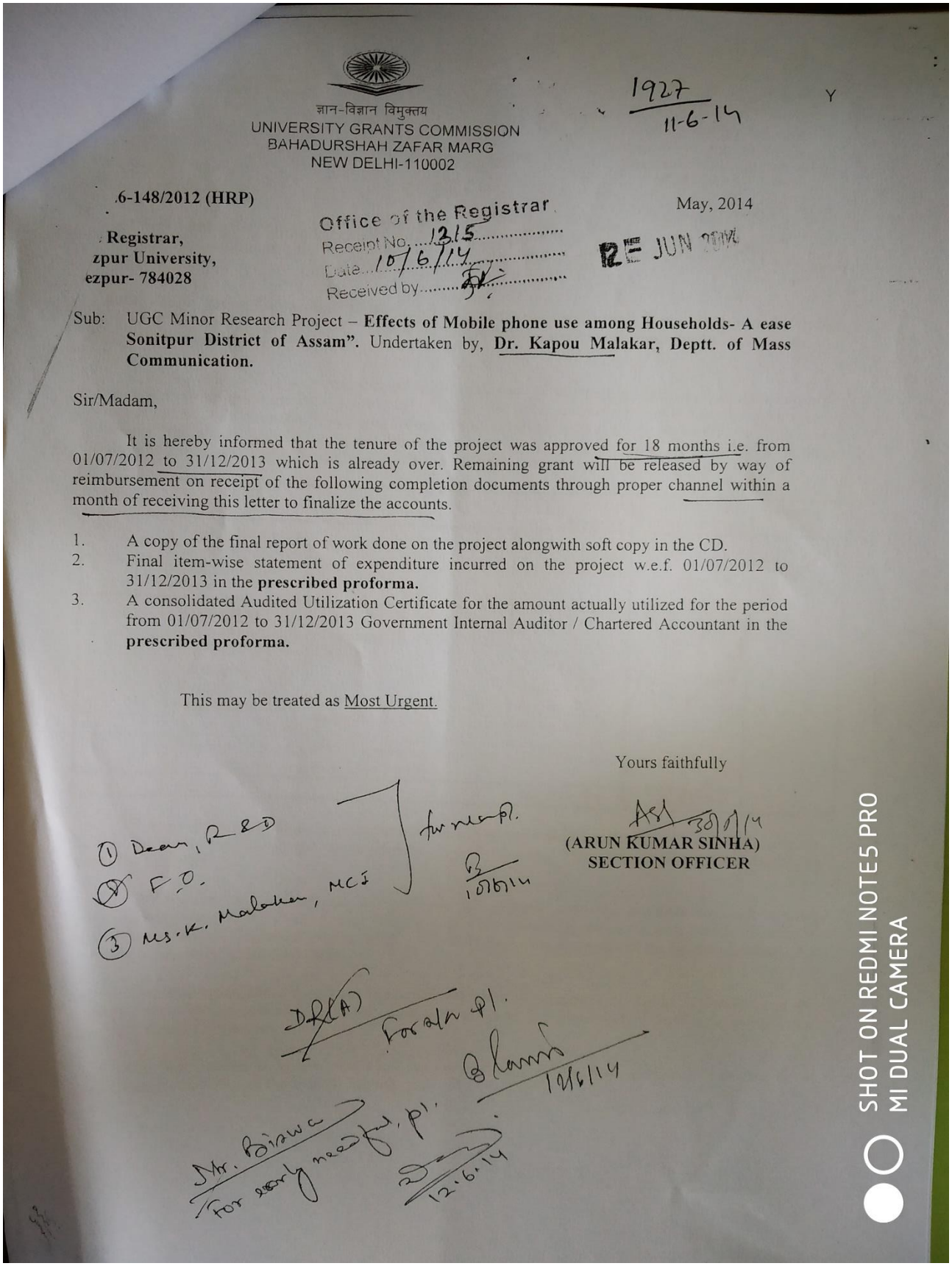
SIGNATURE OF PROJECT INVESTIGATOR

Registrar
REGISTRAR
Tezpur University

Finance Officer
24.09.14
STATUTORY AUDITOR
Tezpur University

SHOT ON REDMI NOTE5 PRO
MI DUAL CAMERA

Annexure 4



ज्ञान-विज्ञान विमुक्तये
UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110002

1927
11-6-14

.6-148/2012 (HRP)

May, 2014

Office of the Registrar
Receipt No. 1315
Date 10/6/14
Received by

RE JUN 2014

Registrar,
zpur University,
ezpur- 784028

Sub: UGC Minor Research Project – **Effects of Mobile phone use among Households- A ease Sonitpur District of Assam".** Undertaken by, **Dr. Kapou Malakar, Deptt. of Mass Communication.**

Sir/Madam,

It is hereby informed that the tenure of the project was approved for 18 months i.e. from 01/07/2012 to 31/12/2013 which is already over. Remaining grant will be released by way of reimbursement on receipt of the following completion documents through proper channel within a month of receiving this letter to finalize the accounts.

1. A copy of the final report of work done on the project alongwith soft copy in the CD.
2. Final item-wise statement of expenditure incurred on the project w.e.f. 01/07/2012 to 31/12/2013 in the **prescribed proforma.**
3. A consolidated Audited Utilization Certificate for the amount actually utilized for the period from 01/07/2012 to 31/12/2013 Government Internal Auditor / Chartered Accountant in the **prescribed proforma.**

This may be treated as Most Urgent.

Yours faithfully

30/07/14
(ARUN KUMAR SINHA)
SECTION OFFICER

① Dean, R&D
② F.O.
③ Ms. K. Malakar, MCI

for info pl.
10/6/14

DR(A)
For info pl.
12/6/14

Mr. Biswas
For early needful pl.
12.6.14

SHOT ON REDMI NOTE5 PRO
MI DUAL CAMERA

Office of the Registrar
Receipt No. 8024
Date 29.1.2012
Received by

111 (C)

23232701, 23237721, 23234116
23232317, 23236735, 23239437

विश्वविद्यालय अनुदान आयोग
बहादुरशाह जफर मार्ग
नई दिल्ली-110 002
UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110 002

F. No. **6- 148/2012 (HRP)**

1. OSD (Fin).
2. Dean, R & D
4. Dr. Kapou Malakar, Dept of MCJ
5. UGC- Grant File.

For info & n/a
30 AUG 2012

The Under Secretary (FD-III)
University Grants Commission
New Delhi-110002

Sub:- UGC support for the Minor Research Project in Humanities and Socials Sciences to University/College Teachers – Project entitled, "**Effects of Mobile phone use among Households- A case study in Sonitpur District of Assam**"

Sir,

I am to refer to your letter forwarding the application of **Dr. Kapou Malakar** of your institution for financial assistance under the above scheme and to convey the Commission's approval & sanction an on account grant of **Rs. 67,500/- (Rupees: Sixty seven thousand five hundred only)** to the Registrar, **Tezpur University, Tezpur- 784 028, Assam** in r/o Minor Research Project of **Dr. Kapou Malakar**, Department of **Mass Communication** for the period of **18 months** w.e.f. **1.7.2012** as detailed below:-

S.No.	ITEMS	Amount Approved	Grant Released as Ist instalment	Category
A.	**Non - Recurring**			
1.	**Books & Journals**	25,000/-	25,000/-	
2.	**Equipment ()**	-------		
B.	**Recurring**			
1.	Honorarium to Retd. Teacher @ Rs. 12,000/- p.m.	-------	42,500/-	
2.	Project Fellow @ Rs.14,000/- p.m.	-------		
3.	Contingency ()	10,000/-		
4.	Hiring Services	-------		
5.	Travel/Field Work	75,000/-		
6.	Any other (P.I. Specify)	-------		
7.	**Overhead Charges 10% of approved recurring Grant (Except Travel & Field Work)**	-------		
	Total (A + B)	**Rs. 1,10,000/-**	**Rs.67,500/-**	

The acceptance Certificate in prescribed format (Annexure-I available on the UGC web-site) may be sent to the undersigned within one month from the issue of the award letter failing which the project may be treated as cancelled.

If the terms & conditions are acceptable, as per guideline which are available on UGC web-site www.ugc.ac.in the Demand Draft/ Cheque being sent may be retained. Otherwise the same may be returned in original to the UGC by Registered Post in variably with in 15 days from the receipt of the Demand Draft/Cheque in favour of Secretary, UGC, New Delhi.

Principal Investigators should ensure that the statement of expenditure & utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the University Grants Commission in time.

The first instalment of the grant shall comprise of 100% of the Non –Recurring including Over Head Charges, and 50% of the total Recurring grant.

Annexure 5

To
The Secretary
University Grant Commission
New Delhi-110002
Dated:24/09/14

Sub: Release of 2nd instalment to adjust the excess expenses committed during the Minor Research Project period entitled "Effects of Mobile Phone Uses in Households-A case Study of Sonitpur District, Assam" [UGC letter F. NO. 6-148/2012(HPR)]

Dear Sir,

With due deference I would like to inform you the following few lines for your kind information and necessary action.

UGC sanctioned amount for the Minor Research Project is **Rs.1,10,000/-** (issued UGC grant sanctioning letter is enclosed). Grant released as 1st instalment is Rs. 67,500/- and the expenditure incurred so far in the project is **Rs. 86,999/-** [Rs.67,500.00+ 19,499(Rs.8548.00+Rs.10951.00)]

I have utilized the grant of Rs. 67,500.00 (Rupees sixty-seven thousand five hundred only) received from the University Grants Commission as 1st instalment under the scheme of support for Minor Research Project entitled Effects of Mobile Phone uses in Households – A case study of Sonitpur District Assam vide UGC letter No. F. F No 6-148/2012 (HRP). The Utilization Certificate and Statement of Expenditure have been enclosed along with Project Report herewith this letter.

Grant released as 1st instalment under Field work/Travel Head amount to Rs.42,500.00/- has been utilized fully as per expenditure incurred. However, an excess expenses incurred amount to Rs.8548.00/- under Field work/Travel Head which is to be adjusted from 2nd instalment which is not released yet. However, another expenditure incurred has been committed amount to Rs. 10,951.00/- under the Contingency Head from the project holder's pocket which is not reimbursed by the University as no grant released and received as 2nd instalment during the tenure of the project. Hence, a balance amount of **Rs. 19,499.00/-** [Rs. 10,951.00 (committed expenses incurred under contingency) + Rs.8548.00/- (excess expenses incurred during Travel and Field Visit)] is to be reimbursed to me as 2nd installment. I have filled all particulars on the RTGS Mandate Form received from UGC and submit it enclosing herewith this letter.

I, therefore, request you to do the needful at the earliest.

Sincerely yours,

Kapou Malakar
Project Investigator
Tezpur University

Registration No: DORD/ MCJ/KM/20-130

Minor Research Project entitled "Effects of Mobile Phone Uses in Households-A case Study of Sonitpur District Assam" [UGC letter F. NO 6-148/2012(HPR)]

The field visit with regard to the UGC supported minor research project "Effects of Mobile Phone Uses in Households-A case Study of Sonitpur District, Assam", has been carried out in two phases. The first phase of field visit was scheduled from 1st of November, 2012 to 31st of January, 2013 which covered 7 out of 14 villages and the second phase was carried out during 15th of June to 31st of July, 2013. Following are the selected villages from fourteen development blocks of Sonitpur District where the survey (40 households from each village/development block) and the focus group discussion have been carried out.

1) Bhalukekhowa under Bhalukekhuwa Gaon Panchayat (Bihaguri Block)
2) Pathekakuwari village under Gaon Panchayat (Sootea Block)
3) Nizborsola Village under Niz Borsola Gaon panchayat (Borsola block)
4) Dhenudhara Village under Dhenudkora town committee (Chaiduar Block)
5) Tarajan Village (Panbari Gaon Panchayat under Dhekiajuli Block)
6) Jahajduba Village under Dolabari Gaon Panchayat (Gabharu Block)
7) Namanigaon under Namonigaon Gaon Panchayat (Rangapara)
8) Bora Suburi, Rotowa Pathar under Rotowa Gaon Panchayat (Baghmara Block)
9) Bihali Tea Estate under (Bihali Block)
10) Kokila Jaroni village under Dubia Gaon Panchayat (Pub Chaiduar Block)
11) Panibhoral village under Panibharal Gaon Panchayat (Biswanath Charialli)
12) Haidabari Village under Kuwanri Gaon panchayat (Sakomata Block)
13) Borbogia Village Under Borbhogia gaon Panchayat (Naduar)
14) Boithabonga village under Ghoramari Gaon Panchayat (Balipara)

For field work, four data collectors were appointed and they are respectively Shri. Mani Saikia ,Shri. Ananta Nath, Shri. Madhab Nath and Miss Anita Medhi. They collected data from the selected villages from each block for the project for a period of 1st of February, 2013 to 31st of December,2013. Total amount of remuneration distributed among four data collectors is Rs.26,000/- Twenty-five books for the project have been purchased from the grant sanctioned for books and journals under Non-Recurring Head. The sanction fund for contingency under Recurring Head is Rs. 10,000/-(S.No.B.5 ITEMS: B. Recurring, Contingency) the amount which is not released from UGC yet. However, amount incurred for miscellaneous purpose so far is Rs. 10951.00 which is spent from own pocket.

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI – 110 002.

Annexure - V

STATEMENT OF EXPENDITURE IN RESPECT OF MAJOR/MINOR RESEARCH PROJECT

1. **Name of Principal Investigator:** Kapou Malakar
2. **Dept. of University/College :** Department of Mass Communication & Journalism, Tezpur University
3. **Title of the Research Project:** Effects of Mobile Phone Uses in Households- A Case Study of Sonitpur District, Assam
4. **Effective date of starting the project:** 1st of November, 2012
5. **Period of Expenditure of grant released as 1st Instalment:** From 1st of November, 2012 to 1st of January 2014
6. **Receipt & Payment statement for the year ended on:** 01/04/13 to 31/03/14

Details of Expenditure

S.No.	Item	Amount Approved Rs.	Grant released as 1st instalment	Expenditure Incurred Rs	Committed Expenditure
i	Books & Journals	25,000/-	25,000/-	25,000/-	
ii	Equipment	-			
iii	Contingency	10,000/-			10,951/-
iv	Field Work/Travel	75,000/-	42,500/-	51,048/-	
v	Hiring Services	-			
vi	Chemicals & Glassware	-			
Vii	Overhead	-			
viii	Any other items (Please specify)	-			
	Total	Rs. 1,10,000/-	Rs.67,500/-	Rs.76,068/-	10,951/-

Expenditure incurred from the project holder's pocket

Committed Expenditure: Rs. 10951.00/- (under Contingency Head)

Excess Expenditure: Rs.8,548.00/- (Expenditure incurred (released + non released grant): 51,048.00- 42,500.00(released grant under Field work/ travel head)

Total Expenditure incurred : Rs.76,068.00+10,951.00= **Rs. 86,999/-**

Grant released as 1st instalment is Rs. **67,500/-**

UGC sanctioned amount for the Minor Research Project is **Rs.1,10,000/-**

Grant released as 1st instalment Rs.42,500.00/- under Field work/Travel Head has been utilised fully as per expenditure incurred. However, an excess expenditure incurred amount to Rs 8548.00/- under Field work/Travel Head which is to be adjusted from 2nd instalment, the grant of which is not released so far. However, another expenditure incurred has been committed amount to Rs. 10,951.00/- under the Contingency Head from the project holder's pocket which is not reimbursed by the University as no grant released and received as 2nd instalment during the tenure of the project.

SIGNATURE OF PROJECT INVESTIGATOR

Registrar
REGISTRAR
Tezpur University

Finance Officer 24.09.14
STATUTORY AUDITOR
Tezpur University

Annexure - IV

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI – 110 002.

Utilization Certificate

It is certified that the grant of Rs. 67,500.00 (Rupees sixty seven thousand five hundred only) received from the University Grants Commission as 1st instalment under the scheme of support for Minor Research Project entitled Effects of Mobile Phone uses in Households – A case study of Sonitpur District Assam vide UGC letter No. F. F No 6-148/2012 (HRP) has been fully utilized for the purpose for which it was sanctioned and in accordance with the terms and conditions laid down by the University Grants Commission.

Grant released as 1st instalment under Field work/Travel Head amount to Rs.42,500.00/- has been utilized fully as per expenditure incurred. However, an excess expenses incurred amount to Rs.8548.00/- under Field work/Travel Head which is to be adjusted from 2nd instalment which is not released yet. However, another expenditure incurred has been committed amount to Rs. 10,951.00/- under the Contingency Head from the project holder's pocket which is not reimbursed by the University as no grant released and received as 2nd instalment during the tenure of the project. Hence, a balance amount of **Rs. 19,499.00**/- [Rs. 10,951.00 (committed expenses incurred under contingency) + Rs.8548.00/- (excess expenses incurred during Travel and Field Visit)] is to be reimbursed to the project investigator as 2nd installment.

SIGNATURE OF THE PRINCIPAL INVESTIGATOR **REGISTRAR/PRINCIPAL** **STAUTORY AUDITOR**

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI – 110 002.

Utilization Certificate

It is certified that the grant of Rs. 67,500.00 (Rupees sixty seven thousand five hundred only) received from the University Grants Commission as 1st instalment under the scheme of support for Minor Research Project entitled Effects of Mobile Phone uses in Households – A case study of Sonitpur District Assam vide UGC letter No. F. F No 6-148/2012 (HRP) has been fully utilized for the purpose for which it was sanctioned and in accordance with the terms and conditions laid down by the University Grants Commission.

Kapou Malakar

SIGNATURE OF THE
PROJECT INVESTIGATOR