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Community Internet Access in Rural Areas: A study on Community Information Centres in Bangladesh

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ABSTRACT

Information is an indispensable resource for the socio-economic development of any community as it is needed and utilized by society for its development and prosperity. The rural communities have different needs for information depending upon their functions, responsibilities and duties. Different community information centres are meeting up these demands through the provision of information services. The purpose of this article is to highlight community information centres established in the rural areas of Bangladesh and describe how these centres are playing a vital role for providing specific Internet- based information services to the rural communities. This article explores the major role of Community Information Centres (CICs) and its impact on the user communities in Bangladesh. Equal importance is also given to how the communities are getting the latest information facilities through CIC and explores how CIC can be strapped up to promote development of the rural communities in Bangladesh. This article also sees the sights of different community Internet access points in Bangladesh and identifies their service pattern and existing situations of internet services. It also highlights the different problems of CICs and an attempt has been made to suggest some effective measures and future directions for further development of Internet access points and CICs in Bangladesh.

Keywords: Rural community; Internet community; Information Communication Technology (ICT); Community Information Centre (CIC); Internet facilities.

INTRODUCTION

Information is the driving force of a modern society. Over the last few decades, the increased emphasis on information in every sphere of life has resulted in the increased use of information in every sector. It is often argued that information in itself has no inherent value (Dilli 1997). It only has a value when it becomes accessible and usable. Therefore, usability and effectiveness of information largely depends on the access to information. The new millennium has ushered in a world of greater inter-connectivity and is accelerating the flow of data and information. Information and Communication

Technologies (ICTs) greatly facilitate the flow of information and knowledge offering the socially marginalized and unaware community unprecedented opportunities to attain their own entitlements (Ulrich 2004). The last decades of the 20th century, as well as the first part of the 21st century, has seen many initiatives all over the world to make sure that underprivileged communities get their fair share of information and critical knowledge with the help of ICTs. Most of these initiatives are directed at making information available to rural communities through the Internet.

ICT plays a significant role in the development of a society. Sein and Harindranath (2004) in their model analyzing the role of ICT in national development, pointed out that ICT can be broken down into four aspects with regard to development namely:

- ICT as a commodity,
- ICT as a supporting development activity,
- ICT as driver of the economy, and
- ICT directed at specific development projects.

The ICT infrastructure in Bangladesh has been strengthened through some favourable initiatives by the government as well as by privatesectors. The Internet first came into use in Bangladesh in 1993, and IP connectivity followed suit in 1996. In April 2000, the government withdraw taxes on VSAT satellite ground station and this has resulted in the rapid change of Internet use in the country (Rahman 2008). Table 1 presents the growth of the country's basic ICT indicators in terms of telephone ownership and cellular mobile subscribers from 2002 to 2005, and the growth of Internet users and computer ownership from 2002 to 2004 (UNPAN 1998).

According to the ICT Development Index 2009 published by International Telecommunication Union (2009), mobile cellular subscription per 100 inhabitants has increased from 0.8 in 2002 to 21.7 in 2007, which is the most significant improvement area as far as ICT access is concerned. Conversely fixed telephone lines per 100 inhabitants has increased from 0.5 in 2002 to 0.8 in 2007, the proportion of households with computers has increased from 0.8 in 2002 to 1.9 in 2007 and the proportion of households with Internet has increased from 0.1 in 2002 to 1.3 in 2007. International Internet bandwidth per Internet user moreover, has increased from 211 bit/s to 1,284 bit/sec in these five years (International Telecommunication Union 2009). Though various initiatives are seen to connect the rural community in Bangladesh, the notion of 'digital divide' is a very common term in the perspective of Bangladeshi. Digital divide is usually measured in terms of people's access to ICTs and those without such access or skills (de Munster 2004). According to Rajjora (2002), more than 80% of the people in the world have never heard a dial tone; the richest 20% of the world's people accounted for 93.3% of world Internet users, while the poorest 20% accounted for 0.2% of Internet users The divide that shows up is not merely between countries; developed and developing, rich and poor. It also exists within countries; between different areas. In case of Bangladesh, there has not been any attempt in the country to undertake a comprehensive survey to collect information on the use of ICT at the household and individual levels. The Household Income and Expenditure Survey (HIES) 2005, a survey conducted by the Bangladesh Bureau of Statistics (BBS) sought information on the use of ICT and the final result of the survey is yet to be published. However, the preliminary survey results are shown in Table 2.

Table 1: The Growth of ICT Penetration in Bangladesh in Terms of Telephone Ownership, Cellular Mobile Subscribers, Internet Users and Computer Ownership

Basic ICT indicator			
Year	**Population density** (Per sq. km)	**GDP Per capita** (USD)	**Total telephone subscribers** (per 100 inhabitants)
2002	925	346	1.26
2003	938	354	1.56
2004	952	382	2.63
2005	985	-	2.63

Main Telephone lines				
Year	**Main telephone lines** (000s)	**CAGR*** (0%)	**Main telephone lines** (000s) (per 100 inhabitants)	**CAGR*** (0%)
2002	605.9	10.5 (1997-2002)	0.46	8.9 (1997-2002)
2003	742.0	12.5 (1998-2003)	0.55	10.8 (1998-2003)
2004	831.0	13.9 (1999-2004)	0.61	12.3 (1999-2004)
2005	831.0	14.0 (2000-2005)	0.61	12.4 (2000-2005)

Cellular subscribers				
Year	**Cellular mobile subscribers**			
	(000s)	**CAGR* (%)**	**Per 100 inhabitants**	**Total telephone subscribers (%)**
2002	1,075.0	110.5	0.81	64.0
2003	1,365.0	78.7	1.01	64.8
2004	2,781.6	79.6	2.03	77.0
2005	9,000.0	100.3	6.35	91.5

Information technology parameters			
Year	**Internet**		**Personal computer per 100 inhabitants**
	Hosts	**Users per 100 inhabitants**	
2002	-	015	0.34
2203	-	0.18	0.78
2004	13	0.22	1.20

*CAGR – Compound Annual Growth Rate

Source: International Telecommunication Union (2009)

Generally, the use of the ICT facilities is much higher in urban areas compared to rural areas. It is clear from Table 2 that telephone and mobile phone facilities in Bangladesh, especially in the urban areas are high and on the contrary, in rural areas it shows 0.33 and 6.05 percent respectively for each facility. However in many countries, the developed communities from developed areas have gone into intricate networks and information superhighways whereas the indigenous communities of under-developed areas have not heard of computers and Internet (Rajjora 2002). In order to provide information to the marginalized and rural disadvantaged people, and to reduce technological discrimination and the digital divide between urban and rural areas, a number of information and knowledge centres (popularly known as Community Information Centres, or CIC) have already been established in the rural areas of Bangladesh. These CICs, once established nationwide in rural areas, will provide a range of services focused on the needs of rural residents and will bring profound impact on rural life that include creating social awareness, eradicating poverty, empowering women, opening the door of financial

activities and eliminating digital divide. As a result, the underprivileged and marginalized people living in the remote areas would be immensely benefited from the information centres.

Table 2: Percentage of Households having ICT Facilities

Type of Facilities	National	Rural	Urban
Telephone	2.87	0.33	10.36
Mobile Phone	11.29	6.05	26.73
Computer	1.36	0.17	4.88
e-mail	0.20	-	0.81

Source: Bangladesh Bureau of Statistics (2005)

COMMUNITY INFORMATION CENTRES: AN OVERVIEW

The planning and development of Community Information Centre (CIC) is expected to increase the penetration rate of Internet and also the use of ICT for the development of the rural community. The Bangladesh strategic framework on bridging digital divide not only aims to provide the best ICT infrastructure to the people of Bangladesh, but also to adopt the use of ICT as their way of life especially to the improvement of the rural community people. The need of establishing rural community information centres has been addressed by a few researchers. Devi, Meetie and Singh (2007) discussed the major role of Community Information Centres and libraries and its impact on the user community in the state of Manipur, India. Soriano's (2007) study applied the Rural Livelihood analysis framework to explore the link between ICT and rural poverty reduction by analyzing the roles of community telecentres in Wu'an, China. Islam and Uddin (2005) conducted a study on information support services of the rural libraries in Bangladesh where the authors reported on different major information systems and services for the rural development. Similarly, Mahmood (2005) described the effectiveness of multipurpose community telecentres for rural development in Pakistan.

In the Klang Valley Malaysia, Community Information Services (CIS) centres were introduced by the public libraries to bridge the digital divide (Ali Anwar 1996). The Malaysian National Strategic Framework of bridging digital divide listed three main issues on the applications of ICT which relates to the access, the adoption and the value of using ICT among Malaysian community. Razak and Malek's (2008) study that focused on the impact of telecentres for the Malaysian community reveals that there is a positive impact on the use of the telecentres with access to information. In another study on the impact of telecentres to the rural community, Razak and Ibrahim (2008) found that there is a good prospect of e-community centres to be utilized as the access points in assessing information and materials for lifelong learning. The finding indicates that functions of the telecentres as Internet access points must be considered carefully and planned in the transformation exercise of the telecentres in Malaysia. In a case study on bridging the farming community into the Internet age, Deraman and Bahar (2000) showed that despite rapid Internet evolution in Malaysia, the farming community is not getting its full benefit due to many factors. The research leads to the deployment of TaniNet, an interactive on-line agricultural and biotechnological web site aimed at providing the agricultural community with information on the advances of agricultural equipment and practices. Halewood and Kenny (2007) conducted a research on ICT facilities in developing countries where the authors showed that young people are often 'first adopters' of new

technologies, and this appears to be the case with ICTs. Evidence from the developing world suggests that the young people in this study have widespread access to broadcast technologies and the telephone, but more limited access to the Internet. Rao (2004) highlighted the factors preventing rural communities from reaping the benefits of ICTs and the technological innovations to access them. He presented more than 50 selected successful models in India that use modern ICTs for the benefit of the rural communities. He maintained that community information centres can play a key role in meeting the socio-economic aspirations of rural communities by successfully addressing the "eight Cs" of success in the digital age: connectivity, content, community, commerce, capacity, culture, co-operation and capital.

OBJECTIVES AND METHOD

The general objective of the study is to identify the different Internet access points for the community people and to know their present situations. The specific objectives of the study are:

a) to explore the different community Internet access points in Bangladesh and availability of community Internet services in Bangladesh;
b) to measure the importance of Community Information Centre (CIC) and ascertain their effectiveness
c) to identify the information needs of the rural dwellers and assess if these Internet centres are meeting users' needs;
d) to assess the degree of user satisfaction with the existing Internet services at the Community Information Centres (CIC); and
e) to identify the constraints faced by the rural communities in getting their desired Internet services.

The present research may be characterized as an evaluative research. Both survey and document analysis research approach has been used to gather data for the study. The former involved administration of survey questionnaire to the CIC users as well as from the respective CIC websites. The latter involved data collection from primary and secondary sources such as journal articles, books, monographs, conference proceedings, official records, published and unpublished doctoral dissertation, as well as published and unpublished reports related to the study.

FINDINGS

Community Internet Access Points in the Rural Areas of Bangladesh

The concept of community Internet access is very much well known to the Bangladeshi society; however the same concept is being tried by different organizations, in different names and programmes. In Bangladesh community Internet access services are provided by initiatives such as the "Community Multimedia Centres", "Community Information Centres", "Rural Knowledge Centres", and "Rural Information Centres", to name a few. Of late, various initiatives by different stakeholders, mainly the non-governmental organizations (NGOs) and private sectors have been taken in the establishment of telecentres or Rural Information/ICT Centres for providing Internet services to the rural community. Table 3 lists some of the major community Internet access initiatives that have been undertaken over the years in different parts of Bangladesh. This indicates the growth of Internet and other ICT services provided by different organizations in Bangladesh.

Table 3: Community Internet Access Initiatives in Bangladesh

Name of Centre	Year Established	Types of Services	Website
Dhaka Ahsania Mission (DAM)	1958	Social empowerment, information networking and community development, Internet & e-mail services. Supply books, newspapers, newsletters, etc. depending on the level of literacy skills of the users.	www.ahsaniamission.org
Practical Action Bangladesh	1966	Library services; computers with dial-up Internet connectivity to provide information to farmers, traders, entrepreneurs and other clients.	www.practicalaction.org
Rural Information Resource Centre (RIRC)	1982	Library facilities and organize seminars, workshops, study circles, discussion meetings, video shows, sharing experiences to enrich the knowledge on development issues of the community people	www.cdlbd.org
Society for Economic and Basic Advancement (SEBA)	1984	Mobilizing local communities to make aware the target groups and offer ICT services at their premises.	www.mission2011.net.bd
Grameen communications	1994	Major aims to introduce and provide computer and Internet facilities to the rural people of Bangladesh	www.grameencommunications.com
Sustainable development networking programme (SDNP)	1997	Serves coastal community through providing weather report in time, health and telemedicine.	www.sdnorg.bd
Amader Gram Learning Centre (AGLC)	2001	Develops participatory monitoring and learning system at the village level through modern technology.	www.amadergram.org
Katalyst	2002	Envisages promoting commercially sustainable rural ICT initiatives in Bangladesh and disseminate business information.	www.katalystbd.com
Grameen Cyber Society (GCS)	2004	Established telecentres for the socio-economic development of rural people.	www.grameentelecentre.rg
Digital Knowledge Foundation (DKF)	2004	Established cyber village and vision to build a knowledge driven Bangladesh.	www.digitalknowledge.org
Development Research Network (D.Net)	2005	Established "Pallitathya Kendra" (Rural Information Centre, RIC) in remote villages of Bangladesh. Provides livelihood information service (e.g. agriculture, health, legal and human rights, education, appropriate technology, awareness, disaster management and rural employment.	www.dnet.org.bd
Relief International (ILC)	2005	Relief International-School Online initiated this programme Internet Learning Centres for the student throughout the school-day	www.ri.org
Youth Community Multimedia Centre (YCMC)	2005	Connected with dial-up Internet connectivity. Target group is local youth and uses loudspeakers to dissemination useful information to the community.	Not available
Rural Technology Centre (RTC)	2006	Provides Internet services and other ICT services for farmers, traders, entrepreneurs and other clients	www.mission2011.net.bd
GHAT Rural ICT Centre	2006	A centre with basic ICT for the local businesses in selected sectors (e.g. poultry, fisheries, potato, etc.) that are dominant in the localities.	www.ghatbd.com
Grameenphone Community Information Centre (CIC)	2006	A shared premise where rural people may access a wide-range of state of art services such as Internet, voice communications, video conferencing and other information services.	www.gpcic.org
Bangladesh National Network for Radio Communications (BNNRC)	2006	A national networking body on alternative mass media working for building a democratic society based on the principles of free flow of information, equitable and affordable access to Information and Communication Technology for Development (ICT4D) and Right to Communication of remote and marginalized population.	www.bnnrc.net
Brack Bdmail Network Ltd	2006	Established e-huts for people who are living in rural areas of the country for getting access to the Internet at affordable price.	www.bracnet.net
Bangladesh Telecentres Network (BTN)	2007	Aims at connecting the rural areas by establishing telecentres throughout the country.	www.telecentrebd.mission2011.net
Tathya Tari (Information Boat)	2007	It provides necessary livelihood information in the riverside communities of Bangladesh.	www.grameenphone.com

Source: Website of these centres

Table 3 also presents the salient features of Internet access points for the rural community in Bangladesh. At the onset, Dhaka Ahsania Mission (DAM), established in 1958, is the first access point of using community services in the rural areas. Initially this centre runs by

supplying books, newspapers, newsletters, magazines, booklets, posters and wall magazines to its users, depending on their level of literacy skills. As times passed, DAM started its ICT services in collaboration with D.Net. It should be noted here that since the first Internet connectivity was provided in 1996, the centres established earlier only incorporated Internet and other ICT services only after 1996. It is apparent that only after the year 2000 that the number of Internet service providers has increased sharply. Most of these of centres deal with the community in relation to community development, women empowerment, connecting rural areas in common network and Internet provision at affordable rates. Their overall aim is to provide ICT facilities for the rural dwellers. Even the rural community is now enjoying modern ICT facilities in the form of video conferences, online job applications and local digital content development through using these centres.

It is interesting to highlight here that the centres also serve river-based people by providing them with weather-related information. *Tathya Tari* (Information Boat) is a case in point, where its main objective is to educate and empower rural communities with necessary and appropriate livelihood information. The information boat works as an information hub to meet the communication needs of rural communities, especially the *Char* and *Haor* (shoal and water body) areas, as people in these areas have limited access to up-to-date livelihood and other information due to their remoteness. . People living in rural areas of the country are also getting access to the Internet at affordable price through e-huts. BBN (Bracnet) (BRAC BDMail Network Ltd.), an affiliation of the Bangladesh Rural Advancement Committee (BRAC) which aims to establish 200 e-huts by the end of 2008, has already established 32 e-huts in Dhaka, Narshingdi, Gazipur, Comilla, Munshiganj and some other districts. The Bangladesh National Network for Radio Communications (BNNRC), GHAT Rural ICT Centre (RIC) and Development Research Network (D.Net) are also covering business information for the local businessmen. The Rural Information Resource Centre (RIRC), a programme of the Community Development Library (CDL) is has played a significant role by providing library services to the local community people. RIRC is playing a key role in making development information available to the people in rural and inaccessible areas by providing Internet services. Another initiative specially tailored to rural schools is the Internet Learning Centre (ILC). As most of these community information centres have their websites that cover information of local content, the rural people can easily acquire the information they need. It is apparent that these centres are now providing Internet services and playing a significant role in bridging the digital divide.

Internet facilities to the rural communities through CICs have been made possible by GrameenPhone, the largest telecommunication operator in Bangladesh serving 23 million subscribers (Grameenphone Official site 2009). GrameenPhone started its CIC pilot project in February 2006 with the establishment of 16 CICs. At present there are 561 CICs operating across the country's around 450 *upazillas* or subdistricts (GPCIC 2007). Figure 1 illustrates a full set up of GrameenPhone's CIC. GrameenPhone has planned to increase the number of CICs substantially so that every CIC can support the rural communities' information needs covering four adjacent villages. In order to ensure the CIC owners of the sustainability of their initiatives, a support network has been set up for these information entrepreneurs. GrameenPhone Service Desk (GPSD) is providing ongoing training to the entrepreneurs to ensure that "they are kept up to date with any technological advances that affect the services they provide to their customers" (Waverman 2005). GrameenPhone Internet (Figure 2) is reaching to the rural community through its awareness programme called "Light will find its way!" and is expanding its Internet platforms to develop more Internet-related products and services. With the support of GrameenPhone's network by EDGE service, a single wireless modem and a Subscriber

Identification Module (SIM), users will be able to get Internet connection without much hassle. They would be required to use their SIM cards from specific mobile operators to get Internet connection. Currently Grameenphone Internet has over 4.5 million subscribers, making the company the largest Internet Service Provider (ISP) in the country (Grameenphone Official Site 2009)

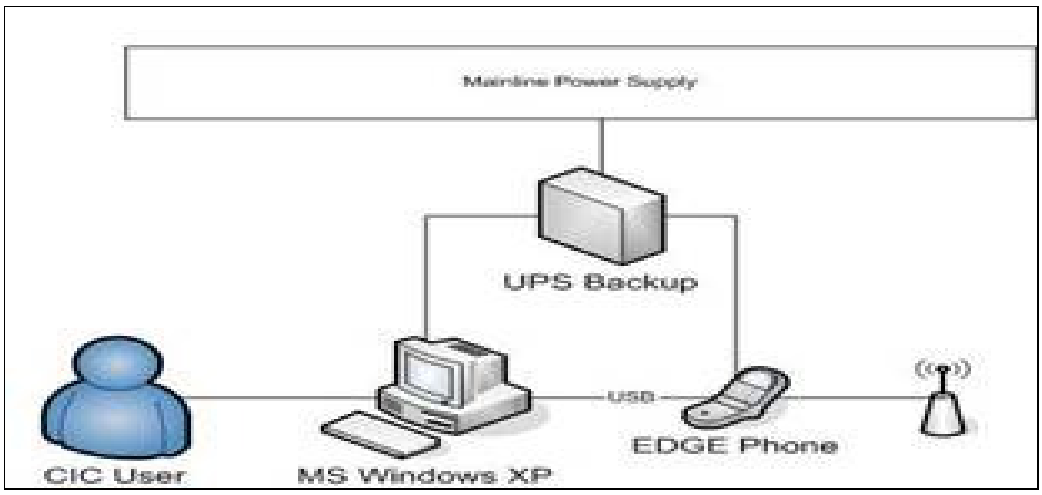

Figure 1: A Full Set Up of a Community Information Centre (CIC)

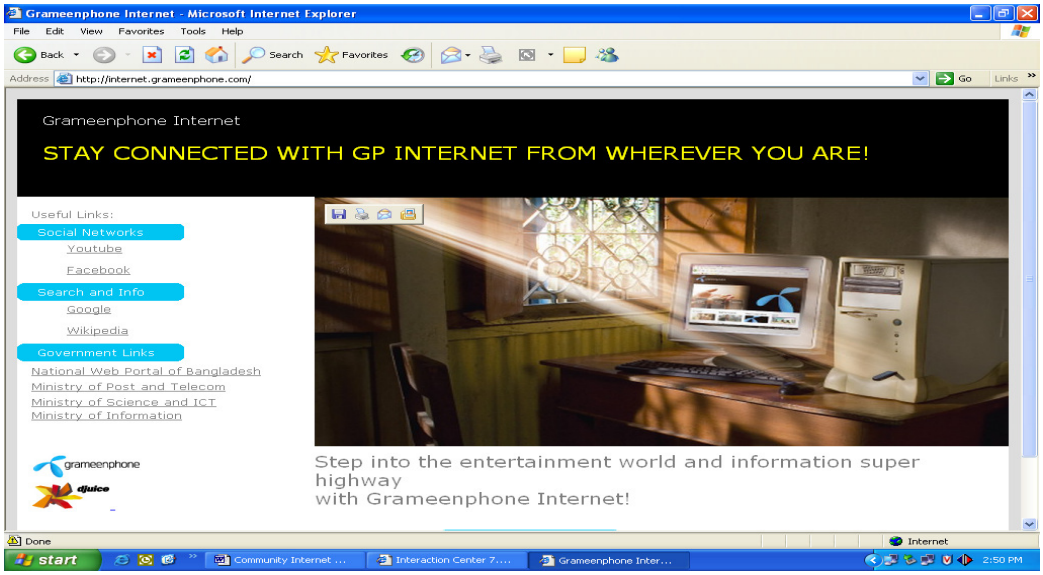

Figure 2: GrameenPhone Internet (http://internet.grameenphone.com/)

The Impact of Community Information Centres in Rural Bangladesh

The CIC is envisioned to fulfill a multi-centric role; it acts as a computing and communications centre and serves as a small business office for information entrepreneurs. At the same time the centre offers a communication network for various local NGOs, business and community-based organizations and helps improve data sharing

among these groups across the country. As Sullivan (2006) has identified, the real value of the CIC comes from the applications that it can enable for citizen services and government interactions, making it an e-governance touch-point for the villagers. This paper has identified the following important roles of CICs:

a) Development of online community: The CICs can facilitate the community to meet and interact virtually, based on their areas of work or interest. Farmers and teachers alike could form an online community. Community web-blogs are an excellent platform to amplify the flow of ideas without the constraints of time and geography.

b) Market access and e-commerce: Greater exchange of market information is necessary for trade to flourish. A successful seller must be fully informed about domestic as well as global business trends. Business decisions taken on the strength of current and relevant inputs always fetch better results that otherwise. For five taka, a farmer can obtain a listing of price for any agricultural commodity sold at nearby markets. With the help of the CICs, artisans, fishermen and farmers can get the required information and market prices from the designated portals and websites with the help of entrepreneurs.

c) As a Community Information Centre Website: The official GrameenPhone Community Information Centre (GPCIC) website has been developed with both Bengali and English Language interfaces in order to present all necessary functionalities to the users on the GPCIC website itself. The website (www.gpcic.org) (Figure 3) which provides necessary links and useful information portals, was launched in August 2006. In September 2007, the website crossed an important milestone with a hit count of over 1 million (Yahia and Reza 2007). This vouches for the popularity as well as of the importance of the CIC initiative.

d) Information services**:** Users can find links to various information based websites in the information services section of the GPCIC website. Important tasks such as money transfer, job applications and other daily tasks such as shopping and banking can be done online. CICs provide a platform for the aspirants to surf the Internet, visit job employment sites and locate promising careers anywhere in the country or the world without leaving their homes. Commodity prices, weather information, crop planning, literacy programmes, examination results, health information, school curriculum, government notifications and downloadable forms could be printed or filled online.

e) Communication: Major Internet-based services such as e-mails and instant messaging could be used from the CICs. The GPCIC website has information on the above services and links to websites that will guide users for availing themselves of various communication methods. Results of competitive national examinations are disseminated over the web and could be accessed by users at the CICs in different areas of Bangladesh.

f) Access to government information: Remoteness from the distribution centre of such information and lack of communication facilities make it very difficult for citizens to have access to necessary government information such as on birth and death registration, voter lists and immigration information. E-governance offers the facility of applying online for documents from a government office from the comfort of one's home or a cyber-café and they are now available at CICs.

g) Common platform for knowledge sharing: CICs provide a forum for people from various communities operating from far-flung locations to come together to exchange knowledge and information that can be of greater utility to them. This platform facilitates knowledge sharing which in turn contributes in the making of a knowledge-driven society.

h) As Telecentres: As stated in the GPCIC web site, the mission of GPCIC is to provide the rural people of Bangladesh with an e-mail address, a telephone number and a complete communication facilities through mobile phone. It aims to assist the citizens to easily and cheaply communicate with others within a few seconds through mobile phone at nominal expenses. The rural community may also utilize the Internet facilities to browse for information and tele-consult doctors for medical help.

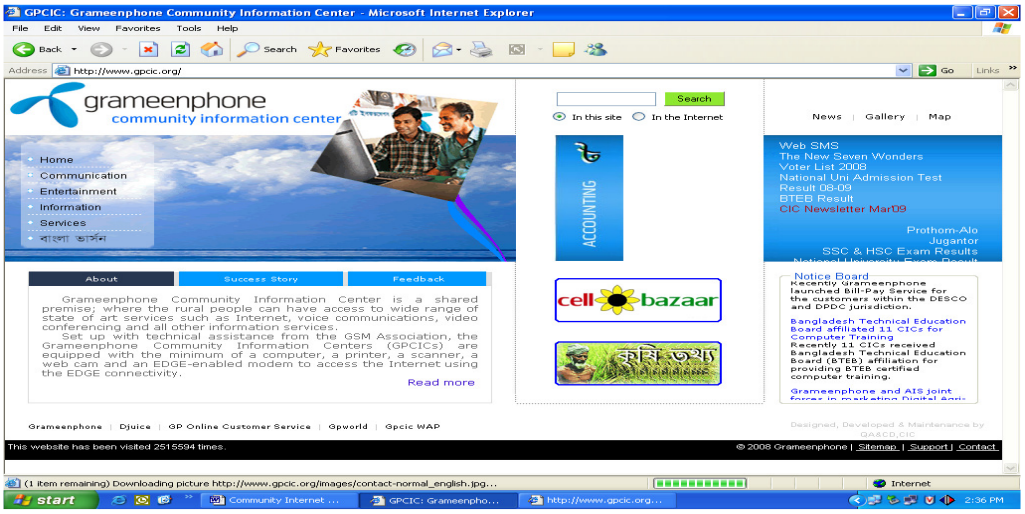

Figure 3: The GPCIC website (www.gpcic.org)

Information Needs of the Rural Community

This section reports on the information needs of the rural dwellers and assess if the CICs are meeting the users' needs. In the mid-term end-user assessment, CICs had an active outreach programme to encourage use. Assessment was conducted to identify the reasons for using the CICs and the types of information provided by the CICs to the rural community. Five districts participated in the assessment study. Of those 1,030 households from these districts taking part in the study, reasons cited for using the CIC in ranked order is as follows: needed information (72.7%); wanted to learn (62.7%); encouraged by staff (41.7%); curiousity (28.2%) and suggested by someone (19.0%). Table 4 details these findings. In Nilphamary district, a total of 25.2% indicated "other reason" for using the CICs. These other reasons are spelt out as "imply curious" and "happened to be passing by the centre".

In terms of the types of information sought, Table 5 shows, in order of prevalence that the CICS provide the following types of information to the rural community: agriculture (90.0%), market prices (67.1%), health (46.6%), news (39.3%), job information (31.5%) and entertainment (16.7%).

Table 4: Reasons for Using the Community Information Centres (n=1030)

Name of district	Panchagarh	Thakurgaon	Nilphamary	Lalmanirhat	Dinajpur	
Reason	Percentage of respondents					Overall
Curiousity	34.7	15.7	39.7	29.4	25.0	28.2
Needed information	74.9	81.9	61.8	73.5	67.4	72.7
Some one suggested	29.7	12.4	19.8	22.3	9.8	19.0
Staff encouraged visit	56.5	43.3	35.1	43.3	26.3	41.7
Wanted to learn	80.3	52.9	39.7	55.0	74.6	62.7
Other reason	2.5	0.5	25.2	0.0	0.4	3.9

(Source: INFOCUBE (Log of daily update and survey report of CIC team. Each entrepreneur submits all queries, complains and insight to the online form. CIC team analyses all the data and submit to upper management level for more involve and evolve of CIC)

Table 5: Types of Information Sought by the Rural Community

Name of districts	Panchagarh	Thakurgaon	Nilphamary	Lalmanirhat	Dinajpur	
Types of information	Percentage of respondents					Overall
Market prices	63.6	57.6	64.1	75.1	73.2	67.1
Agriculture	90.4	94.8	84.0	92.4	86.2	90.0
Health	74.5	40.0	58.8	27.4	36.2	46.6
Job information	35.6	48.6	38.2	30.0	8.9	31.5
News	54.8	30.0	41.2	37.1	32.6	39.3
Entertainment	33.1	9.0	27.5	10.1	7.1	16.7
Others	1.7	0.0	3.1	1.3	0.4	1.2

Source: INFOCUBE of Grameenphone (www.grameenphone.com)

User Satisfaction of the Community Information Centres

The study ascertains if users of CICs are satisfied with the existing Internet services provided at the centres. A total of 25% indicated that they are completely satisfied with the services they are getting. Another 55% of users indicated that they are mostly satisfied with the services. The authors have reasons to believe that shortage of personal computers in the centres and the slow speed contributes to the 15% partial satisfaction response. It has been noted that 5% users are not aware of the CICs and the resources and services they provides Figure 4 illustrates these findings.

The study also requested users to suggest ways to improve the services at the CICs. Overall responses from the five districts involved shows that a total of 75.9% users suggested that more training on Internet use be provided. Users also suggested that the CICs are staffed by more knowledgeable IT personnel (44.2% responses). A total of 24.5% suggested that GPCIC website interface be more user-friendly. Internet speed is quite a problem and 20.6% percent users suggested for that this condition is improved. CIC users also would like to have more services provided at the CICS. These findings seem to indicate that even the people living in the remotest corners of a third world country like Bangladesh have started to enjoy ICT facilities in their daily life. It is noteworthy that respondents generally had a favorable impression of the CICs.

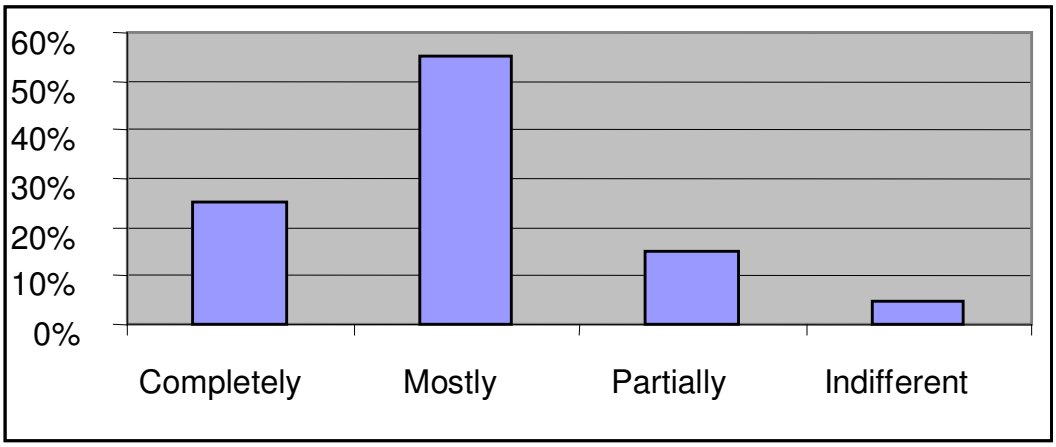

Figure 4: User Satisfaction of the Community Information Centres

Table 6: Suggestions for Improving the Services of the Community Information Centres

Name of districts	**Panchagarh**	**Thakurgaon**	**Nilphamary**	**Lalmanirihat**	**Dinajpur**	
Suggestions	Percentage of respondents					Overall
More Internet training for user	76.6	83.8	75.0	82.4	61.8	75.9
More knowledgeable staff	54.0	39.9	55.6	43.2	32.7	44.2
Provide more services	2.6	1.0	11.1	1.3	0.9	16.9
Website need easy interface	40.0	15.7	21.3	22.0	19.8	24.5
More speed for Internet browsing	36.3	25.6	14.5	13.9	12.9	20.6

Source: INFOCUBE of Grameenphone (www.grameenphone.com)

ISSUES, RECOMMENDATIONS AND CONCLUSION

Community Information Centres in Bangladesh face several problems that may restrict their further development and findings from this study depict the following issues:

a) High illiteracy rate: Access to CICs depends on literacy rate. The literacy rate is very low in the rural areas of Bangladesh. With a literacy rate of 47.9 %, (Central Intelligence Agency 2010) the rural Bangladeshis are a long way from the benefits provided by the CICs.

b) Lack of community Internet access points: The number of community Internet access points in Bangladesh remains insufficient in the perspective of population and areas. No community Internet service provider has so far been established by the government for the rural communities.

c) Absence of Internet services in public libraries: In Bangladesh, there are a total of 66 government public libraries, 64 non-government districts level public libraries 64 and 55 non-government *thana* or subdistrict level public libraries (Hakim 2001). These libraries are playing a vital role for providing information to the rural

communities. However, these public libraries suffer from acute shortage of manpower and resources, and absence of Internet services.

d) Lack of regulatory framework: The regulatory or legal framework in Bangladesh has not yet been modernized to accommodate the growing needs of the electronic world. Still, in government offices, an e-mail has no official value and cannot be legally considered an acceptable mode of communication (cite the source).
e) Unconscious about new technology: The majority of the rural population of Bangladesh is not conscious of new technology-based services and benefits of new ICTs regarding their needs (cite the source).
f) The need of arrangement for training programmes: Most CICs are situated in the rural areas and people from these areas are not familiar with ICT. The level of skills about computer use and Internet navigation is still low among these people. As such, rural people feel awkward and refrain themselves from going to the CIC. This has called for the need to train and educate the village dwellers to use ICTs. However, there is a shortage of trained manpower to conduct training, as well as operating these CICs.
g) Lack of national ICT policy: Although the Government of Bangladesh is planning to accelerate ICT penetration in the rural areas of the country, this has to be done under a coordinated policy. Government agencies such as the Bangladesh Telephone and Telegraph Board (BTTB) and the Rural Electrification Board (REB) should work in coordination to facilitate a national ICT policy to make sure that the rural people receive ICT based services effectively.
h) Lack of Bangla standardization: Currently, there is no standardization for the use of Bangla (the official language of Bangladesh) in the electronic format and none of the Bangla character maintains the international standard – UNICODE; as a result of which Bangla content cannot be put up on the Internet using these characters. There is very small content representation on the Internet in the vernacular Bengali languages. This definitely hinders the use of available relevant world information by the large number of people in Bangladesh as literate people of both urban and rural areas are mostly Bengali speaking.
i) Unreliable supply of electricity across the nation: Uninterrupted power supply is a big problem in Bangladesh and every sector is facing an acute shortage of power. An unreliable supply of electric power is another hindrance in the provision of ICT-based services. All the villages of Bangladesh do not have the facility of home electricity (Islam and Hasan 2009).
j) High-cost and low-reliability of Internet access: The cost of Internet access in Bangladesh is high and the connection also is not very stable. Lack of reliable communications infrastructure and insufficient bandwidth are also factors hampering effective take-up of Internet services.
k) Lack of fund for project sustainability: Bangladesh has experienced the frustrations of seeing study reports gather dust and pilot projects disappear when external funding run out. Lack of sufficient funds for the smooth running of the CICs is a major difficulty and this may affect the sustainability of the project.
l) Lack of coordinated government initiatives: The local governments have not taken any initiative to establish CICs due to their low operating budget. Information provision for the local community is one of the lowest priorities to the local governments.

The following measures may provide directions to remove existing limited Internet facilities in the rural areas of Bangladesh, as well as to upgrade the CICs:

a) Promotion of awareness: Grameenphone should arrange more seminars,

conference, workshops and more campaign to promote awareness of CIC. This awareness programme should focus on the role of CICs in reducing digital divide.

b) The need to use modern network technology: Grameenphone has built the largest cellular network in the country with over 10,000 base stations in more than 5700 locations. Presently, nearly 98 percent of the country's population is within the coverage area of the Grameenphone network (Grameenphone official site 2009). Now it needs to give more emphasis to strengthen the network by adopting advanced technology such as WiFi, WiMax, NGN, and 3G.
c) Focus on local content management: As most of the CICs are situated is rural areas, there is an increasing need to design community portals with digital content that cover health, agriculture and other related issues which are frequently used by the rural community.
d) Standardization of Bengali language: Currently, there has been no standardization for the use of Bangla in the electronic format. CIC management should adopt appropriate software and UNICODE, as well as onscreen Bangla keyboard so that native people can understand and operate Internet in their own language.
e) Government patronization: It is very important to run CICs smoothly across the country. Government needs to take responsibilities to monitor, give logistic support, formulate policy and coordinate with the Ministry of Science and Information & Communication Technology.
f) Co-operation between government and NGOs: NGOs in Bangladesh are playing a vital role in providing rural information especially thorough telecentres and CICs. The government has to give high priority to integrate this activity from both sides.
g) Village CICs: Grameenphone has a plan to establish village CICs at the village level. In order to bridge the digital divide, the government has to patronize to the individuals and organizations who would like to establish such CICs.
h) Collaboration: Besides CICs, there have been quite a number of organizations working on bridging the digital divide by different names. Their efforts and activities should be recognized under one umbrella so that not only can they collaborate with each other more easily, but also money and resources can be used more effectively.
i) Information literacy: The government should pen down a State Information Literacy Policy where information should reach to all sections of the society. Besides this, it is suggested that all CICs should assess the information literacy skills need of the user community with the help of different assessment methods.

This paper has explored the major role of CICs and their impact on the user communities in rural Bangladesh. Bangladesh, like many other developing nations, has an obvious need to connect its rural population. In this age of information explosion and globalization, CIC acts as a one stop centre for meeting the diverse information requirements of the community. They can become a hub for a wide spectrum of information products and services in the fields of agriculture, education, health, governance, human rights, career building, environment and social services. CICs operated by GrameenPhone have opened a new vista for the rural people of Bangladesh. But in order to benefit the wider cross sections of the dwellers living in remote and far-flung areas of the country, the CIC initiative should be strengthened with the infusion of more fund, better planning and stronger coordination. This will enable the CICs to fully realize the dreams with which they were established and at the same time, to encourage other organizations to take similar pro-active initiatives for the rural development. However, if the CICs in Bangladesh successfully overcome the constraints discussed in the article, it will certainly bring new opportunities for the rural people to enrich their lives as well as create revolutionary

changes in rural societies. As a result, CICs will reduce the digital divide between urban and rural areas in Bangladesh by improving information access.

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