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Md. Rakibul Hoque
Huazhong University of Science and Technology, rakibulmisdu@gmail.com

Golam Sorwar
Southern Cross University, golam.sorwar@scu.edu.au

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E-GOVERNANCE FOR RURAL DEVELOPMENT: A CASE STUDY ON UNION INFORMATION AND SERVICE CENTRE (UISC) OF BANGLADESH

Md. Rakibul Hoque, School of Management, Huazhong University of Science and Technology, Wuhan, China, rakibulmisdu@gmail.com

Golam Sorwar, Southern Cross Business School, Southern Cross University, Australia, golam.sorwar@scu.edu.au

Abstract

The "digital divide" between urban and rural areas has introduced a significant issue in equal access to Information and Communication Technologies (ICT) in developing countries such as Bangladesh. This inequitable access to ICT has implication for productivity and economic growth of the country. To bridging the gap, Government of Bangladesh has taken initiatives to introduce various ICT interventions in its rural and regional areas. Union Information and Service Centre (UISC) is one of those initiatives which are expected to bring the opportunity for rural communities to better access to ICT. However, no studies have been reported to investigate its potentiality for rural communities in offering accessing to information and technology. This study attempts to investigate this issue from actual beneficiary perspective. The main objective of this study is to provide a synopsis of the roles UISC could play in various socio-politico-economic sectors in the vicinity of countryside of Bangladesh. This paper confers the significance of free access to both technology and information through a case study conducted in rural areas in Bangladesh.

Keywords: Union Information & Service Center, Rural Development, Communications-for-Development (C4D)

1. INTRODUCTION

Prosperity, growth, and development of any country depend upon the country's capability to collect, access, and use of relevant information. It is argued that access to information is also important to allowing citizen to know their rights and overcome social exclusion (Harande, 2009). By facilitating the flow of information and knowledge between rural and more developed communities of a developing country ICT enhanced e-governance service can notably shore up rural development process (Heeks and Bhatnagar, 1999)

Recently, researchers have shown an increased interest in information for rural development. Heeks points out the need for different approaches to information and communication technology in the rural areas: "Why invest in digital technologies rather than, say, a tubewell to allow access to water? The standard response is "we need to invest in both", arguing that development requires water and information and/or that ICTs can improve the planning and management of tubewell projects" (Heeks, 2009). Taking this into account developing countries have been taking initiatives to implement ICT projects in rural areas with the help of donor or local agencies. However, it is claimed that the gap in the penetration of the information society in developing countries is increasing between people who have access to the information society and those who do not (Yu, 2006).

Accroding to Okiy (2003) "Rural development is a basis for economic development and information is an important ingredient in development process. People in rural areas whether literate or not should have access to any kind of information which will help them to become capable and productive in their social and political obligations, to become better informed citizens generally". Diso (1994) explained that information must be a matter of policy, which entails capturing, processing, coordination, and dissemination.

Development can only be effective if rural citizens have access to the information for their day-to-day activities. In recent years, e-governance project in rural areas plays an important role to access to the relevant information and transformation of local government services. It improves the efficiency of government information, reduces cost, increases transparency, and ensures quality of service (Al-Hujran, 2011). Union Information and Service Centre (UISC) has been an important initiative of the government of Bangladesh to provide accurate, reliable and quality of information to rural people. However, question arises to what extent can UISC contribute to the development of the rural communities in Bangladesh? Are these interventions are successful for creating new hope in rural communities? Unfortunately there are very few reports and publications that have tried to focus on above issues. This research attempts to fill this gap by addressing the above questions in a particular social context in Bangladesh. The aim of this research was therefore to examine the impact of UISC towards the development of socio-economic condition in rural areas of Bangladesh.

The rest of the paper is organized as follows. A brief background of UISC is presented in Section 2. Section 3 explains briefly the theoretical framework, while Section 4 proposes the research methodology. We present the research findings in Section 5, followed by analysis in Section 6. Finally, conclusion and limitation of this work are presented in Section 7.

2. UNION INFORMATION AND SERVICE CENTRE (UISC)

Bangladesh is a small country of 147570 square km and has about 154 million population, where 85% of its population live in rural areas. It has been struggling to meet the basic needs of its people via food, clothing, shelter, health, and education to its people and to raise the living standard of the people. Like other basic needs of people, information is another basic requirement. However, the people who are especially living in grass-roots areas of Bangladesh, they are far away from the reach of their basic informational needs (Bangladesh Demographic and Health Survey, 2007). To address this issue,

government of Bangladesh has already taken initiative to introduce various Information and Communication Technology (ICT) based e-government service intervention to access and use the information. UISC is one of those which have the potentiality of bringing the benefits to rural people who do not otherwise have access to information and technology (Akther and Georgsen, 2003).

UISC is ICT enabled one-stop service outlet located at *Union Parishads* (the lowest tier of the local government) level. Similar to the 'telecentre' concept by different private organizations (Asad, 2011), the UISC model is unique in the sense that it builds on the concept of *Public Private Partnership* (PPP) instead of donation dependent models. 4,501 UISCs have been established at all *Union Parishads*, all of them inaugurated on 11th November, 2010, in order to translate the dream of 'Digital Bangladesh' into reality (Asad, 2011). 9002 young entrepreneurs, of whom 50% are women, are working with UISCs. Entrepreneurs are self-employed, they are not the paid employees of Bangladesh Government, and they manage their life with their own income. Now the main challenge of UISC is how to ensure the citizens to carry out the benefits of UISCs and make them sustainable. In order to make it successful for the long run, supports from various government and private organizations are being mobilized through partnerships.

UISC plays a vital role in providing rural information services. The major aim of UISC is to provide basic rural information to the rural dwellers. It can act as information and community centers to improve living conditions and the quality of life. UISCs commonly offer three types of services: government, information and commercial. Government services include government circulars and notices, online birth registration, population census data entry, online university admission, examination results, citizenship certificate and citizen charter of Union Parishad. Information services include agriculture, education, health, law and human rights, environment and disaster management, tourism, science & technology, industry & commerce and employment. Commercial services includes banking, life insurance, english learning, computer training, internet browsing, printing, compose, scanning, photocopy, data entry, phone call, mobile ringtone download, video conference, video show, passport & visa processing, medical services, soil test, arsenic test. etc (A2I, 2013). UISC will be a center of service excellence which will provide hassle free and efficient services to meet the citizens' needs and assist addressing the issue of digital divide.

3. THEORETICAL FRAMEWORK

The "Communications-for-Development (C4D)" (Bertrand, 2006) framework has been widely used to study Information and Communication Technologies for Development (ICT4D) value chain. This framework is used to describe the impact of any intervention made to create a change. The framework is outlined in figure 1.
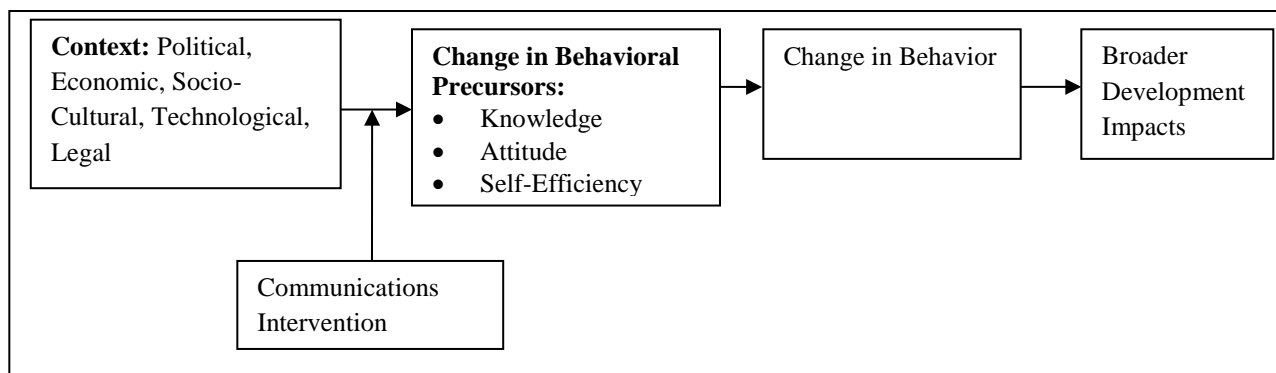

Figure 1. Communications for Development.

4. RESEARCH METHODOLOGY

This study incorporated a qualitative research approach to tackle the research questions. This allows researcher a greater extent to explore the issues of influence and impact on development, and envisage questions like 'why' and 'how' particular technological trajectory formed (Orlikowski and Iacono 2001; Tracy, 2012). This study also applied MSC (Most Significant Change Technique). It was invented during a program on rural development in Bangladesh. Though, MSC technique is suitable for quantitative indicators as it involves regular collection and participatory interpretation of "stories" about change (Davies and Dart, 2005). Stories are pivotal point to human intelligence, and things such as relationships, cause and effect can be defined by stories (Willetts, 2007).

4.1. Study Area

This research seeks to understand the process of e-governance (i.e., UISC in this research) implementation and examine ensuing change resulting from such implementation in a particular social context. So, this research has selected case studies sites from Bangladesh, especially in agriculture based rural areas. Initially, this research considered three upazilas including Rupganj, Savar, and Keraniganj in Bangladesh. Following Table-1 shows some characteristics of the three upazilas including land area, population, density, occupation, average income, literacy rate and geographical condition.

Study sites (Upazila)	Area	Population	Density	Major occupation	Average Income	Literacy Rate	Geographical condition
Rupganj	247.97 km^2 (95.74 sq mi)i)	375,935	1,516/km^2 (3,930/ sq mi)	Agriculture	8000 Taka	37.9%	Traditional
Savar	280.13 km^2 (107.50 sq mi)	1,387,426	4,951/km^2 (12,820/ sq mi)	Agriculture	7000 Taka	54.4%	Elevated plain
Keraniganj	166.87 km^2	530,174	3,177/km^2 (8,230/sq mi)	Industrial worker	10000 Taka	37.7%	Traditional

Table 1: Contextual data on the three upazilas.

Data collection has been done through on-site observation, interviews with users, and informal conversations with users of UISC. A total of 50 interviews were carried out with users in the centers. The operators of the centers also helped identify potential users to participate in the study. Interview and group discussion data was mainly collected from users and villagers who directly or indirectly connected with UISCs. Observations were conducted for the purposes of gaining additional data and to provide enough background knowledge to engage in both formal interviews and informal conversation with local users of the facilities.

The interviewees were asked Semi-structured questions about the use, challenges and opportunities of UISC and eventually generated the stories they experienced. Questions, such as, *how do you get benefits from the use of UISC? Has UISC contributed significantly to raise your income and productivity? How does UISC help to augment skills?* were asked to the participants of the study. In the interviews they shared their problems, feelings, and experiences related to the UISC. The interview was audio recorded and some important notes were written by the researchers and then transcripts were written. The stories were developed from the transcripts later on.

4.2. Demographic Profile

Of 50 respondents, 31 are males and 19 are females. About 32% respondents were farmers, and half of them were housewife (18%). Majority of the respondents had at least primary education (84%) and aged over 30 (74%). A snapshot of socio-economic backgrounds of the respondents is presented in table 2.

Category	Sub-category	Frequency	Valid Percentage
Gender	Male	31	62
	Female	19	38
	Total	50	100
Occupation	Student	8	16
	Business	13	26
	Farming	16	32
	Housewife	9	18
	Others	4	8
	Total	50	100
Education	Illiterate	8	16
	Primary	14	28
	Secondary	10	20
	Higher secondary (HSC)	8	16
	Above HSC	10	20
	Total	50	100
Age	21-30	13	26
	31-40	21	42
	41-50	16	32
	Total	50	100

Table 2: Socio-economic background of the respondents.

5. FINDINGS

In this section we have tried to focus on the impact of the UISC implementation from actual beneficiary perspective. Though the total number of respondents is 50, we only present 8 stories, which are representative and have significant impact, in this paper for the reason of page limitation. The results of this study suggest that the UISC project in Bangladesh has reduced the distance and time barrier of rural farmers. In the past they had to go in the main city for any assistance from agricultural specialists. Now they can get this information easily through UISC. An example is as follows:

> *Mr. Abdur Rob is a farmer. He didn't have any idea about scientific method of cultivation. He used to work all day long with his two bulls on his own land. But the output was very low. He then came to know about UISC of his union. He went there; he came to know that they provide with printed agricultural information for a very small fee. He bought one of them and with the*

> *help of his school going daughter, he was able to improve his knowledge about the scientific methods of cultivation. Now he earns more than before, and he is very grateful to UISC.*

Besides this, UISC project also helps rural students to acquire new knowledge and skills. Through UISC project students can easily get their information about IELTS, SAT and scholarship. An example is as follows:

> *Mr. Rony Rabbi is a 12th grade student and a part time private tutor. He is very smart and ambitious about life. He wants to go to America with a scholarship for his higher studies. He wanted to know how to get that. He got to know about UISC and he went there to browse the internet. He has got to know about IELTS and SAT. He has downloaded SAT vocabulary list and printed that from UISC. Now, he is preparing himself to be eligible for a scholarship in USA.*

The results also indicate that the UISC project has also helped rural students interact with urban students and facilitate information sharing between them. An example is as follows:

> *Mr. Shamim Ahmed is a classmate of Mr. Rony Rabbi. He also goes to UISC to browse internet. He has made a Facebook account and made friendship with students of urban areas. Once a week, he accesses this account and socializes with different people. Now, he talks to them and exchange information with them. However, his study time has shrunk a little.*

The UISC project has also helped rural people to go abroad by providing right information and processing application. An example is as follows:

> *Mr. Abul Malek wants to go to abroad to earn money. He tried to go in many ways. He wasted much of his money in search of a broker who will help him to go abroad. But brokers were all thugs. He got cheated. Then he came to know that UISC provides information about abroad at a reasonable price. From there he came to know about government's recruiting process for Malaysia. He applied for it through UISC. And now he is very hopeful about it.*

Meanwhile the results also point out that rural people can increase their skills via training provided by UISC and thus enhance their employability. An example is as follows:

> *Mr. Rafin Shikder was an unemployed person. He was taking computer training in UISC. He has learned type writing. After completion of the training, he got a job as a typewriter in Dhaka.*

In addition, the results also suggest that UISC can help rural people solve health related problems. An example is as follows:

> *Mr. Shajib Kabir has a grocery of his own. His mother suffers from high blood pressure. He used to take her mother to the nearest clinic which is far away from their house to check up her blood pressure. Now, he goes to the UISC to check up the pressure and goes to the clinic for consultancy only when blood pressure seems to be alarming.*

Closing the knowledge gap of rural people is another benefit identified in the study. An example is as follows:

> *Mrs. Joytun is a house wife. She once faced some problems with division of her husband's land after her husband's death. Brothers of her husband did not want to give her proper claim. One of her neighbor advised her to go to UISC office to have law advice. There, she came to know about the laws of property division, and claimed her portion. Now she has got her portion, and she is living a very happy life.*

Another benefit unveiled in the study is UISC provides rural people with online learning opportunities. An example is as follows:

> *Mr. Md. Moklasur Rahman has recently passed H.S.C. with GPA 5 from humanities group. He wants to get admitted into Dhaka University. He has no relatives in Dhaka. Moreover, he is crippled. He became tensed about the admission process. However, one of his elder brothers advised him to fill the form of Dhaka University from online. So he went to UISC and accordingly submitted his form and take part in the admission test. Eventually he got a chance to do his honors in Economics from Dhaka University.*

6. ANALYZING THE STORIES USING C4D FRAMEWORK

The stories collected to analyze the UISC intervention have been analyzed using the "Communications-for-Development" model (figure1) and the outcomes derived are shown in figure 2.

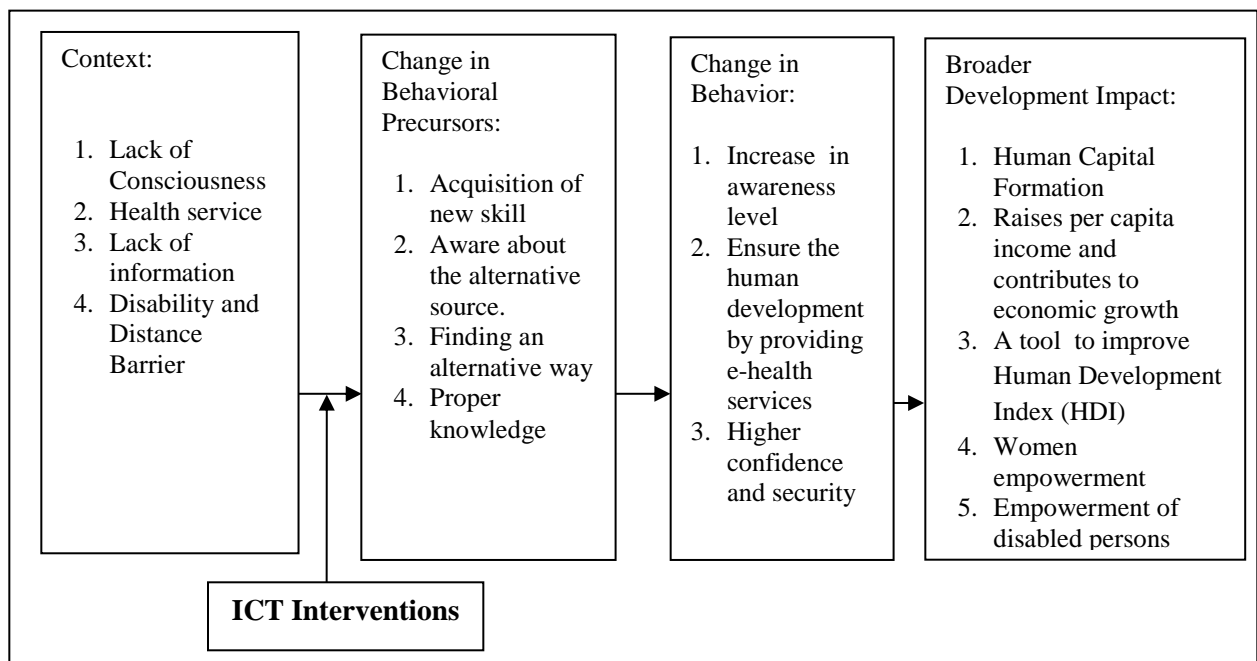| Context: 1. Lack of Consciousness 2. Health service 3. Lack of information 4. Disability and Distance Barrier	Change in Behavioral Precursors: 1. Acquisition of new skill 2. Aware about the alternative source. 3. Finding an alternative way 4. Proper knowledge	Change in Behavior: 1. Increase in awareness level 2. Ensure the human development by providing e-health services 3. Higher confidence and security	Broader Development Impact: 1. Human Capital Formation 2. Raises per capita income and contributes to economic growth 3. A tool to improve Human Development Index (HDI) 4. Women empowerment 5. Empowerment of disabled persons

ICT Interventions

Figure 2: Implication of Communication for Development model

In this case, the context of C4D is socio-economic. A change in behavioral precursors can be yielded through the use of UISC by changing respondent's attitude, acquisition of new skill, acquisition of social skill, awareness and proper knowledge of law, etc. Use of UISC can bring a change in behavior by augmenting confidence about output, self-efficiency, and security. Augmentation of income, development of rise in productivity, human capital formation, etc. are the boarder development perspectives of this study. The stories are summarized and portrayed adopting the communication for development model as shown in table 3.

Story	Context	Changes in Behavioral Precursors	Changes in Behavior	Broader Development Impact
Story-1	Lack of knowledge	Acquisition of new skill	More confidence about output	Build-up of efficient and knowledgeable farmer.
Story-2	Lack of awareness	Acquisition of new skill.	More confidence about future	Build-up of efficient and knowledgeable student.
Story-3	Internet browsing	Acquisition of online social skill.	More confidence about future.	Human Resource Development
Story-4	Lack of consciousness	Aware about the alternative source	More confidence about his dream.	Human Capital Formation
Story-5	Computer training	Acquisition of new skill	Higher self-belief	Raises per capita income and contributes to economic growth
Story-6	Health service	Finding an alternative way of health services	Ensure the human development by providing e-health services	A gadget to upgrade Human Development Index (HDI)
Story-7	Lack of information	Proper knowledge of law	Higher confidence and security	Empowerment of women
Story-8	Disability and Distance Barrier	Proper knowledge about admission process	Have applied without physical contract	Empowerment of disabled persons

Table 3: Stories compared with indicators from communication for development model.

From the above information, it is quite rational to identify some dimensions of benefits acquired by harnessing UISC. Table 4 summarizes the benefits derived from UISC indicated by the 50 respondents.

Dimension of Benefits/Impacts	Exact Number of Beneficiaries	Valid Percentage
Build-up of efficient and knowledgeable student	14	28.0
Human Capital formation	11	22.0
Raises income	7	14.0
Empowerment of women	9	18.0
Augments productivity	7	14.0
Empowerment of disabled persons	2	4.0
Total Numbers of Dimensions Found = 6	**Total 50**	**100.0**

Table 4: A snapshot on the dimensions of benefits of UISC.

Among the above 6 dimensions, the most prevalent one is the 'build-up of efficient and knowledgeable student'. 14 respondents (28.0%) indicated that they became more efficient and knowledgeable after accessing UISC. In contrast, only 2 respondents (4.0%) indicated that the ICT helped to empower the disabled persons belonging to infinitesimal category in terms of dimensions of benefits of UISC. The respondents for dimensions namely - raising income, empowerment of women, and augmentation of productivity were 7, 9 and 7 respectively.

UISC brings a radical change in the lives of people living in rural areas by enhancing their ability to perform a wide range of tasks more efficiently resulting a positive impact on the overall economy of the country. This service helps rural people to be self-dependent. This study also reveals that handicapped

people can conquer disability by integrating ICT driven UISC services in rural areas which is analogous to the findings of Benda et al (2011).

The findings of this study are consistent with those of Ashraf et al (2010) where the former study found that rural people are excited to avail the services of UISC and are significantly benefitted by it. Our study demonstrates that ICT based UISC service contributes notably for the betterment of health of rural people. Moreover, the use of ICT offers a number of options specifically to overcoming functional difficulties in workplaces (Tilley et al, 2006).

7. CONCLUSION

This study has given an account of and the reason for the widespread use of UISC in rural areas in Bangladesh. This research revealed that the *Union Information and Service Centre* (UISC) has offered significant opportunity in accessing *Information and Communication Technology* (ICT) to the people living in rural areas in Bangladesh. It is indicated that the ICT based UISC services have played a significant role in socio-politico-economic sectors, health of rural people in particular.

A major limitation of this study is the small sample size. A further research will be conducted on a large scale to determine the efficacy of UISC in agriculture, health and educational sectors in Bangladesh.

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