

# Prospects of PPP in Expanding ICT Services in Rural Bangladesh: A Case of Union Digital Center

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## Abstract

ICTs have appeared to be one of the driving factors of modern economic growth with multilayered impacts on different aspects of the economy and society particularly in developing countries. However, due to infrastructural bottlenecks and huge initial investment requirements, although public and private sectors have been working with their respective motives, a vast majority of population in Bangladesh especially in the rural areas still do not have functional access to internet facilities and digital services. On the above backdrop, based on the survey of secondary sources of information, this paper attempts to review the prospects of public private partnership in expanding ICTs and digital services in rural Bangladesh and as to what extent it contributes to reducing digital divide and achieving broader development objectives. Drawing from the experiences of other developing countries and thoroughly taking into account the case of union information and service centers in Union Parishad level in Bangladesh, this paper makes it evident that neither public nor private bodies can render the poor and rural people the access to digital services in a segregated manner except without a joint endeavour or partnership for good. It is emphasized that PPP can be a viable option in expanding digital internet services to the poor and marginalized population in rural Bangladesh.

**Keywords:** public private partnership (PPP), Information and communications technologies, digital divide, digital service center, Bangladesh

## 1. Introduction

Information and communication technologies (ICTs) have been changing the way people live in today's world in an unprecedented way that, it is claimed, a digital revolution is taking place with its dramatic influences in both developed and developing world (Chapman & Slaymaker, 2002). In fact, ICTs have appeared to be one of the driving factors of modern economic growth with multilayered impacts on different aspects of the economy and society particularly in developing countries. However, due to infrastructural bottlenecks and huge initial investment requirements, although public and private sectors have been working with their respective motives, a vast majority of population in Bangladesh especially in the rural areas still do not have functional access to internet facilities and digital services.

A review of recent progress made in Bangladesh in particular and in other developing countries in general is presented in this paper in terms of expanding ICTs and internet services throughout the country especially providing access to the poor and marginalized segments of population in rural and remote places of Bangladesh. Based on a rich survey of secondary literature and online source of information, this paper attempts to find out the prospects and challenges of PPP in the ICT sector in the context of rural Bangladesh and onboard digitalization programs carried out by the government of the country. It is quite evident that the broadening of ICT coverage through public private partnerships in rural Bangladesh has seen noteworthy success very recently and in this regard the question – how public private partnerships expediting the pace of digital revolution in Rural Bangladesh – has appeared to be very fundamental in our efforts to understand the phenomenon.

This paper is basically based on desk research including content analysis of government documents and a comprehensive review of the available articles, published reports, government policy papers on ICT related programs. Particularly, data from Census Report on Union Information and Service Centres (BBS, 2014) has been analyzed to substantiate the case study. The paper reviews the prospects of public private partnership in expanding ICTs and digital services and as to what extent it contributes to reducing digital divide and achieving

broader development objectives. It has also been covered in this paper that why PPPs can be the viable options in expanding digital internet services to the poor and marginalized population in rural Bangladesh. Drawing from the experiences of other developing countries and thoroughly taking into account the case of Union Digital Center (previously known as union information and service centers) in rural Bangladesh, this paper makes it evident that neither public nor private bodies can render the poor and rural people the access to digital services in a segregated manner except without a joint endeavour or partnership for good.

## **2. Setting the Context: Digital Bangladesh on Board**

Bangladesh is a low income developing country which also happens to be one of the most populous countries of the world. Among its more than 150 million populations, a large proportion still locked in socio-economic underdevelopment especially those who are living in the rural areas of the country as people living in the areas constitute 75 percent of all population in the country (BBS, 2008). Although very recently Bangladesh achieved praiseworthy success in attaining progress in certain socio-economic indicators such as continuing rate of economic growth, lowering infant and maternal mortality rates, increasing primary enrolment rate and others, significant challenges remain in terms of sharing the benefits of growth and other modern innovations with all segments populations (Unnayan Onneshan, 2012). It has been observed that the use of ICTS and digital facilities has been creating new avenues growth and development accelerating the pace of socio-economic transformation in the country in an unprecedented way (Bairagi et al., 2011). However, the lack of comprehensive ICT coverage has been blocking the potentials of large number of rural and low income peoples not only in Bangladesh but also in other developing countries from benefiting from growingly available development opportunities offered by modern communication and digital technologies. In particular, access to digital services and the benefits of digital revolution has remained very limited for the low income people living in rural areas in Bangladesh.

Despite remaining challenges in terms of bringing greater spectrum of population under ICT coverage and closing up digital divides, Bangladesh has been making fast and steady progress in the ICT sector. In last several years national landscape of ICT infrastructure started to change favourably and more and more people and regions are being provided with access to ICT and digital services along with broad based digital transformation in the country. Under the grand Digital Bangladesh vision, ICT Policy 2009 and 6<sup>th</sup> Five Year Plan of Bangladesh have prioritized expanding the access to ICT facilities and provision of digital services to cover the greater segments of the populations of the country (Minges et al., 2011). Currently in Bangladesh, there are more than 120 million mobile phone users, 43 million internet users, 8 million Facebook users and 99 percent geographic coverage of wireless network connectivity which all show the extent of digital transformation in the country (Chowdhury, 2015).

The government of Bangladesh has taken a number of notable initiatives partnering with private and non-profit sectors in the arena of information and communication technology. The mechanism of government service provision is becoming more responsive to the needs of citizens utilizing digital platforms and modern communications facilities (see Zaman & Rokonuzzaman, 2015). For example, the setting up of Union Information and Service Center in all Union level since November 2010 is such an initiative that has created wider access for rural populations to internet and digital services that were otherwise unavailable to them. Currently there are 4547 UDCs running in every Union Parishads throughout the country which are providing access to more than sixty types of services to the general people in the rural areas of Bangladesh. Key services among these include “land registration, life insurance, bill paying facilities of rural electric board, government forms, public examinations results, online university admissions, online birth-date registration, agriculture information and health care services” along with computer training and other internet services (Baagladesh Shongbad Shongstha, 2014). The reason for considering the case of UDCs in this paper is that this provides a useful illustration of government partnering with private actors to broaden the access to ICT services throughout the country using lowest institution of local government i.e. Union Parishads while employing private entrepreneurs to run the centers for profits and this case requires attention.

## **3. PPPs in ICT Sector: A Brief Review of Literature**

The term ‘public-private partnership’ (PPP) refers to a functional relationship where both public and private resources are employed to attain some objectives which are beneficial for both. (Witters et al., 2012, p. 81). In fact, PPP involves a variety of contractual arrangements where two parties – public bodies and private sectors – come together to perform different projects/tasks. The forms and nature of PPPs may include an array of arrangements sharing costs, responsibility, management and ownership of projects with wider variations in terms of specific sectors, size, and nature of markets and/or consideration of other factors (Farquharson et al., 2011, p. 9). Unlike privatization, “PPP necessarily involves a continuing role for the public sector as a “partner” in an

ongoing relationship with the private sector” (Ibid).

Partnership with private sectors by government bodies are usually driven by imperatives “to design, build, finance, and/or operate new and existing infrastructure facilities in order to improve the delivery of services and the management of facilities hitherto provided by the public sector” as well as services which were not provided at all (Farquharson et al., 2011, p. 3). PPP has become a prevailing apparatus mainly for implementing large scale infrastructure development projects both in developed and developing countries – to deal with investment gap by mobilizing capital from private sectors along with greater benefits of achieving efficiency and quality assurance in resource use and service delivery (Ibid, p. 4).

Generally, PPPs in ICT sector focus on applications of mobile technology and provision of affordable access to internet services where critical factor of a successful PPP project in ICT mostly its economic viability in terms of generating returns on investment by private bodies while public authorities stress on expanding coverage and access to ICT infrastructure and facilities (Witters et al., 2012, p. 84). Although PPP model has its presence in undertaking different development projects for long, the vital role of PPP in providing ICT access to all and its prospects of reaching the even the remotest regions was advocated by several global initiatives such as the World Summit on the Information Society, the Digital Opportunity Task Force and others (Ibid).

In the developing country context, there are a growing number of PPPs in the information and communications technology (ICT) sector which has become very prominent in recent years in order to address the issues of infrastructure bottlenecks and also to expand the benefits of modern communication technologies and to ensure people’s access to digital services and associated development opportunities in the rural and remote areas (Fife & Hosman, n.d. p. 2). Although the underlying motivations of engaged parties are divergent i.e. private sector is driven by profit motive and public sector is driven by its commitment to service provisions, the partnership between the two provides viable solutions to bridge the digital divide by leveraging the strengths and capacities of both the sectors in expanding coverage of digital services to the rural and marginalized populations (Ibid). The partnership of developing country governments with private ICT companies has received considerable support in terms of strengthening collaboration and providing technical policy supports from international organizations like World Bank, UNDP, USAID and similar others. Further collaborations between public, private and non-government sectors are suggested to extend the access to and use of ICTs in report by World Bank (World Bank, 2006).

There is a broad consensus among research and policy communities that ICT can play very enabling role in fostering positive social change and attaining sustainable development in low income developing countries of the South. The Information and Communication Technology for Development (ICT4D) perspective regards ICTs as the powerful instrument for bringing socio-economic development having huge potential in the context of helping world’s poorest populations (Guterman et al., 2009; Islam, 2009). A great majority of people in developing countries, however, are illiterate, resource poor, live in rural areas and employed in small and medium size enterprises and in informal sectors; but people engaged in these sectors are lagging behind in terms of utilizing computer, internet and other ICT facilities. As a result they cannot fully benefit from a range of opportunities provided by global business connectivity being unable to access the market information, product development and financing opportunities which could have boosted employment and income for them. Some initiatives are being taken to address this kinds of bottlenecks for example Islamic Development Bank has supported ICT centers in rural areas with particular target to give a boost to the small enterprises in Bangladesh and Egypt (Islamic Development Bank, 2012).

On a broad sense, expansion ICTs has much potential to contribute to the development of rural areas in developing countries, but for this, right mechanism need to be geared to realize the full potential by combining ICT projects with the broader development agendas and also making sure that no one left behind including women and marginalized people in the society. Findings of a study suggest that a number of targeted ICT projects greatly improved the condition of women by giving them access to different socio-economic opportunities in Bangladesh (Ashraf et al., 2011). However, other studies also suggest that effectiveness of ICT projects that aim to provide services to the rural people and the level of awareness among rural population for utilizing digital opportunities depend on the level of education and their socio-economic backgrounds (Afroz, 2012).

Despite of different socio-demographic constraints, various community information centers or digital centers are playing key role in bringing the benefits of ICTs to people in rural areas by providing useful information and services including health, education, farming etc. and acting to bringing isolated and important regions under coverage in only in Bangladesh but also in many other developing countries (Akther & Georgsen, 2005). In the

context of rural Bangladesh, Islam and Hoq (2010) reported the impact of internet based service provision to the rural population where community information centers played very important role. Since access to information and knowledge is a key to advancing rural societies, it is held that ICTs can greatly support the development of rural areas by providing access to information and digital services and connecting with more developed areas within a developing country in particular and with worldwide opportunities in general (Heeks & Bhatnagar, 1999).

Providing access to information and services targeting to improve the socio-economic welfare of people is a fundamental responsibility of any government. Growingly, government authorities and private sector organizations are utilizing information and digital technologies to benefit the under-served and marginalized communities in different countries. However, under supply of ICT infrastructure in rural areas and lack of facilities to access ICTs and digital services tend to lessen the effects that ICTs could have in advancing the socio-economic development in rural areas of developing countries.

Hence, partnering with private companies and entrepreneurs has been proven to be an effective strategy by the governments of developing countries all through in Asia and Africa to render services to the poor and rural population. Experiences of other developing countries show that PPP in ICT sector has enabled a large number of rural populations to get access to digital services and opportunities. For example in India, several state governments partnering with local ICT entrepreneurs are providing government services to the citizens through dedicated centers; in Estonia, government and private companies formed a partnership to provide broadband connection in the scarcely populated and remote areas of the country, in Egypt PPP projects are being carried out to create smart villages (infoDev & ITU, 2012). In the above background, this paper reviews the prospects of PPPs in expanding ICT and digital services to the rural population in Bangladesh with special reference to the case of Union Information and Service Centers in Bangladesh.

#### **4. PPPs in ICT and Delivering Digital Services in Rural Bangladesh: Case of UDCs**

ICT is the main driver of attaining the goal of Digital Bangladesh. Keeping pace with the global trends, Bangladesh also achieved notable progress in several ICT indicators in the last decade. For example, between 2004 and 2014, teledensity rate increased from less than 4 per cent to more than 78 percent in Bangladesh (MoF, 2014). Further, Bangladesh experienced a phenomenal growth in mobile phone subscription from 5 million to 116 million in the same decade along with sizable growth in the number of internet subscribers from less than one million to around 36 million today (Zaman & Rokonzaman, 2015, p. 2). However, in Bangladesh as like in other developing countries, rural people have disproportionate access to modern ICT based services and facilities that are easily available to their urban counterparts. With the advancement of information and communication technologies and process of rapid digitalization, things have started to change in the rural areas though the process is much slower than that of in urban areas of developing countries.

The partnership between public bodies and private entrepreneurs in rendering ICT and digital services to the doorstep of rural citizens has attracted much attention after the launching of Union Information and Service Center (UDCs) in the Union Parishad levels in Bangladesh. Since Union Parishads are the lowest tiers of local government bodies in Bangladesh, establishing digital service centers at every Union Parishads located throughout the country has created accessible facilities for the substantial proportion of rural population in Bangladesh serving the needs of remote and underserved communities. UDCs are one-stop information and service delivery center which are publicly owned and privately run micro-enterprises catering multitude of needs related to livelihood information and government service provision to rural communities. Now, “a citizen has to neither travel long distances nor depend on market intermediaries to avail of public information and services, to which they are entitled” (BBS, 2014).

According to the UDC Census 2013, out of a total 4,547 UDCs, 4,492 were reported to be functional while 41 were found inactive. The female entrepreneurs were found to be proactive. The ownership over ICT equipment like laptops, modems, multimedia projectors and photocopy machines were shared by both government and private entrepreneurs but mobile phone was the only device that was fully owned by private entrepreneurs in almost all UDCs. Currently, more than sixty types of services are being provided to the rural people in every Union of Bangladesh. Key services among these include bill paying facilities of rural electric board, land registration, online birth-date registration, life insurance, government forms, public examinations results, online university admissions, agriculture information and health care services, computer training and other internet services (Bangladesh Shongbad Shongstha, 2014). Birth registration, citizen certificate, composing, email, internet browsing are some of top services provided in UDCs. Following table 1 shows the top ten services that are provided by private entrepreneurs in UDCs. UDC Census 2013 estimated that about 3.91 million people are

receiving information and services from UDCs directly of whom 949,120 are women.

Table 1. Top 10 services provided in UDCs

Service	Number of UDCs	Percentage of UDCs
Birth registration	3 368	75
Composing	2 926	65
Citizen certificate	1 885	42
Snapshot	1 602	36
Photocopy	1 715	38
Death certificate	1 462	33
e-mail/internet browsing	1 427	32
Examination result	1 211	27
Scanning	932	21
Employment information	645	14

Source: UDC Census 2013 (BBS 2014).

The most notable feature of UDCs is that these centers are operated on a PPP modality which is owned by the lowest tier of local government and run by two private entrepreneurs including one woman who also share ownership of some equipment and provide services to the rural citizens and earn sizable income too. According to a published report, there were 9,032 entrepreneurs including 4516 female entrepreneurs earning BDT 1.3 billion (USD 16 million) annually from these UDCs as of January 2013 (A2I Bulletin, 2013). On average, UDCs are earning a profit of 24.30 million taka per month with each center earning 5,410.26 taka on monthly basis. UDCs have already proved to be financially sustainable as 3,859 centers are making profit and 633 centers are earning less than their expenditure (BBS, 2014).

By and large, the UDCs all over the rural areas of Bangladesh are serving dramatically by delivering services to citizens' doorsteps acting as a milestone towards achieving the goals of Digital Bangladesh. The UDCs have enabled rural people to access needed information and essential services in fast, cost effective and easy ways. As such, these publicly owned and privately run information and service centers are playing important roles in bridging the digital divide and giving the benefits of ICTs at the hand reach of rural communities. As the last mile source of information and service delivery, the prospects of UDCs to act as the facilitating tool for ensuring sustainable development would be unparalleled. Timely support and proper direction from the local government representatives and national governments continuous patronise are essential for the long term sustainability and effective functioning of UDCs.

### 5. Scaling Up ICTs and Digital Services for Rural People: Challenges and Way Forward

In rural and underserved areas of Bangladesh in particular and other developing countries in general, PPP run information and service centers have huge potential of broadening the access to digital services and opportunities and delivering the benefits of new communication and technologies to rural and remote population who were otherwise lacking the access and could not get benefits from greater connectivity and digital revolution. Since public authorities have certain limitations and private sector alone will not solve the problem, especially when the conditions of poor and marginalized people are taken into account, successful collaboration between public and private sectors and effective implantation of PPP projects similar to UDCs are increasingly needed in the context of Bangladesh, which are cost effective, functional and sustainable enterprise.

Leveraging PPP in ICT sector to facilitate the access to digital opportunities and delivery of services to the poor requires that underserved and poor communities have easy and functional access to government services and digital opportunities; government authorities, private actors and communities are aware and capable of utilizing digital platforms, favorable legal framework and policy measures are put to place to encourage and enable partnerships among diverse sectors and actors for making ICTs work for the poor. Moreover, it is also needed to be ensured that institutional reforms and proper incentive mechanism are designed taking into account the divergent motivations of involved parties from public, private and non-profits sides in undertaking PPP projects in ICT for rural population.

Since ICT is one of the fastest growing sectors in Bangladesh and government is aiming to achieve the Digital Bangladesh vision by 2021 as declared in the ICT policy 2008, the big challenge remains as the development of ICTs in rural areas by extending the coverage of digital opportunities and services to rural citizens (Zaman &

Rokonuzzaman, 2015). Further, some broader challenges need to be taken into account in order to realize the full potentials of the digital transformation by engaging public and private bodies together in providing digital services and opportunities to the rural population in Bangladesh as like elsewhere in other developing countries with similar contexts. Mainly, the amount of investment aimed at expanding ICT and digital services to rural areas is very insignificant and for this national governments need to solicit investment from private sectors with wider cooperation from regional and international bodies (United Nations, ESCAP, 2010).

One critical issue is developing the perceived needs and benefits of ICTs along with raising awareness about using digital technologies in all possible range of ways in furthering socio-economic development goals, i.e. income generation, poverty reduction, employment creation, making market work for the poor, business development, agriculture and farmers' concerns, health and medical services provision, educational facilities promotion, rapid and easy delivery of public services and overall meeting the needs of citizens and making government machineries responsive to the public. Without functional adoption of ICTs and awareness about getting services and benefits from digital platforms, the rural people would not benefit at large with just getting access to UDCs and digital centers.

Another concern is the availability of need specific and locally relevant digital contents and internet services. Other studies also suggested that "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" (Islam et al., p. 122). Without raising the general level of education, particularly ICT education among the rural population, the proper use of ICTs cannot be ensured and the digital revolution would not be achieved. Government can collaborate with private sectors and NGOs to improve the situation of information literacy among rural population. The issue of providing adequate attention to the specific constraints faced by women and their needs are to be addressed on prioritized basis. Moreover, women entrepreneurs need to be employed in greater numbers and training needs to be provided on a regular basis.

Organizing capacity building and awareness raising programs for private entrepreneurs and rural citizens and arranging infrastructural facilities, the electricity connection, regular maintenance of ICTs equipments are to be emphasized. Moreover, special arrangements need to be made with private ICT companies to run more digital centers in rural areas and to provide subsidized ICT equipments and maintenance services to the local entrepreneurs, so that more PPP initiatives are there to render services to a much greater number of rural population in Bangladesh. Finally, strengthened role of third party facilitator other than the government and private entrepreneur i.e. multilateral and bilateral development agencies needs to be ensured for proper implementation of similar types of projects.

Long term political commitments and enthusiasm of decision makers is a critical factor for the success of PPP cases while projects are focused less on profits and more on making long-term sustainable solutions triggered by locally tailored needs and contexts have higher prospect of generating desired outcomes (Fife & Hoseman, p. 14). In fact, there will be growing amount of investment in ICT sector in the developing countries in the days ahead which are to be channelled to benefit the greater segments of rural populations and underserved communities in countries like Bangladesh.

## 6. Conclusion

ICT is becoming one of the key drivers of an economy while massively changing the way people live in a society. However, the effects of ICT have never been equally brought to all segments of population in the world. The notion of digital divide between the developed North and underdeveloped South and even with urban and rural areas in the developing countries means that a great majority of the world's population still do not have functional access to ICTs and digital services and opportunities in a meaningful way. As ICT has appeared to be an effective tool for furthering socio-economic development, the marginal benefit would be much higher for rural poor people in the context of developing countries if they are given functional access to ICTs and digital opportunities.

The key focus of the paper was to understand the prospects of digital service centers in rural areas in terms of providing access to ICT, internet and digital services and opportunities for rural people in Bangladesh. The decisive factor here is the involvement of private entrepreneurs with the government provided facilities in the case of Union Information and Service Centers at Union Parishad levels. The paper provided some practical illustrations of how PPP in ICT sector can help to achieve digital Bangladesh goals with special reference to rural and marginal population of the country by reporting the current situation of UDCs in Bangladesh and its promising outcomes and potentials in driving socio-economic changes in the lives of rural population.

In order to continue and expand the coverage of information and digital service provision to rural communities,

partnership between government and private actors could be the most effective option which needs to be further strengthened with more dedicated resources, smart planning and stronger collaborations among partnering actors. Overall, this paper presents a review on involvement of PPP on digital service provision in Bangladesh and elsewhere based on secondary literatures which can act as the background for further empirical study on actual coverage and effectiveness for rural population in the context of Bangladesh.

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