# Identifying Potential Areas for Enhancing E-governance in Comprehensive Rural Development: Bangladesh Perspective

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### **Abstract**

Comprehensive rural development is a new style programme. It includes raising the productivity and real income including employment opportunities in farm and non-farm sectors, safety nets, organizational links to ensure smooth policy function, appropriate management technologies and organizational innovations to ensure access of the beneficiaries to inputs and resources. This study has attempted to assess the level of citizen-centric e-governance system from the perspective of civil servants focusing on the implementation of the comprehensive rural development attempts in Bangladesh. It is a exploratory and descriptive study. It has also endeavored to identify potential areas of implementing e-governance in comprehensive rural development programmes from the perception of selected Bangladesh Civil Service Cadre officers, Rural development is always an important policy package of the Government of Bangladesh. Public institutions and NGOs are likely to step into the role of an effective promoter of rural development for the fulfillment of basic needs of the rural beneficiaries. This is in line with the goals of basic need approach. At times problems of the disadvantaged groups have been addressed through ICT. Digital Bangladesh involves reconsidering the whole rural development system crosswise in all levels of government from a voter perspective. It is projected that a pro-citizen approach will empower the government to achieve crucial efficiency and expand service delivery levels.

**Keywords:** District e-Service Centers, E-governance, Rural Development, Union Information Service Centres

### 1. Introduction

Under the existing socio-economic circumstances, it is a difficult task to manage development affairs efficiently. Rural development process is complex in nature. The frequency of factional conflicts centering on development issues is a pestering problem. The dominant groups led by influential leaders having strong support base within the locality endeavor to gain patronage resources to successfully counteract with the factional tendency of their rivals. The local leaders draw most patronage resources from the public and autonomous institutions that endeavor to ensure smooth flow of resources for rural development. Field administration and local bureaucracy are presumed to be the active agent of rural development. Comprehensive and participatory rural development projects prepared under bureaucratic supervision represent its conventional wisdom about economic development and growth at the micro-level. The

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alienation of the local bureaucracy from the peasantry hinders the development of administrative responsiveness to the felt needs of the beneficiaries. The communication gap between the peasantry and administration is a serious problem. Field offices remain less useful to the common people because of century-old paper-based office management system. Rural development attempts are time-consuming and labour-intensive for both the service providers and the receivers. Moreover, it caused frequent delay and trouble because of the intermediaries. Consequently, abuse of public power and corruption occur frequently in Bangladesh (Hasanuzzaman, 2013). The poor performance of local public administration which is not functionally representative constitutes impediments to the implementation of rural prosperity programmes. The beneficiaries, as such, are suffering from heart burning and frustration, quite unable to procure logistic support from the official staff working in extension and promotional agencies. Corruption and malpractice are entrenched in the system of service delivery and programme managements. Extension agencies working in isolation from representative institutions have turned into wasteful ones with cumbersome official rituals and procedures. But they are quick at rendering useful services to the several intermediaries, brokers and touts who are eating into the vitals of the institutions. E-governance is well recognized as a strategy of combating corruption, ensuring people's participation, transparent and citizen-centric administration etc. This system intends to provide better services at less cost. It is an effective method of ensuring good governance in the developing countries. Like other countries, e-governance can be a vital instrument in our country to materialize the vision of comprehensive rural development approach. Now the scholars and practitioners feel the urgency to identify the obstacles and way forward for enhancing e-governance in comprehensive rural development of Bangladesh.

### 2. Literature Review

E-governance can circulate information with electronic means regarding rural development process (Bertot et al., 2010). Dawes et al., (2016) emphasized on better communication between government and people in this regard. Elkadi (2013) explains that administrative processes have to be reinvented to provide better rural development service digitally. Electronic signatures are necessary to enable legal transfer of rural development services by digital means in both personalized and customized way (Mirchandani et al., 2008). It is also important to integrate information systems properly to get service from a single computer-generated center. This single cybernetic center can become the prime contact point for all rural development programmes (Ovais et al., 2013). Available literature emphasized that civil servants have to work together in a smooth and unified way to make the rural development effective in Bangladesh.

According to United Nations (2016), e-governance is a general term for internet and electronic device-based services from local, state and federal civil servants. In this era of e-governance, the public agencies use information technology to support administrative actions, involve citizens and provide rural development services efficiently (Sivarajah et al., 2015). Interactions among different actors may be in the system of obtaining information, making payments, online services etc. (Ranerup et al., 2016). To promote greater participation of citizens in the rural development process,

political institutions play the major role within the framework of e-governance. Government, citizens, business organizations, interest groups etc. are the main actors in using e-governance in rural development (Serra et al., 2015).

Sarrayrih and Sriram (2015) argue that using e-governance in rural development can be described as a product of New Public Management (NPM) reform approaches. Rural development with pre-set and well defined programmes for vital sectors may ensure efficient implementation. Net achievement in terms of interest gratification and sustainability depends inter alia on optimal utilization of available resources and social mobilization at the community level (Ahmad et al., 2013). Some scholars argue that development of the rural sector has received special consideration of the policy communities now-a-days. Normative policy behavior at the institutional level favours adoption of policies of rural development with core programme components. This is to bring e-governance to a desired state in the shape of planning at the grassroots for promoting rural development (Goel et al., 2012).

In recent years normative policy behavior seems to prioritize participatory and comprehensive rural development. Scholars argue that to foster a favorable climate for socio-economic development in rural areas, participatory values have been given top priority. Ionescu (2013) discusses that introducing such changes may threaten the work of traditional bureaucratic institutions that enforce the democratic values. E-governance allows citizens to exercise self-governance. Citizens as the customers are the ultimate recipients of public services (Bannister and Connolly, 2015). Indeed, the citizens simply need to be assured that they are receiving the same services delivered to other citizens or recipients. It involves the growth of community support.

The experiences with policy exercise in rural development sector have been accumulated in a series of major programmes like Integrated Rural Development, Community Development, Swanirvar Movement, Ulashi Baddanathpur Programme, Rangunia Project, Total Village Development, SFLDP, Food Assisted Programs, Comprehensive Rural Development and Poverty alleviation programs like RD-2, RD-5, RD-9, RD-12 etc. Comilla model consisting of interdependent and mutually reinforcing programs continues to guide policy direction in the realm of rural development (Hossain, 2004). The model set the tone of any future course of action institutionalizing the process of rural development. The program components contained in this replicable model are relevant to the contemporary policy issues like rural urban migration, participatory rural development, and empowerment of disadvantaged group, micro credit, gender discrimination, participatory marketing system, sustainable rural development and local governance. Yet, issues that afflict the rural people and worry the policy makers are differentiation and polarization (Mandal, 2000).

According to Shahabuddin (2000), Comilla model constitutes a significant development in the art of institution building. The institutionally nourished Comilla model and its integration formula as found in the establishment of Bangladesh Rural Development Board (BRDB) proffered the much-required platform for combining the faculties and practices of institution building synthesizing it into public policy on rural development.

Bangladesh Academy for Rural Development (BARD) has worked its way through ceaseless effects to combine democratic and economic rural institutions to the environment that has been changed in a positive direction. Effective implementation of e-governance in rural development depends on a three-way partnership of government, private sector and broader community (Bonsón et al., 2012). Community outreach must be entrenched with the process from the outset (Janssen and van den Hoven, 2015). Joseph (2014) explains that the experiences with policy intervention thus have been accumulated in a series of development plans and programmatic measures. The basic thrust in rural development on grassroots institution is capable of providing adequate and timely support and services to a large number of poor farmers and small rural inhabitants/entrepreneurs (Bhuiyan, 2010). The institutions involved in operational and implementation aspect, of rural development policies are available in plenty. Ministry of Local Government and Rural Development (LGRD) happens to be the key note of institutional intervention providing overall policy guidance and 'advisory assistance' to the institutions responsible for administration of the rural development programmes (Bwalya and Healy, 2010). Linked to the development approach, e-governance is involved in wide range of activities. Gonzalez-Zapata and Heeks (2015) argue that use of ICT in rural development will definitely increase the level of trust and mutual belief.

Scanning the voluminous number of studies in this field, it can be claimed that the benefits of e-governance are substantial for both government and citizens (Janssen and van den Hoven, 2015). The payoffs for government include reducing costs, reaching to a larger portion, faster response, improving organizational image through branding and many more (Gajendra et al., 2012). Yildiz and Saylam (2013) illuminate that digitalized public service delivery has necessarily changed the whole process from a paper-based mode to an internet-based more efficient and continuous mode. This process has reduced costs by about 87% compared to traditional methods (Navarra and Cornford, 2012).

Rorissa and Demissie (2010) argue that cost-effectiveness and economy can be achieved as it costs less to publish available services on the public agencies' website than any other media. Thus, the mounting evidences of digitalized public service delivery benefits have lured many governments across the globe (Guha and Chakrabarti, 2014). The transformation of paper-based to web-based process has been observed in North America, Europe, Asia-Pacific organizations with a revolution. Despite its substantial benefits, relevant literature also highlights some challenges that include discrimination towards particular groups, threat to privacy, huge number of demands, inequality of access, absence of personal touch and so on (Kim et al., 2009). Researches were conducted about the impact of e-governance and rural development in Bangladesh. The state of introducing e-governance in rural development is an under-researched filed. This realization helps in identifying the gaps in previous research in this connection. The literature review on e-governance and rural development in Bangladesh states that many scholars have shown their interest in measuring the importance of e-governance and rural development separately in Bangladesh. However, strategies for enhancing e-governance in comprehensive rural development of Bangladesh are not analyzed systematically by empirical research yet.

# 3. Objectives

The broad objective of the paper is to find out potential strategies for enhancing e-governance in comprehensive rural development of Bangladesh which is the center of the research problem. Specifically, this paper tries to explore conceivable strategies for enhancing e-governance in comprehensive rural development of Bangladesh based on the perceptions of some selected civil servants.

# 4. Methodology

It is an exploratory and descriptive study. This study has followed qualitative approach in analyzing data though most of the extant studies are quantitative in nature in this field. However, undertaking more interviews could have provided better information and increasing the sample size could have provided better information about the study. As district e-service centre is a latest idea, comprehensive information about it was difficult to collect and often not available. Data from both primary and secondary sources have been used in the paper. In-depth interview by semi-structured questionnaire has been used to collect primary data. However, some questions were close-ended to measure civil servants' perceptions toward digitalization system. The participants in this study are 340 BCS cadre officers who are currently working with rural development and e-government activities of the government. Among the respondents, 36% is from BCS administration cadre, 24% is from BCS general education cadre, 10% is from BCS health cadre, 8% is from BCS economic cadre, 8% is from BCS police cadre, 5% is from BCS economic cadre, 4% is from BCS information cadre, 3% is from BCS foreign cadre and rest of the 2% is from BCS taxation cadre. Each interview session lasted approximately 25-35 minutes on average. The questionnaire was designed based on the previous studies that adopted e-governance model as their theoretical framework. Secondary data were collected from various published documents.

### 5. Findings and Analysis

Based on the perceptions of the interviewees, the following potential areas have been explored for incorporating e-governance to comprehensive rural development of Bangladesh.

### 5.1. Tracking Rural-urban Migration

Rural urban interface may well be subsumed at tradition modernity continuum. Rural sector is a synonym for grass root or base functioning as the centre of production. Contrarily urban sector is relatively much modern with rich amenities of life and sophisticated life style. It is a seat of administration and distribution. Rural-urban migration was a much debated issue during seventies. Various unfavorable antecedents and eventualities push the villagers to rush to cities for shelter. In addition, the factor like structural and non-structural violence has largely disturbed peaceful co-existence. More, subhuman living conditions in dilapidated huts, deteriorating amenities and lack

26 Identifying Potential Areas for Enhancing E-governance in Comprehensive Rural Development: Bangladesh Perspective of health facilities have downtrodden the rural poor. These, altogether constitute what might be conceptually termed as 'push factor'. The continued migration process with the operation of push factor is an indication of the transfer of poverty from the rural areas to major urban centres. By using information and communication system, government can easily track state of rural-urban migration regularly.

# 5.2. Enhancing Participatory Rural Development

Participation, as an attribute of societal modernization, denotes mass involvement in institution building activities, increasing consciousness of the masses for self-government, community development, information technologies and available logistics for distribution. In traditional rural societies, participation is narrowly spaced owing to mass ignorance about cosmopolitan values. In transitional villages participation is wide ranging in the context of active process of involvement of the peasants in assuming the responsibility of and contribution to local governance. So, participatory rural development has become an acceptable doctrine to pull the backward community to prosperity.

E-governance can easily promote this approach. It is gaining ground as an important policy issue to comply with public demand for better extension services by the bureaucratic organizations and NGOs alike, dissemination of new ideas, employment generation, bottom-up planning, partnership between the beneficiaries arid promoters of development, access to information about the progress of the on-going projects.

# **5.3** Role of District e-Service Centers (DESCs) and Union Information Service Center (UISC)

At present, District e-Service Centers (DESCs) are functional in all the 64 DC Offices in Bangladesh. These centers have made the public service delivery process stress-free by reducing covers of red tapes, time, difficulty and distances. Now people need not to stand in long queues to avail public services. As a result, transparency and accountability in public service delivery have been improved through the use of such tracking systems.

DESCs have been established to improve the accessibility and transparency of public service delivery system at district level. These centers work to (a) ensure public service delivery at the door steps of the people, (b) support citizens' Rights to Information through widespread flow of information, (c) use less time and labour in processing, (d) increase the number of citizens served every day, (e) combatting corruption and (f) intensify accountability by ensuring enhanced flow of information and transparent procedure.

Bangladesh government, therefore, introduced Union Information Service Center (UISC) almost in every Union Parishad (UP). UISC is a sort of one-stop-service provider of ICT that runs with the principles of Public-Private-Partnership (PPP). It has become not only a knowledge hub for the rural community, but also a center for disseminating information to establish good governance among the rural mass. Thus, UISC ensures people's access to 'Right to Information (RTI)'. UISCs create scopes of

job orientation for the unemployed rural youths; provide market information to the farmers and articulate government circulars among the concerned aspirants. Thus, it facilitates government's effort to build e-Governance establishment countrywide through a speedy and cost-effective form of communication.

UISC has been performing as a bridge between the bureaucrats, government officials, NGOs, businessmen, farmers, teachers, doctors, students and the other stakeholders. As a whole, UISC has been considered as a government policy where 'nobody kept aside' in the reign of globalizing every aspect of human achievements including mobile banking, rural banking etc. The honest pledge of the government – Digital Bangladesh – cannot be achieved in a quicker track without incorporating and involving ICT in the local government system. UISCs are offering enormous opportunities in accessing ICT amenities to the people living in remote areas in Bangladesh. However, there are some loopholes in the process and a better management in UISCs can make a bridge among the government institutions, people of remote areas, central bureaucracy and local administration.

# 5.4. E-governance in Rural Development

A Memorandum of Understanding (MoU) was signed on 5 June, 2011 between Local Government Division (LGD), Access to Information (A2I) Programme of Prime Minister's Office and Dutch Bangla Bank Limited for introducing branchless mobile banking service for rural communities. According to the MoU, Dutch Bangla Bank Limited would introduce branchless mobile banking in 361 Union Information Service Centers (UISCs) in six districts of Dhaka division as pilot project to provide banking facilities to rural communities. Gradually the remaining UISCs will be brought under the programme. All banking facilities including opening bank account, cash withdrawal and depositing money and receiving remittances will be available through the mobile banking. On 4 April 2011, a Memorandum of Understanding (MoU) was signed among Local Government Division (LGD), Access to Information (A2I) Programme of Prime Minister's Office and Trust Bank Limited for introducing mobile banking through Union Information and Services Centres (UISCs). Trust Bank Limited would introduce branchless mobile banking in 20 union information service centers as pilot programme. The remaining UISCs will be brought under the programme in phases. All banking facilities will be available through the mobile banking service. Introduction of a CBT (Computer Based Training) platform on the internet would enable quick deployment of skill training courses. The 'Governance Innovation Centre', proposed in this project, will be responsible for identifying scope for innovation.

# **5.5. Digitalization of Land Reforms**

The existing agrarian relation based on land ownership pattern is one of the most serious problems of rural development. Tinged with traditional context of such relationship the agricultural sector suffers continuous stress and strain failing to reach the expected level of production. Uneconomic size of holdings reduces productivity. Absentee landlordism is another defect. To check this alarming situation, land reform

policy needs to be seriously reviewed. The actual farmers with plough should obtain access to the major portion of arable land. Redistribution prioritizing the bonfire farmers will not be effective if it is thought with political purpose. Fictitious list of landless farmers will be disastrous.

Above all, proper implementation of land reforms depends inter alia on the transparency of the personnel involved in land administration and favorable policy environment. Hence, there is no alternative of digitalizing land administration and reforms.

### 5.6. Promoting Financial Inclusion

Recent experience in the field for rural development has shown that access to collateral free credit facilities has the prospect of utilizing untapped potentials in non-crop areas. The need for credit support aiming to increase income generating activities for the surplus human resources in these areas deserves mention in the recent policy dialogue. This is a systematic target oriented emphasis providing opportunities for ameliorating the conditions of the population below poverty line. The financial inclusion system aims at increasing productive capabilities of the beneficiaries enabling them to move on to prosperity and self-development. Financial inclusion programme is through to be the threshold of economic empowerment of the rural poor. As a policy issue the scheme of loan disbursement for this class through proper institution building is gaining ground recently. Financial inclusion is intended to alleviate rural poverty covering a large percentage of the poorest of the poor. E-governance will surely promote such financial inclusion in Bangladesh.

### 5.7. Use of ICT in Micro-credit

The new policy moving in the direction of institutionalization of micro-credit through Palli Karma Sahayak Foundation is intended to help the rural working class, small traders, small investors and entrepreneurs to help themselves. The Foundation has emerged as an institutional expression of micro-financing activities involving the operating NGOs as the partner organizations. The NGOs have been providing micro-finance services to the rural working class. Their outreach programmes with micro-credit is now under the threshold of expansion. Efficient delivery of micro-finance service on a large scale is expected to provide a background of sustainable development. In fact micro-credit is beginning to strengthen the social and human capital of the target beneficiaries at the household, enterprise and community level. Recently all the credit organizations use various information communication technologies in micro-credit activities. This is also a gateway of promoting comprehensive rural development by enhancing e-governance.

### 5.8. Utilizing ICT in Participatory Rural Marketing System

The objective of privatization of rural affairs is difficult to achieve without reference to the provision of participatory rural marketing system. Institutionally construed mechanism of market is far from being effective unless it serves the interests of the primary producers. By utilizing ICT, participatory rural marketing has cropped up as a recent policy issue to ensure equity participation in marketing facilities. Although Comprehensive Village Development (CVD) programmes seeks to promote participation in marketing facilities the coverage of marketing is too little to ensure overall redistributive policy mechanism for micro-economic stabilization.

### 5.9. Developing ICT Infrastructure in Rural Area

Primarily, the government should concentrate on developing and improving the infrastructures that are required. Necessary investment should be made on building ICT infrastructure throughout the country, keeping in mind that the returns from such investment will be of long-term. To ensure equal access to technology for all citizens, government should improve internet infrastructure throughout the country. This will enable every citizen to find and receive information as well as public services from different government organizations consistently and easily. There should be a process to have 24 hour and immediate maintenance for the effective management of rural development initiatives. It is very crucial for Government to supply and installation of necessary hardware, customized software and internet connectivity to the field administration offices. Government should consider nationwide networking infrastructure with faster internet speed at the lowest cost. Bangladesh is connected to only one submarine cable at present. It is the time to take necessary actions in order to get connected with an alternative submarine cable with a view to confirming frequent internet connectivity in Bangladesh. Power situation of such thrust area needs to be taken care of with highest priority.

### 6. Conclusion

Rural development is always an important policy package of the Government of Bangladesh. Public institutions and NGOs are likely to step into the role of an effective promoter of rural development for the fulfillment of basic needs of the rural beneficiaries. This is in line with the goals of basic need approach. At times problems of the disadvantaged groups have been addressed through ICT. Digital Bangladesh involves reconsidering the whole rural development system crosswise in all levels of government from a voter perspective. It is projected that a pro-citizen approach will empower the government to achieve crucial efficiency and expand service delivery levels. Such attempts can intensify usage of online services, increase sustainability and encourage investment. Digitalized rural development system can certainly increase people's satisfaction with improved government services and quality of life. People's earning, productivity, expertise and entrepreneurship, and as a whole, the human capital formation in Bangladesh have been viewed in a broader development perspective through this context to promote digitalized public service delivery system. Such rural development centers have been recognized as the humble initiatives of the government to develop a behavioural change of the people of Bangladesh. It helps people to be acquainted with the cultural, social and economic norms of the global community. While the use of ICT facilities like- computer literacy, email, browsing the internet and printing etc., were earlier meant for the urban people, now through these centers, the

rural people of Bangladesh are equally enjoying access to almost all the ICT services. Coordination between the urban and rural structure of information disseminating is simultaneously regarded as a possibility of ensuring 'development with all, development for all' policy of the government. Nevertheless, in reality, the digital divide is notably deepening between rural and urban areas of the country. In such a backdrop, there is a strong need to carry on an in-depth study on the information hubs located at grass-root levels to uncover the ground realities following a standard form of academic pursuit. The idea is to enable the rural poor to involve in participatory development process. There has been institutional concern to activate the vast reservoir of human resources to educate the poor and to enhance their institutional status. Such concern is a symbol of realization about the inadequacy of the resource poor and powerless vulnerable groups of population. Finally, it is imperative to organize the vulnerable into an institutional framework through a target group approach.

### References

- Ahmad, M. A., Markkula, J. and Oivo, M. (2013). Factors affecting e-Government adoption in Pakistan: A citizen's perspective. Transforming Government: People, Process and Policy, 7: pp. 225–239.
- Bannister, F. and Connolly, R. (2015). The great theory hunt: Does e-government really have a problem? Government Information Quarterly, 32: pp. 1–11.
- BBS (2015). Report on ICT Use and Access by Individuals and Households Bangladesh 2013, by Bangladesh Bureau of Statistics (BBS), Statistics and Informatics Division (SID) and Ministry of Planning, October, 2015.
- Bertot, J. C., Jaeger, P. T. and Grimes, J. M. (2010). Using ICTs to create a culture of transparency: e-Government and social media as openness and anti-corruption tools for societies. Government Information Quarterly, 27: pp. 264–271.
- Bertot, J. C., Jaeger, P. T. and Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. Government Information Quarterly, 27: pp. 264–271.
- Bhuiyan, S. H. (2010). E-Government in Kazakhstan: Challenges and its role to development. Public Organization Review, 10: pp. 31–47.
- Bonsón, E., Torres, L., Royo, S. and Flores, F. (2012). Local e-Government 2.0: Social media and corporate transparency in municipalities. Government Information Quarterly, 29: pp. 123–132.
- Bwalya, K. J. and Healy, M. (2010). Harnessing e-Government Adoption in the SADC Region: a Conceptual Underpinning. Electronic Journal of e-Government, 8(1): pp. 23-32.
- Dawes, S. S., Vidiasova, L. and Parkhimovich, O. (2016). Planning and designing open government data pro-grams: An ecosystem approach. Government Information Quarterly, 33(1): pp. 15-27.

- Elkadi, H. (2013). Success and failure factors for e-government projects: A case from Egypt. Egyptian Informatics Journal, 14: pp. 165–173.
- Gajendra, S., Xi, B. and Wang, Q. (2012). E-Government: Public participation and ethical issues. Journal of e-Governance, 35: pp. 195–204.
- Goel, S., Dwivedi, R. and Sherry, A. (2012). Critical factors for successful implementation of e-governance programs: A case study of HUDA. Global Journal of Flexible Systems Management, 13: pp. 233–244.
- Gonzalez-Zapata, F. and Heeks, R. (2015). The multiple meanings of open government data: Understanding different stakeholders and their perspectives. Government Information Quarterly, 32 (4): pp. 441–452.
- Government of Bangladesh (2016). Access 2 Information (a2i) Programme. Dhaka: Prime Minister's Office, Government of the People's Republic of Bangladesh.
- Guha, J. and Chakrabarti, B. (2014). Making e-government work: Adopting the network approach. Government Information Quarterly, 31 (2): pp. 327–336.
- Hasanuzzaman, M. K. (2013). Learner's Submission: District 'E-Service Center' at Deputy Commissioner's Offices of Bangladesh. Available at <a href="https://unpanelearning.wordpress.com/2013/11/01/">https://unpanelearning.wordpress.com/2013/11/01/</a> learners-submission-district-e-service-center-at-deputy-commissioners-offices-of-bangladesh/>accessed on 25 January 2017.
- Hossain, M. (2004). Poverty alleviation through agriculture and rural development in Bangladesh. Research report no. 39, Dhaka: Centre for policy Dialogue.
- Ionescu, L. (2013). The impact that e-Government can have on reducing corruption and enhancing transparency. Economics, Management and Financial Markets, 8: pp. 210–215.
- Janssen, M. and van den Hoven, J. (2015). Big and Open Linked Data (BOLD) in government: A challenge to transparency and privacy? Government Information Quarterly, 32: pp. 363–368.
- Joseph, S. (2014). Development and validation of a framework for e-government readiness measurement, (21053794). Unpublished Master of Technology degree in Information Technology at Durban Institute of Technology, available at <a href="http://ir.dut.ac.za/handle/10321/1189">http://ir.dut.ac.za/handle/10321/1189</a> accessed on 10 June 2017.
- Kim, S. C., Kim, H. J. and Lee, H. J. (2009). An institutional analysis of an e-government system for anti-corruption: The case of OPEN. Government Information Quarterly, 26: pp. 42-50.
- Krishnan, S. and Teo, T. S. (2012). Moderating effects of governance on information infrastructure and e-Government development. Journal of the American Society for Information Science and Technology, 63: pp. 1929–1946.

- 32 Identifying Potential Areas for Enhancing E-governance in Comprehensive Rural Development: Bangladesh Perspective
- Mirchandani, D. A., Johnson, Jr., J. H. and Joshi, K. (2008). Perspectives of citizens towards e-Government in Thailand and Indonesia: A multigroup analysis. Information Systems Frontiers, 10: pp. 483–497.
- Mandal M. A. S. (ed.) (2000). Changing Rural Economy of Bangladesh. Dhaka: Bangladesh Economic Association.
- Navarra, D. D. and Cornford, T. (2012). The State and Democracy After New Public Management: Exploring Alternative Models of E-Governance. The Information Society, 28(1): pp. 37-45.
- Ovais Ahmad, M., Markkula, J. and Oivo, M. (2013). Factors affecting e-Government adoption in Pakistan: A citizen's perspective. Transforming Government: People, Process and Policy, 7: pp. 225–239.
- PMO- Prime Minister's Office (2013). Digital Bangladesh: E-services for Everyone. Access to Information (a2i) Programme, available at <a href="http://a2i.pmo.gov.bd/sites/default/files/booklet/">http://a2i.pmo.gov.bd/sites/default/files/booklet/</a> E-seba%20Sobar%20Jonno\_ English July.pdf> accessed on 15 January 2014.
- Ranerup, A., Henriksen, H. Z. and Hedman, J. (2016). An analysis of business models in Public Service Platforms, Government Information Quarterly, 33, pp. 6–14.
- Rorissa, A. and Demissie, D. (2010), An analysis of African e-Government service websites, Government Information Quarterly, 27, pp. 161–169.
- Rue, L.F. (2011) Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression. Available at <a href="http://www2.ohchr.org/">http://www2.ohchr.org/</a> english/bodies/hrcouncil/docs/ 17session/ a.hrc.17.27\_en.pdf> accessed on 4th June, 2016.
- Salam, M. A. and Islam, M. Z. (2013). E-Government Service Delivery: An Assessment of District E-Service Centers in Bangladesh, JU Journal of Information Technology (JIT), 2: pp. 33-39.
- Sarrayrih, M. A. and Sriram, B. (2015). Major challenges in developing a successful e-government: A review on the Sultanate of Oman. Computer and Information Sciences, 27: pp. 230–235.
- Serra, L. C., Carvalho, L. P., Ferreira, L. P., Silva Vaz, J. B. and Freire, A. P. (2015). Accessibility Evaluation of E-Government Mobile Applications in Brazil. Procedia Computer Science, 67: pp. 348 357.
- Shahabuddin, Q. (2000). Assessment of comparative advantage in Bangladesh agriculture in Bangladesh. The Bangladesh Development Studies, 26(1): pp. 39-75.
- Sivarajah, U., Irani, Z. and Weerakkody, V. (2015). Evaluating the use and impact of Web 2.0 technologies in local government. Government Information Quarterly, 32: pp. 473–487.

United Nations. (2016). United Nations E-Government Survey 2016. Department of Economic and Social Affairs, UN. Available at <a href="https://publicadministration.un.org/">https://publicadministration.un.org/</a> egovkb/en-us/ reports/ un-e-government-survey- 2016> accessed on 20 September 2017.

Yildiz, M. and Saylam, A. (2013). E-government discourses: An inductive analysis. Government Information Quarterly, 30: pp. 141–153.