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STUDIES TO ASSESS THE EFFECTIVENESS OF THE DIGITAL BANGLADESH PROGRAMS ON SOCIAL CHANGES

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ABSTRACT

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Studies were conducted to assess the effectiveness of the digital Bangladesh program on social changes. The objectives of study were: to identify the impacts of digital Bangladesh on social change; to assess the implementation strategies; and to analyze the e-governance the works were performed through a survey using a questionnaire having the respondent's identity based integrated queries as per objective of the research. It was found from the data that digital activities were practically since 2008 and results show that the media publication of examination results and printing scored highest among the activities prioritized for the purpose. The results reveal that comparing with the activities of 2006 as 1, the mean growth of last 6 years was more that 30%, and it was more than 80% during the last 3 years specially for media, printing and publication of public results. The results indicated that though just started the Union Parishad Centers, procurement and administration flourishing very rapidly. The preliminary findings indicate that scope of solving human disability applying digital systems have scopes highest being the autism problems. The scope was higher in case of identifying the medical and bio-physical problems, preparing and using teaching materials and other essential aids. According to the results Bangladesh achieved tremendous progress with comparison to other Asian countries. The major programs activated and facilitated were: i. controlling crimes and order situation ii. establishing a combined database, iii. combination with the Field administration by Video Conference, establishing web-portal in every district, iv. establishing 'Grievances Redressing System' in digital management, and other sectors priorities including 'Sangsad Bangladesh Television, National ID Card and List of Voter, Electronic Voting Machine (EVM), Laptop with Multimedia facility to schools, admission and ticketing, postal servicing, and technology transfer in agriculture and Health services. It may be recommended from the results that Digital Bangladesh program mean achieved a significant development for enhancing public interest activities in time and cost effectively. It may be concluded that manpower development for implementation of the programs should be given much importance along with more updated instrumentation and legal supports for business and employment.

Key words: Digital Bangladesh, Access to information (A2i), e-governance, Union Parishad Center

INTRODUCTION

A digital system is a data technology that uses discrete (discontinuous) values. By contrast, non-digital (or analog) systems represent information using a continuous function. Although digital representations are discrete, the information represented can be either discrete, such as numbers and letters or continuous, such as sounds, images, and other measurements. The word digital comes from the same source as the word digit and *digitus* (the Latin word for finger), as fingers are HELLO counting. It is most commonly used in computing and electronics, especially where real-world information is converted to binary numeric form as in digital audio and digital photography. Social change may be defined as the process in which the discernible significant alteration in the structure and functioning of a particular social system takes place. When we speak of social change we simply assert that there is some change in social behavior, social structure and social and cultural values. We do not indicate the direction in which the change takes place. When we speak of social change as a process we imply the ideas of continuity and persistence. Different aspects of society change in different forms and this is why it is difficult to generalize about the problem of social change.

Promulgation and services: The manifesto formally endorsed "Digital Bangladesh by 2021" as the primary development goal of the Awami League lead coalition for the nation and laid bare several milestones along the way. Service delivery to citizens anytime and anywhere is made possible through creative use of ICTs such as one stop service counters, helpdesks, etc. e-services will ensure not only a higher degree of efficiency in the delivery mechanism but will improve transparency and accountability within the service providers (A2i 2010) 2010a). Underserved and hard to reach population will receive equitable access to services. These systems will enjoy sharing of data and information across various agencies of the government transcending ministry and geographic boundaries. The government has declared the "Vision 2021" in the election manifesto which targets establishment of a resourceful and modern country by 2021 through effective use of information and communication technology ICT) -a "Digital Bangladesh. "Digital Bangladesh" does not only mean the broad use of computers, perhaps it means the modern philosophy of effective and useful use of technology in terms of implementing the promises in education, health, job placement, poverty reduction etc. The philosophy of "Digital Bangladesh" comprises ensuring people's democracy and rights, transparency, accountability, establishing justice and ensuring delivery of government services in each door through maximum use of technology-with the ultimate goal to improve the daily lifestyle of general people. Government's "Digital Bangladesh" includes all classes of people and does not discriminate people in terms of technology (Imam 2011). Hence, government emphasized on the four elements of "Digital Bangladesh Vision" which are human resource development, people involvement, civil services and use of information technology in business.

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Autism: UN convention on disabilities and digital system: This convention signed and ratified by Bangladesh, will serve as a global mandate upon member states of the United Nations by undertaking measures to ensure that Persons with Disabilities will enjoy the human rights and fundamental freedoms on an equal basis with others which has been vitally considered by PM GOB A to I (2009). So far, the matter of ICT accessibility has been included in the preamble, general state obligations and has a separate article [Article 9] on its own in the convention. Many countries have passed laws to create equal opportunities for persons with disabilities. Thus the present research program has been formulated with following objectives. This study has been designed to fulfill the following objectives: to identify the impacts of digital Bangladesh on social change; to assess the implementation strategies of digital Bangladesh programs; and to analyze the trends in Bangladesh.

MATERIALS AND METHODS

Survey Questionnaire on preparedness for 'Digital Bangladesh' for ministries
1) Name of respondent…2) Ministry …... 3) Designations ….. 4) Address…

Technical issues for data collection:
1. Info on citizen-centric service (ICT), implementation, Ministry computers, type of software, impact of Digitalization, major changes of society for digitalization, bring econ and social dev, major changes for Digital Bangladesh, suggestion for future prospects of digital Bangladesh. The methods followed and revisions suggested by Harris and Rajora (2006) for UNDP were mostly adapted in these studies.

RESULTS AND DISCUSSION

The results of the present research on the implementation of digital Bangladesh program and its impact on social changes in the country are briefly mentioned n this chapter. The major objectives of study were: to identify the impacts of digital Bangladesh on social change; to assess the implementation strategies of digital Bangladesh programs; and to analyze the e-governance trends in Bangladesh. The major findings of the study obtained after analysis of the collected data are sequentially mentioned here both in tabular and graphical forms.

Effectiveness of Digital Systems

The research data collected on the effectiveness of the Digital Bangladesh program including Access to Information (A to I) are given in the Table 1 and Fig. 1 and Fig. 2. It may be from the findings that digital activities were very few before 2009. The results show that among the activities prioritized for the purpose the media publication of examination results, printing scored highest during the years 2009-2012. Similar results were reported by Nath (2009) and De (2009) from their studies in different States of India and Al-Almaee, (2008) from Middle East.

Table 1. Percent responses on the effectiveness of social change elements

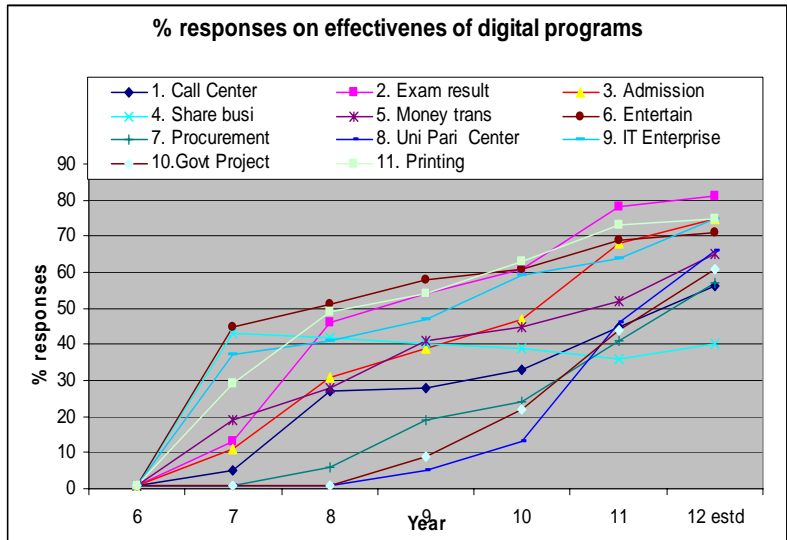| Parameters	YEARS							Mean
	06	07	08	09	10	11	12 estimated	
1. Call Centers	1	5	27	28	33	45	56	27.9
2. Exam results	1	13	46	54	61	78	81	47.7
3. Admission	1	11	31	39	47	68	75	38.9
4. Share business	1	43	42	40	39	36	40	34.4
5. Money transfer	1	19	28	41	45	52	65	35.9
6. Entertainment	1	45	51	58	61	69	71	50.9
7. Procurement	1	1	6	19	24	41	57	21.3
8. Union Parishad Center	1	1	1	5	13	46	66	19.0
9. IT Enterprise	1	37	41	47	59	64	75	46.3
10. Govt Projects	1	1	1	9	22	44	61	19.9
11. Printing	1	29	49	54	63	73	75	49.1
Mean	1	18.6	29.4	35.8	42.5	56.0	65.6	35.6

Fig. 1. Trend of responses on the effectiveness of Digital
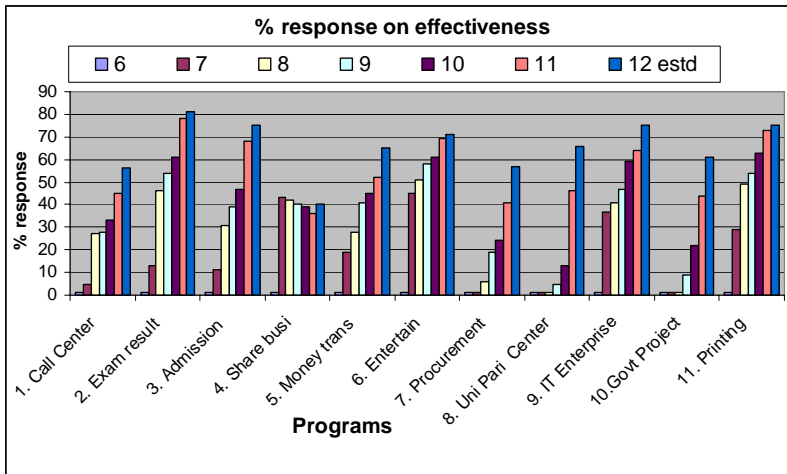Bangladesh as per programs and its activities

Fig. 2. Percent responses on the effectiveness of Digital
Bangladesh programs as per activities

Trend of Responses on the Effectiveness from 2006-2012

The results reveal (Fig. 3 and Fig. 4) that comparing with the activities of 2006 as 1, the mean growth of last 6 years was more that 30%, and it was more than 80% during the last 3 years specially for media, printing and publication of public results.
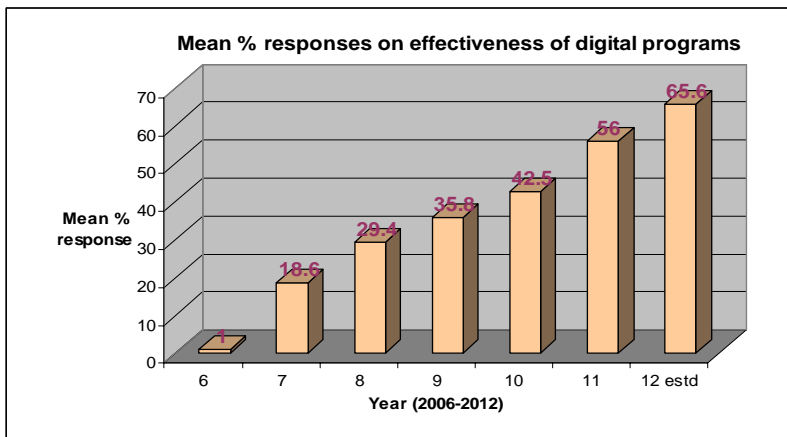

Fig. 3. Mean % responses on the effectiveness of Digital
Bangladesh programs from 2006-2012

The results given here (Fig. 4) indicate that though just started the Union Parishad Centers, procurement and government administration flourishing very rapidly keeping pace with the system dynamics of other components of digital requirements.
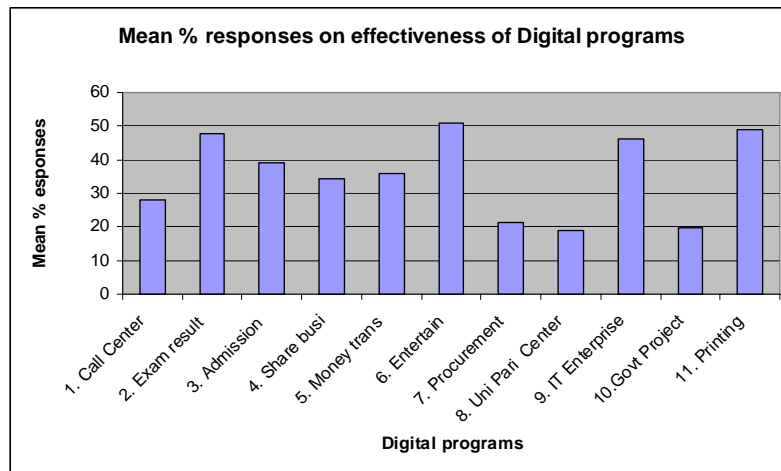
Mean % responses on effectiveness of Digital programs

Fig. 4. Mean % responses on the effectiveness of
Digital Bangladesh as per activities

Specialized Achievement Potentials

The preliminary findings of the study as mentioned in the Fig. 5 and Fig. 6 indicate that scope of solving human disability applying digital systems have scopes highest being the autism problems. The scope was higher in case of identifying the medical and bio-physical problems, preparing and using teaching materials and other essential aids.
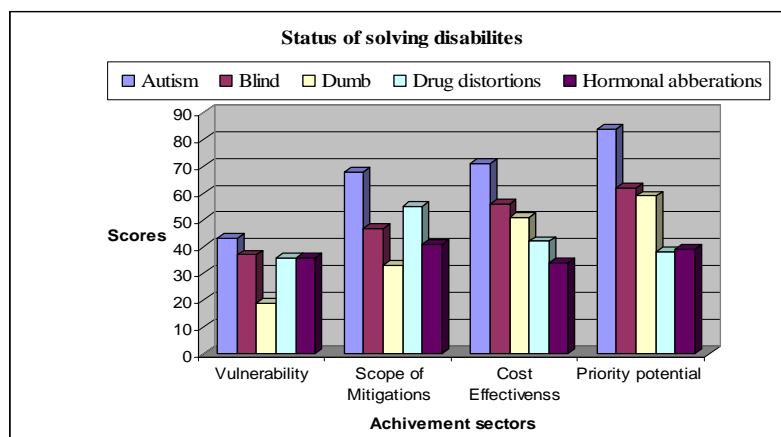
Status of solving disabilites

Fig. 5. The current status of digital programs to be used for disability problems

Comparative performance in Asia

The results show that Bangladesh achieved tremendous progress with comparison to other Asian countries as reanalyzed from the data guidelines of ABD/ WB GOB project reports. It may be estimated that the GOB status will reach the Asian status near future if the current trend of activities are maintained under the support of government's political mass welfare philosophy.
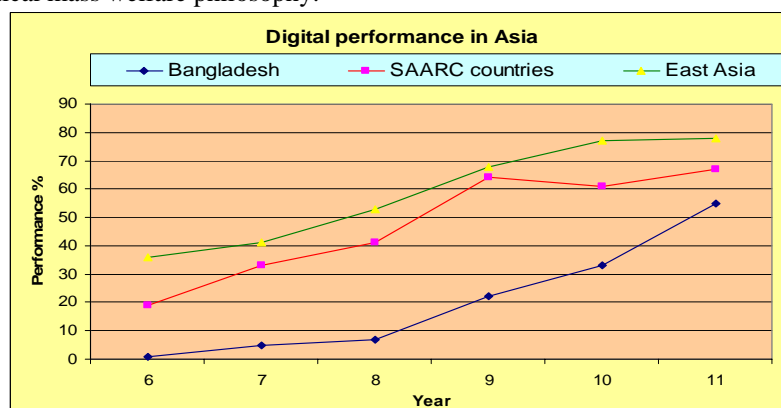
Digital performance in Asia

Fig. 6. Performance of digital methods in the Asian Region

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General Discussions on achieved contributions

There are five major things in the Election Manifesto of Awami League. These are increase the producing capacity of Electricity and fuel, decrease poverty and inequality, decrease product price and protect the bad impact of recession, make proper step against corruption and establish good governance. The concept was shared with international development leaders and the outputs stated functioning meanwhile (Fig. 7) in a very technical and constructive mechanism (GOB 2011 and Golap 2012). Beside this Prime Minister Sheik Hasina promises to establish digital Bangladesh by 2021. The Bengali Nation will celebrate Golden Jubilee in the year of 2021. The government will make Bangladesh a middle income country to fulfill the dream of Father of the Nation Bangabandhu Sheikh Mujibur Rahman's Sonar Bangla. For this purpose the government implemented activities in socio-economic, political and cultural sector in the last three years. Sector wise developmental activities as prioritized (Anon 2012) are mentioning bellow:

The major programs activated and facilitated were:

1. Controlling crimes and order situation -61556 mobile courts with digital equipment.
2. An attempt to establish a combined Database.
3. Combination with the Field administration by Video Conference.
4. Attempt to Establish web-portal in every district
5. Attempt to Establish 'Grievances Redressing System' in digital management.

| Sharing Digital Bangladesh with Global leaders | The outputs: On-line tax system implemented 26 May 2012 |

Fig. 7. The illustrative story of the emergence of Digital Bangladesh

A summary of the current digital Bangladesh led government activities obtained from the studies and found significant are given here in support of the works done by Karim *et al.* (2011).

Morshed (2007)
1. Ministry of Law, Judiciary and the Parliament: Bangladesh National Parliament.
2. Started 'Sangsad Bangladesh Television' to watch the parliamentary activities.
3. Started media center to create opportunity for live telecast of parliament session.
4. Established e-parliament by digitalizing the activities of The National Parliament.

Election Commission
1. About 100% success in preparing distributing National ID Card and List of Voter.
2. Participated 4.05 million for voter registration using digital method.
3. Established one ICT based central information disaster recovery system.
4. Established server station in Upazila and for Electoral Database.
5. Start Electronic Voting Machine (EVM)
6. 90 million National ID card with security is under process.

Department of Education Primary and Mass Education:
1. Provided books and educational instruments including ICT materials to students.
2. Provided Laptop with Multimedia facility to 503 model primary school.
3. Established IT communication to education office and IT Lab in 50 PTI.
4. Trained up the teacher for their ICT professional skill development.

Secondary and Higher Education
1. Formulated an IT dominated scientific, contemporary, Education Policy.
2. Junior scholarship, secondary and higher secondary exams published within 30 -60 days.
3. Constructed 3047 ICT Lab in Upazila service center, University, College and School level.
4. Telecast the teaching activities of best school through BTV for quality education.

Civil Aviation and Tourism
1. Introduction the ticket purchase by Credit Card.
2. Started the Automation checking process.

Postal Department
1. Added all types of machines in Digital Technology.
2. Formulated mailing operator and Courier Service Act.
3. For starting electronic money transfer service in 2009-2010.
4. In rural area the mobile phone related service extended in 8217 post office.
5. In the case of international post service it began to Track Tracing System: IPS light.
6. To faster the exchange of money the postal cash card starts in 387 post offices.

Agriculture
1. Conducting Training using e-media from national to the grass root levels.
2. Strategy of agriculture being very effective for poverty alleviation in rural area.
3. Goal set up to self sufficient in food within 2013.
4. Constructed 140 food stores in the 15 district of Rajshahi and Rangpur division.
5. Reconstructed 158 stores and increase the capacity.
6. Collected 456990 ton rice and 72 ton paddy in 2010-2011 FY.
7. Increased the capacity of implementing food policy.
8. Reduce the poverty and provide different Card for distribution different food crops.

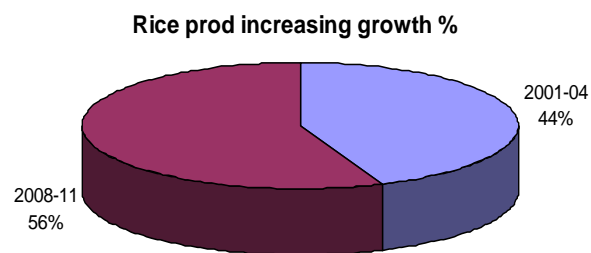**Rice prod increasing growth %**

2001-04
44%

2008-11
56%

Fig. 8. Rice Production enhanced by digital program

In the current rice season the production became 13.5 m ton. Huge success obtained in diversification of Agriculture. Increase the production of vegetable hugely. Growth rate 27.5% from 2002-5 to 2009-11.

1. Provide Agricultural equipment assistant card to 14 m farmer for the first time.
2. Opportunity to open account only 10 TK. Already 9.35 m opened by the farmer.
3. Provided farmer Agricultural Loan using e- methods.

Fish and Animal Husbandry
1. The production of fish increased 20% for cultivating fish in modern ways.
2. In 2011-2012 the highest production of fish is 3.1 m ton.
3. Provided 16 Award in 7 categories for encouragement of the farmer in 2010-11.
4. Created 2010 Fish unfair area.
5. Constructed fishing infrastructure in wet land.
6. Increased Egg production 29%. 6080 m egg production in 2010-11 FY.
7. Increased leather production 46%.
8. Total Milk production is 2950 m liter in 2010-11 FY.

Digital Bangladesh A to I
1. Started information and service center at Union level to ensure e-service.
2. Build Doel Laptop in cheap price for student, professional and all level users.
3. Started banking to ensure banking facility for the disadvantaged rural people.
4. Farmers receive purjee by SMS.
5. Sent the less important allegation to Upazila by SMS and start preliminary scrutiny.
6. Started the system of return Tax and saving in to online.

E -Communication
1. Introduced E-Traffic for modern traffic system.
2. Introduced the system of paid bills of electricity, water, gas etc. by mobile phone.
3. Launched e-procurement system ensuring transparency of the government.
4. District e-service Center' to execute the land related and all activities
5. Arranged 'Digital innovation fair' in National and District level to create entrepreneur.
6. Established National-e-information cell in Bengali.
7. Converted all the books into e-book in primary and secondary level.
8. Established multimedia classroom in educational institution.
9. Provide training to teachers and establish three thousands IT Lab.
10. Sent the exam result and recruitment result through the website, SMS and email.
11. The admission of University and the online registration from higher secondary.

12. Send the mobile IT Lab in diverse area and create the facility of solar energy.
13. Introduced digital system in teacher employee welfare Trust and Retirement Facility Board.

Science and Technology as prioritized (Rahman 2011)

1. Formulated ICT Law to spread the information technology.
2. Start to construct a Hi-Tech-Park for Software and Hardware in Gazipur.
3. Connectivity of Janata Tower Software Park, banglagovnet.
4. South Asia Sub-region Economic Corporation (SASEC) Info Highway (Bd Part).
5. Established ICT incubator to increase the number of local company.
6. Created employment opportunity of 1900 computer professionals.
7. Provided internet facility in every MOEnv LAN and WAN connectivity.
8. Recruited 8 thousand IT trained manpower in different ministry.
9. IT education is compulsory in secondary level.
10. Developed the Bangla Key Pad in mobile phone to use Bangla Language.
11. Provided Bangabandhu Fellowship, ICT Fellowship.

Telecommunication

1. BTRC provided 515 License to the tele-operator.
2. The international incoming call increased from 22.6 m min to 45.0 m min.
3. Digital Tel to Upazila and growth centers. Established digital switching system.
4. Established digital exchange in 20 Upazila of 3 Hill Tracks districts.
5. Provided the facility of Optical Fiber Network to 51 Upazila and 7 districts.
6. Started the construction work of 180000 telephone exchanges with IMS Techs.
7. Started Roaming service with the 54 operator of 38 countries.
8. Introduced 16150 PSTN Telephone set connection.
9. The rate of Tele-density increased from 32% to 53%.
10. Extended 1.5 m line by establishing digital exchange in Dhaka in the country.
11. Established Co-Location Center in Cox-bazar Submarine Cable Landing Station.

Information

1. Introduced digital technology in FDC.
2. Provide license to 7 FM Radio center.
3. Approved 1 Government and 14 Private TV channel to telecast.

Environment and Climate Change

1. Formulated climate change trust fund law to execute in transparent way.
2. Development of Sundarban World Heritage Site.
3. Forestry for preserve natural stability of Barind area.
4. Formulated environmental fund to preserve biodiversity.

CONCLUSION

It may be concluded from the studies conducted to assess the effectiveness of the digital Bangladesh program on social changes that some of the prioritized activities should be given more emphasis. These are establishing ICT based central information disaster recovery system, giving training teacher for ICT skill, accelerating the exchange of money the postal cash cards, ICT based Agro-technology transfer covering E-material bases farmer training, establishing call centers, computerized fertilizer and input estimation and strengthening Union Centers. The specific recommendation include extension and expansion of A to I programs, IT research on Science and Technology and Telecommunication. There enough scope improving the human disability situation specially of autism using methods of digital Bangladesh. However further studies are required for more specifying the implementation strategies conducting Participatory appraisals and human Resource needs involving next decade's need for rural producers.

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