

Abstract:**Digitization and Development: A Northeast Perspective****M. M. A. Beg**

With passage of time over last half century, whatever was analogue like audio and video also transformed into digital, culminating into digital world. Digital Information and Communication Technologies has transformed the business, trade, governance, communication, even our social interaction. With mass adoption of connected digital services by consumers, enterprises, and governments, digitalization has emerged as a major driver and enabler of socioeconomic benefit. Digital technology has changed the way the world lives and works.

Findings of Research studies undertaken by organization like the Booz & Company (2012) have concluded that countries that have increased their digitization level have realized gains in their economies, their societies, and the functioning of their public sector and also observed that an increase of 10 percent in a country's digitization score fuels a 0.75 percent growth in its GDP per capita. There is a direct correlation between increase in tele-density and growth of GDP. World Bank reported that 10 percent increase of tele-density would lead to 1.4 percent increase in GDP. Similar results have been observed for optical fiber network.

In the Global Information Technology report 2016 published by World Economic Forum, ranked India at 91st position in Network Readiness Index among 139 countries, a slip down by 2 positions in the overall ranking. The change is marginal but this drop is an indicator of our slower pace than other countries. In the overview given the World Economic Forum, the lack of infrastructure (based on which it is ranked 114th) and low levels of skills among the population (101st) remain the key bottlenecks to widespread ICT adoption, especially in terms of individual usage (120th). A third of the Indian population is still illiterate (95th) and a similar share of youth is not enrolled in secondary education (103rd). India's performance in terms of providing online services and allowing e-participation has so far been in line with that of peer countries, but not the global best. There is a deep divide that persists between well-connected metropolitan hubs and remote rural areas, where even the most basic infrastructure is insufficient.

The Digital India initiative, aptly started by Govt of India in 2015, is one of the necessary steps needed for our economy to compete with the digitalization transition going on around the world and aims to close the gap by fostering investment in digital infrastructure, improving digital literacy, and increasingly providing online services to citizens. Digital India Program aims to provide the much needed thrust to the nine pillars of growth areas, namely Broadband Highways, Universal Access to Mobile Connectivity, Public Internet Access Program, e-Governance: Reforming Government through Technology, e-Kranti - Electronic Delivery of Services, Information for All, Electronics Manufacturing, IT for Jobs and Early Harvest Program. Every pillar has its own importance, complexities in implementation and is a propellant for the overall growth of the country.

It is worthwhile to examine how Digital India can help in transforming NE, in sectors like agriculture, health, tourism, water etc. Computerized online systems “Digital Agriculture within Digital India”, IoT based Water management system, Apps developed by Govt of India like SOIL HEALTH CARD, PUSA KRISHI, MKISAN, KISAN SUVIDHA, FERTILISER MONITORING SYSTEM (FMS), CROP INSURANCE MOBILE APP, AGRIMARKET APP, Education and Skill Development etc. may trigger growth, not witnessed so far, provided capacity building program are organized. Required permissions, if any, from other regulatory agencies may be obtained online without the trader having knocking their doors. The Single Window Interface for Trade (SWIFT), would reduce interface with Governmental agencies, dwell time and the cost of doing business.

However, the matter of concern is communication infrastructure. Tele-density of the North East region, particularly of Assam, is still much lower than the national average. Tele-density Assam was 61.22 (Rural 45.82, Urban -140.81) against All India figure of 84.09 (Rural-51.24 and Urban-156.24). it compares very unfavorably to 133.05 tele density of Himachal Pradesh. This highlights the existing huge disparities in the country in terms of uneven distribution of telecommunication access. Cellular phone services were introduced in the North East after a delay of eight years (TRAI, 2013). There are few bottlenecks also in that affect pace of creating communication infrastructure. Most of the service providers also face problems in getting permissions to lay cables and in getting land for installing base trans-receiver stations. Electricity supply and its quality, the condition of the roads that hampers transportation of materials are some of the major problems in cellular expansion in rural Assam. Frequent bandhs and road blockades also lead to time overrun and cost escalation.

Access to voice and data services can play a crucial role in the overall development and growth of the rural areas. This necessitates the need to address the lack of widespread telecom connectivity across North East and to build infrastructure in rural/ remote areas.

There has been glaring gap in the existed telecom infrastructure and of essential telecom service rollout in the North-Eastern Region States and in other parts of country. Absence of adequate connectivity from transmission media (OFC, Microwave, and Satellite) lead to inadequate bandwidth for high speed broadband capable transmission of data. Lack of proper road connectivity is a problem for most NER States in remote hilly locations. This has resulted impediments in installing, well-functioning and maintaining of telecom infrastructure in NER.

In light of above scenario, the timely achievement of targets envisaged under first three pillars under Digital India program namely Broadband Highways, Universal Access to Mobile Connectivity, Public Internet Access Program is pre-requisite for making digitalization a vehicle of growth in the region.