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# Digital India – A Digitally Empowered Society

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*Abstract*- **Digital India, a flagship programme of Govt. of India can be viewed as next step towards National e-Governance Plan (NeGP) with special focus on delivery of Services and Digital Literacy. The objective of this programme is 'To transform India into knowledgeable, economy and digital empowered society'. The vision and scope of programme is that the Government Services and Business Services would be delivered to the citizen through "One Stop Shop". This programme has a commitment to transform India in to "Connected India" that is to connect the 2.5 Lakh villages across India. The programme under the banner of 'Digital India' aim at improving delivery mechanism of services as well as enhance the usage of information & communication technology (ICT) in administration reforms to make Government services more efficient, more transparent and brings down their delivery cost. This programme will also provide a digital identity to citizen of country that is unique, lifelong and online. In this paper, a detailed and comprehensive study on the vital aspects of 'Digital India', and different services available for citizen of country under this flagship programme is carried out so that the researchers as well as readers of this domain could be greatly benefited.**

***Keywords*— Digital India, DeitY, Digital delivery, e-Governance, empowerment, pillar, service etc.**

## I. INTRODUCTION

A large numbers of initiatives have been undertaken for e-Governance by the Government at National, State & local level since mid 1990s. Many Information Communication & Technology (ICT) projects like computerization of Land Records, Railway Reservation System, Court (Judiciary) Information System, Computerization of Transport applications, PDS, Utility Bills etc. were implemented [1]. It was observed that different approaches were adopted for e-Governance implementation by the various Ministry/State Govt. Due to these, the initiatives for e-Governance were overlapping and problems like delay implementation were seen at many platform. To speed up e-Governance implementation across the various arms of Government, a programme approach needs to be adopted, guided by common vision and strategy. On May 18, 2006, the Government approved the National e-Governance Plan (NeGP), comprising of 27 Mission Mode Projects and 8 components, In 2011, the Mission Mode Projects (MMPs) were scaled up to 31 by introducing the 4 new projects[1]. This approach has the potential of enabling huge savings in costs through sharing of core and support infrastructure, enabling interoperability through standards, and of presenting a seamless view of Government to citizens.

The vision of NeGP was "Make all Government services accessible to the common man in his locality, through common service delivery outlets (CSC), ensure efficiency, transparency, and reliability of such services at affordable costs to realise the basic needs of the common man". It has been felt that there was lack of integration amongst Government applications, low degree of Government process re-engineering, limited scope for emerging technology like mobile & cloud computing. Further, the financial inclusion services and electronic manufacturing were not strengthening.

To transform the e-governance by strengthen the e-Service and Information & Communication Technology (ICT) infrastructure, the Government of India has unveiled an ambitious programme called Digital India in November,2014 with the vision to Transform India into a digitally empowered society and knowledge economy. The programme was launched by Shri Narendra Modi, Hon'ble Prime Minister of India on 1 July, 2015[2]. Hon'ble Prime Minister says that Information Technology plays important role to make India a digital country. In his words, 'India Today (IT)+ Information Technology(IT)=India Tomorrow (IT)[2]. This is multi-ministry programme envisaged by Department of Electronics & Information Technology (DeitY) to touch the every corner of Government and delivery of services in digital way. The objective of this programme is to make Government Services available to citizens at their door steps through Common Services Centre (CSC) in all the areas including Gram Panchayat in digital form and people may familiar with emerging Information Technology innovations [2]. It also aims to provide a unique ID having integration with Government Application and data bases to every citizen. Due to this programme, Govt. offices may lead towards paperless work & time bound work execution. This programme has provided a free of cost online repository of e-documents i.e Digital Lockers to the citizens. One can upload the educational certificate and other relevant documents for online access, which will further reduce the stacks of documents in Government organizations [2][3].

The vision of Digital India will accelerate the e-Governance Services, products, manufacturing and job opportunities. The vision is focused on three areas:-

1. Digital Infrastructure as utility to Every Citizen:
2. Governance and Services on Demand.
3. Digital Empowerment of Citizens

The visions of Digital India programme are needed thrust by following nine (9) pillars

- Broadband Highways,
- Universal Access to Mobile Connectivity,
- Public Internet Access Programme,

 

- e-Governance: Reforming Government through Technology,
- e-Kranti - Electronic Delivery of Services,
- Information for All
- IT for Jobs
- Electronics Manufacturing,
- Early Harvest Programmes.

This paper is structured as follows; Section 2 discusses the related works, Section 3 is focused on core components i.e 9 pillars of the programme, Section 4 discusses about the Programme Management Structure and Section 5 concludes the paper.

## II. Related Work

Digital India is the NEXT BIG THING that India is witnessing. This programme will bridge the stark differences between digital "haves" and Digital "have-nots" to ensure that Government services reach every household in order to create a long lasting development impact. [5].

Reference [6] explained that with Digital India project, the Government is ready for the big programme by connecting every service with the e-Power. This facility will aim to lessen the usage of physical documents and enable sharing of e-documents across organizations. The e-power platform will facilitate more creative and service oriented business models that create employment opportunities [6].

The vision and scope of this programme is all inclusive and moves away from the silo- approach of e-Governance towards a synchronized approach –that all government services be delivered to the citizens through a "one stop shop " . In its scope and vision, it seeks to take the country from the present state of digitally constrained economy to that of advanced digital economy [7]

Digital India imagines, universal accessible in regional languages and providing digital scaffold to participatory governance ensuring convenience, like making all government certificates and documents available on cloud with portability[8].

## III. 9 Pillars of Programme

### 3.1 Broadband Highways:

The objective of the component is to provide internet and telecommunications services to every nook & corner of country National Optical Fibre Network. This is Centre-State joint project under BharatNet, a backbone for the implementation of this component with financial assistance from Universal Service obligation fund (USOF)[9]. This component / pillar have three sub components [2]:

- Broadband for Rural
- Broadband for urban
- National information Infrastructure

3.1.1 Broad band for rural: This component will provide the broad band services to service providers to provide the e-services in Rural Areas. National Optical Fiber Network (NOFN) of minimum 100 Mbps bandwidth will be laid down in 2,50,000 Gram Panchayats . Department of Telecommunication will execute this task as Nodal Agency with the help of Department of Panchayat & Rural Development (DoPRD). Point of Terminal at each Gram panchayat will be identified by PRI members.

3.1.2 Broadband for Urban: It is mandated to setup robust, interoperable communication infrastructure All the Services delivery points associated with Govt. Department/Agencies i.e Govt. Building/PSU Buildings and Citizen Facilitation Centre will be leveraged with Broad band i.e provision of communication infrastructure new urban development and buildings is compulsory.

3.1.3 National information Infrastructure: Presently, multiple network infrastructure is supported by various Government/ Organizations like State Wide Area Network (State Govt.), NICNet (Centre Govt.), National knowledge Network(NKN) and National Optical Fiber Network (NoFN). All these networks would be integrated along with National/State Data Centre. There is provision of horizontal connectivity to 100, 50, 20 & 5 Govt. Offices/Services outlets at State/District/Block/G.P levels respectively. DeitY will be responsible to implement this programme within 2 years and maintained the entire infrastructure for 5 years.

### 3.2 Universal Access to Mobile Connectivity:

Mobile connectivity with integration of Information Technology is changing the social inclusiveness and overall economic development. According to Govt. of India report, presently, there is problem of mobile coverage in 55000 villages of country. This component is focused on network penetration and fills the gaps of connectivity. Department of Telecommunication (DoT) is the nodal department and approx. Rs. 16,000 Cr. utilized to strengthen the mobile connectivity infrastructure & management during years 2014-2018[3][9].

### 3.3 Public Internet Access Programme[2][5]:

The following are the 2 sub component of Programme.

- Common Services Centre
- Post office as Multiple Service Centre

3.3.1 Common Services Centre:

The programme has initiated with objective to deliver the Government Services & Business Services at citizen doorstep through "one stop shop" i.e Common Services Centre (CSC) in transparent way and time bound manner. Common Services Centre would be strengthened and there is target to open a CSC at each Gram Panchayat level/ ward of Urban Local body. These would provide various online services through one technology platform, hence, making the service delivery accountable, transparent at CSC outlets

3.3.2 Post office as Multi Services Centers:

Under this programme, a total of 1.5 lacs Post offices are to be converted into multiple services centre to provide the Government Services & Business Services. This scheme will be implemented Department of Post as Nodal Department. This programme will emphasis on Multiple delivery channels like Internet Banking, Mobile Banking, ATMs, Telephone, Cards etc- access of financial services at door step.

 

It also aims to become one stop solution for Financial Inclusion & Microfinance Initiative of Government, private/public banks.

### 3.4 e-Governance : Reforming Government through Technology[2]

To make the Government process simpler & efficient, the processes will be re-engineered. The transformation is very critical without reforms across various domains and therefore, following needs to be done by Ministries/Departments

- All the application form should be designed in local language & simple format. Minimum information of applicant should is collected.
- Online tracking of application status- Each documents/Services should be collected/ provided online. Every ICT application should have facility so that applicant may track the status of their application at any time /any where.
- Online repositories- All the certificates, degree documents etc. should be mandated available through online repository like Digital Locker so that citizens are not required to submit their documents in physical form.
- Integration of Services & Platforms: All the service oriented platform of different authorities e.g. AADHAAR platform of Unique Identity Authority of India (UIDAI) ,payment gateway, mobile seva platform, starting of data through application programming interface(API) and middleware such as National State Service Delivery Gateway (NSDG/SSDG) should be mandated to facilitate Integrated and interoperable service to the citizens & business.
- Electronic Databases- Any citizen who wish to avail the Government e-services through Citizen Facilitation Centre / Citizen Service Centre have been recorded in SRDb through Citizen Integrated Database Repository (CIDR). State Resident Databases (SRDb) are being updated through merged data of National Population Register-2011, Social Economic & Caste Census -2011 and Seeding of Aadhaar Numbers.
- Workflow automation Inside Government: the Government process should be work flow based and execute in transparent manner. Each file/documents should be electronically stored and should be tracked and monitored electronically.
- Public Grievance Redressal form: The automate/online PGRM has been implement by PMO and various State Govt. Grievances are analyzed and to resolved by the Senior Officers and High dignitaries.

### 3.5 e-Kranti (NeGP 2.0)[2][10]

eKranti is important pillar of the Digital India Programme with the vision of "Transforming e-Governance for Transforming Governance". It is not only take care about e-Governance but considering the Mobile Governance and Good Governance as needs of time. The approaches were approved by union cabinet during March, 2015.

All existing e-governance projects as well existing projects should be reforms with principle of e-Kranti: "Transformation not translation", "Integrated Services and not individual services", "Government Process Re-engineering", "ICT infrastructure on Demand", "Cloud by Default", "Mobile First", "Fast Tracking Approval", "Mandatory Standards & Protocols", "Language Localization" "National GIS (Geo-Spatial Information System"

44 Mission Mode Projects are being implemented by various Central & State Ministries/ Departments. These would be suitably augmented and enhanced to align with the objectives of NeGP 2.0 i.e "Make all Government Services accessible to the common man in locality through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable cost [10].

- Technology for Security: Emergency Services and disaster related services/alerts will be dissemination to citizens through mobile on real time basis so as to take precautionary measures well in time and minimize loss of lives and prosperities[2]
- Technology for Education: All school will be connected with broadband free of cost. Wi-Fi Services will be provided in around 2,50,000 secondary & higher secondary schools. Massive online open coursed (MOOCS) for school education & college education shall be developed with Public Private partnerships model for e-education[2].
- Technology for Health: e-Healthcare: e-Healthcare would cover online medical consultation, online medical records, online medicine supply. PAN-INDIA exchange to patient information etc.
- Technology for farmers: A portal http://farmer.gov.in has been developed by Ministry of Agriculture to disseminate the information in multi language. The system facilitates farmers to get real time price information, weather information, online/ivrs consultancy about commodities, online ordering of inputs and online delivery of payments, loan and relief payment through mobile banking [11].
- Technology for Financial Inclusion: Financial Inclusion programme like Prime Minister Jan Dhan Yojana, Mudra Yojana, Stand Up India, shall be strengthened using Mobile banking, Micro –ATM and Apna Dhan (CSCs) /Post office [2]. Rupay Cards are being issued to the citizens and all the financial inclusion programme are being integrated with Aadhaar Seeding.
- Technology for Justice: Interoperable Criminal Justice System shall be strengthened by leveraging e-courts, e-police, e-Jails, e-Prosecution. The focus of project is as Digital infrastructure as a core utility to every citizen providing Governance and Services on demand subsequently digitally empowering the citizens. Infrastructure has been upgraded under e-court MMP[2].The National level portal (http://www.ecourts.gov.in) has become operational to provide the online services to litigants such as details of case registration, cause list, case status, daily orders and final judgments[12].
- Technology for Planning: It has recognized that a robust framework is essential for institutionalizing National GIS and promoting geospatial technology use by government, enterprises, and citizens. National GIS platform has vision for GIS-centric computing and

 

deployment of infrastructure for National GIS asset at 1:10,000 scale, as well as city-level data at larger scales. The Indian National GIS Organization (INGO) under aegis of Department of Science & Technology would be responsible for the establishment, maintenance, and operation of National GIS. A high-level National GIS executive committee has also been established to facilitate National GIS implementation and convergence of technology with emerging Geo information and communication technology like improved spatial data management, GIS, GPS, remote sensing, satellite and mobile communications. [17]

- Technology for cyber Security: To secure the Indian Cyber Space as well as to deal with cyber crime, DIT has taken compress approach that includes Research & Development with thrust area like cryptography & Cryptanalysis, Networks & System Security etc. Indian Computer Emergency Responses (CeRT-IN), Cyber Applicable Tribunal (CAT) are established to deal with Prevention & Response Services and deal with cyber crime in judicial manner respectively[1][2].

### 3.6 Information for All

The objective of this pillar to engage the citizen through social media and web portal (myGov.in- a web portal launched by Hon'ble Prime Minister of India), online messaging and open data platform (http://data.gov.in). Citizens can submit suggestions and feedbacks about Government policies, initiatives and programme on myGov.in[4]. Open Data platform facilitates proactive release of datasets in an open format for use, reuse and redistribution among various Ministries/Departments. Online hosting of information & documents would facilitate open and easy access to information for citizens[13].

### 3.7 IT for jobs

This pillar focuses on imparting training on IT/ITES sector for self employment and entrepreneur skills to the youth. DietY is nodal department for following specific activities/components[2]

- To train One Crore Students of smaller towns & villages on IT jobs during the 5 years
- To impart training to the people in semi urban area & rural area.
- To facilitate IT enabled growth by setting up BPO in each North-eastern States
- Training to 3 lacs services delivery agent (SDA) to run viable business delivering IT services.

Similarly, the activity to impart training to five lacs (5 Lacs) rural workforce on Telecom Service Providers (TSPs) to cater to their own needs under the aegis of Department of Telecommunications (DoT).

### 3.8 Electronic Manufacturing

Net Zero Import by 2020 is the focus of this pillar. This ambitious goal requires coordination action on many fronts like:

- Taxation, Incentives
- Economies of Scale, Eliminate cost disadvantages
- Incubators, clusters
- Skill development
- Government procurement
- Safety Standards – Compulsory registration, Support for Labs and MSMEs
- National Award, Marketing, Brand Building
- National Centres – Flexible Electronics, Security Forces
- R & D in electronics

In addition to above, the pillar is focused on big ticket items like FABS, Fab-less design, Set top boxes, VSATs, Mobiles, Consumer & Medical Electronics, Smart Energy meters, Smart cards, micro-ATMs. There are many ongoing programs which will be fine-tuned. Existing structures are inadequate to handle this goal and need strengthening[2].

### 3.9 Early Harvest Programme

This pillar covered the projects which may be implementing in short span of time. The following are the main projects covered in this programme:

- IT platform for messages: A portal consisting of data related to elected representatives and Govt. employee was launched on 15 August, 2104. DeitY has developed an application by which mass message over 1.36 crore mobiles and 22 lakh emails were delivered.
- Government Greetings to be e-Greetings: A basket of e-Greetings template has been made available on myGov.in platform was available on 14th August, 2014 to design the online e-greetings for National days/ events like Independence Day, Teachers' Day and Gandhi Jayanti etc.
- Aadhaar Enabled Biometric Attendance System: It is mandate for Government employees to mark their attendance by using Aadhaar-ID. Intially, it covers all the Central Govt. offices. Now, various State Governments have adopted this system for mark the attendance of employees. In the system, the employees details made registered through sub domain on common attendance portal i.e http://attendance.gov.in which is integrated with Aadhaar Server to authenticate employee's biometrics[14]. The attendance terminals i.e Finger Print Devices with PC and Tablets having Bio Metric features can be connected with wi-fi access points and mobile connectivity
- Wi-Fi in all universities: All the universities and vibrant education institutes which are covered under National Knowledge Network will upgraded with latest infrastructure to provide the access of educational resources through Wi-Fi. Ministry of Human Resource Development (MoHRD) is nodal ministry for implementing of this programme.
- Secure eMail with in Government: Under this scheme, all the employees have their e-mail id on Government cloud for primary mode of communication. Deity is nodal department of this scheme. An amount of Rs. 98 Crore will be spent by DeitY for enhancement & upgradation of infrastructure.
- Standardize Government Email Design: Presently, there is no standard in the Government email. Each eil looks different within Department. A standardized template will be designed by DeitY for Government email.

 

- Public Wi-fi hotspots: Public – All the tourist centers and the cities with population above one million will have Wi-Fi hot spots facilities. Department of Telecommunication (DoT) and Ministry of Urban Development (MoUD) will jointly implement this project.
- School books to be eBooks: All the books of NCERT shall be converted into eBooks under the aegis of Ministry of HRD/DeitY and will be available to free of cost download.
- SMS based weather information, disaster alerts: A mobile seva portal has been launched by DietY to send SMS based weather information and disaster alerts. Ministry of Earth Science (India Meteorological Department-IMD)/Ministry of Home Affairs (National Disaster Management Authority- NDMA) would be nodal organization for dissemination the information/alerts to registered user. Under this web-based operational system, the IMD is pushing the SMS to individuals who has registered themselves at the weather forecaster's official website http:// www.imd.gov.in [15].
- National portal for Lost & Found Children: DeitY and Department of Women and Child Development (DoWCD) has launched a national portal http://khoyapaya.gov.in. This is facilitating real time information gathering and sharing on the lost and found children which will further way to check crime and improve timely response. The portal has the following feature:-
- Citizen participation through mobile apps.
- Citizen can register the details of missing children.
- Citizen can join the initiative to locate missing children and facilitate their reintegration to their families.
- Integration with Social media and MyGov.in portal to collate the suggestions/feedback of the Citizen..

## IV. Program Management Structure

Digital India Programme will be executed by Department of Electronics and Information Technology- DeitY and implemented in phases till 2019. For smooth execution of the program at least 10 Key Ministries position of Chief Information Officers (CIO) and necessary senior position will be created by DeitY. The monitoring committee is highest level committee chaired by Hon'ble Prime Minister [2]. Other committees under this monitoring committee are illustrated as shown figure 1.

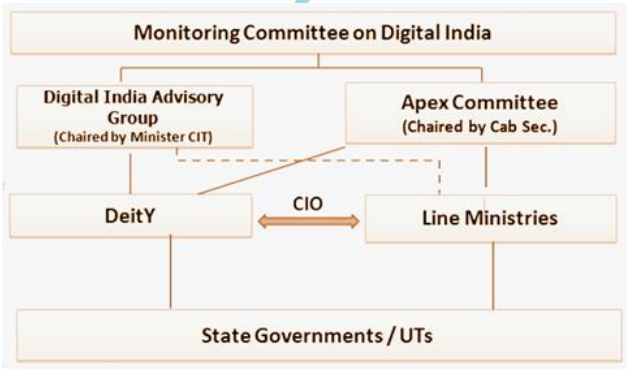


Figure 1: Monitoring Committee on Digital India [2].

Key components of the management structure would consist of the Digital India Advisory Group chaired by the Minister of Communications and IT, Cabinet Committee on Economic Affairs (CCEA) for according approval to projects, an Apex Committee chaired by the Cabinet Secretary and the Expenditure Finance Committee (EFC) / Committee on Non Plan Expenditure (CNE)[2][3].

## V. Conclusion

The Digital India Programme is just beginning of a Digital Revolution, once implemented properly; it will open new opportunities in the society. It will open gates of employment for the youth. Once Digital India becomes reality, the Govt. of India can provide jobs to One Crore plus people. Digital India initiative will provide broad band in 2,50,000 Gram panchayats, universal phone /mobile connectivity with the help of NOFN, Net Zero imports by 2019 in electronic manufacturing . Also, 4 Lac Public Internet Access Points as well as Wi-Fi in 2.5 lakh schools, all universities , IT services and Digital Literacy through 'One Stop Shop i.e CSC' will make India a leader country in Information Technology.

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