## **DREAMING A DIGITAL RURAL INDIA**

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ime is Twenty years before, three persons in a village in central India, are facing three problems –

- Jugni, a village woman is pregnant and facing some complications. She needs expert advice, but small Primary Health Centre (PHC) in the village does not have a gynecologist. City is far away.
- Jagesar, a farmer needs to water his field but is in double mind as sky is cloudy and it may rain. But he is not sure.
- 3. James, an undergraduate student, has lost his high school certificate. He has to go for an interview just after two days. Without certificate he may not be permitted.

Now, it is 2019, Digital India mission has largely been implemented. And picture is something like this-

- 1. Jugni goes to village PHC, gynecologist is still not there but she is able to consult one through tele-link provided at PHC.
- Jagesar walks to the Common Service Centre in his village and checks the latest weather forecast. Now he has decided not to water the field as it is likely to rain.
- James attends the interview. Interviewers have already checked his certificate on digital repository of certificates established under Digital India Mission.

India is a known powerhouse of software. Its share in global IT services outsourcing is 56 per cent and growing every year. But availability of electronic government services to citizens is still comparatively low. The National e-Governance Plan approved in 2006, made a steady progress but it has been slow and greater thrust was required.

In this background, Digital India was launched by the Prime Minister on 1<sup>st</sup> July, 2015 with an aim to transform India into a digitally empowered society and knowledge economy. The programme would go a long way in wiping out the digital divide besides offering a slew of digital solutions in almost all sectors including education, health, agriculture and administration. Also, it will generate huge number of IT, Telecom and Electronics jobs, both directly and indirectly.

It is an umbrella programme covering many departments. It is coordinated by Department of Electronics & Information Technology (DeitY) and to be implemented by the entire government.

The vision of Digital India is centered on three key areas-

- Digital Infrastructure as a utility to every citizen
- Governance & services on demand
- Digital Empowerment of citizens



#### Nine Pillars of Digital India

Digital India stands on the foundation of nine pillars which are briefly described below along with the challenges that each of these pillars face-

#### 1. Broadband Highways

Under this broadband connectivity for all is planned. By December, 2016, 2.5 lakh Panchayats would be connected by broadband. Urban areas and new urban buildings would have ICT infrastructure. Networks like SWAN (State Wide Area Network), NKN (National Knowledge Network) and NOFN (National Optical Fibre Network) would be integrated under National Information Infrastructure.



### Status of NOFN (Bharat Net)

Project	June, 2014 (kms)	Feb, 2016 (kms)
OFC pipe laid	2292	1,24,797
Optical fibre laid	358	96,597

However, laying optical fibre cables doesn't ensure that they will be used. Because, in India, number of wire line broadband users is very less, whereas usage of mobile broadband has exploded like anything. This increase in mobile broadband users is mainly because of the good content it provides e.g. apps like Facebook and Watsaap. Government is not very good at creating such content, so wire line broadband may not be that appealing to users. So partnership with private companies would be required for this. Without good content, broadband cable network would be like empty pipes.

### 2. Universal Access to Phones

Still, there are more than 40,000 villages that do not have mobile connectivity. This initiative is to fill this gap. Laudable though, challenge is to ensure quality of service in these remotest places. Even in metro cities like Delhi and Mumbai, users face the problems of call drops and network accessibility, then we can imagine the situation in a remote village of Arunachal Pradesh. Also, with the increase in the number of mobile broadband users, present network may not be able to keep up. Digital India will need more spectrum. For this government is taking spare spectrum from Defense Ministry.

### 3. Public Internet Access

Though our teledensity is quite high, not everyone India can buy a smartphone or laptop. Large number of people in rural areas do not have any access to internet. Govt plans to solve this problem by ensuring public internet access through Common Service Centres (CSC) and Post Offices. Plan is to establish one CSC in each Gram Panchayat where all government schemes would be accessible to all.

# 4. E-Governance: Reforming Government through Technology

ICT can be leveraged effectively through e-governance to bring government at the doorsteps of the citizen. Under this pillar, govt is laying emphasis on –

- online applications and tracking of their status
- Simplifying the forms by asking for the minimum and necessary information only
- making all databases and information in electronic form
- use of online repositories e.g. school certificates, voter ID cards etc, so that citizens are not required to submit these documents in physical form.
- automating the workflow inside government departments to increase efficiency
- integrating the platforms such as Adhaar, Payment Gateway, Mobile Platform etc
- using ICT for public grievance redressal

Use of IT for governance started quite early in India, and was successful too. But most of those initiatives died once the officer behind the initiative got transferred to some other department. We'll have to see that this does not happen with Digital India initiatives. Also, most of the e-governance projects, that India needs, have been successfully piloted somewhere in the country. Challenge is to successfully replicate them all over the country.

### 5. E-Kranti - Electronic Delivery of Services

E-Kranti comprises 41 large e-governance initiatives, called "mission mode projects" which include –

- e-Education- All Schools will be connected with broadband. Free wi-fi will be provided in all secondary and higher secondary schools. A programme on digital literacy to be taken up at the national level. MOOCs –Massive Online Open Courses shall be developed and leveraged for e-Education.
- e-Healthcare would cover online medical consultation, online medical records, online medicine supply, pan-India exchange for patient information.
- Farmers will get real time price information, online ordering of inputs and online loan and relief payment with mobile banking.
- Security Mobile based emergency services and disaster related services would be provided to citizens on real time basis. This would help minimize the loss of life and property.
- Technology for Justice- to reduce delays in court cases-e-Courts, e-Police and e-Prosecution.
- Technology for Cyber Security National Cyber Security Co-ordination Centre would be set up to ensure safe and secure cyber-space within the country.

The challenge here is the sheer scale of these projects. It is easy to demonstrate a pilot project in a block or district, but real test would be when these schemes will be made available to 1.25 billion people.

### 6. Information for All

Under this pillar, Govt plans to establish two way communication channel with the citizens in which public will have open and easy access to the information and at the same time provide feedback to the govt. Recently launched platform **MyGov.in** has already become a medium to exchange ideas/ suggestions with the Govt. Present government is also using social media in a big way to reach out to the citizen. Many stranded Indians in gulf countries used twitter to reach the External Affairs Minister and got help promptly.

This initiative, no doubt, will make the government more responsive and accountable. But it will succeed only if our politicians and bureaucrats show positive attitude towards criticism on online platforms and take it in a democratic way.

### 7. Electronics Manufacturing

This is probably our weakest leg in Digital India programme. We import huge quantities of electronic equipments ranging from, smartphones to laptops to set top boxes. Our domestic manufacturing capacity in electronics is grossly inadequate. Some blame it on the Information Technology Agreement, to which India became a signatory in 1997, and allowed the electronic imports flood the country. Whatever be the reason, we can't make India digital with foreign equipments. For this Make in India and Digital India both have to come together. Our PM's vision is for 'Net Zero Imports' by 2020 in this segment (means, our imports become equal to our exports). This is ambitious. To ramp up local manufacturing, coordinated action on many fronts is required e.g.-

- Tax incentives to local manufactures
- Give more focus on –Set top boxes, Mobiles, Consumer & Medical Electronics, Smart Energy meters, Smart cards, micro-ATMs
- Incubators, clusters to promote innovation and entrepreneurships
- Skill development to meet human resource requirements of the industry
- Government procurement from local manufactures

### IT for Jobs

This is a project to train 1 crore students from smaller towns and villages for IT sector jobs over

five years. BPOs would be set up in every northeastern state to facilitate ICT enabled growth in these states. Also Telecom Service Providers (TSPs) would train 5 lakh rural youth to cater to their own needs in those areas like to maintain mobile towers.

The challenge here is not just the numbers, but quality. Technology in this field keeps changing at a rapid pace and often there is a mismatch in the demand and supply of the trained manpower. Most firms have to invest a great deal into their own training for "fresher" recruits.



### 9. Early Harvest Programmes

As the name suggests, these are the programmes which are easiest to implement. Most of these projects are already underway and some are even nearing completion. These include-

- Biometric attendance in Govt organisations
- Wi-Fi in all Universities
- Secure Email within Government
- Public Wi-fi hotspots
- School Books to be e-Books All books shall be converted into e-Books
- SMS based weather information, disaster alerts
- National Portal for Lost & Found children -This would facilitate real time information gathering and sharing on the lost and found children and would go a long way to check crime and improve timely response.

No doubt, these are the low-hanging fruits, and can be harvested easily but challenges remain. For instance, official government e-mail has been available for so many years. Yet most government officials and politicians prefer to use Gmail and yahoo mail. Reasons are many, e.g. government email is slow, it is not available in app form in smartphones, it is not that user friendly. Whatever be the reasons, it is seen as a huge risk when a country's Home Minister uses a foreign based e-mail service.

### 'Digital India' benefits for farmers

'Digital India' initiative would help the farmers in various ways e.g-

- A virtual platform of a National Agricultural Market (NAM) is launched. this will interconnect the mandis in various states electronically. This will ensure that the farmers get the maximum price for their produce as they will have access to information on the best price for their farm produce on their mobile phones
- 'Pradhan Mantri Fasal Bima Yojana' launched recently, will leverage e-technology in a big way. After crop damage, farmer will send the photographs of his damaged crop through his smartphone to the authorities. Govt will use satellite imaginary to ascertain loss. Direct Benefit Transfer (DBT) of the claims to the farmer's bank account will reduce the delays in payments and eliminate middlemen.
- These days, farmers rely on many informal channels for information regarding agriculture e.g. fellow farmers, owner of the fertilizer shop, adhatiya etc., Information from there sources may be biassed at times. Through portals such as E-Kisan, farmers are able to get authentic information in real time.
- Information regarding weather can be made available to farmers in real time.
- Farmers can interact with agri-experts on digital platforms and learn about new techniques and methods.
- Govt can use e-platforms to expand its agriextension services and implement Lab-to-Land approach.

### **Challenges to Digital India**

Digital India is achievable but it has its set of challenges. Some of these challenges are-

 Though India achieved 'universal primary education' target in 2015, its adult population still has sizeable number of illiterate or semi literate people, especially in villages. Taking Digital India initiatives to this segment of population, that might have never touched a computer, would be a challenge. One solution may be to use graphical user interface (GUI) so that even an illiterate user can understand it.

- 2. Above problem is further accentuated by the fact that almost all the content on the internet, all apps & software is in English. In a diverse country like India that has 22 major languages, it would be a challenge to provide all e-facilities in these many Indian languages. Usually this is done by translating English content. But most of the time, this translation is done in a very shoddily in a mechanical way, making it dry and difficult to comprehend for the masses. It will have to be ensured that not only all the facilities under Digital India are available in Indian languages, but the quality of the content in our own languages is up to the mark.
- Digital literacy especially in rural areas, is very low. Though Government has already announced a 'Digital Literacy Mission' for this, still it would pose a challenge in coming years.
- 4. True value of being digital means that work flow becomes automated and administrative system becomes more efficient, faster and transparent. But the challenge in this is, that the government has been working in a particular way and suddenly, they have to work in a completely different environment. Now they have to put information online, respond to grievances and criticism. This will be difficult for those officials who are not used to function in this manner. Also digitisation and automation will reduce scope for corruption and thus a section of officials may try to sabotage these initiatives as was witnessed during trial of DBT in MGREGA in Andhra Pradesh. Changing their attitude would be a tough task. A beginning can be made by explaining to them the advantages that digital will bring in running the government.
- 5. With increased digitisation and e-services, threat of cyber crimes and frauds would increase. So precautions on this front need to be taken from the beginning, else it may erode the public confidence in e-services. People need to be made aware of cyber threats and ways to guard against them.

- 6. With all this focus on digital processes and e-services, India still lacks a mandatory legal framework for e-governance. The Electronic Services Delivery Bill-2011 lapsed in the parliament and a better framed law need to be immediately enacted. Adhaar has legal backing now, but concerns over the issue of data privacy still remain.
- 7. Government alone, can not make Digital India a success. For this, support and cooperation of private sector will be needed at every stage. So clear principles and guidelines need to be developed for the Public- Private-Partnerships in this field. Also, projects in remote villages may not be viable for private sector, so special attention will have to be given to this.
- Implementation of Digital India involves Union Government, States, Union Territories and IT industry. Coordination among so many Govt departments and private players would be a gargantuan task and would largely decide the success of this initiative.
- 9. There are different internet protocols in different states depending on what kind of hardware and software they use. This may cause problems in interoperability. Hence, all software protocols need to be standardised. Also, the software should be on open source basis, rather than propriety. Because, propriety solutions are more expensive and would be different to integrate across states.
- 10. We need IT solutions for suited to Indian needs. For this push need to be given for innovation and developing low cost technologies. Hence concept of Net Neutrality need to be nourished and supported as it helps in innovation on internet.
- 11. In the end, we come to the big question can technology solve the inherent problems of a society? Can inequality, cast / gender based discrimination, exploitive social and political structures all be dealt by just automation and optical fibre cables?

Probably not. But, it is for sure, that digital India can certainly play a positive role in solving all these problems and hence everything need to be done to make it successful.

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