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Kurukshetra seeks to carry the message of Rural Development to all people. It serves as a forum for free, frank and serious discussion on the problems of Rural Development with special focus on Rural Uplift.

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# Editorial

The Rural-Urban divide often defines the development paradigm of India. While the divide has been decreasing, with government also focussing on the Rurban model of development, the road to the idea of inclusive development has always looked difficult. However, a major boost to bridge this divide has come from the confluence of Information technology and economy i.e. the Digital Economy.

The key strategies of the government for rural development have always focused on poverty alleviation, better livelihood opportunities, provision of basic amenities and infrastructure facilities through innovative programmes of wage and self-employment. Digital economic tools and extensive use of ICT applications are successfully being used to improve the delivery system in government functioning. 'Digital India' programme launched in 2015 with the vision to transform India into a digitally empowered society and knowledge economy works on three key vision areas: Digital Infrastructure as a core utility to every citizen, Governance & services on demand, Digital Empowerment of citizens.

The government has, in a big way, pushed the idea of digital economy after the demonetisation last year, and people have also accepted it with an open mind. The Government is promoting inclusive and transparent development through digital inclusion by providing mobile and broadband connectivity to the villages and initiating measures like Jan-Dhan account, debit cards, Aadhar Pay, Bharat Interface for Money (BHIM). This is effectively putting an end to the middlemen and ensuring that benefits of various government schemes directly reach beneficiaries. There is a target of 2500 crore digital transactions in 2017-18.

Digital Saksharta Abhiyan can go a long way in improving employability and facilitate easier and more efficient participation of the rural population in the governance. Pradhan Mantri Mudra Yojana (PMMY), the flagship programme will provide loans to promote rural entrepreneurship, Pradhan Mantri Kaushal Vikas Yojana (PMKVY) will benefit school/ college dropouts or unemployed by imparting training in Soft Skills, Entrepreneurship, Financial and Digital Literacy.

Agriculture contributes around 17 per cent to the country's Gross Value Added in India's economy. 54 per cent of the population is engaged in agriculture and allied activities. The National Policy for Farmers emphasises the use of Information and Communication Technology (ICT) at village level for reaching out to the farmers with the correct advisories and requisite information.

Various digital platforms are now serving as information sources e.g. Kisan Call Centers, National Agriculture Market (e-NAM)- the pan-India electronic trading portal networking the existing APMC mandis to create a unified national market for agricultural commodities, Geographic Information Systems and Mobile Apps. Pradhan Mantri Gramin Digital Saksharata Abhiyan is expected to be one of the largest digital literacy programmes of the world. As the thrust of the Government is on cashless transactions through mobile phones, the course content would also emphasise on Digital Wallets, Mobile Banking, Unified Payments Interface (UPI), Unstructured Supplementary Service Data (USSD) and Aadhaar Enabled Payment System (AEPS), Digital Life Certificates, Digital-locker-India, e-Money, Digidhan mela and the like. Be it Skill Development, Education, Agriculture or infrastructure, the use of Information and Communication Technology (ICT) has the potential to bring efficiencies in every domain of Rural Development.

To Sum up, we can say that with the advent of the new era for technology driven schemes and initiatives, 'Bharat' has now started to take a new shape of 'India' in an inclusive manner. After 70 precious years of its independence and tireless efforts to bring the rural development into the mainstream, Digital India is undoubtedly, the boldest ever step to make a digitally empowered and skilled 'Bharat'. As envisioned by our Prime Minister Shri Narendra Modi, India is surely on the right path to achieve great milestones in the times to come.

## E-GOVERNANCE IN RURAL INDIA

Sanjiv Mittal

One of the key objectives of present CSC initiative is consolidated delivery of e-Gov Services by integrating all service access portals available at States/UT level with the national level universal & integrated platform of Digital Seva (CSC). For this, continuous supports from the respective States/UTs are pre-requisites. Relentless efforts are being made by this Ministry to resolve the pending issue of integration of State/UT portals for ease of access of the e-Services by the citizens from anywhere across the country. As a result of such efforts, a few State Governments now allowed integration of State Portal with Digital Seva Portal.

**W**hat is e-Governance and what is its importance in India? There are about 6.5 lakhs of villages in India that represent more than 72 per cent of the total population. The rural mass in the nation comprises the core of Indian society and also represents the real India. There was a time in the past when people lost their faith on governance system because of the hardship they had to endure in the form of expenses, inconvenience, multiple visits, demotivating. For rural mass, these hardships were more adverse. In order to develop these rural mass, Government of India already considered the key growth areas from various economic & social sectors in the right policy formation.

The key strategy of rural development mainly focuses on poverty alleviation, better livelihood opportunities, provision of basic amenities and infrastructure facilities through innovative programmes of wage and self-employment etc. For such developments, a need was felt to improve the overall trust relationship between the Government and citizens. It was realized that the challenges like poor public services, unemployment, housing, crime and violence, health, education for all etc. could be successfully addressed through extensive use of ICT applications for the improvement in the processes of government functioning to bring SMART, i.e. Simple, Moral, Accountable, Responsive and Transparent

Governance. Simultaneously, it was also essential to effectively improve the information flows and encourage active participation by citizens in the policy making process of the Government, so as to build up the trust between the Government and citizens. Hence, the complete transformation of the processes of Governance using the implementation of Information & Communication Technology is called E-Governance. It aims at bringing in faster and transparent service delivery, accountability, information sharing and people participation in the decision making and govt. processes.

E-Governance initiatives in India took a broader dimension in the mid 1990s for wider sectoral applications with a policy emphasis on reaching out to rural areas through maximizing the efforts towards delivery of **citizen-centric services**. The major ICT initiatives of the Government included, inter alia, some major projects such as railway computerization, land record computerization, etc. which focused mainly on the development of information systems. Later on, many states started ambitious individual e-governance projects aimed at providing electronic services to citizens.

Though these e-Governance projects were citizen-centric, they could make less than the desired impact due to their limited features. The isolated and less interactive systems revealed major gaps that were thwarting the successful adoption of e-governance along the entire spectrum of governance. They clearly pointed towards the need for a more comprehensive planning and implementation for the infrastructure required to be put in place, interoperability issues to be addressed, etc. to establish a more connected government. Gradually, e-Governance at a micro level, ranged from IT automation in individual



**DIGITAL SEVA**  
**COMMON SERVICES CENTRE**

departments, electronic file handling and access to entitlements, public grievance systems, service delivery for high volume routine transactions such as payment of bills and tax dues to meeting poverty alleviation goals through the promotion of entrepreneurial models and provision of market information. e-Governance in India has steadily evolved from computerization of Government Departments to initiatives that encapsulate the finer points of Governance, such as citizen centricity, service orientation and transparency. Lessons from previous e-Governance initiatives have played an important role in shaping the progressive e-Governance strategy of the country. Due cognizance has been taken of the notion that to speed up e-Governance implementation across the various arms of Government at National, State, and Local levels, a programme approach needs to be adopted, guided by common vision and strategy. 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 Government accorded the priority to improving the quality of basic governance and in that context proposes to promote e-Governance on a massive scale in areas of concern to the common people through a strategic collaborative approach of the e-Governance. For this, the National e-Governance Plan (NeGP) was formulated by the then Department of Information Technology (DIT) and Department of Administrative Reforms & Public Grievances (DARPG), keeping this priority in mind. It consisted of key components including Common Core & Support infrastructure and several Mission Mode Projects (MMPs) to be implemented at Central, State and Local Government level.

### National e-Governance Plan (NeGP):

The National e-Governance Plan (NeGP) was launched in 2006 with a vision **to make all government services accessible to the common man in his/her locality, through delivery outlets named Common Services Centres (CSCs) and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man.**

31 Mission Mode Projects covering a wide

range of domains, viz. agriculture, land records, health, education, passports, police, courts, municipalities, commercial taxes, treasuries, etc. were initiated. Most of these projects have been made operational and have started providing services. However, despite the successful implementation of many e-governance projects across the country, e-governance as a whole has not been able to make the desired impact and fulfill all its objectives especially in ensuring **anytime anywhere availability of services** and their **seamless integration**. Even though India is known worldwide as a powerhouse of software, the availability of electronic government services to citizens is still comparatively low.

A lot more thrust is required to promote inclusive growth that covers electronic services, products, devices and job opportunities. Moreover, electronic manufacturing in the country needs to be strengthened. Currently, India imports around \$100 billion worth of electronic goods which may reach \$400 billion by 2020. India today is at the tipping point where technology has to be leveraged more holistically to meet the aspirations of its 1.2 billion citizens. The stark differences between digital haves and have-nots (i.e. Digital Divide) need to be bridged to ensure that the government services reach the doorstep of every citizen and create a long-lasting developmental impact.

### Digital India:

In order to transform the entire ecosystem of public services through the use of Information Technology, the Government of India has launched the 'Digital India' programme in 2015 with the vision to transform India into a digitally empowered society and knowledge economy.

### Vision Areas of Digital India:

The Digital India programme is centred on three key vision areas:

1. Digital Infrastructure as a core utility to every citizen.
2. Governance & services on demand.
3. Digital Empowerment of citizens.

It is a fact that transforming the entire rural populace into a digitally empowered society under Digital India flagship programme is a huge challenge

in case of remote & rural areas. But delivery of e-Governance services to the remote corners in a meaningful & locally relevant manner may result in a successful building of rural India with the advent of the most advanced ICT and by leveraging various existing infrastructures in an integrated manner. As we know that e-Governance deals with the ways political & social powers are organized & used, it has enormous capacity to transform relations with citizens, business and other arms of the Government.

Following are the basic infrastructure requirement for successful implementation of e-Governance service delivery under Digital India Programme:

- Information & Communication Technology infrastructures, such as, Broadband Connectivity for people (wired/radio) up to Gram Panchayat (GP) level, Common Services Centres (CSCs) for consolidated service delivery to citizens through an integrated platform up to GP level.
- Government offices up to Panchayats having:
- Internet, Wi-Fi, Messaging, Video Conferencing, Skill-sets.
- Uninterrupted Power-supply.
- Skilled Manpower resources at least up to District level (preferably up to Gram Panchayat level for better implementation & monitoring).
- On demand scalable & secure cloud infrastructure up to Gram Panchayat level.
- Integration of National Data Centres, State Data Centres & other Data Centres.

### Growth of eServices and eTransactions after launch of Digital India:

After the launch of Digital India, the number of eServices has grown from 2,221 in 2014 to 3,433 at present. That shows that Average monthly count of eTransactions per month has grown up from 29.80 crores in 2014 to 90.82 crores, which is 205 per cent growth.

### CSC- Creating Rural Entrepreneurship Redefining Governance

It was envisaged under Digital India that for

Year	e-Transaction Count	FY	e-Transaction Count
2013	241.76 cr.	2013-14	242.49 cr.
2014	357.70 cr.	2014-15	359.67 cr.
2015	760.75 cr.	2015-16	763.19 cr.
2016	1089.81 cr.	2016-17	1872.96 cr.
2017	915.35 cr. (till 19-July-2017)		

consolidated delivery of electronic services/ e-Gov services, there is a need to integrate all service applications/ platforms working in silos with a common national level platform called Common Services Centre (CSC), now commonly known as Digital Seva. **CSC has the proven potential to create sustainable rural entrepreneurship redefining governance and to meet the expectation of the Government in transforming India into a digitally & socially empowered society. CSCs under Digital India movement have now become the agents of socio-economic changes in rural India.**

CSCs are internet enabled access points for delivery of various Digital Services (eServices) to the citizens. **The CSCs enable citizens to avail the Government and other services closer to their locality in a transparent and timely manner.** The ability of CSC to avoid direct interaction of citizens with Government offices brings transparency, accountability and efficiency in the delivery of services through a reduced turnaround time.

### Vision and Objectives of CSC:

**“The primary objective of the CSC is to provide e-governance services within the reach of the citizen, by creating the physical service delivery ICT infrastructure.”** It helps in making a transparent service delivery mechanism and eliminating citizens’ effort in visiting government offices. The CSCs also aim to provide individual access to internet and access devices to citizens in rural India where the ICT intervention is very low, thereby, creating a digital divide. CSCs being well equipped ICT enabled centres necessarily play a significant role in enabling universal access to plethora of eServices for citizens and acting as cornerstone for the citizens’ digital empowerment, hence creating a transparent governance ecosystem. Altogether,

these CSCs are becoming a game changer by providing a common Information Technology (IT) platform for rural citizens.

### VISION & MISSION

01

**Hon'ble Prime Minister**  
*Shri Narendra Modi*



" IF A HUGE SECTION OF THE POPULATION IS LEFT OUT THEN A HUGE CALAMITY MAY BEFALL ALL OF US IN THE FORM OF DIGITAL DIVIDE. IF WE DON'T SPREAD THIS KNOWING THE POOR AND IN VILLAGES, OUR WORDS OF DEVELOPMENT SHALL BEG BELLOW."

**SHRI NARENDRA MODI**  
*Hon'ble Prime Minister of India*

02

**Hon'ble Union Minister**  
*Shri Kapil Sibal*




" I WANT THE BALDY, BARE BALDY AND MARGINALIZED WOMEN OF OUR COUNTRY TO BE DIGITALLY LITERATE. WHO IN TURN WILL EMPLOY THE DIGITAL KNOWLEDGE TO THEIR FELLOW VILLAGERS AND CITIZENS. I WANT THESE CENTRES TO BE THE BEATING HEART FOR SKILL INDIA, DIGITAL LITERACY AND E-COMMERCE AND BECOME ONE STOP SHOP FOR ALL."


**SHRI KAPIL SIBAL**  
*Hon'ble Union Minister for Communications and Information Technology*

### Conceptualization of CSC:


**PEOPLE LOST THEIR FAITH ON GOVERNANCE SYSTEM BECAUSE OF THE HARDSHIP THEY HAD TO ENDURE.**




**EXPENSES**



**INCONVENIENCE**



**MULTIPLE VISITS**



**DEMOTIVATING**

**EVEN THE OFFICIALS, ESP. THE DEDICATED AND THE HARDWORKING ONES FOUND THE RESPONSE DEMOTIVATING EVER AFTER PUTTING IN THEIR BEST EFFORTS**

**PEOPLE WANTED MORE FROM THE CHOSEN GOVERNMENT**

**THE RISING DEMAND**

**CRITICISM THAT THE GOVT IS WORKING ON UTOPIAN CONCEPTS**

**WANTS transformed into NEEDS exposed in the form of CRIES began ECHOING finally RESONATING**

**ANTI CORRUPTION MOVEMENT**


**CAMPAGNS AND MOVEMENTS**

CSC

**AND THEN CAME A SILENT REVOLUTION IN RURAL ENTREPRENEURSHIP REDEFINING GOVERNANCE**

**AND FINALLY A SOLUTION EMERGED**

*A one stop shop for every problem a citizen had*



**COMMON SERVICES CENTERS (CSC) ARE MULTIPLE-SERVICES-SINGLE-POINT MODEL FOR PROVIDING FACILITIES FOR MULTIPLE TRANSACTIONS AT A SINGLE GEOGRAPHICAL LOCATION**

### Background- CSC Scheme

The CSC Scheme was initially launched in September 2006 under National e-Governance Plan (NeGP), with an aim to cover all 6 lakhs census villages by one lakh CSCs, as per 1:6 ratio equitably spread across rural India.

### Present initiative of CSC : CSC 2.0

Based on the assessment of the erstwhile CSC Scheme (NeGP), the Government of India launched CSC 2.0 Project in August, 2015, under the pillar-3 of Digital India Programme, to expand the outreach of the CSCs to all Gram Panchayats (GPs) across the country. It has aimed to set up at least one CSC in every GP across the Country within duration of 4 years (by August 2019), thereby envisages establishment of at least 2.5 lakh CSCs covering all Gram Panchayats of the country over a period of four years. This would also include strengthening and integrating the existing one lakh CSCs already operational under the existing CSC Scheme and making operational an additional 1.5 lakh CSCs at Gram Panchayat (preferably at GP premises). The project is being implemented by CSC e-Governance Services India Limited (CSC –Special Purpose Vehicle, CSC –SPV) under the guidance of respective State Governments and Union Territories (UTs) Administrations. “CSC e-Governance Services India Ltd” was set up as a Common Services Centres Special Purpose Vehicle (CSC –SPV) under Company Act, 1956 in the year 2009 by the then Department of Electronics & Information Technology (now Ministry of Electronics & IT- MeitY). The key mandate of CSC –SPV was to provide program management support to this Ministry and to ensure the sustainability of CSC network across the country by enabling consolidated delivery of a range of citizen centric services at an affordable cost.

### Implementation Principle of current CSC model:

Presently, CSC 2.0 model is completely based on a service delivery / transaction oriented self sustainable entrepreneurship model with no viability gap funding for hardware and infrastructure support to the Village Level Entrepreneurs (VLEs) from Government of India. It was envisaged that applicant for CSC entrepreneurship should be motivated enough to be the prime driver of

social change and disperse his/her duties with utmost dedication. The motivated VLEs are getting on-boarded under this entrepreneurship model, wherein, VLEs shall arrange for Capex and Opex for setting up and operation of CSCs.

Under CSC 2.0 project, efforts have been made at State/UT levels for integration of various service portals with the national level on-line CSC Universal portal- “Digital Seva Portal” for consolidated delivery of services at all the CSCs, thereby, making the eServices, particularly, G2C services, accessible anywhere across the country. It will enhance the portfolio of services to be equally accessed from each of the CSC, thereby increasing the sustainability of the CSCs in rural areas.

For day-to-day operation of CSCs and knowledge up-gradation on new services, the VLEs are being provided with handholding supports through training on Enterprise Development Programme. For increasing the sustainability of VLEs, CSC 2.0 recommends that revenue sharing between VLE and other stake-holders is in ratio of 80:20.

**To ensure standardization across all States/UTs, “Digital Seva Kendras” national brand along with co-branding of States/UTs has been introduced.** With a unique identification number of CSC and GIS mapping of each centre, this would create a transparent and accountable monitoring framework for the eServices being delivered through CSCs and help the government to fill the gap in establishing a self-sustaining CSC network across the States/UTs.

### Participation of Women in CSC Ecosystem:

The Government is encouraging women entrepreneurs to set up Common Services Centres. This motivates other women to come forward and setup Common Services Centres (CSCs). In addition to this, the Government is also encouraging women members of Self Help Groups to become VLEs. As a result, around 32,361 women entrepreneurs have set up CSCs and are delivering services in rural areas. The Government is determined to include the women and

marginalized sections of the society in the CSC movement significantly. The following actions have been taken for this:

- Government has already issued guidelines to give preference to women as VLEs.
- To encourage more participation of women, success stories are being published in monthly e-Magazine Tarang and newsletters.

A National Level conference was held on 20<sup>th</sup> February, 2016 in New Delhi to celebrate and felicitate the contribution of Women Village Level Entrepreneurs (VLEs) in harnessing the opportunity provided by the CSC under Government of India’s Digital India Initiative.

- Participation of women VLEs enhanced from 13,204 till May’14 to 32,361 till June’17.
- National Workshop for Women VLEs organised in Delhi. 2000 Women VLEs participated.
- PM Awarded 3 Women VLEs.
- Minister (E&IT) Awarded 67 women VLEs.
- Special Award announced for Women VLEs .

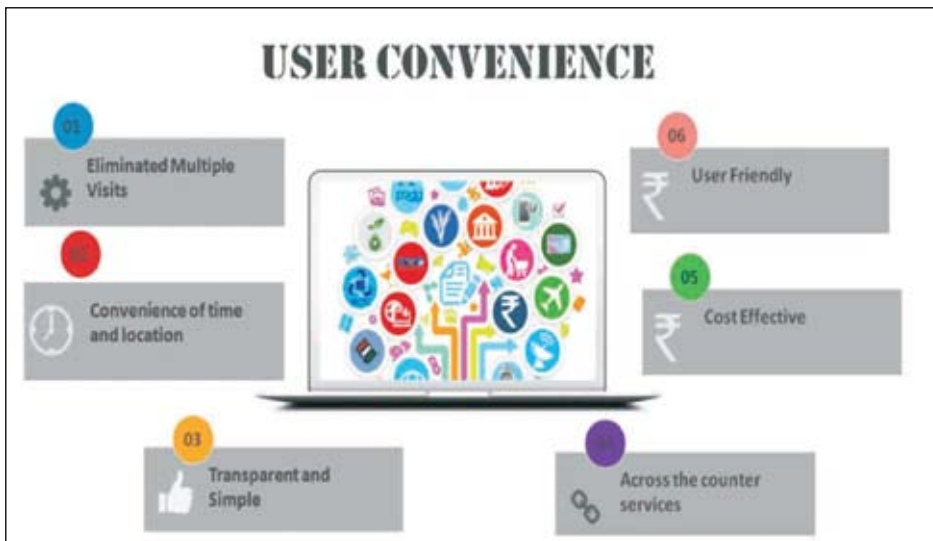
### Functions of CSCs:

Common Services Centers (CSCs) are a strategic cornerstone of the Digital India programme. They are the access points for delivery of various electronic services to villages in India, thereby contributing to a digitally and financially inclusive society.

Presently, CSCs are acting as the following:

- Service Delivery Centres for – Government to Citizen (G2C), Business to Consumer (B2C), Utility Services, etc.
- Permanent Enrolment Centres (PEC) for Aadhaar, and Aadhaar Printing Centres.





- Transparent and timely delivery of government and other eServices at affordable cost and better citizens' experience.

Reducing citizens' efforts and resources in availing services within their localities by eliminating their visit to Government offices for the same and, common man's increased faith in the system.

- Integrated framework for delivery and dissemination of various government initiatives and benefits through ICT enablement.

- Business Correspondent Agents (BCAs) under Financial Inclusion for Banking services and banking services under Prime Minister's Jan-Dhan Yojana.
- Insurance service Centres.
- Educational and Skill Development Centres.
- Electoral Registration centres
- Information Centre for various schemes of the Government for creating awareness leading to digital empowerment among the citizens.
- Wi-Fi distribution centres (Wi-Fi e-Choupal), etc.

government initiatives and benefits through ICT enablement.

- Introducing change agents for skill development, education and trainings, financial inclusion and indirect employment generation.
- Acting as last mile distribution units for various governments' direct benefits to marginalized/backward communities.
- Encouraging more and more participation of women to become VLEs and increasing their contribution in the social and economic development.
- The CSCs are acting a medium for rural citizens to get digitally empowered and interact with the government and its schemes.

### Outcomes and Advantages of CSCs:

Some of the outcomes and advantages provided by the CSC scheme are as follows:





## CSC INFRASTRUCTURE



Enabled with PC(s), printer(s), scanner(s), UPS, digital/web camera & broadband connectivity. Additional equipment in the form of projection systems, biometric devices, etc., may be included, as and when required.

### Basic infrastructures in CSC:

Key Services through CSC Network:

- ❖ **G2C Services :**
  - Central Govt Services (passport, PAN card, PMAY, crop insurance, digital financial transaction).
  - E-District/SSDG Services (land record, certificates).
  - Aadhaar Services (enrollment, updation).
  - Election Commission Services.
- ❖ **B2C Services:** e-Recharge, bill collection, E-Commerce.

### ❖ Financial Services:

- Banking Services (deposit, withdrawal, remittance)
- Insurance Services (premium collection, policy)
- AEPS (Aadhaar pay)

### ❖ Educational Services:

National Digital Literacy Mission, (NDLM) – Digital Saksharata Abhiyan (DISHA) / Pradhan Mantri Gramin (PMG) DISHA, Cyber Gram project, National Institute of Open Schooling (NIOS), National Institute of Electronics & Information

## SERVICES





Fig: Services available on Digital Seva (Apna CSC) Portal

Technology (NEILIT) Courses, animation course, accounting.

- ❖ **Skill Development:** Data Entry Operator, Electric, Auto.
- ❖ **Utility Services:** Electric , Water Bill.
- ❖ **Health Services:** Tele Consultation, Jan Aushudhi.
- ❖ **Others :** Tele-legal, Financial Literacy, Investor Awareness.

### Growth and achievements of CSC over last few years:

During 2016-17, more than 90 thousand CSCs have been operationalised across the country as the number of cumulative functional CSCs grew from 1.6 lakhs CSCs in March, 2016 to 2.50 lakhs CSCs in March, 2017, of them around 1.60 lakhs CSCs are operational at Gram Panchayat (GP) level as on 31<sup>st</sup> March, 2017 - registering an increase of around 62 thousands operational CSCs at GP level in 2016-17.

Particulars	Achievement (pan India including GP level)	Achievement (GP level)
Total No. of Registered CSCs till May, 2014	1,34,956	83,903
No. of Functional CSCs till May, 2014	83,950	64,259
Total No. of Registered CSCs till Nov, 2015 (prior to implementation start of CSC 2.0)	1,44,875	92,106
No. of Functional CSCs till Nov, 2015 (prior to implementation start of CSC 2.0)	1,19,779	85,952
Total No. of Registered CSCs till March, 2016	1,99,325	1,22,621
No. of Functional CSCs till March, 2016	1,66,671	97,243
Total No. of Registered CSCs till March, 2017	2,91,366	1,81,173
No. of Functional CSCs till March, 2017	2,50,345	1,59,633

Particulars	Achievement (pan India including GP level)	Achievement (GP level)
Total No. of Registered CSCs till June, 2017	3,00,774	1,96,922
No. of Functional CSCs till June, 2017	2,61,071	1,63,226
Increase of Registered CSCs since May, 2014	1,65,818	1,13,019
Increase of Functional CSCs since May, 2014	1,77,121	98,967
Increase of Registered CSCs after implementation start of CSC 2.0 (Dec, 15 onward)	1,55,899	1,04,816
Increase of Functional CSCs after implementation start of CSC 2.0 (Dec, 15 onward)	1,41,292	77,274

This huge network of operational CSCs has a growing demand for more robust & scalable technology platform equipped with a digital B2B wallet for seamless electronic delivery of services. To cater to the need of this huge network of CSCs, and as envisaged in CSC 2.0, CSC -SPV has designed, developed and launched, during 2016-17, a robust and scalable CSC National Portal called '**Digital Seva Portal**' to enable dissemination of services through a universal technological platform at all the CSCs across the country, thereby making the e-services, particularly G2C services, accessible anywhere across the country.

During the last part of 2016-17, the Government of India launched the Digital Finance Inclusion, Awareness & Access (DFIAA) Programme under Digital India (DI) Programme. CSC -SPV was entrusted with the responsibility for covering 100 lakh citizens and enablement of 25 lakhs merchants under this programme. CSC -SPV registered/covered more than 204 lakhs citizens and enabled around 26 lakhs merchants during a very short period of November, 2016 to March, 2017.

During 2016-17, a number of important government services have been added in CSC network such as **Pradhan Mantri Awas Yojana (PMAY), Food Safety & Standards Authority of India (FSSAI), Soil Health Card, E-District Services, and PMG DISHA** to the existing basket of services. CSC has also introduced skill development programme for differently-able persons. E-Commerce platform "**vlebazaar**" has been launched for showcasing the products of rural India through CSCs.

CSC -SPV partnered with National Payment Corporation of India (NPCI) and launched **DigiPay**

in December, 2016 for CSC Network on Aadhaar Enabled payment System (AePS) platform for delivering online banking services across the country. The purpose is to achieve interoperability between banks for Aadhaar based payment transactions. The DigiPay application enables the CSCs to cater the need of financial services in far flung and banking deprived areas of the country.

CSC e-Governance Services India Limited (CSC -SPV) has been given licence by RBI for functioning as a Bharat Bill Payment Operating Unit (BBPOU) under Bharat Bill Payment Service (BBPS). Reserve Bank of India has introduced BBPS, a unified bill payment system in India. The BBPS intends to offer an interoperable and accessible bill payment services to customers through the vast CSC Network, enabling multiple payment modes, and providing instant confirmation of payment. It will facilitate a **cashless society** through migration of bill payments from cash to electronic channel.

#### **GST Suvidha Provider:**

CSC -SPV reached another milestone during 2016-17 when the GST Council engaged CSC -SPV as a **GST Suvidha Provider (GSP)**. As GSP, CSC -SPV needs to perform various functions supporting various stakeholders, mainly merchants, establishments and persons required to fulfill compliance as prescribed under GST regime.

#### **Wi-Fi Choupal:**

During 2016-17, CSC -SPV launched **Wi-Fi Choupal**, a rural Wi-Fi facility, signifying a new era in providing connectivity in the villages. Wi-Fi Choupal

project has been launched to provide Wi-Fi Internet access in rural India through CSCs. First Wi-Fi Choupal was launched on 7<sup>th</sup> April, 2016 in the village Gharora in Faridabad. Today, Wi-Fi Infrastructure has been deployed in 819 Gram Panchayats across 9 States and 2 Union Territories. The activation of the internet service has been done at 483 locations.

During 2016-17, through 28 thousand Permanent Enrolment Centres- PECs (CSCs), over 596 lakhs Aadhaar numbers were generated, making CSC the single largest UID Registrar in the country. During this year, largest number of transactions on the CSC Portal was for Aadhaar card printing service (45.59 lakhs prints). CSCs have made a significant contribution to the enrolment of children in the age group of 0-5 years for Aadhaar. During 2016-17, around 47.48 lakhs children have been enrolled by CSCs, taking the total child enrollment to around 80 lakhs as on 31<sup>st</sup> March, 2017.

PARTICULARS	As on May'14	As on Mar'16	As on Mar'17	Increase Mar'14 – Mar'17
No. of Permanent Enrolment Centre (PECs)	5097	15,244	27681	22,584
No. of Aadhaar Generated (In lakh)	114.71	977.63	1573.60	1458.89
Aadhaar Updates (In lakh)	-	105.51	335.21	335.21
Aadhaar Printed (In lakh)	-	29.34	74.93	74.93

Through the **National Digital Literacy Mission/Digital Saksharta Abhiyan (NDLM/DISHA)**, the CSC-VLEs and partners worked with inspiring enthusiasm towards the goal of making at least one person from each family digitally literate. During 2016-17, around 35.44 lakhs persons have been certified under these Programmes bringing the total number of certified persons to 55.46 lakhs in March, 2017 (against target of 55.27 lakhs) from 18.01lakhs in March, 2016.

NDLM - DISHA (started in December-2014)	Target	As on May'14	As on Mar'16	As on Mar'17
No. of Persons Registered (In lakh)	55.27	0	10.73	102.85
No. of Persons Trained (In lakh)	55.27	0	10.27	89.68
No. of Persons Certified (In lakh)	55.27	0	9.74	55.46

On the basis of success in implementation of NDLM-DISHA Programmes, CSC -SPV has been made the implementing agency for the newly introduced ambitious digital literacy programme of the Government of India called **Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)** which was launched in February, 2017. The Scheme envisages to make **six crores** persons in rural areas, across States/U'I's, digitally literate, reaching to around 40 per cent of rural households by covering one member from every household where there is no digitally literate person. The Scheme is to be completed in two years and we hope to achieve this within defined time frame.

PMG DISHA (started in March-2017)	Target	As on May'14	As on Mar'16	As on Mar'17
No. of Persons Registered (In lakh)	600	0	0	6.33
No. of Persons Trained (In lakh)	600	0	0	4.54
No. of Persons Certified (In lakh)	600	0	0	0.78

Apart from NDLM, basic computer training is also being implemented for Madrasa students from the minority community in four States under **Cyber Gram Yojana**. During 2016-17, computer training were imparted to 1.56 lakhs Madrasa students, of them 1.44 lakh have been certified - an increase of 1.15 lakhs certified students since March, 2016.

Efforts of CSCs in popularising the Gol services across the country are also appreciable. The PMAY was launched through CSCs in November, 2016, and since then till March, 2017, a total of

29 lakhs plus applications have been submitted through CSCs. The service under FSSAI was made available through CSCs in July, 2016; since then till March, 2017, around 1.19 lakhs registrations have been made through CSCs. The service under Soil Health Card was introduced through CSCs in December, 2016, and within the next 3 months, 1.24 lakhs registrations have been made for this service.

CSCs as Business Correspondent Agents (BCAs) have rendered a great service in promoting banking services. During 2016-17, on an average, around 11,200 BCAs (increased by 2483 CSCs over 2015-16) have provided banking services across the country and helped the citizens in doing 320.99 lakhs banking transactions involving a total transactional value of Rs 570163.61 lakhs. During this year, these BCAs have earned a total commission of Rs. 7079.59 lakhs - increase of around Rs 2971 lakhs over 2015-16.

Similarly, the CSCs have shown an appreciable enthusiasm in providing AEPS services. During 2016-17, around 1.22 lakh CSCs have registered for providing banking services under AEPS and made 28.35 lakhs transactions for a total value of Rs 17901.90 lakhs.

During 2016-17, a total of around 40 thousand CSCs have provided Insurance services - both product sales and renewal of policies. During this year, these CSCs have collected premium worth Rs 33,415.93 lakhs from 10,47,387 customers, and they have earned a commission of around Rs 199 lakhs - increased by around Rs 134 lakhs over 2015-16.



As envisaged in the ongoing CSC 2.0, primacy has been accorded to entrepreneurship development of VLEs through district level training - a 3 day training programme to leverage the wide range of services available through CSC. During 2016-17, Capacity Building & Entrepreneurship Development Programme were conducted at District level in 206 Districts of 19 States and imparted training in various services to develop entrepreneurship capabilities of more than 33 thousand VLEs.

CSC -SPV has been promoting **digital literacy**, **financial literacy** and **legal literacy** for rural communities, thus empowering them to actively participate in nation building. Efforts in encouraging tele-medicine through CSCs seems to be gaining acceptability. Allopathy, Homoeopathy and Ayurvedic tele-consultation are now available to people through CSCs. CSC -SPV is also working with FMCG Companies so as to enable them to utilize the CSC Network for selling products/ services in rural India.

During 2016-17, the VLEs have earned a total commission of Rs 58,578.29 lakhs from CSC business - an increase of around Rs 11405 lakhs over 2015-16 - a step towards sustainability of the CSCs.

### Indirect Employment Generation through CSCs:

The current working model of CSC is completely a transaction oriented self-sustainable model. On an average, 3-4 persons are engaged in each CSC kiosk. Hence, it is estimated that around 9.18 lakhs of people are indirectly employed in the CSC ecosystem.

### Challenges against implementation of CSCs:

- Connectivity.
- Supports from the States/ UTs.

### Connectivity:

It was envisaged that CSC ecosystem shall work smoothly through optimum utilization of infrastructure created in the form of BharatNet/ NOFN and other communication infrastructures available in the States/UTs. Presently, CSCs are functioning based on the available mode of connectivity, such as, data card, Wi-Fi, and,

broadband network, wherever feasible. However, internet bandwidth is not adequate & stable in far flung and remote areas due to inaccessibility. In view of Government's commitment, all necessary steps and initiatives have been taken to complete the CSC project within the approved and stipulated time period of 4 years from the approval on Aug-2015. For this, efforts are being made to extend the connectivity through Wi-Fi e-Choupal.

**BharatNet:** The Department of Telecom under Ministry of Communications is also striving to implement the BharatNet project for creating network infrastructure by connecting all Gram Panchayats (GPs) (approx. 2.5 lakhs) in the country through Optical Fibre Cable (OFC) and by using an optimal mix of underground fibre, fibre over power lines, radio and satellite media, for providing broadband connectivity by all categories of service providers on non-discriminatory basis. The project will be implemented in three phases. Under first phase of the project, 1 lakh Gram Panchayats (GPs) is to be connected by laying underground OFC by November 2017. Under second phase, connectivity will be provided to remaining 1.5 lakhs GPs in the country using an optimal mix of underground fibre, fibre over power lines, radio and satellite media, by March, 2019. Under third phase, a state-of-the-art network with ring architecture, is planned to be completed by 2023.

Under the said project (phase-I), 2,38,489 KMs of pipeline has been laid in 1,06,276 GPs, 2.20 lakhs KMs of optical fibre pulled for 1,00,152 GPs and 23,147 GPs have been connected so far till 09-07-2017. CSCs are being collocated with the BharatNet terminals for utilizing its bandwidth for e-Governance services.

### **CSC being leveraged for Wi-Fi hotspot:**

CSC –SPV is also making efforts to leverage CSC to further extend the bandwidth of BharatNet through an initiative called -Wi-Fi Choupal so as to cover the entire Gram Panchayat(s) for providing stable & high speed connectivity. As on date, Wi-Fi Infrastructure has been deployed in 2500 GPs across 9 States (Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Haryana, Jharkhand, Bihar, Maharashtra, and Karnataka) and 2 Union Territories (Chandigarh and Puducherry). The activation of the internet service has been done at 650 GP locations.

### **Supports from the States/UTs:**

One of the key objectives of present CSC initiative is consolidated delivery of e-Gov Services by integrating all service access portals available at States/UT level with the national level universal & integrated platform of Digital Seva (CSC). For this, continuous supports from the respective States/UTs are pre-requisites. Relentless efforts are being made by this Ministry to resolve the pending issue of integration of State/UT portals for ease of access of the e-Services by the citizens from anywhere across the country. As a result of such efforts, a few State Governments now allowed integration of State Portal with Digital Seva Portal. It would increase the sustainability of the CSCs. In most of the States such as Jharkhand, Haryana, Himachal Pradesh, Tamil Nadu and Chhattisgarh etc., the State service portal is already integrated. In few States such as Rajasthan, Punjab etc., state service portals integration are in progress.

New Services launched / being launched through CSCs:

### **CSC for providing GST Service:**

- Technical platform being developed.
- Training content being designed & Developed.
- Workshop at District / Block for VLEs to be organised by May & June 2017.
- Appropriate incentive structure to be designed for on-boarding of Merchants.

**Tele-Law:** Use of communications and information technology for the delivery of legal information and advice. This e-interaction between lawyers and people would be through the video-conferencing infrastructure available at the CSCs. Tele-law service to be launched at 1800 Panchayats in Bihar (500), Uttar Pradesh (500), North-East and Jammu & Kashmir (800) through the CSCs through video conferencing/Chat/telephone.

CSCs are also being enabled as **White Label Business Correspondents (BCs)** for interoperable banking services.

## Conclusion:

Ministry of Electronics & Information Technology (MeitY) continues to strive towards improving CSC services and accessibility for meeting the Government mandate of a digitally and socially inclusive society. Government is committed to promote rural entrepreneurship through ICT and build a sustainable model providing gainful employment to citizens. Government strives for redefining the service delivery through digital technology and framework. Various types of citizen centric eServices can be delivered through national level integrated platform of CSC-Digital Seva, once State/UT level service access

portals are integrated with Digital Seva portal. Number of services in national CSC portal (Digital Seva) was increased from 32 to 170 during last 3 years. Out of the total target of around 2.5 lakhs of Gram Panchayats (GPs) to cover with CSCs under the ongoing CSC 2.0 project within 4 years (by August, 2019) for delivery of citizen centric eServices, more than 1.66 lakhs GPs (more than 66 per cent) have been covered with around 1.97 lakhs of CSCs for delivery of eServices to citizens till June, 2017.

*(The author is Joint Secretary, Ministry of Electronics and IT, Government of India.)*

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# RURAL TRANSFORMATION AND DIGITAL TECHNOLOGY

Sunita Sanghi and Sakshi Khurana

A large proportion of demographic advantage that India enjoys resides in the rural areas. Large number of youth from rural areas migrate to urban areas and end up doing low paid jobs due to low levels of education or illiteracy. Steps have been taken to improve the employability as also employment opportunities for these youth, but lack of awareness as also skills, restricts their movement. Technology can play a critical role in this regard.

Technology plays an important role in bringing about significant changes in the way education, skill, health and other public services are delivered and in enabling businesses to expand their reach across continents. It is a great enabler to bridge the divide between the educated and uneducated and more so, between urban and rural areas. The unprecedented growth in digital technology penetrating rural areas has paved the way for unlocking the potential for rural transformation. However, this calls for an innovative approach matched with concerted efforts for implementation. To understand the impact of Digital revolution on rural India, particularly on skill and employment, it is necessary to understand the rural labour market so as to devise strategies to leverage technology to improve education, skill and employability of the youth and existing workforce.

## Education and Employment Scenario in Rural India:

The rural labour market has witnessed a marginal increase in the overall labour force participation rate from 55.5 per cent in 2012-13 to 55.8 in 2015-16 (Labour Bureau, 2017) and marginal decline in



unemployment rate from 3.5 per cent in 2012-13 to 3.4 in 2015-16. However, there is significant decline in women participation in the labour force in the rural areas with just about 21 per cent females working. The available literature suggests that either jobs are not available, or women do not want to move out of their place of residence. Women in rural areas are primarily engaged in handicrafts, handlooms, basic food processing and micro-enterprises such as *papad* and pickle making etc. Their restricted social mobility often prevents their participation in employment and skill development opportunities located far from their homes. According to the Education Report of the NSSO (Jan-June 2014, 71st Round), in rural areas, 71.2 per cent of females studied just up to the primary education, of which 37.6 per cent were illiterate. In comparison, 19.8 per cent of males were illiterate and 37.7 per cent of males have studied till primary level. Only 7.1 per cent males and 4.5 per cent females received higher secondary education. A smaller proportion of rural persons reported completing graduation and post-graduation. The low level of education results in poor skill level resulting in access only to low paid jobs which affects the purchasing power and quality of life.

A large proportion of demographic advantage that India enjoys resides in the rural areas. Large number of youth from rural areas migrate to urban areas and end up doing low paid jobs due to low levels of education or illiteracy. Steps have been taken to improve the employability as also employment opportunities for these youth, but lack of awareness as also skills, restricts their movement. Technology can play a critical role in this regard. The following sections will discuss the current digital interventions that form a part of policy initiatives for the country as a whole and elaborate on their implications for the skill and employment landscape in rural areas.



### Unlocking the Rural India potential with Digital technology: Major Initiatives

The Government of India launched the 'Digital India' programme in 2014 with the vision of transforming the country into a digitally empowered society and knowledge economy. The program focusses on access to high speed internet as a core utility for all Gram Panchayats, unique, lifelong, online and authenticable digital identity; mobile phone and bank account to enable participation in digital and financial space at the individual level, easy access to a Common Service Centre that provides e-services of the government in rural and remote locations; universal digital literacy and so on.<sup>1</sup>

For a deeper digital penetration in rural areas, the Government has taken up BharatNet in mission mode to connect all 2,50,000 Gram Panchayats (over 600 million rural citizens) in the country with 100 mbps broadband to bridge the rural coverage gap both for broadband penetration and voice.<sup>2</sup> The coverage of Optical Fibre laid in the country has seen a significant increase from only 358 kms of optical fibre in June 2014 to 1.72 lakh kms across more than 76,000 Gram Panchayats by January 2017.<sup>3</sup>

Further, the 'Pradhan Mantri Gramin Digital Saksharta Abhiyan' (PMGDISHA), one of the largest digital literacy programme in the world has been launched to usher in digital literacy in rural India by March 2019 by making 6 crore rural households digitally literate.<sup>4</sup> To ensure equitable geographical reach under the program, each of the 250,000 Gram Panchayats are expected to register an average of 200-300 candidates. In the earlier version of the *Digital Saksharta Abhiyan (DISHA)*, IT training was

imparted to 52.5 lakh persons, including Aanganwadi and ASHA workers and authorized ration dealers in all the States/UTs across the country.<sup>5</sup> To leapfrog digital education in rural areas, the PMGDISHA is being strengthened through the network of the Common Service Centres (CSCs) that deliver various electronic services to small towns and rural areas. This is expected to empower women and men, and particularly the youth, through access to information, knowledge and skills for operating computers / digital access devices. The DigiGaon initiative is being launched to provide tele-medicine, education and skills through use of digital technologies.<sup>6</sup> This initiative too, is bound to create more employment in rural areas.

For inclusive development, the government is promoting digital inclusion by providing mobile connectivity to over 55,000 villages by March 2019 and initiating measures like Jan-Dhan account, debit cards, Aadhar Pay, Bharat Interface for Money (BHIM), to put an end to middlemen and ensure that benefits of various government schemes directly reach beneficiaries through digital transactions that touched 1569.3 crore in FY 2016-17 till January. There is a target of 2500 crore digital transactions in 2017-18.<sup>7</sup>

Agriculture is the primary occupation in rural areas with challenges like (i) weakening of input delivery; (ii) increasing risk in agriculture due to weather, prices and trade policies; (iii) small, declining and fragmented holdings; (iv) growing market inefficiencies and increasing agri-waste; and (v) limited employment opportunities in non-farm sector (Working Group on Agriculture Production, 2010). These challenges neutralize the contributions made through various technological breakthroughs with substantial adverse effect on the farm income and the future of Indian agriculture.

To facilitate free flow of agri. commodities from one market area to another with commensurate benefit to the farmer, eNAM (electronic trading platform for National Agricultural Market) has been launched by the government in 2015. This provides a unified market through online trading platform both at State and National level that promotes uniformity and transparency in auction process, and access to a nationwide market for the farmer, with prices commensurate with quality of his produce

and online payment and availability of better quality produce at more reasonable prices to the consumer. So far, 417 mandis in 13 states have joined the eNAM platform. Several apps have also been launched to enable farmers get accurate and timely information related to crops, market prices and analytics to enhance productivity and profitability of farmers. State governments need to take greater initiatives to encourage farmers to make use and benefit from this digital platform. Now the question that arises is how these digital /technological interventions are impacting the skill and employment scenario in the rural area.

### Impact on Employment and Skill Development:

Technology can play a pivotal role in making agriculture and allied activities more aspirational for youth, improving the quality of production and the product itself and connecting farmers and their produce to the wider markets. Across the globe, technology has facilitated efficiencies and cost savings in almost every area of farm businesses. Use of RFID technology and the Internet of Things, for example, helps farmers collect and collate vital data to help them improve efficiency.<sup>8</sup> The expansion in coverage of National Agricultural Market (e-NAM) from the current 250 markets to 585 APMCs provides an opportunity to farmers to enhance skills in using digital technology at various stages of production and marketing of produce.<sup>9</sup>

Greater broadband access would impact productivity of the agricultural sector as well as small enterprises through access to better technology, innovations and market. Steps are being taken to promote digital payments in petrol pumps, fertilizer depots, municipalities, block offices, road transport offices, universities, colleges, hospitals and other institutions, such as using the recently launched BHIM App. Such initiatives lead to the creation of direct employment as Banking Correspondents and others operating these digital facilities and also enhance digital literacy of all rural men and women, particularly the youth. Also, it will have the potential to generate new employment opportunities while enabling a host of services like e-commerce, e-learning, e-banking etc. The concept of dedicated Payment Banks supported by digital platform and mobile operators that enable customers to load cash onto mobile wallets and send payments across the



country can be of great significance for connecting rural areas to wider markets.

The network of the Common Service Centres (CSCs) that are functional and are being strengthened as part of the Digital India programme, deliver more than 300 digital services like Aadhaar enrolment, ticket booking, utility bill payments, tele-medicine, skilling services, digital literacy etc. in small towns and rural areas. It is to be noted that 2.05 lakh CSCs that are now functional across the country have already generated employment opportunities for over 5 lakh youth in rural areas,<sup>10</sup> including for more than 34,000 women.<sup>11</sup> These centres hold tremendous potential for both direct and indirect employment as they provide employment to staff recruited for running these centres as well as impart training and digital literacy to youth and rural persons as part of the *Digital Saksharta Abhiyan*, which can go a long way in improving their employability. These steps would also facilitate easier and more efficient participation of the rural population in governance.

Under the *Pradhan Mantri Mudra Yojana* (PMMY), the flagship programme to provide loans to promote rural entrepreneurship, loans are available for non-agricultural activities upto Rs. 10 lakh and activities allied to agriculture such as dairy, poultry, bee keeping etc, are also covered. Mudra's unique features include a Mudra Card which enables access to working capital through ATMs and Card Machines. A record Rs 1.80 lakh crore of loans have been sanctioned in financial year 2017-18, immensely benefiting entrepreneurs.<sup>12</sup> The skill development programme, covering 45 lakh households, has been making a significant contribution to give further impetus to the Mudra Yojana.<sup>13</sup> The flagship skill development scheme of the Government, *Pradhan*

*Mantri Kaushal Vikas Yojana (PMKVY)* is expected to particularly benefit youth who are either school/college dropouts or unemployed. Apart from providing training according to the National Skills Qualification Framework (NSQF), the Training Centres under PMKVY also impart training in Soft Skills, Entrepreneurship, Financial and Digital Literacy. Under the PMKVY, all states have also been given targets for training youth.

While the government is making efforts to cover large sections of the rural population through the digital platform in areas such as improved governance, land records, jobs, health, education and agriculture and digitization of personal and public records for safekeeping, enhanced access to technology also provides innumerable avenues for budding entrepreneurs as well as existing businesses to service the rural markets as never before. For example, *Arogya Sakhi*, an initiative of *Swayam Shikshan Prayog (SSP)*, a learning and development organization, uses a mobile application that helps rural women entrepreneurs deliver preventive health care at rural doorsteps. Under the *Arogya Sakhi* programme, SSP selects and trains women who are landless, but have basic education, are interested in healthcare and community service and sport strong community links and an entrepreneurial mindset. Women equipped with tablets and mobile healthcare devices like glucometers, blood pressure checking machine visit homes and collect data from the village women. This data can be accessed by doctors at any location who could provide relevant advice to the patients remotely. Digital technology, thus provides great potential for self-employment and empowerment for the most marginalized sections of rural society.

The rural job scene is undergoing radical transformation with organized players taking jobs into villages and helping rural youth find gainful employment. In one such instance, Rural Shores, a company that specializes in employing rural youth in Knowledge Process Outsourcing (KPO) jobs after imparting relevant training to them, has provided employment to over 2500 employees (almost 50 per cent of them women) in 17 centres in 10 states, delivering over 45 processes to more than 30 blue chip clients. Rural Shores is currently equipping itself to provide last-mile business connectivity to Corporates, who are eyeing rural India as their next

arena of growth and in the process will augment jobs for several thousand rural youth. The larger aim is to provide employment to one lakh such youth. Rural Shores offers its employees an opportunity to support their seasonal family income with a steady monthly income without having to migrate to urban areas.<sup>14</sup> This initiative serves as an example of how technology can help create employment for youth in rural areas, without them having to migrate to urban centres of jobs and information technology. More such initiatives can bring about a greater transformation in the rural employment landscape.

### **Moving Ahead:**

**Up-scaling Skill Development Initiatives:** Setting-up of Skill Committees and training institutions like *Kaushalya Vardhan Kendras* (Gujarat) in under-served rural areas to target school dropouts, women could make a significant impact. Such training initiatives reach out to trainees through mobile training, utilizing school and panchayat buildings and other existing public infrastructure to impart skill training.

**Expanding Outreach and Awareness on Digital Education:** State governments should leverage institutions with rural footprint viz. Panchayat Institutions, Common Service Centers, Self-Help Groups, Cooperatives, Farmer Producer Organisations, Agricultural Societies, NGOs, micro-finance institutions, India Post, Fertilizer corporation etc. to impart widespread awareness on the need for digital education and various initiatives of the government in the area. Promoting widespread usage of digital platforms for farmers such as eNAM requires both campaigns for awareness as well as imparting training on digital literacy. Digital training centres for farmers could function to impart such training and create awareness on digital platforms. Educational hoardings should be placed at main locations in rural areas.

Free to air skill and employment related channels should be started. Local T.V. channels can run scrolls about vocational training providers and schemes while showing films etc.

**Bridging the Gender Divide through Technology:** A conscious attempt needs to be made

to give women opportunities in non-traditional skill sectors such as electrician, welding, masonry, mechanics, plumber, repair of pumps, TVs, mobile phones and not limit to gender typical occupations like tailoring, beauty care, papad making. Technology can play a vital role in this. Training women in the use of computers, internet and information technology applications can enhance their employability for both wage and self-employment. By promoting financing, providing safe transportation, adequate female instructors, provision of child care facilities, hostels and separate sanitation facilities, women can be encouraged to come for training and participate in the labour market.

**Strengthening Self-Help Groups:** Self-Help Groups are examples of the new “social economy” emerging in India.<sup>15</sup> These self-help groups need to be further strengthened and given further encouragement as they form collectives of rural entrepreneurship that can generate steady income for rural citizens, particularly women. Digital literacy can play a crucial role in this. Educating rural people, particularly the youth and women, can empower them to set-up and advance their individual and collective enterprises. Under the National Rural Livelihood Mission, the government is planning more rural women led Ajeewika stores to provide them outlet to sell products produced by self-help groups, directly to consumers. These women can be trained in digital technology skills and mode of payment, thereby giving a further boost to production activities of self-help groups.

**Best Practices in Technological Development in Rural Areas:** A mechanism should be devised whereby success stories/innovative measures taken by different states are documented, shared, up-scaled and replicated on a regular basis by local bodies/NGOs.

While the rural landscape is experiencing a great wave of digital and information technology, it also presents abundant opportunities for employment generation. Skill development and up-gradation plays an important role in enhancing employability of men and women, particularly the youth. Concerted and fast-tracked efforts can ensure that we are able to tap the vast potential that rural areas have for skill development and employment as well as raise the standards of existing employment.

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# REVOLUTIONIZING INDIAN AGRICULTURE: USE OF ICT

Sameera Saurabh

E-agriculture continues to evolve in scope as new ICT applications continue to be harnessed in the agriculture sector. More specifically, e-agriculture involves the conceptualization, design, development, evaluation and application of innovative ways to use ICTs in the rural domain, with a primary focus on agriculture. Provisions of standards, norms, methodologies, and tools as well as development of individual and institutional capacities, and policy support are all key components of e-agriculture.

The future of rural India is full of promise. By 2025 it is forecasted that 55 per cent of India's rural population will have access to the Internet. The average villager living in rural India already has a basic awareness of the Wonders of the World Wide Web and is willing to explore the Internet to satisfy his queries about the world and issues which impact his livelihood. It is reported that in 2016, 234 million internet users in India were local language users. This number is expected to grow at a CAGR of 18 per cent. The National Policy for Farmers emphasizes the use of Information and Communication Technology (ICT) at village level for reaching out to the farmers with the correct advisories and requisite information.

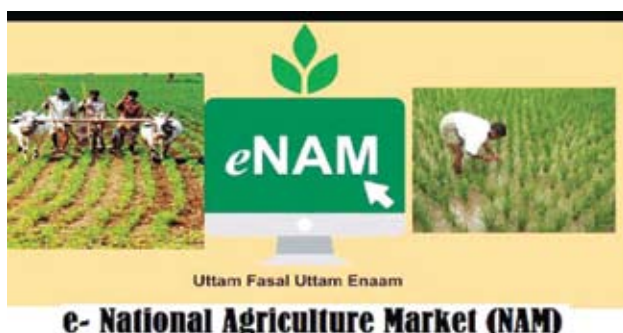
Agriculture plays a vital role in India's economy. 54 per cent of the population is engaged in agriculture and allied activities (Census 2011) and it contributes 17 per cent to the country's Gross Value Added (current price 2015-16, 2011-12 series). Given the importance of agriculture sector, Government of India took several steps for its sustainable development. Steps have been taken to improve soil fertility on a sustainable basis

through the soil health card scheme, to provide improved access to irrigation and enhanced water efficiency through Pradhan Mantri Krishi Sinchai Yojana (PMKSY), to support organic farming through Paramparagat Krishi Vikas Yojana (PKVY) and to support for creation of a unified national agriculture market to boost the income of farmers, and to mitigate the risk in agriculture sector the new scheme of Pradhan Mantri Fasal Bima Yojana (PMFBY).

**National e-Governance Plan in Agriculture (NeGP-A):** NeGP-A is proposed to be implemented across the country and aims at offering Government to Citizen/Farmer (G2C or G2F), Government to Business (G2B) and Government to Government (G2G) agricultural services in an integrated manner through the Central Agriculture Portal (CAP) and State Agriculture Portals (SAPs).

## Objectives:

- Bringing farmer centricity and service orientation to the programs.
- Enhancing reach and impact of extension services.
- Improving access of farmers to information & services throughout crop-cycle.
- Building upon, enhancing and integrating the existing ICT initiatives of Centre, and States.
- Enhancing efficiency and effectiveness of programs through process redesign.
- More effective management of schemes of DAC.
- Promoting a common framework across states.



### **Duration and Nature of GoI Support under NeGP-A:**

- Hardware and System software with comprehensive onsite warranty for 5 years.
- Basic IT training to end users in various government organisations and Village Level Entrepreneurs in Common Service Centres.
- Full support for site preparation of Training Centres and 55 per cent share for other sites.
- 100, 70 and 50 per cent for manpower cost for first three years.
- Connectivity charges with SWAN (for intranet & internet) or direct internet connectivity charges for end user locations for a period of 3 years at an average of Rs. 11000 per location per year.
- An amount of Rs. 7500 per block, Rs. 10,500 per district headquarter and Rs. 30,000 per State head quarter per year has been kept for consumables like printer cartridges etc. for a period of three years.
- Support for IT infrastructure at selected Mandis and integrated e-Mandis.
- Hand-held devices for e-Pest surveillance.

### **Information on Agriculture and Marketing Channels:**

India's farmers live in rural areas and agriculture & allied activities still constitute the largest share of India's employment. It is estimated that 72 per cent farmers do not have access to reliable sources of information and this prevents them from accessing credit & realizing high crop productivity. Around 94 per cent of farmers in India depend upon 'fellow farmers' as the preferred **source of information**, followed by 10 per cent on agri retailers, 4 per cent of TV/Radio and only 3 per cent on agri-extension officers. Information provided by extension services are perceived to be unreliable or **less actionable** due to lack of accuracy. This is a bottleneck for adoption of modern agri-practices, hence **crop yields** in India are still just 30 per cent to 60 per cent of the best sustainable crop yields achievable in the farms of developed as well as other developing countries.

While physical infrastructure (e.g. storage, logistics), regulatory (e.g. APMC act, agri input/marketing licenses) and socio-economic (e.g. financial inclusion, aggregation) issues need to be addressed, a **professionally managed ICT** platform can bring the various pieces of **agri value chain** together and act as the catalysts for agricultural growth.

**Information and communication technology in agriculture (ICT in agriculture)**, also known as **e-agriculture**, is developing and applying innovative ways to use ICTs in the rural domain, with a primary focus on agriculture. ICT in agriculture offers a wide range of solutions to some agricultural challenges. It is seen as an emerging field focusing on the enhancement of agricultural and rural development through improved information and communication processes. In this context, ICT is used as an umbrella term encompassing all information and communication technologies including devices, networks, mobiles, services and applications.

E-agriculture continues to evolve in scope as new ICT applications continue to be harnessed in the agriculture sector. More specifically, e-agriculture involves the conceptualization, design, development, evaluation and application of innovative ways to use ICTs in the rural domain, with a primary focus on agriculture. Provisions of standards, norms, methodologies, and tools as well as development of individual and institutional capacities, and policy support are all key components of e-agriculture.

**Digital India envisions empowering citizens with e-access to government and related livelihood services.** The project has 3 core components - digital infrastructure, **digital services** and digital literacy. **Mobile phone** is the preferred delivery medium under *Digital India* with focus on mGovernance and **mServices**. Out of the 7 components covered under mServices, **mAgriculture** and **mGramBazar** directly impact agricultural extension.

An end-to-end ICT led agri platform has been created:

- **Pan-India**, telco and handset **neutral** agri information service delivered through sms, voice and mobile app;



- **10,000+ information sources** managed by **team of 300+** on-ground agri market reporters and **state / national level agri experts** with PhDs and public/private sector agri industry experience;
- Dedicated **agri call center** with **90+** team members speaking **9 languages**;
- Custom designed **CRM and ERP solutions for Indian farmers**;
- **Agri e-commerce platform** with agri produce **aggregation** and demand/supply matching capability; supported by technologically enabled on-ground **agri marketing team**.

### Kisan Call Centre (KCC) initiative:

With the increase in choices of farm inputs, pesticides, herbicides, high yielding varieties of seeds, a farmer today requires guidance of expert agriculturists more than anything else. Some one with whom they can share their crop related issues and learn preventive measures. **Kisan Call Center (KCC)** is a pioneering initiative started in Madhya Pradesh by the Indian Society of Agribusiness Professionals (ISAP). The Kisan Call Centre is a combination of ICT (Information Communication Technology) and Agriculture technology. It uses a backend data support system, which is inbuilt into the overall MIS (Management Information System). KCC enables farmers to have direct discussions with the subject matter experts who are able to analyze the problem effectively and provide the solution directly.

### National Agriculture Market (NAM):

It is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities. The NAM Portal provides a single window service for all APMC related information and services. This includes commodity arrivals & prices, buy & sell trade offers, provision to respond to trade offers, among other services. While material flow (agriculture produce) continue to happen through mandis, an online market reduces transaction costs and information asymmetry.

Agriculture marketing is administered by the States as per their agri-marketing regulations, under which, the State is divided into several market

areas, each of which is administered by a separate Agricultural Produce Marketing Committee (APMC) which imposes its own marketing regulation (including fees). This fragmentation of markets, even within the State, hinders free flow of agri commodities from one market area to another and multiple handling of agri-produce and multiple levels of mandi charges ends up escalating the prices for the consumers without commensurate benefit to the farmer.

### Objectives of NAM:

- A national e-market platform for transparent sale transactions and price discovery initially in regulated markets. Willing States to accordingly enact suitable provisions in their APMC Act for promotion of e-trading by their State Agricultural Marketing Board/APMC.
- Liberal licensing of traders / buyers and commission agents by State authorities without any pre-condition of physical presence or possession of shop /premises in the market yard.
- One license for a trader valid across all markets in the State.
- Harmonisation of quality standards of agricultural produce and provision for assaying (quality testing) infrastructure in every market to enable informed bidding by buyers. Common tradable parameters have so far been developed for 25 commodities.
- Single point levy of market fees, i.e on the first wholesale purchase from the farmer.
- Provision of Soil Testing Laboratories in/ or near the selected mandi to facilitate visiting farmers to access this facility in the mandi itself. The broad role of the Strategic Partner is comprehensive and includes writing of the software, customizing it to meet the specific requirements of the mandis in the States willing to integrate with NAM and running the platform.

### National Agriculture Market (NAM) — Making a difference to farmers?

The current state-level APMC laws permit the first sale of crops — after harvesting by farmers



Source: FAO, ITU

— to take place only in regulated market yards or mandis. It, thus, restricts buyers to operate in the mandi under the concerned APMC’s jurisdiction. Even traders have to procure separate licences to operate in different mandis within the same state. NAM would essentially be a common electronic platform allowing farmers to sell their crops to buyers anywhere in the country and vice versa. The benefits to buyers is that they can log into the platform and source from any mandi in India connected to it.

However, farmers do not take their produce to the mandis; they sell off to the local arhatiya or produce aggregator even before that. Even the ones who take would hardly offer enough to interest distant buyers bidding online. To that extent, the possibilities for better price discovery through a widened choice of buyers, both local and online, are quite limited for them. Farmers can, benefit

if they devised strategies for aggregating produce on their own, bypassing the arhatiya and the local mandi in the process. This is where Farmer Producer Organisations and Cooperatives can facilitate in creation of volumes that is intrinsic to the success of any online marketplace initiative.

### Major Applications of ICT In Agriculture:

**GPS Receivers:** In agriculture, the use of the Global Positioning System provides benefits in geofencing, map-making and surveying. GPS receivers dropped in price over the years, making it more popular for civilian use. With the use of GPS, civilians can produce simple yet highly accurate digitized map without the help of a professional cartographer.

**Geographic Information Systems, or GIS:** are extensively used in agriculture, especially in precision farming. Land is mapped digitally, and pertinent geodetic data such as topography and contours are combined with other statistical data for easier analysis of the soil. GIS is used in decision making such as what to plant and where to plant using historical data and sampling.

**Smartphone Mobile Apps in Agriculture:** The use of mobile technologies as a tool of intervention in agriculture is becoming increasingly popular. Smartphone penetration enhances the multi-dimensional positive impact on sustainable poverty reduction and identify accessibility as the main challenge in harnessing the full potential in agricultural space. The reach of smartphone even in rural areas extended the ICT services beyond simple voice or text messages. Several smartphone apps are available for agriculture, horticulture, animal husbandry and farm machinery.

**Pradhan Mantri Fasal Bima Yojana (PMFBY):** PMFBY has been launched for implementation from Kharif 2016. The scheme envisages a uniform premium of only 2 per cent to be paid by farmers for Kharif crops, and 1.5 per cent for Rabi crops. The premium for annual commercial and horticultural crops will be 5 per cent. There is no upper limit on Government subsidy for this scheme. Farmers will get claims against the full sum insured, without any reduction.



Source: FAO, ITU



### Challenges of Current Insurance Schemes:

- Low penetration of Financial Institutions also adds to the cause of poor insurance coverage.
- Currently, the infrastructure to measure crop loss accurately is outdated which makes it difficult to make loss assessments uniformly.
- The existing insurance schemes are unable to protect the farmers against price fluctuations.
- Getting data on reliable yield and price is difficult because it keeps on fluctuating from season to season.
- The time taken to fulfill claims is quite high. This is despite the rules stating settlement within 45 days.
- Financial Stability Report by RBI highlights that linkage of loans with insurance doesn't meet good response from banks as the burden of Priority Sector Lending is already there on banks

### Boosting Productivity:

- Expand the services of Kissan Call Centres for easy reach to farmers (2018-19).
- Make provision to enable the companies investing in Agriculture Technology Management Agency (ATMA).
- 'National Programme for Space Application in Agriculture (NPSAA)' as a comprehensive

platform to harvest the advantages of space technology in agriculture & allied sectors.

- Space and Information Technologies will be leveraged to improve efficiency, speed & accuracy of Crop Cutting Experiments (CCEs) and ensure timely settlement of claims of the farmers in accordance with prescribed timelines in the Guidelines, to be ensured in 2017-18.

### Conclusion:

Agriculture is one of the most important sectors in India, and could benefit tremendously with the applications of ICTs in improving the socioeconomic conditions of poor in backward areas. Though India has a strong and fast Growing IT industry, access to ICTs remains very low, particularly in rural areas. If right information is provided timely, it can help to develop the agriculture sector. It helps to take timely action, prepare strategies for next season, speculate the market changes, and avoid unfavorable circumstances. Development of agriculture depends on how fast relevant information is provided to the end users. The present indicators of IT penetration in Indian society need to step up with consistent efforts to bridge the urban- rural divide.

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*Goods and Services Tax*

**GST A BOON FOR HOUSEHOLDS**

*Common man welcomes GST*



**GST @ 0%**

- » Unpacked Foodgrains
- » Fresh Vegetables
- » Unbranded Atta
- » Unbranded Maida
- » Unbranded Besan
- » Gur
- » Milk
- » Eggs
- » Curd
- » Lassi
- » Unpacked Paneer
- » Unbranded Natural Honey
- » Palmyra Jaggery
- » Salt
- » Kajal
- » Phool Bhari Jhadoo
- » Children's Drawing and Colouring Books
- » Education Services
- » Health Services

**GST @ 5%**

- » Sugar
- » Tea
- » Roasted Coffee Beans
- » Edible Oils
- » Skimmed Milk Powder
- » Milk Food for Babies
- » Packed Paneer
- » Cashew Nuts
- » Raisin
- » PDS Kerosene
- » Domestic LPG
- » Footwear (upto ₹ 500)
- » Apparels (upto ₹ 1,000)
- » Agarbatti
- » Coir Mats

**SINGLE TAX TO BRING DOWN PRICES FOR MOST HOUSEHOLDS**

**GST @ 12%**

- » Butter
- » Ghee
- » Almonds
- » Fruit Juice
- » Packed Coconut Water
- » Preparations of Vegetables, Fruits, Nuts or other parts of Plants including Pickle
- » Murabba, Chutney, Jam and Jelly
- » Umbrella
- » Mobiles

**GST@18%**

- » Hair Oil
- » Toothpaste
- » Soap
- » Pasta
- » Corn Flakes
- » Soups
- » Ice-cream
- » Toiletries
- » Computers
- » Printers

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# SMART VILLAGES: A WAY FORWARD

Madhura Roy

The Ministry of Rural Development is adopting a scientific process of cluster selection which involves an objective analysis at the District, Sub District and Village level, of the **demography, economy, tourism and pilgrimage significance** and **transportation corridor** impact. While the Ministry, following this analysis, would provide a suggestive list of sub districts to the State, the State Governments would then select the clusters following a set of indicated principles included in the Framework for Implementation.

**S**wami Vivekananda, the young monk who had wandered through the length and breadth of India had observed-“*Let new India arise out of peasants' cottage, grasping the plough, out of huts, cobbler and sweeper.*” Such is the power of Bharat that has been the foundation to the emerging India of today.

Villages form the building blocks of our country. Agriculture, considered to be the principal source of income in the villages, contributes to around 17 per cent of Indian GDP, which is much higher than the world average of 6.1 per cent. However, a trend to migrate from village to city has steadily increased over the past couple of years, leading to the question of how the reverse migration can be done.

## Infrastructure in the Villages:

Most Indian villages are yet to avail the basic necessities to lead a healthy life like access to education, healthcare, drinking water, electricity, toilets (both domestic and public) with proper water supply and proper road infrastructure. In addition,



to keep a pace with the modern technological innovations like mobile phone, internet etc. which are essential for making the country digital, Indian villages are lagging much behind. Holistic development of any village would mean addressing these basic needs. Different Governments over successive years have tried to address the issues.

However, the first concrete step in empowering the villages was in 1992 when the 73<sup>rd</sup> Constitutional Amendment was adopted. It decreed the organization of village panchayats so that they can function as the local self-governments.

It was not before a decade that a Fundamental Duty was added by the 86<sup>th</sup> Constitutional Amendment in 2002, which urged parents or legal guardians to provide opportunities for education to their child, or as the case may be, ward between the ages of six to fourteen years. The Right to Education was passed in 2009 making education compulsory for children between the ages of 6 to 14 years.

The National Rural Health Mission was launched in April 2005 with a vision to provide effective health care to rural population throughout the country. The NRHM, as it is popularly called, is continuing till date, bringing lots of changes in the rural life.

Road connectivity was facilitated through the Pradhan Mantri Gram Sadak Yojana. Pradhan Mantri Grameen Awas Yojana ensured housing for all. More such schemes have been undertaken by the Union Government and the various State Governments to improve the quality of life in rural India.

## Smart India:

With improved quality of life comes the need of better living. While urban India has leapfrogged

into an age of digitization, embracing the concept of “Smart City”, the need to convert villages into “Smart Villages” was also felt. The first step in this direction was taken in September, 2015. In a bid to transform rural areas to economically, socially and physically sustainable spaces, the Shyama Prasad Mukherji Rurban Mission was launched by the Union Government.

### Shyama Prasad Mukherji Rurban Mission (SPMRM):

The Mission aims at development of rural growth clusters which have latent potential for growth, in all States and UTs, which would trigger overall development in the region. These clusters would be developed by provisioning of economic activities, developing skills & local entrepreneurship and providing infrastructure amenities. **The Rurban Mission will thus, develop a cluster of Smart Villages.**

#### Cluster Identification and Development:

The State Governments would identify the clusters in accordance with the Framework for Implementation prepared by the Ministry of Rural Development. The clusters will be geographically contiguous Gram Panchayats with a population of about 25,000 to 50,000 in plain and coastal areas and a population of 5000 to 15000 in desert, hilly or tribal areas. There would be a separate approach for selection of clusters in Tribal and Non-Tribal Districts. As far as practicable, clusters of village would follow administrative convergence units of Gram Panchayats.

The Ministry of Rural Development is adopting a scientific process of cluster selection which involves an objective analysis at the District, Sub District and Village level, of the **demography, economy, tourism and pilgrimage significance** and **transportation corridor** impact. While the Ministry, following this analysis, would provide a suggestive list of sub districts to the State, the State Governments would then select the clusters following a set of indicated principles included in the Framework for Implementation.

To ensure an optimum level of development, fourteen components have been suggested as desirable for the cluster, which would include



Skill development training linked to economic activities, Agro Processing/Agri Services/Storage and Warehousing, Digital Literacy, Sanitation, Provision of piped water supply, Solid and liquid waste management, Village streets and drains, Street lights, Fully equipped mobile health unit, Upgrading school/higher education facilities, Inter-village road connectivity, Citizen Service Centres-for electronic delivery of citizen centric services/e-gram connectivity, Public transport., LPG gas connections.

#### Development Process of Different Components:

A large number of schemes are being run by the Union Government to address the fourteen components earmarked essentially to make Smart Villages:

- **Skill Development:** The **Pradhan Mantri Kaushal Vikash Yojana**, under the Ministry of Skill Development and Entrepreneurship aims to enable a large number of Indian youth to take up industry-relevant skill training that will help them in securing a better livelihood.
- **Digital Literacy:** **Pradhan Mantri Gramin Digital Saksharata Abhiyan** is expected to be one of the largest digital literacy programmes of the world. As the thrust of the Government is on cashless transactions through mobile phones, the course content would also have emphasis on Digital Wallets, Mobile Banking, Unified Payments Interface (UPI), Unstructured Supplementary Service Data (USSD) and Aadhaar Enabled Payment System (AEPS), etc.



- **Agro-based Scheme-SAMPADA (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters)** under the Ministry of Food Processing Industries aims to supplement agriculture, modernize processing and decrease agro-waste. Implementation of the scheme will result in creation of modern infrastructure with efficient supply chain management from farm gate to retail outlet. It will not only provide a big boost to the growth of food processing sector in the country, but also help in providing better prices to farmers and is a big step towards doubling of farmers' income.
- **Sanitation:** The **Swachh Bharat Abhiyan (Gramin)** aims at making rural India open-defecation free by 2019 by encouraging households to build toilets, thus improving the level of cleanliness in rural India.
- **Drinking Water Supply:** The **National Rural Drinking Water Programme** aims at providing piped water supply to rural households. The programme aims at providing piped water to 90 per cent rural households by 2022, at least 80 per cent of rural households should have piped water supply with a household connection. Less than 10 per cent use public taps and less than 10 per cent use hand pumps or other safe and adequate private water sources.
- **Street Light:** To improve street light conditions, the Ministry of New and Renewable Energy has installed solar PV through the National Solar Mission.
- **Road Connectivity and Public Transport:** The **Pradhan Mantri Gram Sadak Yojana** is meant to provide good road connectivity in rural India. Complementing this, the **Pradhan**

**Mantri Gramin Parivahan Yojana** would involve women Self-Help Groups and train them to operate mini-buses to serve village blocks not served by public transport. Rural Self Employment Training Institutes, will now teach driving to women from the SHGs.

- **LPG gas connection:** The **Pradhan Mantri Ujjwala Yojana** aims at providing deposit-free LPG connections to BPL family in the name of adult women.

### Challenges:

India is a vast country with a lot of challenges. The components needed to make smart villages are definitely well-designed. However, the challenge lies in implementing the programmes effectively. It needs to be kept in mind that only if other socio-economic indicators are good and the basic needs of the village are already met, then can a smart village with a digital future be made possible. A digital future can only be built on top of a physical one.

The preparedness of the villages needs to be taken into account for any programme to be implemented. It needs to be checked that each village has a primary school for the children where there is separate toilets for both male and female children. The basic sense of hygiene needs to be imparted to the children through the schools. Mid-day meal provided to the children should be enough to supplement their nourishment. For secondary and higher secondary education, it may not be possible to have higher secondary schools in each village. As the Government wants to upgrade the education facility, it needs to be ensured that at most, five villages within a radius of 10 kms gets a higher secondary school and a Degree College.

The different scholarships like Pre-Metric, Post-Metric for SC/ST and OBC students are directly credited to the bank accounts. These accounts are linked with the Aadhaar number of the students, which has been made mandatory for receiving the scholarships. Such a step has helped in reducing the ghost beneficiary and interference of middleman and hence is definitely a step towards smart village.

The **Accredited Social Health Activist (ASHA)** workers are appointed under the NRHM. They are trained to provide basic medical care to the

villagers. The ASHA workers along with the Auxiliary Nurse Midwife (ANM) form the first interface between the village community and healthcare. If the health records of the individuals of a village can be digitised, then the medical care offered to them can be tracked. But what is more important is that a smart village cluster should have ambulances to ferry patients to referral hospitals. Mobile medical vans can also be arranged for the village clusters to provide basic medical help. Under the **Janani Suraksha Yojana**, eligible pregnant women are entitled for cash assistance irrespective of the age of mother and number of children for giving birth in a government or accredited private health facility. This will help in the reduction of Infant Mortality and Maternal Mortality and in turn, will lead to a healthier society.

Through the **Swachh Bharat Abhiyan**, toilets are to be constructed in every house of the village. Providing toilet and piped water is a basic necessity. Usage of toilet would stop the age-old practice of manual scavenging and at the same time, ensure the safety of women. This in turn, will also increase the hygiene level in the family which is essential for sustaining a healthy family.

The agricultural yields by the farmers need to reach the market in time so that the farmers can recover the investments they have made. For this, connectivity to the nearest *mandi* is essential. **Pradhan Mantri Krishi Sinchai Yojana-Har Khet Ko Paani** ensures bringing more agricultural land under irrigation. Many schemes in the agriculture sector are undertaken using the Long Term irrigation Fund under NABARD. The benefits of the same need to reach the farmers.

Financial inclusion will play a key role in making villages smart. The **JAM trinity** of Jan Dhan Account, Aadhaar number and mobile connectivity is expected to be with every Indian. Aiming to provide bank account to every Indian, the Jan Dhan accounts were opened which had Aadhaar number linked and mobile number updated for any transaction. Although, every bank is mandated to have 45 per cent rural penetration, having a bank account still remains elusive to many persons. Banking correspondents or Bank Mitras were appointed by banks to tackle this situation. The same needs to be strengthened so that every person can have a bank account.

The other important area is street lighting. The use of non-renewable source of energy, especially solar energy is designed for electrifying most villages. India, being a tropical country is blessed with sun. However, affordability of solar panels is a big question. The initiative of the Central Government needs to reach the common man more effectively so that they can have access to electricity.

### Way Forward:

News regarding achievement of the individual components often are highlighted.

- Akodara village in Sabarkantha district of Gujarat has been declared as India's first digital village.
- Dhasai village in Thane district of Maharashtra has become India's first cashless village.
- Karang, a small lake island in Manipur, has become the country's first cashless island.
- Sikkim was the first state in India to be declared open defecation free followed by Himachal Pradesh.
- Pandri village in Purulia district of West Bengal became the first solar village in the country.

Many such examples can be cited when it is observed that a particular village or a particular district has achieved a critical milestone. All such achievements are indeed laudable and can be used to replicate in other parts of the country.

But only when such a village with all such facilities can be developed, it would be termed as a Smart Village. A holistic approach is needed to develop such a village. Involvement of the Panchayat to implement the Government programmes successfully along with community participation is of utmost necessity to develop the village.

As Mahatma Gandhi said, *"The true Indian civilisation is in the villages.....Take the village people and slum-dwellers in your hands and give them the benefit of your knowledge, skill, insight, constructive work and patriotic spirit..."*. Then only can a Smart Village develop and sustain.

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# FINANCIAL INCLUSION IN RURAL AREAS THROUGH 'DIGITAL INDIA'

Dr. Dibakar Lenka

One of the reasons for slow progress in financial inclusion is the absence of reach and coverage of Government and financial system. This gap now can be bridged through the use of Information and Communication Technology. Sufficient budgetary support for creation of such a massive digital infrastructure to reach 2.80 lakh gram panchayats through digital connectivity to reduce digital gap can take the country into a different direction. PMJDY accounts, Mobile hand set, Aadhaar etc through various Government initiatives can help in achieving the last mile connectivity for the prosperity of the country.

The focus of Financial Inclusion is ensuring coverage of each household in the country by opening saving accounts and providing Banking services such as micro credit, RuPAY card, Aadhaar based services, financial literacy and empowerment of women, Direct Benefit Transfer, Insurance and pension services. It is the endeavor of all stake holders including Government to focus on issues like putting in place an effective system of tackling technology issues, solving connectivity problems, spreading financial literacy in public, innovating suitable products to suit needs of public and above all, going digital in all process. The combination of IT and Mobile can only allow circumventing the cost problem to connect 1,250 million people and 180 million households of the country.

## Approach to Financial Inclusion:

It is realized that the effectiveness of welfare measures can only be visible by coming closure

to the poor by various innovative channels where there are no leakages and pilferages. Effective implementation of pro-poor programmes by using available digital path is now the armory.

**Financial inclusion is usually construed in two ways:**

- Counteracting the exclusion from the payment system.
- Counteracting the exclusion from the formal financial services.

The approach is based on the following principles:

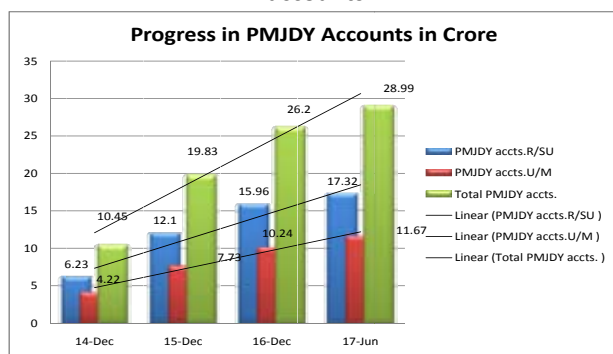
- Adequacy** and **Availability** of financial services to all sections of the society.
- Awareness** of financial services.
- Affordability** and **Accessibility** of appropriate financial products through a combination of conventional and alternative delivery channels and technology enabled services and processes.

Now, the Government has taken various initiatives to reach the rural masses by implementation of all pro-poor programs through cost effective digital technology.

**Pradhan Mantri Jan-Dhan Yojana:** It is India's National Mission for Financial Inclusion to ensure access to financial services, namely Savings & Deposit Accounts, Remittance, Credit, Insurance, and Pension in an affordable manner. This financial inclusion campaign was launched by the Prime Minister on 28 August 2014. 28.99 Crore (17.32 crore rural and 11.67 crore urban) bank accounts have been opened till June 2017 (Figure 1). The scheme targets to provide Basic Banking Accounts with overdraft facility of ₹ 5,000 after six months and RuPAY Debit card with

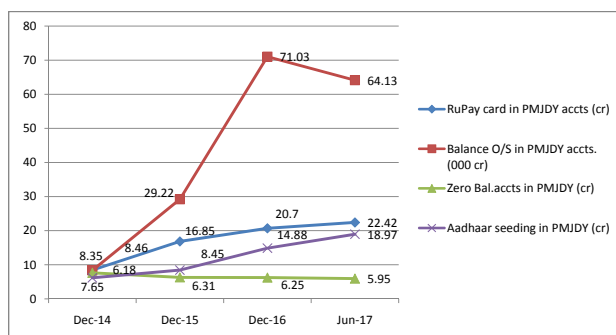


**Figure: 1- Rural urban composition of PMJDY accounts**



(Source: DFS site, Govt. of India) (R-Rural, SU-Semi urban, U-Urban, M-Metro)

**Figure: 2, Progress of RuPay card, increase in balance outstanding, decline in zero balance and increase Aadhaar seeding in PMJDY accounts**



inbuilt accident insurance cover of ₹1 lakh and RuPAY Kisan Card, micro insurance & pension etc. are also added to it. So far, 22.42 crore RuPAY cards are issued under PMJDY accounts.

**Aadhaar:** The Unique Identification Authority of India is a Central Government agency. Its objective is to collect the biometric and demographic data of residents, store them in a centralized database, and issue a 12-digit unique identity number called Aadhaar to each resident. 18.97 crore (65.44 per cent) PMJDY accounts are Aadhaar seeded as of 30.06.2017.

Continuous progress in Aadhaar seeding and issue of RuPAY card is recorded. There is tremendous progress in balance outstanding in PMJDY accounts. In the month of December 2016, there was a sudden rise in outstanding balance (Rs 71.03 thousand crore) in PMJDY accounts because of parking of funds by manipulators during demonetization move. Zero balance accounts are declining from 7.65 crore to 5.95 crore from December 14 to June 17 (Figure 2).

**Mobile banking** has registered a volume of 106.18 million transactions with value of Rs1612.12 billion as of April 2017 (Table 1).

**JAM (Jan Dhan-Aadhaar-Mobile) Trinity:** It refers to the Government of India initiative to link Jan Dhan accounts, Mobile numbers and Aadhaar number of Indians to plug the leakages of government subsidies. With the introduction of new technology introduced by National Payments Corporation of India (NPCI), a person can transfer funds, check balance through a normal phone which was earlier limited only to smart phones. Mobile banking for the poor would be available through National Unified USSD Platform (NUUP) for which all banks and mobile companies have come together.

**Direct Benefit Transfer or DBT:** It is an attempt to change the mechanism of transferring subsidies launched by Government of India. This program aims to transfer subsidies directly to the people through their bank accounts. It is hoped that crediting subsidies into bank accounts will reduce leakages, delays, etc. The primary aim of Direct Benefit Transfer program is to bring transparency and terminate pilferage from distribution of funds sponsored by the Government. Payment is made in the bank accounts of the beneficiary using the Aadhaar Payment Bridge of NPCI.

In reality, over Rs 36,000 crore were saved in last two years by disbursing subsidies straightway to the beneficiaries accounts under Direct Benefit

**Table 1: Progress Card of Mobile Banking and ATM card use**

	Volume in million numbers				Value in billion Rs			
	July15	Jan16	July16	April17	July15	Jan16	July16	April17
Mobile Banking	24.96	42.80	64.44	106.18	235.71	465.21	668.04	1612.17
Debit card								
Use at ATM	655.17	707.63	752.13	660.32	2077.85	2181.88	2191.65	2168.60
Use at POS	94.97	109.88	129.67	268.00	140.07	146.11	170.92	374.82

(Data from RBI site, payment and settlement indicators)

Transfer (DBT). As many as 84 schemes including Mahatma Gandhi National Rural Employment Guarantee Act have been included in the DBT scheme. Over 1,200 schemes were studied to see if they could be brought under the DBT scheme and it was found that within a very short period, around 550 schemes could be incorporated in the scheme. Number of beneficiaries, getting subsidies through Direct Benefits Transfer (DBT) into their bank accounts has crossed the 30-crore mark and the government has now fixed a deadline to transfer all subsidies through an Aadhaar-enabled DBT.

**Digital Boost to MGNREGA:** Digital boost to the flagship rural job scheme, MNREGA is a commendable initiative. A total of 35,000 Gram Panchayats are covered to ensure better implementation through mobile monitoring system. This initiative will help the implementation agencies with live data from the worksites, an online and real-time updation of data base, real-time visibility of the data for complete transparency, and location of assets with geo-tagging for easy verification.

**e-Money:** The Department of Posts has planned to provide electronic money order service to 70 per cent of its total post offices. This service will enable India Post to remit money next day to the doorstep that earlier took about a week. Also, it will make the whole process secure and fast. People can send maximum of Rs 5,000 through e-money order.

**Twitter Samvad:-** This will enable the citizens to know about new government initiatives and actions. It is a service that lets leaders and government agencies communicate with the people through tweets and SMS.

**Digital Life Certificates:-** The 'Jeevan Pramaan' scheme has given a scope of relief to a million of retired government employees. With this, the pensioner will do away with the requirement of submitting a physical life certificate in November each year and can now digitally provide proof of their existence to authorities for continuity of pension every year.

**Digital-locker-India:** This initiative eliminates the need for people to carry the hard copies of the certificates issued by states, municipal agencies, and other bodies. Birth certificates, school and college leaving certificates, residence and marriage proof, and even PAN cards will be digitized. For this, the government has rolled out a national depository that will hold these records. Each private locker will store all the important documents of users, which are digitally verified by the government. Now rather than sending physical copies, the link of that cloud folder having digital copies of verified certificates can be shared.

**PRAGATI:** It is an interactive platform launched for public grievances redressal. It is aimed at monitoring and reviewing programs and projects of the Government of India as well as state government initiatives and also addressing common man's grievances. This step is expected to make governance in India more efficient and responsive.

**Digidhan Mela:** This event is about various digital payment channels including Unified Payments Interface (UPI), Aadhaar Enabled Payment System (AEPS), Unstructured Supplementary Service Data (USSD) and RuPAY cards. The event will focus on ways and benefits of the system and will also address the concerns regarding payments and commissions charged by the respective organizations. To Make Digital Payments a Mass Movement, more than 14 lakh consumers and 77,000 merchants were rewarded with Rs. 226 crore (Rs 177 crore to consumers and Rs 49 crore to merchants) for using Digital Payments through two incentive schemes for Digital Payments Lucky Grahak Yojana and DigiDhan Vyapar Yojana. DigiDhan Melas are also being organized in 100 cities over a period of 100 days in 26 States and 7 Union Territories. Over 5000 financial institutions have reached 15 lakh citizens through the Melas and at least 16,000 government and private institutions have been declared cashless. Since demonetization, there has been a phenomenal growth in digital transactions.

**Table 2: Transactions through some new digital apps**

Digital Apps	Dec16		Mar 17		June 17	
	Vol. in lakh	Value in cr	Vol.in lakh	Value in cr	Vol.in lakh	Value in cr
BHIM	0.42	1.90	24.60	823.10	46.17	1486.70
UPI	19.67	706.16	61.61	2391.40	101.55	3067.50
IMPS	605.32	46524.88	596.38	61105.58	686.09	60015.50

(Source, NPCI site)

- Transactions increased through UPI from 19.67 lakh to 101.55 lakh with value of transaction Rs 706.16 cr to Rs 3067.50 cr respectively. (Table 2)
- APBS (Disbursement by UIDAI no.) during FY 14-15 was Rs 61.43 billion and increased to Rs 286.63 billion in FY 16-17. (Table 3)
- AEPS recorded Rs 22.82 billion during FY 16-17. Further, 6 fold increase up to April 17 after demonetization.
- The BHIM App, launched by the Prime Minister on 30th December 2016 has recorded transaction in volume and value term during FY 16-17 as 46.17 lakh and Rs 1486.70 crore respectively. (Table 2)
- There has been an increase of nearly 13 per cent in the number of PoS machines sold since October 2016 indicating that more number of merchants across the country are willingly accepting digital payments.

**BHIM App for e-transactions, Aadhaar seeding etc.:** Through this App, the customer can access his bank account and then make payment or send a request to collect payment by directly approaching the settlement system. In BHIM, there is no need of writing account number. All an individual needs is just a virtual financial address of the receiver such as his mobile number or Aadhaar number or a virtual name. His real financial address is discovered by the National Payment Corporation of India. Now the sender doesn't need to know the account details to send money but he can now use BHIM app and use recipient's mobile number, Aadhaar number or Virtual Payment Address to send money. Today, there are more than 100 crore mobile phones, 110 crore Aadhaar numbers in the country to use the app effectively.

**DigiGAON:** Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) is extended to six crore rural households for imparting knowledge on basic education and health services.

**BHUVAN:** It is a satellite based geo platform by ISRO, reaching out to the rural people. It acts like a clearing house for satellite data. Essentially a software that integrates and processes ground inputs with satellite data for diverse needs. Three important applications are there which have remote reach for use of rural population:

- CHAMAN** (Coordinated program on Horticulture Assessment and Management using Geo-Informatics. It will help in:
  - Digital inventory of all horticulture zones in the country.
  - Deciding cold storage hubs.
  - Managing inflation through accurate data of food stock.
- FASAL** (Forecasting Agricultural output using Space, Agro-meteorology and Land based observations). It will do the following:
  - Monitor crop health.
  - Can be used directly to study crop locations.
- NADAMS** (National Agricultural Drought Assessment and Monitoring System)
  - Remote sensing real time information on current or developing drought at state, district and sub district level.

#### Android Apps:

Many Android Apps are new tools in the hands of the officials and farmers, helping them to connect with the digital platforms at the comforts of their homes through mobile devices such as smartphones and phablets.

**Table 3: Retail Payment Statistics on NPCI Platform**

	FY 14-15		FY 15-16		FY 16-17	
	Vol. in mn	Value in bn	Vol. in mn	Value in bn	Vol. in mn	Value in bn
Aadhaar payment bridge system (APBS) Disb. based on UIDAI no.	168.43	61.43	717.46	185.98	949.28	286.63
Aadhaar enabled payment system (AEPS) over micro ATM (cash debit/ credit)	--	--	0.36	0.86	16.29	22.82
IMPS	78.44	581.89	220.81	1622.29	506.84	4116.24

**CCE Agri:** Revenue officials now use this android app to estimate crop damage and yield loss at 1100 locations in 12 states.

**Ground Truth:** To monitor crop health. At present, it is being used by 18 State Governments.

**Bhuban Hailstorm App:** This ISRO app is being used to capture hailstorm losses in states such as Madhya Pradesh.

**mKisan:** Nearly 90 million farmers are now enrolled for farm advisories, such as weather and pest updates on their phones through such apps.

## Conclusion:

Sufficient budgetary support for creation of such a massive digital infrastructure to reach 2.80 lakh gram panchayats through digital connectivity to reduce digital gap can take the country into a different direction. PMJDY accounts, Mobile hand set, Aadhaar etc through various Government initiatives can help in achieving the last mile connectivity for the prosperity of the country.

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## UMANG App

UMANG (Unified Mobile Application for New-age Governance) is envisaged to make e-governance 'mobile first'. It is developed by Ministry of Electronics and Information Technology (MeitY) and National e-Governance Division (NeGD). It is an evolving platform designed for citizens of India to offer them access to the pan India e-Gov services from the Central, State, Local Bodies, and Agencies of government on app, web, SMS, and IVR channels. Its key features include:

- **Unified Platform:** It brings together all government departments and their services on a single platform to provide better and easier services to citizens.
- **Mobile First Strategy:** It aligns all government services with the mobile first strategy to leverage mobile adoption trends.
- **Integration with Digital India Services:** It provides seamless integration with other Digital India Services like Aadhaar, DigiLocker, and PayGov. Any new such service will automatically be integrated with the platform.
- **Uniform Experience:** It is designed to enable citizens to discover, download, access, and use all government services easily.
- **Secure and Scalable:** It supports Aadhaar-based and other authentication mechanisms for service access. The sensitive profile data is saved in encrypted format and no one can view this information.

Following are its key Services:

- **CBSE:** All CBSE Students can locate the exam centers and view their exam results
- **NCERT:** It enables students, teachers, parents, and schools to view class-wise and subject-wise content provided by NCERT in online and offline modes.
- **AICTE:** Citizens can search for AICTE approved institutes and courses.
- **Soil Health Card:** SHC helps in crop-wise recommendations of nutrients and fertilizers required for the individual farms to help farmers to improve the yield of production. Citizens can view their Soil Health Card using this application in UMANG.
- **PMKVY:** The objective of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is to enable a large number of Indian youth to take up industry-relevant skill training that will help them in securing a better livelihood. Citizens can apply as a candidate under PMKVY and view their application.
- **MoHUPA:** The Ministry of Housing and Urban Poverty Alleviation is an agency responsible for urban poverty, housing, and employment programs. Citizens can apply for PMAY scheme using this application in UMANG.
- **Crop Insurance:** Crop Insurance helps to protect against either the loss of crops due to natural disasters, such as hail, drought, and floods, or the loss of revenue due to decline in the prices of agricultural commodities.
- **ORS:** Online Registration System (ORS) links various hospitals across the country to enable citizens to book/cancel appointments and view lab and blood availability reports.



# BOLD AND DECISIVE

## DEFEATING CORRUPTION COME WHAT MAY

- Demonetization was a historic decision taken to tackle black money and corruption
- Notification of Benami Property Act after decades of delay and inaction
- Complete transparency in coal, spectrum, FM auctions and environmental clearances
- Blemish Free Governance – Not a single allegation of corruption in 3 years

## SECURING OUR NATION RESTORING ITS PRIDE

- Surgical Strikes served as a strong warning to terrorists
- Firm action against terrorists across the Myanmar border
- India the first country from the region to enter Missile Technology Control Regime (MTCR)

## UNTANGLING LONG PENDING ISSUES

- Fulfilled decades-old demand for OROP
- Bangladesh border dispute resolved after years of delay
- Consensus on GST after years, leading to a uniform tax system across the nation now
- From now on, Budget to be presented on 1st February, which will enable the budget amount to be utilized properly

**Saath Hai, Vishwaas Hai  
...Ho Raha Vikas Hai**



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GOVERNMENT OF INDIA

# CHANGING CONDITIONS OF WOMEN IN DIGITAL AGE: POSSIBILITIES AND PROSPECTS

Prof Gita Bamezai

“Most of the SDGs mirror India’s own national policies”, including the Food Security Act, housing for all, Clean India campaign, National Rural Employment Guarantee Scheme, programme for the girl child. Progress on education cannot be achieved without the focus on women and girls. “Gender equality and empowerment of women and girls is an imperative for the SDGs and also an imperative for India,” Now is the time to pick up the tools of digitization and start putting them to work. If we can do so, the prize is immense: more robust and inclusive growth and better lives for women and their families.

The rapid pace of digitisation today has been aided by megatrends in the form of technology push, consumer pull and its economic benefits. It foretells what awaits any society waiting to see insurmountable challenges melt in the face of induction of automation, use of software robotics and artificial intelligence for personal use or for large businesses and organisations. As digital practices become the norm in our world, it would become more evident who is ‘digitally connected’ and who is not. The phenomenon of digitization is set to reach an inflection point since it will determine how economic development can be achieved with greater alacrity and efficiency. In view of such projections, it is important to reconsider in what ways citizens can reap the benefits and become partners in the process of social and economic development. By 2020 an entire generation, ‘Generation C’ (Connected) would grow in a digitized culture dominated by computers, the internet, mobile phones, texting and social media (PWC report). In India, rapid efforts to provide

broadband connection across the country is helped by this understanding that technology is a great leveler and can bridge the gap in any development sector. This effort to reach the ‘last mile’ has been aided by private network operators who see this as a big business opportunity with almost close to 1+ billion becoming users of mobile.

## Digital India programme :

Governments have viewed these megatrends as an opportunity to restructure the edifice of governance with an overt commitment to provide a robust, responsive and transparent system for the people to avail services and benefits. In order to transform the entire ecosystem of public services through the use of information technology, the Government of India has launched the ‘**Digital India programme**’ with the vision to transform India into a digitally empowered society and knowledge economy’. The basic attempt is to establish digital infrastructure as a core utility to all citizens, aided by e-governance and Digitised services which would lead to digital empowerment of citizens.

Digital rights have the potential to harness new energies and bring about a more equitable society. One of the strong components of the Digital India programme is ‘Information to All’ which underpins the efforts to provide services and improve the infrastructure. It can be argued that once mobile connectivity has been established and broadband access is available, the natural corollary is that information will be sought by anyone and everyone. This may seem as a probable possibility but has remained elusive for women, even in urban areas as well. Women constitute half the sky





but have remained either invisible or relegated to being inconsequential in scheme of things in the past.

A 2015 report by the Asian Development Bank (ADB) rationalizes that women's low participation in the labour force in Asian countries is attributable to choices favouring domestic or non-commercial activities, which in turn are reinforced by social norms that promote domesticity as a woman's primary responsibility, "constraining women's social activities, mobility, and severely limiting opportunities for women to achieve financial growth or to venture into entrepreneurial activities, or both" (ADB, 2015). According to the report based on a simulated model by the ADB, "closing the gender gap could generate a 30 per cent increase in the per capita income of a hypothetical average Asian economy in one generation" (ADB 2015). In India, opportunities to tap the potential of women in acceleration of economy has been left unexplored. Perspective on inclusion of women in building economy has been treated as a perfunctory idea since the assumption is women require facilitation and assistance in availing social and economic benefits.

The United Nations Women's report, *Gender Equality, the New Urban Agenda* (2016), emphasizes multiple challenges women face (especially in urban areas), exacerbated by the non-acknowledgement or under-resourcing of their contributions in creating sustainable cities. The United Nations' reiteration of the tectonic linkages between gender equality and sustainable development has been corroborated by its 2030 Agenda for Sustainable Development. The Preamble to SDG clearly states that its sustainable development goals and targets "seek to realize the human rights of all and to achieve gender equality and the empowerment of

all women and girls"; women, primarily in societies that have a rigid patriarchal system, are disregarded as relevant to "the balance the three dimensions of sustainable development: the economic, social and environmental" (UN, 2015).

### Bridging the Gender Gap:

In *Women in the Workforce: An Unmet Potential in Asia and the Pacific*, the emphasis is on policymakers to examine specific reasons behind the gender gap with the aim to develop and implement effective policies for women's economic empowerment: "This will go a long way in levelling the playing field between men and women as well as unleash a country's full potential for sustainable economic growth and prosperity" (ADB, 2015). Achieving gender equality is the single biggest opportunity for inclusive growth and all 193 UN Member Countries have signed on to UN Sustainable Development Goal 5 to achieve gender equality and empower all women and girls. Recent research demonstrates as much as \$28 trillion could be added to the global economy by 2025 if all countries bridged the gender gap - a magnitude equivalent to the combined US and China economies today. Yet 90 per cent of countries - including fifteen of the G20 countries - still have discriminatory legislation preventing women from contributing fully to economic growth.

Increasing visibility of women's marginalisation in access to education, healthy lifestyle and financial inclusion opportunities has allowed governments to debate and discuss the impediments which detract societies to alter policies and programmes which can attend to the widening gender gaps. This is evident from the attention given by the World Economic Forum by introducing the Global Gender Gap Index for the first time in 2006 as a framework for capturing the magnitude of gender-based disparities and tracking their progress. 'The Index benchmarks national gender gaps on economic, political, education and health criteria, and provides country rankings that allow for effective comparisons across regions and income groups. The rankings are designed to create greater awareness among a global audience of the challenges posed by gender gaps and the opportunities created by reducing them' (Global Gender Gap Report 2015).



All development sectors like education, health, livelihood and agriculture, just to name some, are inextricably linked to lives of women. We have to recognize the contribution of women as an integral agent in the process of achieving the minimum standards in development. For example, maternal mortality and morbidity ratio in India have parallels with poorest countries in the African continent or with strife-ridden neighboring countries. But significant gains have been made with Maternal Mortality Ratio at 167 (2011-13) as compared to 254 in 2004-06 and India's Under Five Mortality (U5MR) declined from 125 per 1,000 live births in 1990 to 49 per 1,000 live births in 2013 (NITI Aayog). A critical element in changing lives is the role information plays in critical and emergency situation as well as a regular process of information sharing. This can be effectively achieved if digital platforms are not just used for providing information, but assist through a network within women's social and cultural context. These 'glocal networks' are more sustainable and require less capital intensive measures.

### **Educational Opportunities:**

While we have done well in terms of an overall economic growth, the dividends of growth have not percolated to the lives of women to a large extent. A similar situation is evident in the area of literacy which has repeatedly shown that girls drop off the education radar because of social and prejudicial cultural practices. How do we spur change which will translate in making women an equal contributor in the economy? More importantly, they should get to participate in the development process since social-political and economic stakes are higher for them. Improving access of women and girls to digital technologies is no longer an exaggerated or distant proposal. What can help to bring in change is to bring women in mainstream by linking literacy and learning through digital platforms to fostering better informed citizenry.

Bias in women's education opportunities have led to an arguably stalled situation where not only the girl child is taken off from school at an early age, but she is restricted to opt for specialisation and learning which would restrict her to domesticity in a restrictive way. The STEM subjects, such as Australia's SAGE program, require a huge boost to

harness the minds and abilities which can translate into more knowledge based skills. Girls are less likely to study STEM subjects and hence, women are less likely to be active in technology related fields. This active approach to use digital literacy programmes for improving participation of girls in STEM programme bespeaks of a holistic approach to education for girls. Digital technology was expected to deliver women out of drudgery and provide possibilities of learning but have belied hopes so far. Even today, worldwide some '2.3 billion women do not have internet access and are 14 per cent less likely than men to own a mobile phone, impeding access to financial services, business information and opportunities' A report by McKinsey Global Institute reports that bridging the gender gap could add \$700 billion to India's GDP by 2025. In a report titled, Power of Parity: Advancing women's equality in India', projects that 70 per cent of the increase would come from raising India's female labour-force participation rate to 41 per cent in 2025 from 31 per cent at present.

### **Financial Inclusion of Women:**

As commented by one of financial expert, issues of diversity and inclusion are important elements of digital culture. 'E-commerce has a transformational impact with opportunities emerging in areas such as made-to-order meals and handicrafts among others, which women could capitalise on. But the picture appears more dismal than encouraging since women continue to contribute to only 17 per cent of India's GDP, below the global average, despite accounting for 50 per cent of the population and having the potential to represent a much larger part of the workforce.

As a first step, financial inclusion of women can be accelerated by digital literacy and ability of banks to become more proactive in setting digitised operational norms for a transparent, effective and timely response system in marginal settings as well. Within a digitised ecosystem, 'financial inclusion' for women can have a multiplier impact on their entrepreneurship, economic growth and wealth creation. How can one talk about "inclusion" without including rural women and how their lives need to go beyond just using mobile for entertainment and in making calls. This projection has to be seen in conjunction with how women

in rural India can be part of the change and bring in gender equality in rural areas. The literacy of women in India as a goal remains rather elusive and has only widened the gender gap in terms of participation and empowerment of women. The ability of digital technology to reduce this gap has become a possibility and can effectively erase the gaps of disparity and dispossession which govern lives of women largely in marginal conditions. Technology seems like a great leveller which no other transformative social change has been able to achieve in such a short time. Access to information is critical to women's lives and lack of it causes impediments and confines them to a static instead of a dynamic life.

India is at the cusp of a revolution which is unfolding now with becoming the second largest country of mobile users having crossed the one billion mark last year in 2016. The number of smart phones maybe less than China and US but with prices of smart phones and attractive network offers and competitive prices, is making the transition easier to smart phones. Possibilities of graduating from just making a call to innumerable possibilities make the digital revolution a very exciting period in our lives.

Any such technological opportunity has had a catalytic effect on societies. In India, since we have not been able to meet the challenge of bridging the gender literacy gap makes the proposition of making a difference a rather challenging task. Growth in internet penetration will have several ramifications, including on internet commerce, delivery of financial and healthcare services as well as eGovernance. Overall Internet penetration in India is currently around 31 per cent, but is on an ascendancy drive. Notwithstanding slow progress of broadband networks in rural areas, has off-set prospects of marginalisation with help of local ingenuity by using low-rate offers by networks keen to tap hunger for more digital content in rural areas. "Different mobile handset manufacturers have focused on introducing low priced handsets and tablets compatible to access the Internet. More and more companies are getting into this segment and this has resulted in competition primarily based on retail price and features of the device. Fall in the rates for Internet access due to cut throat competition among

mobile service providers has also contributed to a significant increase in mobile phone as a preferred device for Internet access".

It is estimated that in "urban India with an estimated population of 444 million already has 269 million (60 per cent) using the Internet. Rural India, with an estimated population of 906 million as per 2011 Census, has only 163 million (17 per cent) Internet users. Thus, there are approximately potential 750 million users still in rural India who are yet to become Internet users; if only they can be reached out properly." A recent study points out that 77 per cent of urban users and 92 per cent of rural users consider mobile as the primary device for accessing the Internet, largely driven by availability and affordability of smart phones. The pattern of usage, however, starkly differs across rural and urban populations. While services such as e-mails, social networking and online shopping are prevalent in urban India, it is entertainment in the form of video and audio content driving Internet consumption in the rural counterpart of the country. Rural India is claimed to have leapfrogged to mobile technology with lower penetration of computers as a medium to access Internet.

Contrary to those kinds of claims, careful and broad-based statistical tests in 25 different countries have revealed that the reason why fewer women access and use digital media is a direct result of their unfavorable conditions with respect to employment, education and income. Therefore, women have and use less digital media not because they are women per se, but because social practice provides them with less employment, less education and less income, which again leads to less digital media access and usage. When controlling for these variables, women turn out to be more active users of digital tools than men. In her report on **Increasing Digital Opportunity for Women**, Erin M. Fuller emphasises the fact of being a woman contributes positively to using digital media. Women, traditionally thought of as being better communicators than men, seem to have a natural proximity with these new tools for communication. So a different way to view a "digital-gender-divide" is as a "digital-gender-opportunity.

"Most of the SDGs mirror India's own national policies", including the Food Security Act, housing

for all, Clean India campaign, National Rural Employment Guarantee Scheme, programme for the girl child. Progress on education cannot be achieved without the focus on women and girls. "Gender equality and empowerment of women and girls is an imperative for the SDGs and also an imperative for India," Now is the time to pick up the tools of digitization and start putting them to work. If we can do so, the prize is immense: more robust and inclusive growth and better lives for women and their families.

Women need information critical to their health and their family for a sustainable life. Women see themselves as primarily custodian of 'family and health' and more importantly, they have a seminal role to play in sustaining family values and traditions. These issues have been overlooked largely and women have been treated as recipients of development and technological changes.

More than computers, access to mobiles allows an ability to transcend limitations imposed by structural disadvantages both within the larger governance set-up and the limited horizons of the society in which women spend their lives. The know-how and the skills women possess have been marginalized with the advent of the new knowledge. Digital devices can blend these two aspects in a way that can allow women to emerge more confident and have an ability to form networks of business or of mutual benefit

socially and economically. Digital platforms have the potential to transcend the limitations imposed by regressive societal mores in more ways than one. Women have a tendency to form informal networks to facilitate challenges that they face and mobiles provide a berth and an opportunity to enlarge the circle of these networks. This process of sharing of information among themselves does get compromised if it is not based on legitimate sources and verifiable points of access.

It is increasingly realised that digital technology's attributes as an interactive platform and device (artificial intelligence in the form of digital voice assistant) will unfold new ways of governance and business. The new initiative taken by the government of e-Kranti (Transforming e-Governance for Transforming Governance) in 2015 is a reflection of an emerging perspective of holistic development rather than sectoral approach. 'The **National Portal of India** provides an ideal front-end for these initiatives as it is a single window access to information and services being provided by the various Indian Government entities'. The great beneficiaries would be women who would have a higher stake in such transformative changes since their lives require a upend direction of social and economic change.

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### **National Bamboo Mission renamed as National Agro-Forestry & Bamboo Mission (NABM)**

National Bamboo Mission renamed has been renamed as National Agro-Forestry & Bamboo Mission (NABM). It is being implemented as per the set objectives and targets of the Mission. As per available reports, 3,61,791 ha. area has been covered in forest & non-forest land, 91,715 ha. area has been taken up for improvement of existing stock for higher productivity (forest & non-forest areas) under the Mission against the targets of 3,62,848 ha., 69,410 ha. respectively.

Under the Mission, 108 nos. of markets (Bamboo wholesale & retail markets near villages, etc.) have been established for providing marketing avenues to bamboo farmers for their raw bamboo as well as finished products. Besides, efforts are being made to popularize bamboo products through participation in domestic/national/international trade fairs. Steps are being taken to provide assistance to farmers/bamboo growers for nursery establishment, plantations in non-forest area, imparting training for preparation of nurseries & bamboo plantations, establishing of bamboo markets for farmer products, etc.

# DIGITAL RURAL REVOLUTION: RETHINKING EDUCATION

Dr. Tanu Kathuria, Abhishek Mukherjee

Education in digital rural India is an indisputable step forward to empower rural communities with capacity building & training programmes and make them digitally literate. It is a foundation to facilitate deployment of rural citizen services through digital means. To match with the need of the day, it is important to create a digital data house at every rural community level to make them economically viable, and digital rural education is the right way to approach that. It is for sure a fundamental move to generate social, cultural and economic advantages for rural communities.

The process of imparting education has gone through a sea change if we look in the last two decades. Our life has become technology-driven and the onset of online courses came as a path-breaker. No longer did one need to have access to schools, time or a lot of money! All one needed was a good internet connection. Digital learning has seeped into the system considerably and has a far-reaching impact towards educating the vast population of India, but the stagnant state of rural education has been a major point of concern for educational policy-makers in India. 67 per cent of India's population belongs to rural areas. The ratio of rural-urban enrolment of students is a massive 7:5. Despite such a high rate of enrolment, nearly 60 per cent of students in rural areas up to the age of 10 do not possess basic reading skills nor can they solve simple mathematical problems. The high rate of dropouts, nearly 50 per cent by the age of 14, compounds this problem. Amongst female students, the dropout rate increases even further due to the prevailing socio-economic conditions. The main reasons behind poor quality of rural education are dismal standards of rural education, infrastructural inequities, lack of connectivity and unavailability of teachers: The availability of trained resources and their willingness to teach in far-flung villages has taken a severe hit in recent



years. Further, many of these areas are either prone to natural disasters or are hubs of violent political activities, making it difficult to transfer skilled educationists to these areas.

Considering such limitations, the Government in December 2015 expanded its Digital India programme, launching new initiatives and broadening the scope of existing ones, to make more services accessible to the masses. Launched by the Prime Minister, the 22 initiatives under the Digital India programme include projects in the areas of rural digital education, digital infrastructure, digital empowerment, on-demand Government services and promotion of industry.

## Empowering Education through Technology:

It is essential to implement the new digitized education tools in rural India. Introduction of such tools can solve the problems of mass reach, quality and relevant education. Teachers will be available via virtual classrooms, thereby plugging the problem of unwillingness in educationists to be physically present in many such areas.

One of the major pillars of Digital India is **e-Kranti**, under which immense emphasis has been given to digitizing rural India through e-technology, especially in the domain of education. In line with the Government's Digital India Initiative, some of these programmes were initiated to empower rural communities in many different way making them digitally literate.

## e-Basta:

This project has created a framework to make school books accessible in digital form as e-books to be read and used on tablets and laptops. The

main idea is to bring various publishers (free as well as commercial) and schools together on one platform. **Students** can easily access interactive and dynamic content augmented with text, charts, graphics, videos and auxiliary resource. eBastas are delivered through the internet instantly and are portable. **Teachers** can choose and bundle content according to their teaching methods. It also provides a single point interface to **publishers** for reaching out to multiples of schools.

### National Digital Literacy Mission (NDLM):

In India, approximately 30 per cent population lives below poverty line, illiteracy rate is more than 25-30 per cent and percentage of digital literacy is in single figures. However, there's a growing desire among people in rural India to be part of its modernization process.

To make India digitally literate, National Digital Literacy Mission Programme is being launched by the Government with a aim of not only bringing dynamic and integrated platform of digital literacy awareness, but also to build education and capacity programmes that will help rural communities to take lead in the global digital economy and help them in maintaining the competitiveness and also shape a technologically empowered society.

For this initiative, the Universal Services Obligation Fund (USOF) has established Bharat Broadband Network Ltd. (BBNL) to roll out the National Optical Fiber Network (NOFN) plan. BBNL will lay out the optic fiber cable terminating in each of the 250,000 Gram Panchayats in the



country, providing 100 mbps link to be used as information highway to be utilized diversely by all kind of stakeholders to ensure that digital inclusion has reached in all villages across the country.

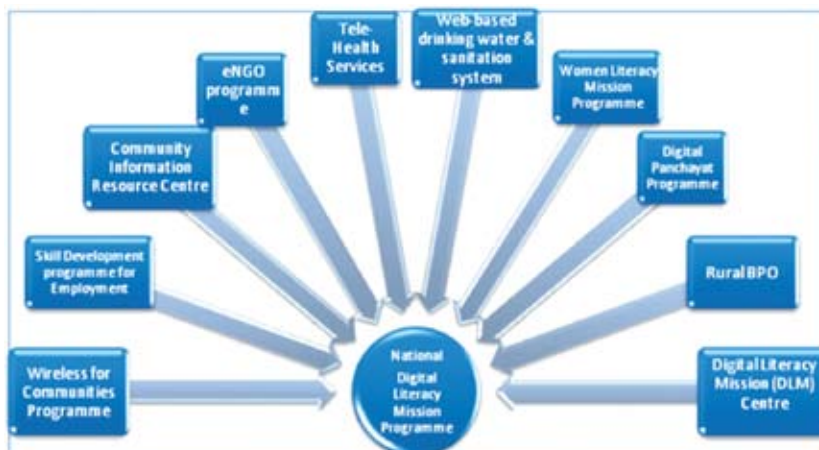
### Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA):

As per the 71st NSSO Survey on Education 2014, only 6 per cent of rural households have a computer. This highlights that more than 15 crore rural households (94 per cent of 16.85 crore households) do not have computers and a significant number of these households are likely to be digitally illiterate. The 'Pradhan Mantri Gramin Digital Saksharta Abhiyan' (PMGDISHA) is being initiated to make 6 crore rural households digitally literate thus, empowering citizens by providing them access to information, knowledge and skills for operating computers / digital access devices.

PMGDISHA is expected to be one of the largest digital literacy programmes in the world. Under the scheme, 275 lakh candidates will be trained in the FY 2017-18, and 300 lakh in the FY 2018-19. To ensure equitable geographical reach, each of the 250,000 Gram Panchayats would be expected to register an average of 200-300 candidates.

The implementation of the Scheme would be carried out under the overall supervision of Ministry of Electronics and IT in active collaboration with States/

### NDLM Components





UTs through their designated State Implementing Agencies, District e-Governance Society (DeGS), etc.

### Digital Classroom:

With no or negligible access to the internet, the education provided in rural schools lacks any sort of relevance. While urban classrooms are upgraded with modern technology such as digital classes, meritorious rural students are deprived of such facilities. To bridge the gap, the Central Government has collaborated with various telecom service providers such as Google and Facebook to empower geographically-remote areas of India with basic infrastructural set-ups for internet services. Still, much needs to be done since only 9 per cent of rural India is connected to the Internet, according to the latest report by the Telecom Regulatory Authority of India.

Such initiatives taken by the Government of India have been well-received in rural areas. Rural schools have been made ready for new-age teaching methods through digital classrooms. The digital classroom refers to the classroom where student learning and interaction with the instructor and peers are fully supported through strategic use of information and communication technologies (ICTs). The implementation of this initiative in larger scale will further ensure quality education.

### SWAYAM:

India enters a new era of digitized education through its initiative named **SWAYAM** (Study Webs of Active –Learning for Young Aspiring Minds). SWAYAM is implemented by Ministry of HRD and aims at offering online courses to Indian citizens by Professors of distinguished educational institutions like IITs, IIMs, and other Central Universities.

There is a focus on developing Massive Online Open Courses (**MOOC**) to help rural students pursue any course of their choice from institutions all over the country and abroad. These courses comprise the latest syllabus taught by eminent academicians as well as industry leaders via virtual classrooms. SWAYAM is a 'Made in India' IT platform which offers interactive courses free of cost from Class IX to post graduation, which can be accessed by anyone, anywhere at any time.

### Online Education:

The education market in India currently standing at USD 100 billion presents an opportunity for technological advancement in terms of online education. There has been a significant rise in the internet population in past five years, with an overall internet penetration of 31 per cent.

The spread of online education in Rural India will provide an opportunity for social learning, employability and entrepreneurship, thus, making them job ready. Online education especially in rural areas is driven by the demand for quality education. The online channel provides a conducive educational avenue for students coming from distant villages who require focused and individual learning. Most importantly, online education does not discriminate between rural and urban population. Any course is equally accessible for a student from a metro city and for another student from a distant village. Thus, online education bridges the rural-urban gap.

### Biometric Teacher's Attendance:

The Economic Survey has pointed out that an important concern that is often raised in the context of school education is poor learning outcome. Although there have been improvements in access and retention, the learning outcome for a majority of children is still a cause of serious concern. Some of the underlying causes contributing to low quality of education in the primary sector are teacher absenteeism and the shortage of professionally qualified teachers. An option to address teacher absenteeism that can be explored is biometric attendance of all teachers in primary schools for each scheduled class/lecture/session/distinct from the present system, where it

is morning and evening to ostensibly record arrival and departures with little control on the activities during the working hours.

According to the UNESCO – EFA (Education for All) Monitoring Report for 2014, teacher absenteeism in India varies between 15 percent (in Maharashtra) to 42 per cent (in Jharkhand). The implementation of biometric attendance at schools will be of great help not only in addressing the problem of absentee teachers, but also in strengthening students' strength.

### Free Wi-Fi in all schools:

The Central Government plans to provide free Wi-Fi to 2.5 lakh schools within the next five years. Devices such as tablets, as provided to students in Central universities, are to be distributed among rural students as well.

### Digital Literacy:

In keeping with the Skill India initiative, soft-skill courses regarding computer literacy, functioning and hardware-software solutions are being planned at rural centres. The aim is to gradually develop students learning in these centres as future instructors, in a bid to enrich rural digital education through own human resources.

**Digital learning is slowly but definitely becoming the direction everyone is stepping towards.** Though India is at a nascent stage when it comes to digital education compared to developed nations, nonetheless it's growing at a substantially rapid rate of 55 per cent. Ed-tech is certainly ushering the new age of learning in India. It is estimated that the ed-tech market will double in size to USD 40 billion by the end of 2017. The main reasons for the growth of digital learning can be summed up as follows. With nearly a billion people on mobile phones and over 200 million mobiles connected to the Internet, there has been a considerable rise in digital learning. The use of best-in-class content, real-time learning and feedback methods, and personalized instructions has encouraged online learning. Digital learning aims to break the numerous barriers that are preventing people from receiving quality education in the physically bound classrooms.

**Hybrid, collaborative and online learning processes are changing education.** With hybrid,

collaborative online learning, students get the on-campus experience and get 'the best of both worlds'. 'Live and interactive' digital learning empowers the learners to receive par excellence, quality education anytime and anywhere. Free online courses open up avenues for both education providers and students. Such offerings are changing the way India learns by giving students an edge in learning, benefitting their careers.

**Social media is also being used as a learning tool.** Students can critique and share feedback on each other's assignments, work in collaboration to create content that can be easily accessed. This also gives them an opportunity to ask questions and have multiple responses shared on real-time basis. Social media helps in making the students aware of the current happenings, concerns, issues, social activities and prospective employment.

**Digital education is breaking the numerous barriers that are preventing students in rural India from receiving quality education in the physically bound classrooms.** 'Direct to Device' technology will empower these students to get quality education, anytime and anywhere. It will enable them to save time, by having more freedom to move at their own pace.

**With the Digital India programme's vision to transform India into a digitally empowered society and knowledge economy, the education sector in India is poised to witness major growth in the years to come.** Technology-led reach and easy access will bring about a socio-economic difference in the lives of Indian learners.

### Conclusion:

Digital Literacy is the ability of individuals and communities to understand and use digital technologies for meaningful actions within life situations. Digitally literate persons would be able to operate computers/digital access devices (like tablets, smart phones, etc.), send and receive emails, browse internet, access Government services, search for information, undertaking cashless transactions, etc. and hence, use IT to actively participate in the process of nation building.

The **online** channel for education in India explores almost everything from primary and

secondary education to hobbies such as cookery classes and language learning both in formal and informal forms. It also provides an important platform for preparation of various competitive examinations in national as well as international level. There are five major categories of education with potential for significant online adoption. Reskilling and online certification courses currently accounts for a significant part of the online education market in India with a share of 38 per cent.

Education in digital rural India is an indisputable step forward to empower rural communities with capacity building & training programmes and make them digitally literate. It is a foundation to facilitate deployment of rural citizen services through digital means. To match with the need of the day, it is important to create a digital data house at every rural community level to make them economically viable, and digital rural education is the right way to approach that.

It is for sure a fundamental move to generate social, cultural and economic advantages for rural communities.

Digital rural education not only initiate entrepreneurship and bring uniform digital literacy but also impacts the socio-economic strata in rural regions. It uplifts the rural standards and play an important role in alleviation of poverty, gender discrimination in villages.

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## RURAL HEALTH: IT INITIATIVES

### NATIONAL HEALTH PORTAL (NHP):

- Functioning as citizen portal for health related information in different languages (currently six languages).
- Voice portal, providing information through a toll-free number 1800-180-1104 and;
- Mobile App launched.

### ONLINE REGISTRATION SYSTEM (ORS):

- Framework to link hospitals for online registration, payment of fees, appointment, online diagnostic reports etc.
- Around 7 lakh appointments transacted.
- Around **71 Hospitals** on board.
- **AIIMS** (New Delhi, Jodhpur, Bihar, Rishikesh, Bhubaneswar, Raipur, Bhopal).
- **RML Hospital.**
- **Safdarjung Hospital.**

### ELECTRONIC VACCINE INTELLIGENCE NETWORK (eVIN)

- Indigenously developed technology system that provides real-time information on vaccine stocks and flows, and storage temperatures across all cold chain points through a smart phone application.
- Through maintenance of the right temperature, it helps to ensure the quality and efficacy of the vaccines.
- Implemented across 12 states.

### 'MERA ASPATAAL' (MY HOSPITAL) APPLICATION:

- Collects information on patients' level of satisfaction through SMS, Outbound Dialing (OBD), Web Portal, and Mobile Application.
- Contacts the patient to collect information on their level of satisfaction.
- Under Phase I, around **141** hospitals covered.

### MOBILE ACADEMY:

- **Launched:** 2016
- Free audio training course to improve the knowledge base and communication skills of ASHAs.
- More than **75,000** ASHAs have started the Mobile Academy course.
- Approximately **84 per cent** have completed the course.
- **States:** Bihar, Jharkhand, Madhya Pradesh, Rajasthan and Uttarakhand.



### **MOTHER AND CHILD TRACKING SYSTEM (MCTS)/REPRODUCTIVE CHILD HEALTH (RCH) APPLICATION:**

- Individual-based tracking system across all the States & UTs.
- **Objective:** Improve IMR, MMR & morbidity.
- **Aim:** Facilitate timely delivery of antenatal and postnatal care services and immunization to children.
- Approximately, **12.08 crore pregnant women and 10.56 crore** children registered.

### **NIKSHAY:**

- Tracks individuals for treatment-adherence of TB.
- Missed call facility with Toll Free No: **1800-11-6666** started to reach TB patients for counseling and treatment support.
- Implemented across all states.
- More than **70 lakh** patients been notified till date.

### **TOBACCO CESSATION PROGRAMME:**

- Initiative for counseling and helping people to quit tobacco by giving a missed call to 011-22901701.
- Currently, over **20 lakh** total missed calls have been captured and more than **14 lakhs** users registered.

### **mDIABETES PROGRAM:**

- Initiative for prevention and care of diabetes by giving a missed call to 011-22901701.
- Currently, more than **1 lakh** users are registered for mDiabetes.

### **eAushidhi:**

- Deals with purchase, inventory management and distribution of drugs, sutures and surgical items to :
- District Drug Warehouses of States/UT.
- District Hospitals (DH), their sub stores at CHC,PHC etc.



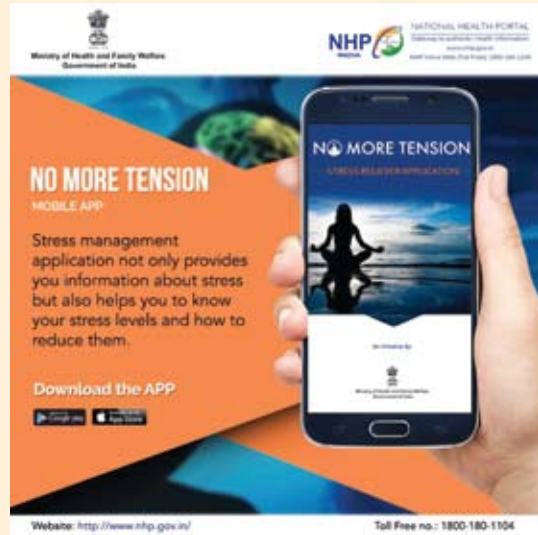
### **eRakt Kosh:**

- Being rolled out for all the licensed blood banks in public and private health facilities in States/UTs.
- Piloted in blood banks of Madhya Pradesh, West Bengal and IRCS Delhi.



## MOBILE APPS:

- Various mobile apps have been launched namely:
- **Indradhanush Immunisation:** Immunisation tracker:
- **India Fights Dengue :** Enables a user to check Dengue Symptoms, get nearest Hospitals/Blood bank information.
- **NHP Directory Services:** Provides information related to Hospital and Blood banks across India.
- **NHP Swasth Bharat:** Information dissemination on Disease, Lifestyle, First Aid.
- **No More Tension Mobile App:** On stress management related aspects.
- **Pradhan Mantri Surakshit Matritva Abhiyan Mobile App:** Reporting pregnancy care related information from across states.



## TELEMEDICINE

- **Tele-Medicine Nodes at Pilgrim places:**

Satellite communication based telemedicine nodes at various unreachable geographical locations including Chardhams and other important pilgrimage centres (Amarnath, Ayappa and Kedarnath) for health awareness, screening of non-communicable disease (NCD) and for providing specialty consultation to the devotees visiting these places.

- **National Medical College Network (NMCN):**

Satellite communication based telemedicine nodes at various unreachable geographical locations including Chardhams and other important pilgrimage centres (Amarnath, Ayappa and Kedarnath) for health awareness, screening of non-communicable disease (NCD) and for providing specialty consultation to the devotees visiting these places

- **Tele-Evidence:**

A modality via which doctors can testify in the judicial process utilizing the video conferencing facility without visiting the courts in person. Services operational in PGIMER, Chandigarh since March 2014. Till Feb 2015, more than 500 Tele-Evidences have been successfully conducted and around 128000Kms, 3900Hrs and INR 52 Lacs was saved. MoHFW has decided to rollout this service in every State/UT.

- **National Telemedicine Network (NTN):**

Providing Telemedicine Services to the remote areas by upgrading existing Government Healthcare Facilities (MC,DH,SDH,PHC, and CHC) in States. In the current Financial Year, 7 States/UTs have been provided financial assistance for providing Tele-Medicine services by established NTN.



# TECHNOLOGY: EMPOWERING THE RURAL SOCIETY

Santosh Kumar

Ours is a nation which is expected to lead the usage of technologies like Cloud, rise as a breeding ground of start-ups and be the focal point of global spending on digital technologies. The Digital India campaign of the Government with special emphasis being laid on digital financial transactions and cloud technologies will go a long way in evolution of better services and amenities for the citizens. The goals of a cashless economy as well as an inclusive economy can only be achieved by harnessing the digital technologies in a potent manner. We live in the Digital age after all.

The human civilization has come a long way from the days of cave dwelling and bare-hand-hunting. The one constant which has brought about a change in human way of life is technology. It is development in technology which has brought the humans out of cave into a world so shrunk, that there rarely is a distance between corners. Technological evolution alone has been the single most important parameter to divide the known human history into various ages of stone, bronze and iron. If the climbing of evolutionary ladder is any indication, the present age is undoubtedly of digital technology. The digital technology has ushered in a new era of human existence which knows no bounds in terms of changes in the way of life. As fate would have it, India with a population of 1.34 billion people and about 69 per cent of that in rural areas, is both a pioneer in digital platforms and yet a nation which needs digital technologies to bring a large part of its population in the mainstream of fast-track economic development.

## Reaching the Rural Masses:

We are a nation so uniquely placed that on one hand, we are the leaders of digital revolution with our own home versions of Silicon Valley and yet there



exists a vast divide amongst our population where we are yet to bring our rural Bharat to the India known to us. A study recently released places India at 43<sup>rd</sup> position in terms of Global Connectivity Index, based on a spectrum of parameters, while we score well in terms of a knowledge economy, we lag in areas of broadband connection assessments. The silver lining lies in the fact that there has been an increase of 2.3 times in the number of computer households over the last three years. It is now an accepted fact that investments in digital technologies is a factor which directly impacts the GDP of the nation, brings about more transparency in the functioning of Government, induces an upliftment in lives of citizens and helps achieve the overall goal of citizen centric good governance.

## Social Impact through Digital Initiatives:

The social impact of the digital technologies may be gauged by the fact that as many as two million women and men are selling / re-selling various lifestyle and clothing products via the means of online merchant platforms amounting to business worth 8 to 9 billion USD. This is projected to grow anywhere between 48 to 60 billion USD by the year 2022. These online re-sellers are typically women homemakers and unemployed men who acquire these products from large stock suppliers, then advertise these products using the social media platforms and then earn a commission on the sale of the product. This is a typical home based business which is aided by the digital technology wherein causing the home based person an economical boost which doesn't need much of capital. Such model of business aided by the programs of Government such as **National Digital Literacy Mission** can go long way in economic upliftment of rural population of the country. The thoughts of , a village lady sitting

in a small village of Madhubani district selling masterpieces of Madhubani print products online or a lady sitting in rural areas of Sambhalpur trying to find buyers for the Sambhalpuri Pata sarees online, do not seem very far-fetched anymore. This would be the potential of digital world unleashing economic empowerment like never before.

### Facilitating e-Education:

Ours is a society wherein the literacy rates stand at 74 per cent and the industry struggles to find skilled labour and employable graduates. In such a scenario, it is all the more pertinent to have an atmosphere of value addition to one's knowledge base and skill sets. Digital platforms of e-learning are a one stop solution to such needs of the economy and society. The e-education industry of India is presently valued at 247 million USD and is set to grow eight folds to about 2 billion USD by 2021 according to a report released by Google and KPMG. The common people are becoming more and more aware of these digital platforms of e-education, this is highlighted by the fact that the searches for online education have doubled over past two years and there is a four times rise in educational content on online platforms over the same period. The most heartening factor is that more than 44 per cent of such education related searches are now coming from beyond the top six cities. This is representative of the Government efforts to bring in people from tier 2 and 3 cities as well as rural areas of the digital platforms. The need is to popularize these channels so that geography does not hinder the yearning for education and it becomes available right at home of the rural population as well.

### Women Empowerment through Digital India:

A true measure of evolution of a society is depicted by the status women of the society have. In this regard, the approach of successive governments in our country has changed from welfare to development to the empowerment of women to ensure gender equality in society. While gone are the days of protective patronage and subjective equality, the present society can not prosper unless a holistic development based approach is successful to ensure economic independence and empowerment of women. The umbrella scheme of **National Mission for Empowerment of Women** talks about use of digital and information technology in no uncertain

terms. Various initiatives of the Government such as the **Rashtriya Mahila Kosh**, Support to Training and Employment Program for women, **Dhanlakhmi** scheme, **Swadhar, Ujjawala** can greatly benefit from the use of digital technologies at the disposal of the Government today. The tools like Public Financial Management System for funds disbursement and monitoring under these schemes, linking of Aadhar to projects like Ujjawala and Swadhar can promise a zenith in the area of women empowerment in our country. New initiatives like One Stop Centres and Women Helpline have digital technology at the core of their functioning.

Community Mobilization has emerged as a strong means to channelize the various flows of social and economic development in the rural areas of our country. What started in 1985 under the NGO called Mysore Resettlement and Development Agency, now has over 1.8 million Self Help Groups which are promoted under the **National Rural Livelihood Mission**. These Self Help Groups have a great potential to make larger impact by making use of technology available to cater to their financial and accounting record-keeping, MIS of such Self Help Groups for Financial Institutions and Government, mobile based banking system for these Self Help Groups etc. These digital mediums will not only bring about a greater transparency in working of the Self Help Groups and strengthen them, but also make them more attractive for the Banks and Financial Institutions. This will lead to an overall financial inclusion of the rural masses and help the nation overcome the menace of poverty.

Ours is a nation which is expected to lead the usage of technologies like Cloud, rise as a breeding ground of start-ups and be the focal point of global spending on digital technologies. The **Digital India** campaign of the Government with special emphasis being laid on digital financial transactions and cloud technologies will go a long way in evolution of better services and amenities for the citizens. The goals of a cashless economy as well as an inclusive economy can only be achieved by harnessing the digital technologies in a potent manner. We live in the Digital age after all.

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### SWACHHTA PAKHWADA OBSERVED BY THE MINISTRY OF TEXTILES

The Ministry of Textiles observed Swachhta Pakhwada from May 1 – 15, 2017. The fortnight-long observance of programmes to spread the message of cleanliness and make it a part of our lives, was inaugurated by the Minister of State, Textiles, Shri Ajay Tamta, in Udyog Bhawan, New Delhi.

The Minister of state administered the Swachhta Pledge to the officers and staff of the Ministry. The Minister said that the mission of Swachh Bharat will become a reality if every one of India's 125 crore citizens makes up one's mind to neither litter nor let others litter. Having watched the Swachh Bharat song, the Minister said that playing the song to children in the morning would instill in them the importance and divinity of cleanliness. Shri Tamta said that Swachhta should be looked upon as everyone's responsibility, not just that of the workers involved in cleaning.



Textiles Secretary, Smt. Rashmi Verma told everyone to not let Swachhta Pakhwada be an act of tokenism, but a programme that is done from the heart. She exhorted all officials and staff of the Ministry, to take some initiatives in their sphere of work, home and community, to bring about some perceptible and tangible change in cleanliness.

The list of activities undertaken by the Ministry of Textiles during the Swachhta Pakhwada includes the following:

- Visit of Minister of State, Textiles to Powerloom Service Centres in Delhi/Haryana/Uttarakhand.
- Visit of Minister of State, Textiles to Silk Cluster in Haridwar for a special Swachhta drive.
- Seminar on the theme "Waste to Wealth" near organized.
- Films on "Waste to Wealth" were made by NIFT.
- NIFT students were promoted as volunteers to lead youth teams for Swachhta activities in all Weavers' Service Centres.
- Awareness and motivation programmes were conducted for employees.
- Debate competition on Swachhta Abhiyan near held, for employees at various levels.
- Honouring prize winners in the competitions, by senior officers of the Ministry.
- Personal hygiene campaign were conducted at all jute mills, co-opting CGHS doctors, on all days of the Pakhwada.
- Special drive on Swachhta in a NTC Mill Chawl area, and in a jute mill in Kolkata (cleaning of workers' colonies to be undertaken).
- Undertaking cleaning of Office premises, toilets & wash rooms.
- Provision for supply of clean drinking water through water dispensers, to all sections.
- Providing dustbins in all sections.
- Dusting and cleaning of office equipment.
- Cleaning of common passages and open areas in Udyog Bhavan.
- Co-ordination with CPWD and DIPP to ensure that renovation work such as replacement of tiles, false ceiling works, installation of LED lights.
- Weeding out of old files/Records/un-serviceable articles.

## **MDWS organizes ODF Collectors' Conference on Swachh Bharat in LBSNAA**

Under Swachh Bharat Mission Gramin, the Ministry of Drinking Water and Sanitation organized a two day Collectors' Conference at Lal Bahadur Shastri National Academy of Administration, Mussoorie on June 29th and 30th. This was also a part of the Swachhta Pakhwada celebrations of the Department of Personnel and Training, under which, LBSNAA has been rechristened the Swachh Bharat Academy for the duration of the fortnight. The workshop concluded with an address by the Cabinet Secretary, delivered via video conference. The Collectors' Conference was organized to discuss the ODF verification guidelines, sustainability, successful ODF models and best practices from successful districts and States across the country. The conference was attended by collectors of 100 districts, 20 State representatives, development partners working in the field of Sanitation, sectoral experts, along with other senior officers from the Ministry.

At the conference, Secretary, Ministry of Drinking Water and Sanitation, Shri Parameswaran Iyer, said, "Behaviour change and usage is at the heart of Swachh Bharat. The Prime Minister personally championing the Sanitation Programme of the nation has been a game changer for sanitation in India. Swachh Bharat Mission has become a true people's movement. And this has been possible because of sincere community led efforts and the growing behaviour change amongst the people of India. This shift in behaviour and dedication towards a Swachh Bharat is the fundamental difference between Swachh Bharat Mission and other sanitation programs run so far."

The conference included group exercises amongst participants on themes such as ODF process, verification, sustainability, solid liquid waste management, behaviour change communication, and other key aspects of Swachh Bharat Mission. Officers Trainees at LBSNAA who have each worked towards making one village ODF during their field training also shared their experiences and best practices learnt by them.

To highlight the IEC efforts made by different states, an exhibition on Swachh Bharat Mission IEC material put together by participating states was also organized. Solid and Liquid Waste Management (SLWM) is a crucial aspect of Swachh Bharat that needs to be focussed on in order to limit the waste generated by rural India, and to convert it into wealth through proper processing. Sectoral experts in the field demonstrated various innovative technologies being used for SLWM in the country, and underlined the need to scale them further.

The 2-day conference concluded with the Union Cabinet Secretary, Shri P. K. Sinha, addressing the participants through video conferencing. Shri Sinha, in his address to the participants expressed his happiness over Swachh Bharat Champion Collectors attending the conference and mining their own lessons in a systematic manner from each other's field experiences. Talking about ODF sustainability and Swachh Bharat, Shri Sinha said, "After achieving ODF, sustaining it is going to be the most important step. This cannot happen without behaviour change and community participation. We would like to see more innovative steps to convert waste to wealth towards Swachh Bharat." Stressing the importance of cross-learning, Shri Sinha said that it would be useful to document the lessons from this workshop and share with all districts across the country. The Swachh Bharat Mission has achieved newer heights within 3 years of its launch with more than 2 lakh villages and 149 districts turning Open Defecation Free (ODF). The overall sanitation coverage has risen from 42 per cent to 64 per cent. As on today, five states have been declared ODF, i.e. Haryana, Uttarakhand, Sikkim, Kerala and Himachal Pradesh.





## SWACHHTA SOLDIERS

### VIZIANAGARAM'S 10,000 TOILETS IN 100 HOURS CAMPAIGN

**T**he sanitation campaign in Vizianagaram titled “10000 toilets in 100 hours” came to a successful close on 14<sup>th</sup> March with construction of 10,449 toilets, a little over the targeted number. The efforts made by the community and district administration have resulted in making 44 gram panchayats (GPs) open defecation free (ODF) out of the 71 selected for the campaign.

The 100-hour campaign was launched and brought to an end by the District Collector (DC), Mr. Vivek Yadav at the Sunkaripeta hamlet in Vizianagaram Mandal with the traditional rituals. “There was wide scale participation of people from all walks of the society – NGOs, civil society organizations, community based organizations and UNICEF, all of who extended enormous support to the district administration,” he said.



Vizianagaram is home to 923 GPs has a mere 21 per cent toilet coverage. Prior to the start of the campaign, somewhere close to 3,50,000 toilets were needed to be constructed. This campaign covered 2 GPs from each of the 34 Mandals, and later three more were added at the request of the Mandal Parishad Development Officers (MPDO) to make the total tally to 71 GPs.

As many as 20,000 masons and labourers and 3000 government officials and functionaries were put on the job during the campaign that started at 6 AM on 10<sup>th</sup> March and ended at 10 AM on 14<sup>th</sup> March, adding up to 100 hours, taking into consideration the nights as well.

In the process, all toilets were geo-tagged, and incentive for the same which included Rs 12,000 from the Centre and Rs 3,000 from the State Government were released to the beneficiary families. Honeycomb leach pits were constructed at a massive scale for the first time in Vizianagaram district - an innovative initiative, which is used as an alternative to cement rings.

The support from the community towards the campaign was overwhelming, particularly from tribal women. They voluntarily offered their services not only in digging of pits but also taking care of food and other needs of the masons and workers. Having participated in community meetings earlier, they were aware of the need for toilets and this opportunity to build toilets at home.

While the campaign took on a festive atmosphere, there was enthusiasm all around. Towards the end of the campaign, Nigrani committees were formed in every GP with many women volunteering to be on them. These committees which have been equipped with whistles, badges and radium jackets ensured that all people use their toilets. Although the 100-hour campaign was successful, the district has a long way to go before it achieves ODF status.

# RURAL TRANSFORMATION SINCE INDEPENDENCE

V. Srinivas

The Government's initiatives for empowering the farmers and improving the infrastructure at the village level have been largely successful in reducing poverty and enhancing education and health care indicators. The improvement in farm incomes and the transparency in subsidy transfers would enable the creation of a 21st century India that is dynamic and forward looking.

Rapid agriculture growth and rapid rural employment growth were always the focus of India's policy makers. Mahatma Gandhi envisaged India as a Nation of self-sufficient autonomous village republics. Acharya Vinoba Bhave pursued the cause of social justice and land reforms in the Bhoodan movement. Land - the summum bonum of rural existence, and agricultural structure was the most important determinant of India's development. Highly skewed distribution of land was responsible for agricultural backwardness. As land was the critical income generating asset of rural India, changes in agricultural holding structures were necessary to ensure prosperity of the rural population. Accordingly, India's State policy focused on State Governments formulating and implementing Land Reforms legislations. These included the Land Ceiling Act, the Tenancy Act, the Land Revenue Act and broadly adopted the land to the tiller policy. Surplus arable government lands were distributed to the poor and needy peasants for livelihoods. These policies were envisaged to promote agricultural growth and alleviate rural poverty.

After the bank nationalization in July 1969, a big push was given towards expansion of banking activities. Rapid expansion of bank branch network into rural areas and expansion of bank credit to agriculture and related activities. Priority sector lending targets and interest rates were introduced



as part of a social banking approach. The rural bank branch expansion significantly lowered the rural poverty and increased non-agricultural growth. However, as time progressed, divergences emerged between the levels of development in States. The rich and faster growing States were Gujarat, Tamil Nadu, Haryana, Maharashtra and Punjab. The middle income States were Karnataka, Kerala, West Bengal and Andhra Pradesh. The poorer States were Bihar, Orissa, Uttar Pradesh, Madhya Pradesh and Rajasthan. The richer and faster growing States were better at reducing rural poverty while growth was volatile in the poorer States. The faster growing States had formulated laws for amalgamation of farm holdings into viable units for investments, productivity and growth. In the poorer States, the alienation of small and marginal farmers from their lands and subsequent conversion to landless agricultural labour made them entirely dependent on the vagaries of the market. Large scale labour migration was witnessed in areas where rainfed agriculture practices were prevalent. The richer States also attracted higher investments and had better infrastructural development which resulted in higher per capita incomes as compared to the poorer States.

It was in this backdrop that the Indian State implemented a series of welfare programs for the rural population. The programs were implemented through the Department of Land Resources and the Department of Rural Development. The Department of Land Resources implemented major area development programs including the Desert Development Program, the Drought Prone Area Development Program and the Watershed Development Program. The Desert Development Program was implemented in 21 districts in 5 States, the Drought Prone Area Development Program was implemented in 183 districts in 16 States and the Watershed Development Program was taken up in identified watershed areas in

a decentralized participatory developmental model. The objective was to treat vast stretches of land areas with watershed treatment practices including construction of check dams, development of pastures and promotion of improved animal husbandry practices. A second crop in rainfed areas, essentially meant higher farm incomes and lower migration of farm labour.

The Indian State also implemented several major direct beneficiary programs for asset generation, skill development, residential housing and employment generation. Over the decades, these programs were developed and further modified. The Department of Rural Development implements the major schemes of **National Rurban Mission, Pradhan Mantri Awas Yojana (PMAY), Pradhan Mantri Gram Sadak Yojana (PMGSY), the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU GKY)** and the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) programs. The **MGNREGA** is implemented in 685 districts of India covering 6863 blocks and 2.62 lac Gram Panchayats. A total of 12.54 crore job cards have been issued and 25.2 crores of farm labour have been registered. The implementation of the MGNREGA on a pan India basis with assured employment on individual and community based programs has resulted in significant employment and asset generation in rural areas. The National Rurban Mission was launched in February 2016 as a new initiative for development of a cluster of villages that preserve and nurture the essence of rural community life with focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature. The DDU GKY essentially focused on youth between 15 years and 35 years from poor families, is tasked with the objective of adding diversity to the incomes of rural poor families and caters to the career aspirations of the rural youth. The **Skill India Campaign** along with the **Make in India, Digital India, Smart Cities** and **Start Up India, Stand-Up India** campaigns presents a vast set of opportunities to train India's young population and place them in jobs across the world to best realize the demographic dividend.

Indian farmers were always concerned about the availability of adequate credit at reasonable cost in a timely manner. One of the major steps forward

in this direction was financial inclusion. The **Pradhan Mantri Jan Dhan Yojana** represents the National Mission for Financial Inclusion to ensure access to financial services, namely banking, savings & deposit accounts, remittances, credit, insurance, and pension in an affordable manner. The financial inclusion campaign was launched by the Prime Minister in August 2014 and on the first day itself, 1.5 crore bank accounts were opened. The Jan Dhan Yojana provided universal and clear access to banking accounts with overdraft facility. The Jan Dhan Scheme provided the bankers with the necessary confidence to promote credit culture across the deprived population and resulted in significant increases in credit flows to rural sector.



In 2016, the **Aadhar Act** was promulgated as a money bill to ensure targeted delivery of financial and other subsidies benefits and services. The Act provided a legal backing to the Aadhar Unique Identification number project and provided for an efficient, transparent and targeted delivery of subsidies, benefits and services for all expenditures incurred from the consolidated fund of India to individuals, through assigning Aadhar identification numbers for matters connected therewith. The Aadhar Act enabled the State to ask for information pertaining to a person's identity for disbursement of services/ subsidies.

The third major step that was initiated by the Government in 2016 was the introduction of BHIM (Bharat Interface for Money) which is a mobile application developed by National Payments Corporation of India based on Unified Payment Interface. **The BHIM application** facilitates e-payments directly through banks and drive towards cashless transactions, enabling the user to instantly

transfer money between the bank accounts of any two parties and can be used on all mobile devices. The BHIM application is used by 125 lakh Indian citizens.

Collectively the Jan DhanYojana – the Aadhar Act and the BHIM Application have provided for a transparent government where subsidy flows reach the beneficiary in a timely and effective manner.

A Nation of India's size requires significant increases in food production. The year 2016-17 witnessed the highest ever food grain production of 273.38 million tons which is 6.37 per cent higher than the last 5 years average production and 8.6 per cent higher than 2015-16. Government introduced the **Soil Health Card Scheme (SHC)** in 2015 to be issued on a bi-annual basis to all land holders of the country with the objective to conduct farm level soil analysis. Till date, over 7.1 crore soil health cards have been distributed. The Government launched the revised **Rashtriya Krishi Vikas Yojana** in 2014-15 providing more flexibility to State Governments for boosting investment and enhancing productivity of the agriculture and allied sector. In July 2015, Government introduced the National **Agricultural**

**Market (E-NAM)** to link 585 wholesale agriculture production marketing committees across the country through a common e-platform. The portal has been made available in several Indian languages and has empowered the farmers with vast information dissemination. The State continued to make rapid strides in the implementation of the **Pradhan Mantri Fasal Bima Yojana** and the **Pradhan Mantri Krishi Sinchayee Yojana** covering all risks of the crop cycle and providing incentives for improved irrigation practices.

The Government's initiatives for empowering the farmers and improving the infrastructure at the village level have been largely successful in reducing poverty and enhancing education and health care indicators. The improvement in farm incomes and the transparency in subsidy transfers would enable the creation of a 21<sup>st</sup> century India that is dynamic and forward looking.

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### Ministry of Rural Development to launch Aajeevika Grameen Express Yojana

The Ministry of Rural Development will launch a new sub-scheme under Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) which will be named as "Aajeevika Grameen Express Yojana (AGEY)". The main objectives of AGEY are to provide an alternative source of livelihood to members of Self Help Groups (SHGs) under DAY-NRLM by facilitating them to operate public transport services in backward rural areas. This will provide safe, affordable and community monitored rural transport services like e-rickshaws, 3 and 4 wheeler motorised transport vehicles to connect remote villages with key services and amenities including access to markets, education and health for the overall economic development of the area. The sub-scheme will be implemented in 250 blocks in the country on a pilot basis for a period of 3 years from 2017-18 to 2019-20. The States have been informed about the number of blocks allocated to them to take up this sub-scheme in the pilot phases. One of the options proposed to be given under the sub-scheme is that the Community Based Organisation (CBO) will provide interest free loan from its own corpus to Self Help Group member for purchase of the vehicle.

The Government is implementing DAY-NRLM across the country in all States and Union Territories (except Delhi and Chandigarh). Under DAY-NRLM, till date, 34.4 lakh women SHGs have been promoted under the programme. The financial support under the programme is mainly in the form of Revolving Fund and Community Investment Funds, given as grants to the Self Help Groups (SHGs) and their federations. So far, the total amount released to SHGs is Rs. 1815 crore to about 3.96 lakh SHGs. A sum of Rs. 1088 crore has also been disbursed to 7.28 lakh SHGs as revolving Fund. DAY-NRLM also focuses on bank linkage of the institutions to enable their income. The Cumulative Bank Credit mobilized for women SHGs and their federations since inception is to the tune of Rs 1.19 lakh crores. The programme has a special focus on women empowerment including a dedicated component for promoting farm and non-farm based livelihoods for women farmers in rural areas. About 34 lakh women farmers have benefited under this programme. In addition, start-up enterprises at village levels are also supported to promote entrepreneurial activities in those areas. Projects have been sanctioned for setting up 79,814 enterprises in 5209 villages in 17 states in the country.