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1. E - GOVERNANCE IN RURAL INDIA

What is e-governance?

- The complete transformation of the processes of Governance using the implementation of Information and Communication technology is called E-Governance.
- It aims to bring faster and transparent service delivery, accountability, information sharing and people participation in the decision making and Government processes.

How is it achieved in India?

- 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 maximising the efforts towards delivery of citizen centric services.
- It was envisaged under Digital India that for 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 Service Centre (CSC), now commonly called as 'Digital Seva'.
- 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.
- 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 Village Level Entrepreneurs (VLEs).
- With a unique identification number of CSC and GIS mapping of each centre, this would create a transparent and accountable monitoring framework for the e-services being delivered through CSCs and help the government to fill the gap in establishing a self-sustainable entrepreneurship model.

What are the functions of CSCs?

- Service delivery centres for Government to Citizen, Business to consumer, Utility services, etc.,
- Permanent enrolment Centres for Aadhaar and Aadhaar Printing centres.
- Business correspondent Agents (BCAs) under financial inclusion for banking services and services under the Pradhan Mantri Jan Dhan Yojana.
- Information centre for various schemes of the Government for creating awareness leading to digital empowerment among the citizens.
- As Insurance service centres, Educational and Skill Development centres and Electoral registration centres.

What are the outcomes?

- Transparent and timely delivery of government and other eServices at affordable cost and better citizen experience.
• Reducing citizen’s 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.

• 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 marginalised / 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.

What are some recent initiatives?

• As GST Suvidha Provider, CSC - SPV needs to perform various functions supporting various stakeholders, mainly merchants, establishments and persons required to fulfil compliance as prescribed under GST regime.

• CSC - SPV launched Wi - Fi choupal, a rural Wi - Fi facility, signifying a new era in providing connectivity in the villages.

• Through the National Digital Literacy Mission, the CSC - VLEs and partners worked with inspiring enthusiasm towards the goal of making at least one person from each family digitally literate.

• Apart from NDLM, basic computer training is also being implemented for Madrassa students from the minority community in four states under Cyber gram Yojana.

2. FINANCIAL INCLUSION IN RURAL AREAS THROUGH "DIGITAL INDIA"

What is the aim of financial inclusion?

• The focus of financial inclusion is to ensure the coverage of each household in the country by opening savings bank account and providing Banking services such as micro credit, RUPAY card, Aadhar card services, financial literacy and empowerment of women, insurance and pension services.

• It is endeavour 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 suitable needs of public and above all, going digital in all process.

What are the recent initiatives?

• Prime Minister Jan Dhan Yojana is a very significant scheme that strives to end Financial Untouchability by ensuring that the economically weaker sections have access to bank accounts.

• The use of Aadhaar as identity document for delivery of services or benefits or subsidies, simplifies the Government delivery processes, brings in transparency and efficiency, and
enables beneficiaries to get their entitlements directly to them in a convenient and seamless manner.

- With the introduction of JAM Trinity, a person can transfer funds, check balance through normal phones which was earlier limited to the smart phones.

- Mobile Banking which is available through National Unified USSD Platform (NUUP) registered 106.18 million transactions with value of Rs. 1612.12 crores.

- Under the Direct Benefits Transfer or DBT, the entitled benefit from several schemes of the central government in the form of subsidy, stipend, scholarship or other monetary benefits is directly transferred to the beneficiary’s bank account.

- The Digital boost to MGNREGA help the implementation agencies with live data from the worksites, an online and real time updation of data base, real time visibility of data for complete transparency, and location of assets with geo tagging for easy verification.

- The Postal department’s e-Money initiative enables India Post to remit money next day to the doorstep that earlier took about a week.

- Twitter Samvad will enable the citizens to know about the Government initiative and actions.

- Jeevan Pramaan, an Aadhar-Based Digital Life Certificate will go a long way in reducing hardship which so many senior citizens have to go through to produce a Life Certificate every year.

- Digital Locker is one of the key initiatives under the Digital India vision, which is aimed at eliminating the usage of physical documents. It also allows citizens to upload their own electronic documents with or without digitally signing them using the e-sign facility allowing them to store all such documents for posterity.

- PRAGATI is a unique integrating and interactive platform which is aimed at addressing common man’s grievances, and simultaneously monitoring and reviewing important programmes and projects of the Government of India as well as projects flagged by State Governments.

- As part of the Government initiative in popularizing Digital Payments, DigiDhan Melas are being organized in 100 cities over a period of 100 days. 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.

- The payments through the new system, BHIM App can be made by just a thumb impression after the bank account is linked with Aadhaar gateway. Indeed, the technology through BHIM will empower poorest of the poor, small business and the marginalised section.

- DigiGaon initiative is launched in order to provide tele-medicine, education and skills through use of digital technologies.

- ISRO's Bhuvan is developed with a clear focus of addressing Indian requirements of satellite Images and theme-oriented services to enable planning, monitoring and evaluation of stakeholder’s activities in governance and rural development.
• Many **Android apps** like CCE Agri, Ground Truth, Bhuban Hallstorm App, Mkisan also aids in rural information dissemination and development.

• **NADAMS** (National Agricultural Drought Assessment and Monitoring System) provides remote sensing real time information on current or developing drought at state, district and sub district level.

### 3. REVOLUTIONIZING INDIAN AGRICULTURE WITH ICT

**What is the significance of Agriculture?**

- Agriculture plays an important role in India's economy.

- 54% of the population is engaged in agriculture and allied activities.

- It contributes to 17 % to the country’s Gross Value Added.

- India took various measures to make Agriculture sustainable.

- Introduction of ICT is one such intervention towards sustainable development of the Agri sector.

**How can ICT help?**

- It bridges the gap between agricultural researchers, extension agents and farmers thereby enhancing agricultural productivity.

- ICTs improve access to climate smart solutions as well as appropriate knowledge to use them.

- It provides actionable information to communities and Governments on disaster prevention in real time, while also providing risk mitigation techniques.

- It facilitates market access for inputs as well as product marketing and trade in variety of ways.

- ICTs help deliver more efficient and reliable data to comply with international traceability standards.

- It increases access to financial services for rural communities, helping to secure savings, find affordable insurance and tools to better manage risk.

- It widens the reach of local communities, including women and youth and provide newer business opportunities, thereby enhancing livelihoods.

- ICT assists with implementing regulatory policies, frameworks and ways to monitor progress.

**What are the recent initiatives?**

- The “**National e-Governance Plan in Agriculture (NeGP-A)**” aims to achieve rapid development of agriculture in India through ICT enabled multiple delivery channels such as Internet, Government Offices, Touch Screen Kiosks, Krishi Vigyan Kendras, Kisan Call Centres, Agri-Clinics, Common Service Centers, Mobile Phones (Broadcast, IVRS, interactive messaging using unstructured Supplementary Service Data and Voice Recognition for ensuring timely access to agriculture related information for the farmers of the country.

- Department of Agriculture & Cooperation has developed 80 **portals, applications and websites** (primarily in collaboration with the National Informatics Centre) covering both the
headquarters and its field offices/directorates. The important portals include SEEDNET, DACNET, AGMARKNET (prices and arrivals in Mandis), RKVY (Rashtriya Krishi Vikas Yojana), ATMA, NHM (National Horticulture Mission), INTRADAC, NFSM (National Food Security Mission) and APY (Acreage, Productivity and Yield).

- With the improvement in the quality of Kisan Call Centres (KCC) services due to state of the art infrastructure and new technological features such as Voice Media Gateway, Dedicated Internet Bandwidth, Provision of Voice Mail during call waiting period and SMS to farmers (conveying gist of advisories given), number of calls flowing in to the Kisan Call Centres has increased.

- The farmers registered for receiving SMS messages have been grouped based on the State, District, Block and the Crops/Activities selected by respective farmers. The content may include information about the Schemes, Advisories from Experts, Market Prices, Weather Reports, Soil Test Reports etc.

- Integration of agri-markets across the country through the e-platform (eNAM) is seen as an important measure for overcoming the challenges posed by the present agri-marketing system namely - fragmentation of State into multiple market areas, each administered by separate APMC, multiple levy of mandi fees, requirement for multiple license for trading in different APMCs, licensing barriers leading to conditions of monopoly, poor quality of infrastructure and low use of technology, information asymmetry, opaque process for price discovery, high level of market charges, movement controls, etc.

- The use of technology in PM Fasal Bima Yojana will be encouraged to a great extent. Smart phones will be used to capture and upload data of crop cutting to reduce the delays in claim payment to farmers. Remote sensing will be used to reduce the number of crop cutting experiments. The use of technology enables faster assessment and settlement of claims.

- For distributing digital data and to provide access to farmers to information through mobile and internet connectivity, the Ministry recently launched two Mobile Apps namely Farmer facility and Pusa Agriculture.

### 4. DIGITAL RURAL REVOLUTION - RETHINKING EDUCATION

#### What is the need for ICT in Education?

- It is essential to implement the new digitised education tools in rural India.

- Introduction of such tools can solve the problem 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.

#### What are the recent initiatives?

- One of the major pillars of Digital India is e-Kranti, under which immense emphasis has been given to digitising rural India through e-Technology, especially in the domain of education.

- e-Basta framework enables the publishers to upload the electronic content with relevant data, schools to search and collate e-content into e-Basta and students to download e-
Basta contents through an App on their tablet/phone/PC.

- The mission of **National Digital Literacy Mission** is to provide digital literacy to every Indian. Making one person in every family digitally literate is one of the integral components of the Prime Minister's vision of “Digital India”.

- The **National Optical Fibre Network (NOFN)** is being rolled out by Bharat Broadband Network Ltd. (BBNL), which has been specifically created for the implementation of this project to provide broadband connectivity to 2,50,000 Gram Panchayats at 100 Mbps speed.

- The **PMGDISHA** being initiated under Digital India Programme would cover 6 crore households in rural areas to make them digitally literate. This would empower the citizens by providing them access to information, knowledge and skills for operating computers / digital access devices.

- **E-Pathshala**, a web portal which hosts educational resources for Students, Teachers, Parents, researchers and educators, is available through especially developed mobile app interface on Android, IOS and windows platforms for wider access and contains textbooks and other e-books as E-Pub 3.0 and Flipbooks in English, Hindi and Urdu.

- **Shaala Siddhi** is a comprehensive instrument for school evaluation which enables the schools to evaluate their performance in more focused and strategic manner to facilitate them to make professional judgement for continuous improvement. The web-portal of the framework will help all schools to assess themselves and the results can be seen by all enabling them to provide feedback.

- **Saransh** is a tool which allows the schools to identify areas of improvement in students, teachers and curriculum to facilitate and implement change. The platform is presently available for classes 9th to 12th and provides a comprehensive overview of performance of all stakeholders.

- The **digital classroom** refers to the classroom where student learning and interaction with the instructor and peers are fully supported through strategic use of ICT tools. Google and Facebook has been enroled with Government agencies to provide these smart solutions to rural classrooms.

- Under the **NPTEL programme**, web and video courses for engineering subjects and humanities streams are being developed. Over 250 courses are complete and made available in NPTEL phase-I and another 996 courses in various disciplines in engineering and science are getting generated in phase-II of NPTEL. E-contents for 77 Postgraduate subjects and 86 undergraduate subjects are also being developed under the Mission.

- With the launch of **Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM)**, India has become one of the few countries in the World which has its own online interactive learning platform that provides, not only video lectures, reading material but also assignments/quizzes that could end up in securing credits after completing the assessment system.
The SWAYAM Prabha channels are available for free for anyone who has a set top box to receive either DD Free Dish or DishTV. These channels transmit 4 hours of fresh content every day, and contain lectures from the best teachers in the Country. These channels include the IIT-PAL channels which were intended to help the rural students taking the prestigious JEE examination, taught by the IIT faculty.

An initiative is under proposal to implement biometric attendance in all the schools for the teachers to remove the hurdle of teacher absenteeism as proved effective in Maharashtra pilot study.

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

What are the recent initiatives?

- The Shyama Prasad Mukherji Rurban Mission (SPMRM) 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.

- The objective of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is to enable and mobilize a large number of Indian youth to take up outcome based skill training, become employable and earn their livelihood. This scheme would also addresses lack of industry driven competency based training institutions and hence address some of the market failures pertaining to competency based training.

- PMGDISHA is expected to be one of the largest digital literacy programmes in the world. Under the scheme training would be given 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 implementation of SAMPADA 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.

5. SMART VILLAGES: A WAY FORWARD

What is the need for Smart Villages?

- Villages form the building blocks of our country.

- Agriculture, considered to be the principal source of income in the villages, contributes to around 17% of Indian GDP, which is much higher than the world average of 6.1%.

- 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” also felt.
• Through **Swach Bharat Abhiyan**, toilets are to be constructed in every house of the village. 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 raises the hygiene condition of a family which is essential for sustaining healthy family.

• **National Rural Drinking Water Programme (NRDWP)** was launched to provide every rural person with adequate safe water for drinking, cooking and other basic domestic needs on a sustainable basis, with a minimum water quality standard, which should be conveniently accessible at all times and in all situations.

• To improve street light conditions, the Ministry of New and Renewable Energy has installed Solar PV through **National Solar Mission**.

• The primary focus of **Pradhan Mantri Gram Sadak Yojana (PMGSY)** is construction of new roads. However, upgradation (to prescribed standards) of existing roads will be permitted to be taken up under the Programme so as to achieve connectivity through good All-weather roads.

• Complementing PMGSY, **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 SHGs.

**What are the challenges?**

• The preparedness of the villages needs to be taken into account for any program 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.

• 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 get a higher secondary school and a Degree college.

• The ASHA workers must be trained well and must be capable of using modern tools equipped with ICT. Digitization of medical records is also an impediment in implementing schemes like Tele Medicine.

• Aiming to provide bank account to every Indian, the Banking penetration is important in rural areas. Moreover appointment of Banking correspondents or Bank Mitras is the need of the hour to tackle this situation.

• India, being a tropical country is blessed with Sun. However, affordability of solar panels is a big question.

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