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KURUKSHETRA MAGAZINE SUMMARY - SEPTEMBER 2018

1. SUSTAINABLE RURAL DEVELOPMENT

Rural Development: Rural development is the process of improving the quality of life and economic well-being of people living in rural areas, often relatively isolated and sparsely populated areas. Rural development has traditionally centered on the exploitation of land-intensive natural resources such as agriculture and forestry.

Agriculture for Rural Transformation:

- Govt. adopted 3 pronged strategy to increase investment, better infrastructure & governance in agriculture for sustainable rural development.
- While core production activities are mainstreamed by ongoing centrally sponsored schemes broadening of their reach, reforms in agriculture marketing, contract farming, land leasing, price & trade policy & agriculture credit are introduced for inclusive development of rural India rather than agriculture as sector.
- Agriculture employs almost half of workforce where alternate source of employment is limited. While average investments in irrigated command development ranged from Rs. 2.5 to 3 lakh/ha, only Rs. 0.12 to 0.15 lakh/ha were invested in rain fed areas thru integrated water management program (IWMP).

SCHEMES UNDER THE PROGRAM

- Pradhan Mantri Jeewan Jyoti Bima Yojana,
- Atal Pension Yojana,
- Pradhan Mantri Suraksha Bima Yojana
- Pradhan Mantri Jan Dhan Yojana
- Mahatma Gandhi National Rural Employment Guarantee Scheme
- Shyama Prasad Mukherjee Rurban Mission (SPMRM)
- Pradhan Mantri Ujjwala Yojana
- Govt. Empowerment Programs like Mahila Shakti Kendra, National Repository of Information for Women (NARI) and others

AGRICULTURE & RURAL PROSPERITY:

- Farming & livestock rearing together provide abt. 67.2 % of income of agricultural households. Soil health card helps farmers know fertility status of his farm & get crop-specific prescription for right mix of fertilizers & manure needed to achieve higher productivity.
- **Promotion of Custom Hiring Centre (CHC) for agricultural machinery is being implemented under National Mission for Agricultural Extension & Technology. Crop residue management in NCR region is given top priority thru new scheme to manage crop residue at farmer's fields thru farm mechanization.**

RURAL & AGRICULTURE FINANCIAL INCLUSION:

- Institutional flow of credit to farmers has increased over 18 folds since 2000 - 01 to provide cheap credit to farmers. Farmer, who repays loan on time, becomes eligible to get crop loan at 4 % rate of interest.
- Post – harvest loans are being granted against Negotiable Warehouse Receipts (NWRs) with benefit of interest subvention. NITI Aayog prepared Model Act on Agricultural Land Leasing in 2016 for facilitating states to enact land leasing laws for agriculture so as to enhance operational holdings & investment in farming**.**

RURAL INFRASTRUCTURE DEVELOPMENT:

- Development is constrained by poor infrastructure as evidenced from rural road density, access to irrigation, power supply, market facility & network, godown, cold storages, cold chain & processing infrastructure. It is estimated that gap of 99 % exists in pack houses, 85 % in reefer vans, 10 % in cold storages & 91 % in ripening chambers.
- On average one market yard is distributed abt. 463 sq. km (12km radius) against desirable level of one at every 80 sq. km (~5km radius).

Conclusion:
At program level, depth & width of outreach across states have not been uniform owing to bureaucratic hassles & resource constraints.

2. MSMES: NEW ENGINES OF GROWTH AND EMPLOYMENT

MSMEs are acknowledged as the backbone of the economy. Currently, there exist over 7 crore MSMEs that create around 12 crore jobs in the country across various types of enterprises. As the country is expecting to witness significant demographic growth and expansion in working age population in the coming years, the MSME sector would need to play an important role to absorb this labour force. It is crucial to lay greater focus on building human capital, especially in certain manufacturing industries which are highly labour intensive. National Manufacturing Policy (NMP), the manufacturing sector has the potential to provide employment to 100 million people by 2022, and the ways in which it can –

- Encourage growth in labor-intensive industries
- Improve quality of training imparted in schools, colleges and universities by setting up innovative labs
- Enhance labour productivity by adopting best practices
- Ensure timely credit flow
- Facilitate good market access

MSME SAMPARK PORTAL

A platform where the recruiters would have access to the increasing talent pool of trained manpower, facilitating their placement.

- The MSME Sampark portal is a digital platform, wherein, jobseekers (passed out trainees / students of 18 MSME Technology Centres) and recruiters (various reputed national & multinational companies) register themselves for getting employment and getting right kind of manpower respectively.

3. DEENDAYAL ANTYODAYA YOJANA – NATIONAL URBAN LIVELIHOOD MISSION (DAY-NULM)

National Urban Livelihoods Mission (**NULM**) was launched by the Ministry of Housing and Urban Poverty Alleviation (MHUPA), Government of India in 24th September, 2013 by replacing the existing Swarna Jayanti ShahariRozgarYojana (SJSRY).

- The NULM will focus on organizing urban poor in their strong grassroots level institutions, creating opportunities for skill development leading to market-based employment and helping them to set up self-employment venture by ensuring easy access to credit.
- The Mission is aimed at providing shelter equipped with essential services to the urban homeless in a phased manner. In addition, the Mission would also address livelihood concerns of the urban street vendors.

THREE KEY NATIONAL CHALLENGES BEING ADDRESSED BY THE MISSION ARE:

- Informal nature of employment
- Lower participation of women in labour force
- Capacity constraints of the implementing agencies
- Trends show that the high rate of urbanisation in the country is not accompanied by a proportionately high rate of formalization, with more informal enterprises being added to urban areas. DAY-NULM is addressing this challenge through 2 initiatives.
- First, Recognition of Prior Learning (RPL) has been adopted in convergence with the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), as a mechanism to recognize, certify and formalise those who have acquired skills informally.
- Second, City Livelihood Centres (CLCs) are being revitalised, with a renewed focus on creating a robust database of freelance service providers, making their services available through mobile apps etc.
- **Improving women's participation in the Urban Workforce**: Between 1990 and 2015, female labour force participation fell from 37% to 28%. The Female Labour Force Participation Rate in India could rise by 21 percentage points if all women who expressed a desire to work were enabled to do so. DAY-NULM addressed this gap by mobilizing women into SHGs. These community based organisations empower women to become socially and financially secure.
- **Urban Building Capacity of Local Bodies (ULBs):** ULBs are key implementation units for DAY-NULM. Ministry of Housing and Urban Affairs has launched Integrated Capacity Building Programme to build their capacities for implementing the urban missions including the employment and self-employment programs and sensitizing them to the vulnerabilities of the urban poor**.**

4. AAJEEVIKA - NATIONAL RURAL LIVELIHOODS MISSION (NRLM)

Aim of the Mission: At creating efficient and effective institutional platforms of the rural poor, enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services.

NRLM set out with an agenda to cover 7 Crore rural poor households, across 600 districts, 6000 blocks, 2.5 lakh Gram Panchayats and 6 lakh villages in the country through self-managed Self Help Groups (SHGs) and federated institutions and support them for livelihoods collectives in a period of 8-10 years.

In addition, the poor would be facilitated to achieve increased access to rights, entitlements and public services, diversified risk and better social indicators of empowerment. DAY-NRLM believes in harnessing the innate capabilities of the poor and complements them with capacities (information, knowledge, skills, tools, finance and collectivization) to participate in the growing economy of the country.

DAY - NRLM VALUES

- Inclusion of the poorest, and meaningful role to the poorest in all the processes
- Transparency and accountability of all processes and institutions
- Ownership and key role of the poor and their institutions in all stages – planning, implementation, and, monitoring
- Community self-reliance and self-dependence

Has sought
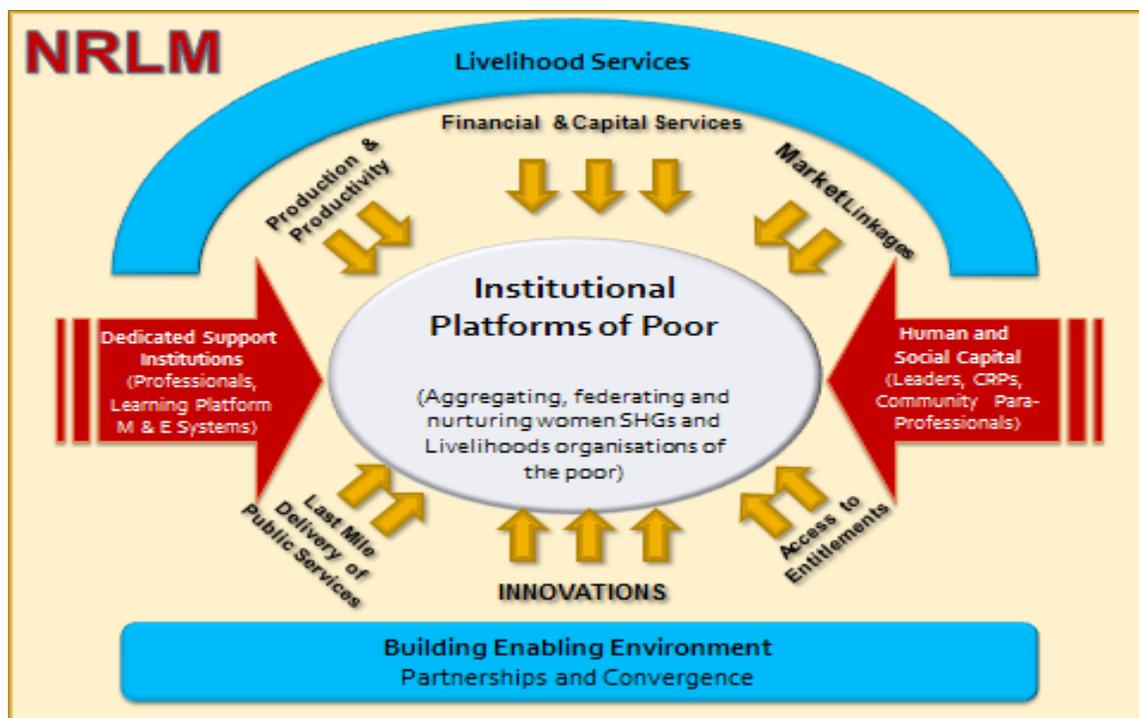
promoting community based organizations (CBOs) as cornerstone of its strategy for addressing goal of poverty eradication. Its multipronged strategy includes:

- Building dedicated support structure at various levels to mobilize poor and augment their capacities
- Saturation of poor in phased way to include each and every poor household under fold of SHGs
- Arrange linkages to CBOs to emerge as viable units providing services for livelihood generation
- Encouraging participation of members in all decision making process.

STRUCTURE OF COMMUNITY BASED ORGANIZATIONS (CBOS)

1: SHGs - informal groups with max. of 20 members who open bank account for savings and get themselves graded to receive revolving fund (RF) and community investment fund (CIF). This is followed by preparation of microcredit plan (MCP) to be able to receive bank loan.

2: Village Organizations (VOs) - form sub – committees which can give focused attention to areas like bank linkage and recovery management

3: Cluster Level Federations (CLFs) - are being formed for cluster of villages by integrating all VOs.

KEY FEATURES:

A. Universal Social Mobilisation - At least one woman member from each identified rural poor household, is to be brought under the Self Help Group (SHG) network in a time bound manner. Special emphasis is particularly on vulnerable communities such as manual scavengers, victims of human trafficking, Particularly Vulnerable Tribal Groups (PVTGs), Persons with Disabilities (PwDs) and bonded labour.

B. Participatory Identification of Poor (PIP) - The inclusion of the target group under NRLM is determined by a well-defined, transparent and equitable process of participatory identification of poor, at the level of the community.

C. Community Funds as Resources in Perpetuity - NRLM provides Revolving Fund (RF) and Community Investment Fund (CIF) as resources in perpetuity to the institutions of the poor, to strengthen their institutional and financial management capacity and build their track record to attract mainstream bank finance.

D. Financial Inclusion - NRLM works on both demand and supply sides of financial inclusion. On the demand side, it promotes financial literacy among the poor and provides catalytic capital to the SHGs and their federations. On the supply side, the Mission coordinates with the financial sector and encourages use of Information, Communication & Technology (ICT) based financial technologies, business correspondents and community facilitators like 'Bank Mitras'. It also works towards universal coverage of rural poor against risk of loss of life, health and assets. Further, it works on remittances, especially in areas where migration is endemic.

E. Livelihoods - NRLM focuses on stabilizing and promoting existing livelihood portfolio of the poor through its three pillars – 'vulnerability reduction' and 'livelihoods enhancement' through deepening/enhancing and expanding existing livelihoods options and tapping new opportunities in farm and non-farm sectors; 'employment' - building skills for the job market outside; and 'enterprises' - nurturing self-employed and entrepreneurs (for micro-enterprises).

F. Convergence and partnerships
Convergence*:* NRLM places a high emphasis on convergence with other programmes for developing synergies directly or indirectly with institutions of the poor.
Partnerships with NGOs and other CSOs*:* NRLM has been proactively seeking partnerships with Non-Government Organizations (NGOs) and other Civil Society Organizations (CSOs), at two levels - strategic and implementation.
Linkages with PRIs: Formal platforms would be established for regular consultations between such institutions and PRIs for exchange of mutual advice, support and sharing of resources.

5. MGNREGS: EMPOWERMENT RURAL INDIA

National Rural Employment Guarantee Act 2005 (or, NREGA No 42, later renamed as the "Mahatma Gandhi National Rural Employment Guarantee Act", **MGNREGA**), is an Indian labour law and social security measure that aims to guarantee the 'right to work'.

AIM: It aims to enhance livelihood security in rural areas by providing at least 100 days of wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.

Considered one of the biggest social welfare programmes in the world –

- It aims at guarantying 100 days of work to people in rural areas.
- Is seen as an instrument that has an ability to create a model of governance reform anchored on the principles of: Right to livelihood + transparency + grassroots democracy

KEY ATTRIBUTES:

- Labour intensive work
- Decentralized participatory planning
- Women empowerment
- Work site facilities
- Transparency
- Accountability through the provision of social audits

Note: Modelled on the format of National Rural Employment Program (NREP) brought out by the Govt. in 1977 being linked to Employment Guarantee Scheme (EGS), which was 1st initiated in Maharashtra way back in 1970s.

Fact: Study by the National Council of Applied Economic Research: MGNREGS has reduced poverty overall by up to 32% and has prevented 14 million people from falling into poverty.

- Over 5.5 cr. workers have been put on Aadhar–based Payment System and the Aadhar numbers of 9.23 cr. workers have been seeded so far in NREGA Soft MIS.

TYPE OF WORK UNDERTAKEN:

- Water conservation & harvesting, digging new tanks/ponds
- Making of small check dams, etc.
- Draught proofing & plantation, tree plantation, etc.
- Flood control & protection drainage in water logged areas.
- Construction & repair of embarkment, etc.
- Land development plantation, land leveling, etc.
- Micro irrigation works, Minor irrigation canals.
- Renovation of traditional eater bodies, desilting tanks/ponds.
- Provision of irrigation facility in areas inhabited by Scheduled castes & Schedule tribes as well.
- Rural connectivity, construction of roads.

6. SPMRM: BRIDGING RURAL-URBAN DIVIDE

WHAT DO WE MEAN BY 'RURBAN'?

Large parts of rural areas in the country are not stand-alone settlements but part of a cluster of settlements, which are relatively proximate to each other. These clusters typically illustrate potential for growth, have economic drivers and derive locational and competitive advantages, and are termed as 'rurban'.

Therefore, the launch of Shyama Prasad Mukherji Rurban Mission (**SPMRM**): Aimed at developing such rural areas by provisioning of economic, social and physical infrastructure facilities. The Rurban Mission will thus develop a cluster of Smart Villages. '**Rurban cluster'**: A cluster of geographically contiguous villages with population of about 25000 to 50000 in plain and coastal areas & with population of 5000 to 15000 in desert, hilly or tribal areas.

Outcomes: The larger outcomes envisaged under this Mission are:

*   Bridging the rural-urban divide-viz: economic, technological and those related to facilities and services
*   Stimulating local economic development with emphasis on reduction of poverty and unemployment in rural areas
*   Spreading development in the region
*   Attracting investment in rural areas

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

CLUSTER AND IT'S TYPES:

The State Government has been selecting a Gram Panchayats/ clusters of geographically contiguous Gram Panchayats, with a population of 25,000 to 50,000 in plain and coastal areas and a population of 5,000 to 15,000 in the deserts, hilly and island or tribal areas as a 'Rural Clusters'.

There would be two categories of clusters, Non-Tribal and Tribal:

A. Tribal Clusters

*   Decadal growth in Tribal Population
*   Current Tribal Literacy Rate
*   Decadal growth in Non-Farm Work force participation
*   Decadal growth in Rural Population
*   Presence of Economic Clusters

B. Non- Tribal Clusters

*   Decadal growth in Rural Population
*   Rise in Land Values
*   Decadal growth in Non-Farm Work force participation
*   Percentage Enrollment of girls in secondary schools
*   Percentage Households with Bank accounts under Pradhan Mantri Jan Dhan Yojana
*   Performance in Swachh Bharat Mission (Gramin)

- Good Governance Initiatives by Gram Panchayats
- Any other factor which States may consider relevant may also be included.
- Weightage of 80 % would be given for 1st 4 parameters & States will have flexibility to choose last 3 parameters, subject to total weightage of 20%.

7. DIGITAL TECHNOLOGY: CONNECTING RURAL INDIA

- **Broadband internet access is seen as central for societal innovation because storing of large datasets & live communication requires good connectivity. New wireless technologies such as MESH &**
- **WiMAX and new generation mobile phone networks will provide high speed internet services at sharply reduced costs, thereby dramatically increasing internet coverage in rural areas.** The National Alliance for Mission 2007 and Common Service Centre Scheme to establish telecentres country-wide in India – Clear examples of government's dedication to enhance rural access.

DIGITAL SUPPORT TO AGRICULTURE

- Deliver useful information to farmers about agriculture like crop care and animal husbandry, fertilizer & feedstock inputs, pest control, seed sourcing and market prices.
- Quick dissemination of technological information from the research system to farmers in the field and reporting of farmer's feedback to the research system
- Agriculture technology transfer: Information provided through modern information technology gadgets should be need-based, demand driven, site-specific and in local language
- Dissemination of dynamic information relating to cultivation, management, meteorological and marketing factors as related to crops, livestock, fisheries, agro-forestry and agro-processing
- Harnessing the right technology available can offer multiple issues of governance in agricultural sector providing most needed timely relief to distressed farmers, cutting delays, inefficiencies, corruption and costs.
- Private sector-led Agriwatch (www.agriwatch.com) & e-Choupal program (www.itcportal.com/ruraldevp_philosophy/echoupal.htm) support several million farmers with price information, tender and transaction facilities.
  Digital Technology for Capacity-building: Enables rural communities to interact with other stakeholders, thus reducing social isolation –
- Better negotiation of input and output prices
- Land claims
- Resource rights
- Infrastructure projects
- Document and communicate – Global positioning systems
- Access to credit and banking facilities
- Reduction in cost and stimulation of local trade

TRANSFORMING RURAL INDIA WITH DIGITAL TECHNOLOGY

- Empowerment – e-Choupal: efficient supply-chain system empowering farmers with timely & relevant information enabling them better returns for their produce

- Enablement: Practice of e-governance, which creates transparency & governance through IT has empowered citizens. (maintenance of land records – removes malpractices and creates assurance of right ownership)
- **Market expansion**: In India, ICT applications such as Warana, Drishtee, e-Chaupal, E-Seva, Lokmitra, E-Post, Gramdoot, Gyandoot, Tarahaat, Dhan, Akshaya, Honeybee, Praja are quite successful in achieving their objectives. Direct connect through e-commerce has facilitated large number of artisans and agro-based small enterprises in rural areas.
- E-**Extension**: This is program of Dept. of Agriculture, Gujarat which aims to analyze soil of all villages of state & proposes to provide online guidance to farmers on their soil health condition, fertilizer usage & alternative cropping pattern.
- **AGRISNET**: AGRISNET uses state-of-the-art broadband satellite technology to establish network within the country.
- **AGMARKNET**: It is comprehensive database which links together all important agricultural produce markets in country.
- e-**KRISHI VIPANAN:** It professionalizes & reorganizes agriculture trading business of Mandi Board by installing cost effective digital infrastructure using latest advancement in digital technology by collecting & delivering real time information online.
- **Query Redressal Services:** Empowers the farming community through effective, need-based interventions. Project helps farming community by making available 10000 plus network of experts to them.
- **Kisan Call Centers**: Make agricultural knowledge available at free of cost to the farmers as and when desired.
- Tata Kisan Kendra: Concept of precision farming being implemented by TKKs has potential to catapult rural India from bullock-cart age into new era of satellites & IT.
- e-**Choupal**: ITC's Agri Business Division launched it in June 2000 on which village internet kiosks managed by farmers – called sanchalaks – themselves, enable agricultural community access ready information in their local language on weather and market prices.
- e-**Sagu**: The word 'Sagu' meaning 'cultivation' in Telugu language, aims to improve farm productivity by delivering high quality personalized (farm-specific) agro-expert advice in timely manner to each farm at farmers door-steps without farmer asking question.
- **AKASHGANGA**: It was established at a time when information technology was almost unknown in villages of India.
- **Decision Support System for Agro-technology Transfer** (**DSSAT**): DSSAT is software package integrating effects of soil, crop phenotype, weather & management options that allows users to ask "what if" questions & simulate results by conducting, in minutes on desktop computer, experiments that would otherwise consume significant part of agronomist's career.
- **Electronic National Agriculture Market** - eNAM for agriculture marketing can be regarded as technology which will bring social change in markets. Social change in relationships & networks that work between buyer & seller as they exist in traditional markets will change as technology enabled eNAM is adopted in agriculture markets.

A STEP AHEAD

"National Commission on farmers" under chairmanship of Dr. M. S. Swaminathan had recommended harnessing benefits of Digital technology for improving socio-economic status of rural people by suggesting establishment of "Rural Knowledge Centres" all over country using modern Digital technology tools.

WOMEN: DRIVING FORCE OF DEVELOPMENT

- Rural women are key agents for achieving transformational economic, environmental & social changes required for sustainable development. Empowering them is crucial not only to well-being of individual families & rural communities but, also to overall economic productivity given women's large presence in agricultural work force.

GOVT. EMPOWERMENT PROGRAMS FOR RURAL WOMEN:

Deen Dayal Upadhyay Antyodaya Yojana (DAY-NRLM): Ajeevika is major project of Ministry of Rural Development. It focus on rural women & aims to achieve universal social mobilization by involving rural women. At least one woman member from each identified poor rural household, is to be brought under SHG network in time bound manner NRLM has devised special strategies to reach out all these vulnerable communities & help them graduate out of poverty.

- **Deen Dayal Upadhyay Grameen Kaushalya Yojana** (DDU-GKY) aims to skill rural youth who are poor & provide them jobs having regular monthly wages or above min. wages. Mahila Kisan Sashaktikaran Pariyojana (MKSP) is another component that aims to improve present status of women in Agriculture & to enhance opportunities for empowerment.

- **Rashtriya Mahila Kosh (RMK):** Rashtriya Mahila Kosh (RMK), of Ministry of Women & Child Development, extends microcredit to women in informal sector thru client friendly in hassle-free manner for income generation activities.

- **Mahila Shakti Kendra (MSK):** Mahila Shakti Kendra (MSK) as sub scheme under Umbrella Scheme of mission for Protection & Empowerment for Women for implementation during 2017 - 18 upto 2019 – 20 to empower rural women thru community participation. MSK Scheme is envisaged to provide interface for rural women to approach govt. for availing their entitlement & for empowering them thru training & capacity building.

- **National Repository of Information for Women (NARI)**: Ministry of Women & Child Development, has prepared portal namely National Repository of Information for Women (NARI) that will provide citizen easy access to information on govt. schemes & initiative for women. Rural women can access these schemes on their own or with the help of various frontline workers associated govt. schemes at ground level. Portal summarizes over 350 govt. schemes.

- **National Nutrition Mission (NNM)**: To deal with problem of malnutrition, govt. has set-up National Nutrition Mission (NNM). Aim is to achieve improvement in nutritional status of children of 0 – 6 years & pregnant & lactating women in time bound manner, during coming 3 years beginning 2017 - 18.

- **Pradhan Mantri Matru Vandana Yojana (PMMVY):** PMMVY is maternity benefit program that has been made pan-India phenomenon since 31st Dec. 2016. In 2015, Swadhar Greh scheme was launched to cater to primary needs of women in difficult circumstances. Setting up of shelter, food, clothing medical treatment & care are exclusively provided, meanwhile they are provided w/legal guidance to enable their readjustment in family/society.

- **Mahila Shakti Kendra:** Scheme was launched in 2017 to address women's issues at rural level wherein over 3 lakh student volunteers would be engaged in 115 most backward dist. for 3 years.

- **Mahila e-Haat:** It is initiative to economically empower women thru financial inclusion. Govt. launched bilingual portal Mahila e-Haat, direct online digital marketing platform for women entrepreneurs/SHGs/NGOs in March 2016.

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BUILDING CLEAN AND HEALTHY VILLAGES

An initiative that has made marked contribution in changing the quality of life of rural people is the Swachh Bharat Mission. The objective of Swachh Bharat Mission, launched by Hon'ble Prime Minister on October 2, 2014, is to make human life cleaner, healthier and dignified. PM, in his first Independence Day address from the ramparts of Red Fort accorded national priority to cleanliness. While launching Swachh Bharat Mission in New Delhi, the Prime addressed that it is our social obligation as the citizen of India to fulfil Gandhiji's vision of Clean India in the year 2019 on the occasion of his 150th birth anniversary.

- Today 22 states, 468 districts and more than 4 lakh 68 thousand villages in the country have become Open Defecation Free (ODF).
- Since October 2, 2014, more than 8.59 lakh individual household toilets have been constructed.
- On October 2, 2014, the sanitation coverage was 38.70 per cent and currently it is 93.9 0 per cent.

CLEAN VILLAGE: HEALTHY LIFE

- Studies have revealed that in every house of Open Defecation Free village, about 50,000 rupees are being saved because the family is saving on the expenditure otherwise being incurred on treatment of various diseases.
- The rural families are utilizing this savings to acquire new amenities and facilities, to provide better education to the children, and to improve their standard of living.
- People's health related expenses have come down and they are able to work for more days. According to a study by the World Health Organization, with the implementation of Swachh Bharat Mission, every year India is successfully preventing a large number of children to become victims of the deadly diseases in rural areas and the situation is continuously improving.
- Women associated with Self Help Groups have made commendable contribution in the cleanliness movement.
- They have invested their savings in cleanliness related works and thus played an important role in making the environment and surroundings beautiful and clean.
- Panchayat representatives have also shown commendable interest in Swachh Bharat Mission. They drew up effective schemes to make their Panchayats ODF, implemented them enthusiastically and efficiently and made significant contribution in their sustenance.

SBM: MASS MOVEMENT

- The Rural Development Ministry has taken a number of measures through its ambitious scheme Mahatma Gandhi National Rural Employment Guarantee Act- MGNREGA, to include awareness promotion among the village panchayats towards cleanliness in the rural areas and encouraging and training villagers to take up activities related to livelihood creation.

- The Ministry is engaged in construction of individual household toilets and soakage pits, solid waste management, works related to solid and liquid waste management (drainage channel, liquid bio-compost, recharge pits, toilets in schools and Aanganwadis, soakage channels, village drains, construction of water stabilization ponds and water conservation works to make used grey water (dirty water) useful.
- In order to ensure effective waste water management, Telangana state has constructed soakage pits through MGNREGA at family and community level.
- In the samee way, in Nanded district of Maharashtra, MGNREGA funds were utilized for making soakage pits which has helped in the villages to get rid of mosquitoes.
  The scheme was implemented in about 30 villages.
- Construction of Lingpui water tank of Tlenguam R G Block in Aizawl district of Mizoram was started as an innovative experiment under MGNREGA. This water tank is built in the shape of the airplane along the road leading to the airport in Aizawl district.
  There are also public taps in the tank premises which provide safe drinking water.
- Toilets have been constructed in tank premises which can be used on payment basis.
  Haryana Government has developed a five pond system in rural areas for stabilization of waste water under MGNREGA. The main objective is to ensure proper disposal of waste water in rural areas and to clean the environment of the village by ensuring better living conditions.
- Ariad Gram Panchayat in Matilakam block of Thrissur district of Kerala has started a project to produce construction material. The cement- concrete blocks fabricated under this project were used for MGNREGA works like construction of individual household toilets.
- Under MGNREGA scheme, vermicomposting units are also being constructed.

MGNREGA FUNDS FOR RURAL CLEANLINESS:

- Substannal amount of MGNREGA funds are being spent on the activities related to rural cleanliness and the results have corne out as anticipated.
- During the Financial Year 2014-15, Rs. 92,435 lakhs have been spent on the construction of individual household toilets through this scheme.
- During the last financial year, the expenditure was more than Rs.13, 935 lakhs.
- On the construction of soakage pits, the expenditure was more than Rs. 15,598 lakhs during the last financial year as compared to Rs. 2,938 lakhs for the financial year 2014-15.
- During the financial year 2014-15, 1,676 lakh rupees were spent on solid waste managernent by way of constructing vermi/NADEP compost pits while more than 54,853 lakh rupees were spent last year on these works.
- During the financial year 2014-15, 49,512 lakh rupees were spent on solid and liquid waste management works like drainage channels, liquid bio fertilizer, recharge pits, school and aanganwadi toilets, soakage channels, village drains and stabilization ponds.
  As compared to this, in financial year 2017- 18 more than 85,221 lakh rupees were spent on these works.
- About 4,71,230 lakh rupees were spent on water conservation works in financial year 2014-15. However, as compared to this amount 6,92,216 lakh rupees were spent in financial year 2017-18.
- In all works related to cleanliness, 6,17,792 lakh rupees were spent in financial year 2014-15, 6,98,357 lakh rupees in 2015-16 and 9,87,822 lakh rupees in 2017-18.
- During the current financial year, about Rs. 5,93,070 lakh crore have been spend on all works related to cleanliness.

PHYSICAL ACHIEVEMENTS IN THE AREA OF RURAL CLEANLINESS THROUGH MGNREGA

- During the financial year 2014-15, 13.88 lakh individual household toilets have been constructed using MGNREGA fund. About 7 lakh toilets have been constructed during the financial year 2015-16, about 7.5 lakh toilets in financial year 2016-17 and about 9 lakh toilets in financial year 2017-18 by using MGNREGA funds.
- In financial year 2016-17, rapid construction of soakage pits was witnessed. As compared to construction of 37,000 soakage pits in financial year 2015-16, the number has markedly increased to 4,21,553 in finan2016-17. In financial year 2017-18 also more than 2,19,000 soakage pits were constructed.
- Solid waste management through constructing vermi/NADEP compost pits has also shown significant progress. Works related to this has increased from 5000 in 2014-15 to 182000 in 2016-17 and 254000 in 2017-18.
- Solid and liquid waste management through works like drainage channels, liquid bio fertilizer, recharge pits, school and aanganwadi toilets, soakage channels, village drains and stabilization ponds has also shown significant progress.
- In financial year 2015-16, 82,564 such works were completed. The number of such works increased to 3,82,725 in financial year 2016-17. During financial year 2017-18, also more than 1,83,000 such works have been completed.
- Under infrastructure development related to water conservation about 2,76,000 works were completed during the financial year 2014-15, 2,77,000 in the financial year 2015-16, 6,00,000 in the financial year 2016-17 and about 3,84,000 in the financial year 2017-18. All these facts and data clearly indicate that the present government is focussed on the development of rural areas and making the villages clean in every respect. For the development of the villages, country's lifeline in true sense, Ministry of Rural Development is making concerted efforts to ensure overall cleanliness in the rural areas.

ROLE OF PANCHYATS IN CLEANLINESS

- The village panchayats are not only focusing on cleanliness through individual household toilets now but also taking steps to clear waste through vermicomposting pits and taking up other activities like drainage channels, liquid bio fertilizer, recharge pits, school and aanganwadi toilets, soakage channels, village drains and stabilization ponds under the implementation of MGNREGA.
- However, considering the diversity of the villages in the country, it should be kept in mind that no one model of sanitation can be adopted for all 2,38,617 Gram Panchayats in India.
- MGNREGA's revolutionary initiative to make rural India clean and its effective implementation by the present government has is improving ecological balance and helping immensely in taking the country's rural population towards a clean and healthy environment.
- Prime Minister has launched the 'Swachhta Hi Sewa' programme from September. 2018 to 02 October 2018 that shows the people's participation at a very mass level.

AYUSHMAN BHARAT: INDIA'S ROAD TO UNIVERSAL HEALTH COVERAGE

- The Ayushman Bharat scheme, launched by the Honourable Prime Minister in April 2018 marks an

unprecedented high-level political commitment to Universal Health Coverage (UHC).

Ayushmaan Bharat comprises two pillars:

- The first is provision of Universal and Comprehensive Primary Health Care (CPHC) delivered in formulation of Health and Wellness Centres (HWCs); which are the transformed first two tiers of the public health system i.e. the Sub Health Centres (SHC) and the Primary Health Centres (PHC).

- The second component is the Pradhan Mantri Jan Arogya Abhiyaan (PMJAY), for provision of health coverage of upto Rs. 5,00,000/family for nearly 10.34 crore households to obtain secondary and tertiary impatient care.

Key Highlights of Ayushmaan Bharat

- Ayushman Bharat is the World's Largest Health Insurance Inttiative
- Provides comprehensive health coverage of upto Rs. 5,00,000/family to around 50 crore people.
- 1.5 Lakh Sub Centres (SHC) and the Primary Health Centres (PHC) transformed as Health and Wellness Centres (HWCs) to provide comprehensive Primary health services.
- In the last decade, the investment in health by both the centre and states has increased.
- As per the latest report of the Registrar General of India, Sample Registration System (RGI-SRS), MMR of India has shown a decline from 167 per 1,00,000 live births in the period 2011-13 to 130 per 1,00,000 live births in the period 2014-16.
- India has thus, achieved the Millennium Development Goal (MDG) for Maternal Mortality Ratio (MMR).
- Infant Mortality Rate (IMR) is 34/1000 live births with rate of decline increasing from 2.5% in 2013-14 to 8.1% in 2015-16.
- The Under-Five Mortality Rate (U5MR) in India is 39/1000 live births with rate of decline increasing from 8.2% in 2013-14 to 9.3% in 2015-16.
- At at the current rate of decline India will achieve the Sustainable Development Goal (SDG) target of USMR and MMR by 2023 itself.
- The country has also achieved the MDG 6, which was to reverse the incidence of Malaria, TB and HIV/AIDS.
- Despite these positive outcomes, some challenges even persist today viz. the unfinished MDG agenda, elimination of TB, eradication of Malaria, Kala Azar, relative lack of services for chronic diseases, inequity in access to services and fragmented and poor quality care that have forced care seeking in the private sector leading to high Out of Pocket Expenses (00PE).
- The World Bank estimates that just 10% of medical conditions require more complex treatment in hospitals or specialist care,
- The impetus on Ayushmaan Bharat: HWCs aimed at paradigm shift in provisioning CPHCs to people:
    - Continum of care telehealth\ Referral
    - Expanded Service Delivery
    - Expanded HR-MLHP and multiskilling
    - Medicines and expanding Diagnostics- point of care and new technologies
    - Community mobilization and Health Promotion
    - Infrastructure
    - financing/provider payment reforms
      robust IT system
    - Partnership for knowledge and implementation

NATIONAL HEALTH AGENCY (NHA)

- For focused approach and effective implementation of prime minister-Jan Arogya Yojana, an autonomous entity, the National Health agency was constituted. Established as a society on 11th May 2018, the National Health agency is registered under the society registration act 1860. The state governments are expected to similarly set up State Health Agencies to implement Prime Minister Jan Arogya Yojana.

AYUSHMAN BHARAT: SILVER LINING IN HEALTH CARE

- When the Government of India announced Ayushmon Bharat in the Union Budget for 2018-19, it signalled its intent to take health promotion and health care to the centre of the political discourse. With the launch of both components: the Health & Wellness Centres (H&WC), on 14" April PM-Jan Arogya Yojana (PMJAY) on 23'. September, the Government has amply demonstrated that the budgetary announcements not only had a strong political backing, but also sent out a clear signal that there is growing consensus in the higher echelons of Policy making that investing in a good health system is critical to building a prosperous India.
  - o The H&WCs are proposed to Provide Comprehensive Primary Health Care (CPC HC), covering both Mother and Child Health services, Communicable as well as Non-Communicable Diseases (NCO), including free essential drugs and diagnostic services.
  - o The Pradhan Mantri Jan Arogya Nana (PM-JAY) is the world's largest fully government funded health insurance program, aimed at providing financial protection for those seeking hospitalized care.
- PM-JAY will provide a cover of Rs 5 lakhs per family per year, against 1350 most commonly occurring disease conditions requiring secondary and tertiary care hospitalization.
- A minimum of 10.74 crore (approximately 50 crore beneficiaries) of the poorest and most vulnerable families will be covered.
- To ensure that nobody is left out (especially women, children and elderly) there is no cap on family size and age in the scheme as well as no exclusion on ground of pre-existing conditions.
- The benefits under the scheme are portable across the country and the health care services can be availed of by the beneficiaries in a network of empanelled facilities, both public and private.
- The transaction is completely cashless and paperless in so far as the beneficiary is concerned.

Ayushrnan Bharat, with its two components- Health & Wellness Centres (H&WCs) and PM Jan Arogya Yojana (FMJAY)- is an attempt to move from sectoral and segmented approach of health service delivery to a comprehensive system-based one. It undertakes path breaking interventions to holistically address health; adopting a continuum of care approach- addressing prevention, promotion, primary and ambulatory care; as well as secondary and ternary care requiring hospitalized treatment.

PRESENT SITUATION:

- A whopping 67 per cent, share of the overall financing of Indian health system is in the from out of pocket Expenditure by the Households, mostly at the Point of care.
- 95.39% of private health facilities are small facilities employing less than five workers.

The current legal framework for regulation of medical services is under the Clinical Establishment (Registration and Regulation) Act, 2010, Drugs & Cosmetics Act, 1940 and the various Acts governing the profession such as

Medical Council of India (MCI) and other related Professional councils.

E-GOVERNANCE INITIATIVES

- Ministry of Health & Family Welfare is promoting e-Health or Digital Health i.e. use of Information & Communication Technology initiatives in the direction of "reaching services to citizens" and "citizen empowerment through information dissemination" to bring about significant improvements in the public healthcare delivery.

The purpose of such initiatives is to:

- Ensure availability of services on wider scale.
- To provide health care services in remote and inaccessible areas through telemedicine.
- To address the health human resource gap by efficient and optimum utilization of the existing human resource.
- To improve patient safe, by access to medical records and helps reduce healthcare cost.
- To monitor geographically dispersed tasks and effective MIS for meaningful field in imparting training and capacity building. level interactions.
- To help in evidence based planning and decision making.
- To improve efficiency in imparting training and capacity Building.

AYUSHMAN BHARAT-PMJAY: INDIA'S ANSWER TO UNIVERSAL HEALTH CARE

India has achieved significant public health gains and improvements in health care access and quality over the last three decades.
Here is the summary:-

- The health sector is amongst the largest and fastest growing sectors, expected to reach US$ 280 billion by 2020.
- At the same time, India's health sector faces immense challenges. It continues to be characterized by high out-of-pocket expenditure, low financial protection, low health insurance coverage amongst both rural and urban population.
- It is a matter of grave concern that a high out-of-pocket expenditure is on account of health and medical costs. 62.58% of population has to pay for its own health and hospitalization expenses and are not covered through any form of health protection.
- Besides using their income and savings, people borrow money or sell their assets to meet their healthcare needs, thereby pushing 4.6% of the population below the poverty line.
- The Government of India has launched the Pradhan Mantri Jan Arogya Abhiyan so that the poor man, the common man gets free treatment for serious diseases and he can be admitted to big hospitals free of cost.
- Pradhan Mantri Jan Arogya Abhiyan and Ayushman Bharat Yojana will cover 10 crore families of the country.
- There is a provision of giving five lakh rupees per annum health assurance for each family. It means about fifty crore citizens belonging to ten crore families will be benefitted.

- It is important to note that Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (PM-JAY) aims to reduce the financial burden on poor and vulnerable groups arising out of catastrophic hospital episodes and ensure their access to quality health services. It seeks to accelerate India's progress towards achievement of Universal Health Coverage (UHC) and Sustainable Development Goal - 3 (SOG3).
- Pradhan Mantri Jan Arogya Yojana (PM-JAY) provides financial protection (Swasthya Suraksha) to 10.74 crore poor, deprived rural families and identified occupational categories of urban workers' families as per the latest Socio-Economic Caste Census (SECC) data (approx. 50 crone beneficiaries).
- PM-JAY has defined 1,350 medical packages covering surgery, medical and day care treatments including medicines, diagnostics and transport. To ensure that nobody is left out (especially girl child, women, children and elderly), there will be no cap on family size and age in the Mission. The scheme is cashless & paperless at public hospitals and empanelled private hospitals.
- The scheme is entitlement based, the beneficiary is decided on the basis of family being figured in SECC database.
- When fully implemented, the AB-PM-JAY will become the world's largest government funded health protection mission.

Two major initiatives in health sector, as part of Ayushman Bharat programme were announced by the Union Minister for Finance and Corporate Affairs, Shri Arun Jaffely while presenting the General Budget 201819 in Parliament on February 01, 2018 to address health holistically, in primary, secondary and tertiary care systems, covering both prevention and health promotion.

THE INITIATIVES ARE AS FOLLOWS:-

1) HEALTH AND WELLNESS CENTRE

- The National Health Policy, 2017 has envisioned Health and Wellness Centres as the foundation of India's health system. Under this, 1.51akh centres will bring health care system closer to the homes of people. These centres will provide comprehensive health care, including for non-communicable diseases and maternal and child health services. These centres will also provide free essential drugs and diagnostic services. The Budget has allocated Rs. 1200 crore for this falgship programme.

2) NATIONAL HEALTH PROTECTION SCHEME

- The second flagship programme under Ayushman Bharat is National Health Protection Scheme, which will cover over 10 crore poor and vulnerable families (approximately 50 crore beneficiaries) providing coverage upto 5 lakh rupees per family, per year for secondary and tertiary care hospitalization. This will be the world's largest government funded health care programme.
- In order to furthur enhance accessibilty of Quality Medical Education and Healthcare, 24 new government medical colleges and hospitals will be set up, by upgrading existing district hospitals in the country. This would ensure that there is at least 1 Medical College for every 3 Parliamentary constituencies and atleast 1 Government Medical college in each state of the country.

MAJOR IMPACT

- In-patient hospitalization expenditure in India has increased nearly 300% during last 10 years.

- More than 80% of the expenditure are made by out of pocket.
- Rural households primarily depend on their household income savings 68% and on borrowings 25%.
- The urban households relied much more on their income saving 75% for final expenditure on hospitalization and on 18% borrowings.
- Out of pocket expenditure in India is over 60% which leads to nearly 6 million families getting into poverty due to catastrophic health expenditure.

AB-PMJAY will have major impact on reduction of out of pocket expenditure on ground of:-

- Increase benefit cover to nearly 40% of the population, the the poorest and vulnerable.
- Covering almost all secondary and many tertiary hospitalization except in negative list.
- Coverage of 5 lakh for each family, no restriction of family size.
- Ayushman Bharat will leverage on comprehensive Primary Health Care through health and Wellness centres for preventive, promotive and curative care and will ensure seamless continuum of care.
- All public hospitals in the states implementing Ayushman Bharat will be deemed empanelled for the scheme as for Private hospital they will be empanelled online based on defined criteria.
- Also all pre-existing conditions will be covered from day one of the policy.
- A define transport allowance for hospitalization will also be paid to the beneficiary.

EXPENDITURE INVOLVED

- The scheme will initially cover 40% of the population.
- Expenditure incurred on premium payment will be shared between Central and state government in a specified ratio as per Ministry of Finance guidelines in vogue.
- The total expenditure will depend on actual market determined premium paid in States/ UTs, where AB-PMJAY will be implemented through insurance companies.

NUMBER OF BENEFICIARIES

- AB-PMJAY will target about 10.74 crore poor deprived rural families and identified occupational category of urban workers family as per the latest Socio Economic Caste Census Data(SECC) covering both rural and urban States.

DISTRICT COVERED

- AB-PMJAY will be rolled out across all state/ UTs, in all districts with an objective to cover all the targeted beneficiaries.

IMPACT

- According to International rating agency moody's Ayushman Bharat is credit positive for insurance company as it will aide in higher premium growth.
- British Medical Journal Lencet has praised Prime Minister Narendra Modi for prioritising Universal Healthcare with his Ayushman Bharat initiative.

- An Article by the General Editor in Chief Richard Horton appreciated the Modi government for recognising the perils of public discontent about health after years of neglect.
- Modi is the first Indian Prime Minister to prioritise Universal health coverage as a service political platform, Horton wrote in his article.

POSHAN ABHIYAN: TOWARDS HOLISTIC NUTRITION

In the last decade, India has made some improvements in tackling malnutrition.

- Stunting has declined from 48% in 2005-06 to 38.4 per cent in 2015-16
- Underweight prevalence has reduced by 0.68% points from NFHS-3 to NFHS-4.
- According to the National Family Health Survey-4, over one-third of all under five children are stunted (low height for age), every fifth child is wasted (low weight for height), and more than 50% children are anemic.
- Furthur, half of the women in reproductive age-group are aneamic and only 10% of children between the ages of 6 and 23 months are receiving an adequate diet.
- A 2017 report published by Save the Children indicates that over two-third of the world's stunted children live in 10 countries.
- In this list of ten countries, India is ranked number one with an estimated 48.2 million stunted children.
- A World Bank estimate indicates reducing stunting in the country can raise the GDP of India by 4 -11% on the other hand, the Global nutrition report estimates returns US dollar 16 for every US Dollar 1 spent on health and nutrition. Additionally, undernutrition is a prime risk factor in over 40% of under-five child deaths.
- The India's Infant Mortality Rate has declined from 37 per 1000 live births 34 per 1000 live births in 2016, tackling malnutrition will be crucial for bringing the IMO down for the an accelerating the rate of decline.
- According to NHFS-4 data, the states which have the maximum population of undernourished people are Bihar and Madhya Pradesh.
- The problem of overweight people, on the other hand, is more accurate in Andhra Pradesh, Sikkim and Goa.
- Anaemia levels in women range from 45% in Karnataka to 63% in Haryana.

Acknowledging malnourishment as a major challenge, Poshan Abhiyan was launched by the Prime Minister in March, 2018 with the aim of improving nutritional outcomes for children, pregnant women and lactating mothers. It is an ambitious mission that targets prevention and reduction of undernutrition across the lifecycle as early as possible, especially during the first two years of life.

PILLARS OF THE ABHIYAN

- Programmatic convergence for enabling the development of a shared understanding of roles and responsibilities as well as mutual accountability mechanism across sectors.

- Focussing on the first 1000 days of a child's life by providing health and nutrition service in an intensive manner. Studies indicate that 80% of the brain development occurs during this age. Thus, in addition to ensuring the availability of age-appropriate complementary goods, counselling families about the importance of feeding practices will be critical element of poshan Abhiyan. Furthur, there will be an emphasis not just on food but a range of essential Healthcare measures including birth spacing,

delaying age of marriage, exclusive breastfeeding for 6 months and immunization.

- Incentive will also be provided to states and districts.

- Incentives to motivate the Frontline workers.

- Greater flexibility will be given to States enabling the scaling up of innovative and impactful Service Delivery models across States.

NATIONAL NUTRITION MONTH

- September was celebrated as the Rashtriya poshan maah across the country to address the malnutrition challenges and sensitize the country man regarding the importance of Holistic nutrition. National nutrition month is aimed at making people aware of the importance of nutrition and giving individual access to government services to support supplement nutrition for the children and pregnant women/ lactating mothers.

- Ministry of Women and Child Development as the nodal agency, launch Rashtra portion Maah or national nutrition month across the length and breadth of the country on 1st September 2018 with wide range of activities focusing on antenatal care, aneamia, growth monitoring, girls education, diet, right age of marriage, hygiene and sanitation, eating healthy as themes were organised during the maah.

- Despite significant economic growth over the last two decades and the consequent social gain it has endangered, the prevalence of pernicious and invisible malnutrition continues to present a daunting challenge while progress has been made, we're still lagging behind other emerging economies such as Brazil, China, Mexico which fare far better than us on kry nutritional outcomes.

- A recent World Bank report estimates that about two third of the workforce in India on an average earns13% less than what they would have if they had not been stunted during childhood.

- Another World Bank study calculate that malnutrition cause India's GDP between two and three points. Every year with the launch of the portion Abhiyan we have historical opportunity to change this statistics and Conquer malnutrition.

NATIONAL DISSEMINATION WORKSHOP ON ANAEMIA MUKT BHARAT AND HOME BASED YOUNG CHILD CARE

- The Two-Day National dissemination workshop on anaemia Mukt Bharat and home based young childcare was inaugurated by MoS of MoHFW. The objective of this work shop was to orient the state program managers for rolling out these interventions. The anaemia Mukt Bharat intensified iron plus initiative aims to strengthen the existing mechanism and foster, newer strategies for tackling anaemia, focused on six target beneficiary groups, process interventions and six institutional mechanism, to achieve the envisaged target under the Poshan Abhiyan.

HEALTHCARE FOR INDIA'S REMOTE TRIBES

- With the population of more than 10.2 crore, India has single largest tribal population in the world. According to Census 2011, the tribes of India constituted 8.6 % of its total population and at present,

there are 705 Scheduled Tribes groups and among them 75 are considered as Particularly Vulnerable Tribal Group and each group is different from other from ethnic and cultural stand points.

- Geographically, they are spread across all States/UTs but the greatest number is in Madhya Pradesh 12.23 million or 20.3 percent of the states population, Maharashtra 8.58 million or 8.9%, Odisha 8.15 million or 20 2.1 % , Jharkhand 7.1 million or 26.3 5%, Chhattisgarh 6.16 million or 30 1.8%, Andhra Pradesh including Telangana 5.02 million or 6.6 % , and West Bengal 4.4 million or 5.5%.

- However, the population of states in the North East have the greatest concentration of STs that is 31% of the population of Tripura, 34% of Manipur, 64% of Arunachal Pradesh, 86% of Meghalaya 88% of Nagaland, and 95% of Mizoram are scheduled tribes.
  Other heavy concentration are in Dadra and Nagar Haveli, Lakshadweep 94%.

- Tribal people have high fertility rate TFR-2.48 as per NFHS-4 followed by Low institutional delivery rate 68% and higher maternal mortality and infant mortality 44.4% compared to National average.

- Immunisation status is by and large poor among them. The tribal population have high prevalence of malnutrition stunting and underweight especially among pre-school children and anaemia among the women in general.

CHALLENGES AND NEED OF THE HOUR

LACK OF AWARENESS OF HEALTH ISSUES

- Because of high Illiteracy, poor educational level and insufficient exposure to the external world, tribal could not identify what is good or what is bad for them without Awareness of health issues, most tribal population tend to fall ill more frequently and wait too long before seeking medical help, or are referred too late by untrained village practitioners.

HEALTH FACILITIES IN REMOTE TRIBAL AREAS

- There is always a scarcity of Healthcare facilities in terms of infrastructure, inadequate or no drug and Diagnostics and personnel in tribal areas.

LACK OF EMERGENCY TRANSPORTATION

- Typically, pregnant women or sick person from remote tribal hamlets are unable to make it to health facilities in time for institutional deliveries or emergency medical care or want of easily and affordable transportation.

DISCRIMINATORY BEHAVIOUR BY HEALTHCARE PROVIDERS

- There are deep-rooted cultural chasm between tribal groups and largely the non-tribal Health Care providers, resulting in insensitive, dismissive and discriminatory behaviour on the part of Healthcare personnel.

FINANCIAL CONSTRAINT

- As most of the rural population live below the poverty line, the lack of funds influences how much in what type of Healthcare the received and determine whether households are able to maintain their living standard when one of the member falls ill.

The delivery of health services in India, however, is yet to improve itself, particularly in rural areas, as it lacks quality health facilities and human resources, financial limitations, absence of health awareness. T he framework of Government of India's fiscal responsibility legislation and that of the state restrict vigorous pressing for public expenditure on health services financed by respective Government deficits and public borrowing.

In this context, an attempt is made to look into the Government's of recent commitment and efforts for ensuring "Health for All".

RURAL HEALTH INFRASTRUCTURE

India's Rural Health Care delivery is characterized by three-tier system.

- At the lowest level are the Sub-centres (SCs) with each covering a population between 3000 in hilly/difficult areas and 5000 in plain areas.
- Second tier is Primary Health centres (PHCs) covering a population of 20000 to 30000.
- The third tier is Community Health Centre (CHCs) with the population of 8000 to 120000.

SCs are the most peripheral and the first contact between primary health system and the community and are responsible for bringing about behavioural change in providing services in relation to maternal and Child Health, Family Welfare and nutrition, immunization and control of communicable diseases.

- Raising public health expenditure to 2.5% of GDP.
- Positive and proactive engagement with the private sector to achieve national goals.
- Financial and other Incentives for encouraging the private sector participation.
- Investment in health, organization and financing of healthcare services.
- Prevention of diseases and promotion of good health through cross-sectoral action.
- Ensuring access to Technologies, developing human resources, encouraging medical pluralism, building the knowledge base required for better health, financial protection Strategies and regulation and progressive insurance for health.
- Reorienting and strengthening Public Health institutions across the country, so as to provide universal access to free drugs, diagnostics and other essential healthcare.
- Achieving significant reduction in out of pocket expenditure due to healthcare costs.
- Ensuring voluntary service in rural and under-served areas on pro-bono basis by recognized healthcare professionals under a 'giving back to society' initiative.

FINANCING HEALTH CARE

Compared with other developing nations, the health status of India is still lagging behind in adequate public spending on medical, public health and family welfare. The gap is also quite sharper between the actual spending and the required amount in relatively economically backward states within the country.

- A review of budgetary allocations under the Ministry of Health and Family Welfare indicates that

health care schemes got a paltry 2 per cent hike in its 2018-19 budgetary allocation as compared to the Revised Estimates of 2017-18.

- National Rural Health Mission — that caters exclusively to the rural health care delivery got Rs. 1,179 crore less in 2018-19 over 2017-18.
- There is a considerable increase 36% of fund allocation in 2017-18 over 2016-17.
- However, the BE 2018-19 for health care registered only 2% increase against the RE of 2017-18.
- Data from NITI Aayog indicates that the Budget 2018-19 allocated 36% less for health care against its allocation of Rs. 65,000 for that year.
- Further, it has allocated Rs. 1,00,000 crore for health during 2019-20 keeping in view the requirement of enhanced public expenditure on health care in India and the urge, in achieving the health outcomes committed by the government.

Research on nutritional status of adolescents in India reveals that more than 80 per cent of the adolescent girls are either malnourished or anaemic having low BMI.

- PHCs are the first contact between the village community and the medical officer. The PHCs are the main catalytic and vital organs to ensure the governments vision of health for all.
- As on 31st March 2017, there were 1,56,231 SCs, 25,650 PHCs and 5,624 CHCs operating in India.
- The SCs , PHCs and CHCs have increased in numbers between 2005 and 2017.
  However, these are not sufficient to meet their respective population norms thereby, adversely affecting smooth and doorstep delivery of healthcare in rural areas.
- The coverage of rural health facility as on 31st March, 2017 indicates that the additional efforts are required to establish more number of health facilities to match the norms of the health infrastructure in rural areas.

NATIONAL HEALTH POLICY, 2017

- The union government announced the revised National Health Policy, 2017 on 15 March, 2017 with a view to achieve Universal health coverage and deliver quality Healthcare services to all at an affordable cost. It has provisions for offering drugs, Diagnostic services and emergency care services free of cost in all public hospitals to ensure financial protection at secondary and tertiary Healthcare levels. Considering the less than adequate spending on health services, the policy advocated a comprehensive integrated and accessible public health care system.

BUDGET 2018-19 AND AYUSHMAN BHARAT PROGRAM

- Union budget 2018-19 underscore renewed importance to Universal Health Care delivery to realise India's demographic dividend. It announce Ayushman Bharat programme for making path breaking interventions to address health holistically, in Primary, secondary and tertiary care system covering both preventive and Health Promotion. Keeping in view the recommendations of the National Health Policy, 2017, the budget of Rs 1200 crore was passed to finance 1.5 Lakh health and Wellness Centre in order to revolutionize India's health system by bringing Healthcare system closer to the homes of the needy. The centres are required to provide not only comprehensive Health Care, including for non-communicable diseases and maternal and Child Health Services, but also to provide free essential drugs and Diagnostic services considering the ever increasing out of pocket expenditure on health by

lakhs of families.

- For indoor treatment in hospitals, the government decided to launch of flagship National Health Protection Scheme to cover over 10 crore poor and vulnerable families providing coverage up to rupees 500000 per family per year for secondary and tertiary Care Hospitalization.
- The funds allocated for Ayushman Bharat Health protection mission Rashtriya Swasthya Bima Yojana (now be read as Ayushman Bharat Pradhan Mantri Jan Arogya Yojana) for 2018-19 is Rs 2,000 crore.
- In addition, the existing beneficiaries of a Rashtriya Swasthya Bima Yojana and senior citizen Health Insurance Scheme who do not figure in the SECC database are also entitled to avail the benefits under the scheme.
- The identified beneficiary families are entitle for health insurance coverage of rupees 500000 per family per year, on family floater basis, for hospitalization in any empanelled hospitals both public and private, anywhere in the country.
- The Healthcare budgetary support to the existing initiatives and innovative scheme may not be adequate keeping in view the health needs of the citizen and the country's performance in achieving mandated health outcomes under Millennium development goals. A recent estimate indicates that the public expenditure on health care in India is only 1.4 % of the country's GDP whereas the world average is 6%.
- Also, a PRS legislative research study indicates that about 86% of rural population are not covered under any scheme of health expenditure support of the government.
  UNICEF 2013 study on adolescence in India based on review of existing evidence and programs and policies revealed that there is ample data on adolscents but they are mostly focussed on 15-19 years of age. Government scheme.

Recognising the above situation, the central government launched two schemes to address the needs of adolescent girls, especially among the disadvantage communities:-

- Kishori Shakti Yojana scheme was launched in the year 2000 to improve the health and nutritional status of adolescent girls and to improve their around development mainly knowledge and Awareness of health, nutrition, personal hygiene, family welfare and management and to upgrade the home based and vocational skills.
- Nutrition Programme for Adolescent Girls was launched in 2002-03 for adults and girls in 51 selected districts to address undernutrition of girls.
- Because of limited financial assistance and coverage under KSY and NPAG, the government has combined the existing two schemes into a pilot scheme with comprehensive coverage and launched as **Rajiv Gandhi Scheme for Empowerment of Adolescent Girls**. The scheme aims to support the empowerment and development of adolescent girls aged 11-18 years by making them self reliant, improving their health and nutritional status, promoting health awareness hygiene and nutrition. The scheme is being implemented in 205 district across the country.
- The target group of the scheme is divided into two age specific subgroups that is 11-14 years and 15 -18 years to address the age appropriate specific needs intervention on health and personal hygiene care planned differently to meet the needs of two subgroup girls.
- The main Emphasis of the scheme is out of school girls and intends to provide all 11-18 years of OOSGs nutritious fund under the nutritious component through take home ration or hot cook meals served at Anganwadi centres.

ADOLESCENT HEALTH

Adolescence is classified into:-

EARLY ADOLESCENCE

- early adolescence period between the ages of 10 -14 years.

LATE ADOLESCENCE

- Late adolescence the period between the ages of 15 to 19 years.
- some authors have divided adolescence in 3 age groups:-
- Early adolescence (10 to 13 years)
- Middle adolescence (14 to 16 years)
- Late adolescence (17 to 19 years)
- There are about 253 million adolscent (10-19 years) living in our country out of which, more than 60% live in rural areas.

Problems in the adolescent age group

- About 47% of Indian women are married before the age of 18.
- According to NFHS-3 unmet need for family planning in the 15 -19 years age group is 27%.
- About one-fifth of the pregnant girls below 20 years of age have no antenatal checkups.
  Perinatal deaths and infant mortality is higher in girls aged less than 20 years.
  The incidence of low birth weight babies is higher among adolescent mothers.
  NFHS-3 data shows that about 56% of females and 30% of males in the 15 -19 age group are anaemic. In this age group, 47% females and 58% males were thin. Data also show that 2.4% females and 2% males were obese.

ADOLESCENCE HEALTH AND FACTS

- According to National family health survey, 31.5 % of the currently married women aged 20-24 were married before 18 years of age and 24.4 % of men aged 25 -29 years were married before 21 years of age in rural India.
- National Mental Health Survey 2015-16 report showed up prevalence rate of 0.8% for depression among 13 -17 year old adolescence.
- As per National Mental Health Survey 2015-16, the prevalence of mental disorder in the age group of 13 -17 years was 6.9% in rural areas.
- As per NFHS-4N 9.2 % of girls 15-19 years from rural areas were either pregnant or have already given by to a child.
- According to global youth tobacco survey, 14.6% of students in class 8th to 10th used any form of tobacco, 4.4smoke cigarettes, 12.5% currently used other forms of tobacco.
- According to NFHS-4 data adolescent age group 10-19 years forms about one-fifth (19.5 percent) of the total population of India.
- The age group when divided into early 10 to 14th and late adolescence 15 to 19 years group form

10.1% and 9.4 % of the total population of the country.

- The adolescent age group 10 to 19 years comprises 20.2% of the rural population of India.
- Data from NFHS-4 show that 10% percent of the adolescent females aged 10 to 19 years never went to school.
- Similarly, about 7.5% males adolscent had no schooling.

DEVELOPMENT OF ADOLESCENT HEALTH PROGRAMMES

- **Development of adolescent Health Programme require various principle. These are:**
  - Life course approach
  - ecological model
  - human right based approach
  - heterogeneity
  - equity
- A Publication for adolescent health in Southeast Asia region by World Health Organisation show that in India about 19% female and 35% male age between 15 to 19 years of age have comprehensive knowledge of HIV/AIDS.
- About 23% of adolescent females have body mass index below 18.5%.
- Current cigarette smoking and current tobacco use among 13 to 17 age group old student 11.2 person and 3.6%.
- Among 13 to 17 year old students 8% use alcohol, about 2.8 % of adolescent uses any one drug and 1.9% used multiple drugs.
- Vulnerable or out of School adolescents lower Secondary School Asia about 14.8%.
- Unmet need for family planning among 15 to 19 years old was 27% .
- Maternal mortality rate (per 1000 live birth) in 10 to 19 years female in the year 1990 was 254.6 in the year 2008 became 220.6 which was for the reduced to 121 during the year 2015.

RASHTRIYA KISHOR SWASTHYA KARYAKRAM

RKSK identify 6 strategic priority areas for adolescents

- improved nutrition
- improve sexual and reproductive health
- enhance mental health
- prevent injuries and violence
- prevent NCDs

Intervention under RKSK:-

ADOLESCENT FRIEND HEALTH CLINICS

- In India, 7298 AFHCs have been establish and about 60 lakh adolscents avail services in a year.
- Weekly iron Folic acid supplementation programs aims to cover a total of 11.6 crore beneficiaries both in school and out of school.

MENSTRUAL HYGIENE SCHEME

- Rs. 44.7 6 crore have been allocated through National Health Mission to the 18 States for decentralized procurement of sanitary napkin during the financial year 2017-18.

PEER EDUCATION PROGRAM

- About 1.93 laks have been selected and are being trained.
- **SAATHIYA Resource Kit and Saathiya Salah mobile app for adolescence**
  - o It is a part of Rashtriya Kishor Swasthya karyakram program. The key interventions
  - o under the RKSK program the introduction of the peer education.
- **Health ministry has launched the Saathiya resource kit including Saathiya Salah mobile app. This resource kit comprises:-**
  - o Activity book
  - o Bhranti Kranti game
  - o question answer book
  - o Peer educator diary

GOVERNMENT INITIATIVES FOR ADOLESCENT HEALTH:

SCHOOL HEALTH PROGRAMME:

- To handle the health problems/requirements of the 6-18 Year age groups in the Government & Government aided schools.
- Preventive biannual health check-ups and screening for diseases, deficiency, and disability amongst school going adolescents.

RASHTRIYA BAL SWASTHYA KARYAKRAM (RBSK):

- A systemic approach of early identification and early intervention for children from birth to eighteen years to cover 4'D's viz. Defects at birth. Deficiencies, Diseases, Development delays including disability.

KISHORI SHAKTI YOJANA:

- To improve the nutrinonal, health and development status of adolescent girls, promote awareness of health, hygiene, nutrition, and family care. This scheme is replaced by Scheme for Adolescent Girls.

BALLKA SAMRIDHI YOJANA:

- To change negative family and community attitudes towards the girl child at birth, improve enrolment and retention of girl children in schools and raise the age at marriage of girls.

RAJIV GANDHI SCHEME FOR EMPOWERMENT OF ADOLESCENT GIRLS (RGSEAG)-SABLA:

- Self-development, improvement in nutritional and health status. Promote awareness about health, hygiene, upgrade their home-based skills, life skills and ne up with National Skill Development Program NSDP for vocational skills.

INTEGRATED CHILD PROTECTION SCHEME (ICPS):

- To build a protective environment for children in difficult circumstances through Government-Civil Society Partnership.

ADOLESCENCE EDUCATION PROGRAMME:

- Aims to empower young people with accurate, age-appropriate and culturally relevant information, promote healthy attitudes.

NATIONAL PROGRAMME FOR YOUTH AND ADOLESCENT DEVELOPMENT:

- To develop leadership qualities and to channelize their energy towards socio-economic development and growth of the nation.

ACCREDITED SOCIAL HEALTH ACTIVIST

- One of the key components of the National Rural Health Mission is to provide every village in the country with the train female Community Health activist ASHA or Accredited Social Health Activist. Health activist selected from the village itself and accountable to it. The ASHA will be trained to work as an interface between the community and the public health system.

MOBILE CONNECTIVITY FOR RURAL HEALTH

- Since the Millennium Development Goal was formulated by the United Nations in the year 2000. The indian government undertook large scale efforts to meet its objective number 4, 5 and 6 of reducing child mortality, improving maternal health and combating HIV/AIDS, malaria and other diseases.
- A lot of success has been achieved but a lot needs to be done.

PERSISTENT CHALLENGE

- However, during the last 5 years, rural life witnessed a drastic shift.
- The agent that has brought change even in remotest area is mobile phone. Ir has acted as an enabler and force multiplier for the Healthcare workers and the general people alike. The communication has

fundamentally altered the reach, efficacy and effectiveness of ASHA, Anganwadi workers and ANMs (Auxiliary Nurse and Midwifree).

- Similarly, the net connectivity available in mobile has made the process of communicating new ideas and getting feedback from the target audience that much easier and focussed.

- One such initiative has been extremely successful in the state of Uttar Pradesh where Asha workers were by the launch of app called Mshakti initiated in 5 districts with population of 15 million people, was downloaded by 12000 health workers. It helps to be in constant touch with their supervisors, track and report health related date of the community, they are working with and also help the new parents in teaching them how to save their newborn from various illnesses.

- On nationwide scale, the Government of India launched a National Health portal in six languages including hindi, tamil, Gujarati, Bengali and Punjabi.
  The app also list government schemes and how to access them online.
  Online registration system and Mera aspataal apps have created a completely new paradigm for every citizen of the country especially people in the rural areas.

The Mera aspataal seeks patient feedback to create a more responsive and patient driving Healthcare service. Apart from this, the government has launched many apps to provide Healthcare interventions and they have been especially successful in rural areas as they have bridge the spatial gap and cut the access time of the service to zero.

- A few such initiative like mission Indradhanush launched in 2016, which tracks the immunization of children and helps the parents in carrying out timely and complete immunization programme. Similarly, India fights dengue, NHP Swasth Bharat, and HP directory service, Pradhan Mantri Surakshit Matritva Abhiyan app and others have been able to not only act as a first port of call for generating awareness among the people, but also becoming an equal partner in information dissemination by actively seeking the feedback.

- Another intervention that uses mobile phones extensively is kilkari initiative. It is a 72 message series delivered from pregnancy onwards to systematically prepare the women and her family about the pregnancy issues, childbirth in childcare. Till date close to 6 crore successful calls have been made under kilkari in Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and Uttarakhand. It means close to 84 lakh women have received the full series of 72 messages.

TELEMEDICINE: A NEW HEALTH OPPORTUNITY

- Ayushman Bharat is the biggest social reform that India has witnessed since ages. This scheme is a stepping stone for many things positive in the rural India. This is a step where the Prime Minister and his team deserves a pat on back and commands appreciate from all quarters.
- But still there are few challenges for Ayushman Bharat in many rural areas and the only solution to this is extremely simple and practical, that is, Telemedicine.
- India has roughly 550 million internet users today out of which 210 million users are rural users and have access to internet. This makes telemedicine one of the strongest solution for India's poor Public Health infrastructure at rural and small city level.

CURRENT STATUS OF TELEMEDICINES

Biggest steps have been taken by the government itself through programs such as:-

- Accredited Social Health Activist who are part of Government of India's National Rural Health Mission are using basic tele-health programs for pregnant women and children.

- NEHA and digital India are using a health means and programs in their campaign.

- Ministry of Health and Family Welfare has undertaken various initiatives using Information and Communication Technologies (ICT) for improving efficiency and effectiveness of the public health care system in India.

Currently, in India, telemedicine revenues comes naturally from the companies who made these devices for tele-medicine. Only a handful of private companies are facilitating tele-medicine in rural and small cities. However, the opportunity is huge to say the least. An average of 30- 35% of admissions in big City Hospital comes from small cities and villages from nearby areas. It effectively means that each year millions of Indians travel to far of cities from home for better health care requirement. This is a huge opportunity for any private player to invest in the system. A country as big as India offers a playground for health visionary to experiment, sale and create a solution that works.

- Telemedicine is used across the world as one of the most powerful Public Health tools. Countries like USA, South Korea using it practically since the 1980s. Today it is effectively practice even in underdeveloped countries of Africa such as a Zombie where it was used during the Ebola outbreak.

- In India, especially in small town Rural Health perspective, telemedicine can add much larger value as compared to any other countries. African countries have patients but not technology players and even good doctors, developed countries by virtue of being develop have little need. Developed countries in Southeast Asia and LATAM are best positioned to use telemedicine to the rural health advantage. India is at the top of this dynamics because India have best doctors in the world and best technology innovators. The scenario where 600+ districts have access to best of countries healthcare and there is only one thing that can make it possible is telemedicine.

In India, telemedicine program find the support in the following:-
- Department of Information Technology
- Indian Space Research Organisation
- TEC and Telemedicine program for north eastern state and
- state governments

EFFECTIVE USE OF TELEMEDICINE BY HOSPITALS

- The Apollo hospital was one of the first to set up a telemedicine facility in a rural village call Aragonda (16 km from Chitoor), population 5,000, Aragonda project in Andhra Pradesh.
- All India Institute of Medical Science, New Delhi
- Sanjay Gandhi postgraduate Institute of Medical Sciences, Lucknow.
- Postgraduate Institute of Medical Education and Research, Chandigarh .

- A Coronary Care Unit inaugurated in Siliguri District hospital, Siliguri, West Bengal.
- Bankura sammilani Hospital, Bankura, West Bengal, inaugurated on 21st July 2001.
- The latest to join is the Medanta Medicity Hospital who on launched their e-clinics website for tele-consultation.

SWACHH BHARAT MISSION: INDIA SANITATION REVOLUTION

- Swachh Bharat mission sort to reform the sanitation sector with the primary focus being on behavioral changes as a fundamental tool for achievement of open defecation free outcomes. Inclusiveness under the swachh Bharat Mission was achieved by designing public and community toilets keeping in mind the special needs of menstruating women, the elderly, the specially abled and small children. Furthur, the mission sort to promote gender sensitive, information, education and communication/behavioral changes.
- The mission issued gender guidelines in 2017 and menstrual management guidelines in 2015.
- The swachh Bharat mission represents a national movement with diverse stakeholders comprising of Central Ministries, state governments, local Institutions and non-government and semi-government Agencies, corporates, NGOs, faith organisations and media. This approach is based on the Prime Minister Narendra Modi's call that swachata has to be everyone's business and not only that of the sanitation department.
- A host of a special initiatives and projects have come out in quicktime. The inter-ministerial projects included swachata pakwada, Namami Ganga, swachhta Action Plan, swachh Swasth sarvatra campaign, School sanitation drives, Anganwadi sanitation drives, Railway sanitation etc. The intersectoral collaborations included swachh iconic places, corporate partnership, interface Corporation, media engagement and Parliament engagement.
- Swachhata Action Plan was developed by 76 Union Ministries and departments and webpage portal was developed to monitor progress and highlight implementation status. Swachhgrahis were appointed and Swachh Shakti awards were instituted to further enhance women involvement with the program.

The swachh Bharat mission is a highly successful mission. The achievement numbers are very impressive.

- As of July 2018, the rural sanitation coverage has reached 87.5% and 7.7 crore toilets have been constructed.
- 413 districts have been declared open defecation free.
- 3.97 lakh villages have been declared open defecation free.
- 19 States have been declared as open defecation free.
- A swachh survekshan is being conducted across the country to rank the districts and States on the performance on key swachata parameters.
- Every fortnight, the Ministry of Sanitation and Drinking Water publishers a newsletter swachhta Samachar, which highlights the activities of various Ministries and states on sanitation.
- The Ministry of Health and Family Welfare observe the Swachhta Palhwada in all health Institutions and public health facilities of India with the tagline "Swachata se Siddhi".
- The Ministry of Environment and Forest integrated swachata with World Environment Day through the "Beat the plastic" campaign. Intensive cleaning of 24 beaches and 24 riverfronts was taken up across the country. 10,000 school students participated in the Mini-Marathon environment in New Delhi.

- The Ministry of Coal, introduced the concept of green haat in villages surrounding coal mines.
- Installation of sanitary napkin vending machine was taken up in schools and postage stamps were released.
- The Ministry of Labour and Employment took the initiative of a "no polythene" drive and ban plastic in their office premises of Shram Shakti Bhawan.
- The Ministry of Science and Technology conducted workshops on cleanliness and waste management, including of campaign on discouraging plastic usage.
- The Ministry of Power Organisers, organised various activities like drawing competition, debates, quizzes essay writing, speeches and Nukkad Natak, for awareness generation.
- States joined with their own innovative programs. Bihar launched the "Swachh Jeevika campaign" on July 1, 2018. The campaign to be implemented over 45 days seeks to mobilize toilet construction in 36.4 lakhs self help group members, associated with Bihar Jeevika program.

KAYAKALP (CLEAN HOSPITAL) CAMPAIGN

- The Ministry of Health and Family Welfare launched kayakalp (clean Hospital) campaign on 17th July 2015 under swachh Bharat mission. The AIIMS institutional response to launch "Clean and green" AIIMS campaign and receive to National awards under the Kaya Kalp clean Hospital campaign in 2016 and 17 and was adjust the cleanest hospital in India in 2017.
- It was a phenomenal successful campaign, implemented in India's largest Public Hospital with 33.41 lakh out-patients per annum, 2362 in-patients and 12000 employees.

Digital India

Saansad Adarsh Gram Yojana

Skill Development Scheme for Youth

Pradhan Mantri UJJWALA Yojana
Swachh Indhan, Behtar Jeevan

Clean Fuel.

सत्यमेव जयते

Deen Dayal SPARSH
(Scholarship for Promotion of Aptitude & Research in Stamps as a Hobby)
Yojana Scholarship Scheme to Promote Philately

राष्ट्रीय स्वास्थ्य बीमा योजना

RASHTRIYA SWASTHYA BIMA YOJANA
Benefits, Premium & Coverage
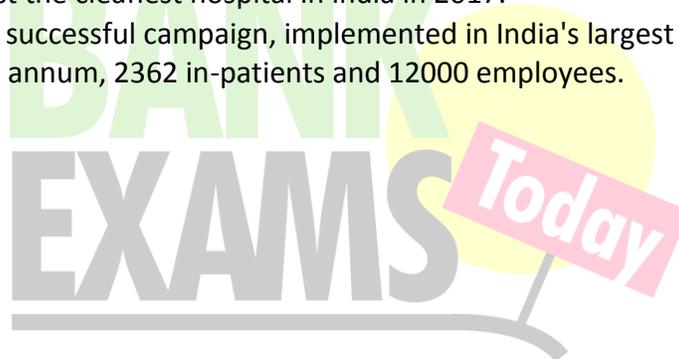
Kurukshetra Magazine Summary November 2018

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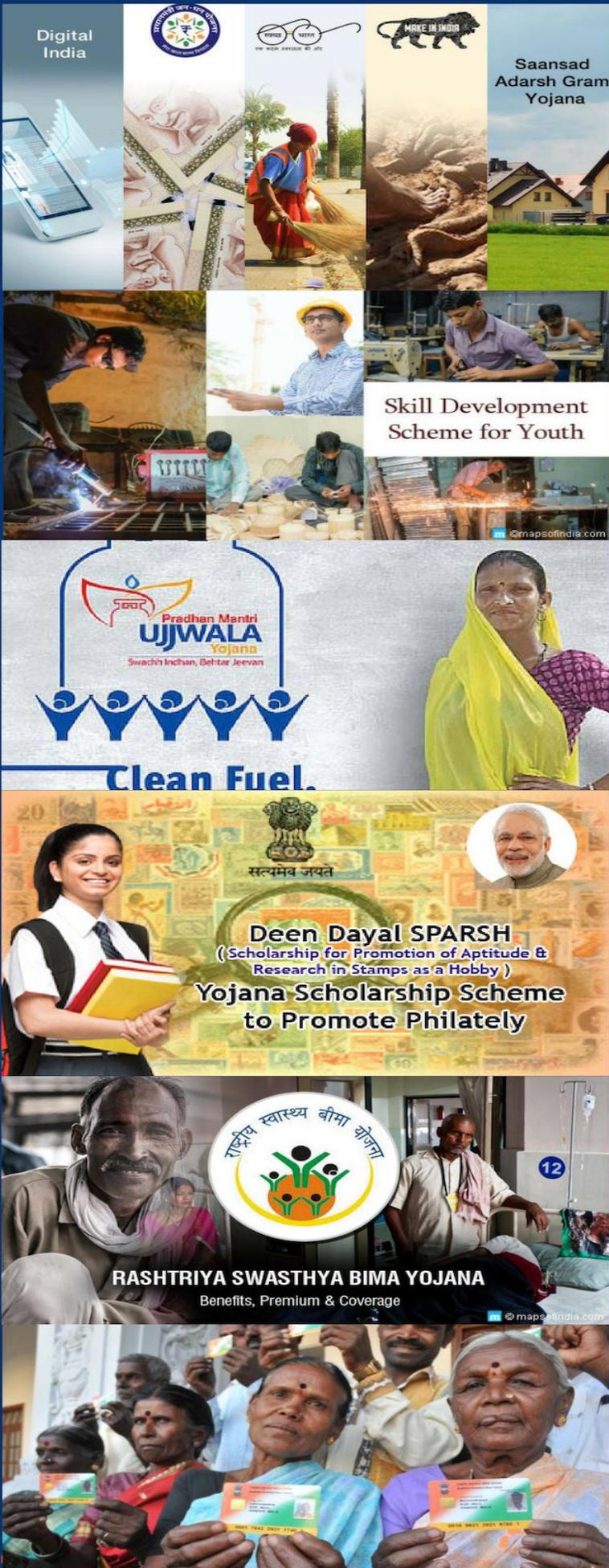
A. SWATCH BHARAT ABHIYAN: PEOPLE'S MOVEMENT

- When Prime Minister of India announces Swatchhta campaign in his Independence Day speech of 2014, some believe that the scheme would be a photo-opportunity with very little progress. In the history of independent India, it is one scheme which the people of India snatched away from the government and converted into a people's movement. But this people movement has today transformed into a women's movement with the rural women playing a leading role in the program. When the scheme was announced the rural sanitation coverage of India was just only 39%. The prime minister announced a target that India be made Open Defecation Free when we celebrate 150th birth anniversary of Mahatma Gandhi in 2019. Global experts believe that the swachh Bharat mission will have saved over 3 lakh lives in the country by the time we become open defecation free in 2019. Toilets in several parts of India have been named **"izzat Ghar".** This is for the first time that the subject matter in the toilet construction campaign has taken a central stage of the national agenda. With the rural roads, rural electrification, rural awas Yojana, toilets and cooking gas connection with food grains provided at a modest cost, the quality of life of India's rural poor will get a Quantum jump. Additionally, when the Ayushman Bharat, which provides up to Rs. 5 lakh per family per year as hospitalization expenses, is fully implemented, this will change the quality of life of India's rural population.

REVISION OF AMOUNT
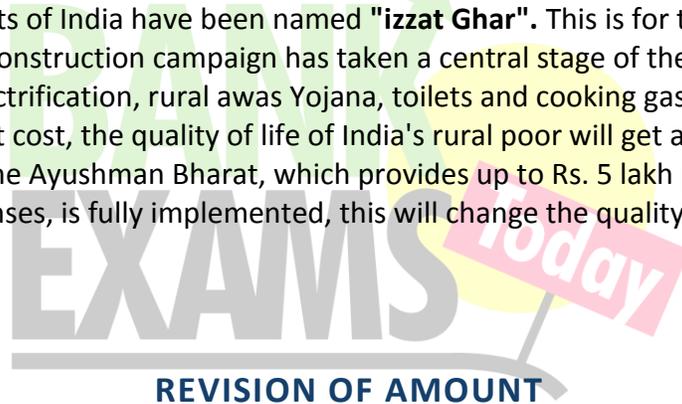
- The central government has announced the decision to enhance the compensation paid to the Anganwadi workers and the ASHA workers. The Anganwadi workers are the mainstay of the National Nutrition Mission. There are approximately 12.9 lakh Anganwadi workers and 11.6 lakh Anganwadi helpers in position. These benefits would be available to this 24.9 lakh Anganwadi workers and their families. The remuneration of the Anganwadi workers has been raised from Rs. 3000 to Rs. 4500 per month, the mini anganwadi workers from 2250 has been increased to 3500. Remuneration of Anganwadi helpers has been increased from 1500 to 2250 per month.
- These workers will also get an incentive of Rs. 500 per month and Rs. 250 per month respectively on the basis of the real time monitoring of performance.
- It is important to know that Punjab is the first state to launch an Open Defecation Free sustainability App under its **"My Village My Pride"** campaign. The sustainability app is one of its kind to cover all parameters related to sanitation as well as sustainability.

B. ON THE ROAD TO SWACHH BHARAT

CLEANING THE GANGA

- One of the major swachhata challenges has been the cleaning of river Ganga to restore its aviralta and nirmalta i.e. its continuous and unpolluted flow.
- While, earlier efforts to clean Ganga have not yielded much result, the recent government initiative, Namami Ganga program launched in 2015 has made a good headway in this directions. For the first time a separate Ministry was made for Ganga Rejuvenation in 2014 and Namami Ganga was approved as a flagship programmes with an outlay of Rs 20,000 crore in 2015.
- The national mission for clean Ganga that is responsible for implementing the program was declared as an authority under Environment Protection Act, 1986 giving it more powers in 2016, and state and district Ganga committees were established in 2017.
- The Rs 20,000 crore allocation for the period 2015-2020 under this program is the largest provision made in the history of Ganga cleaning so far. These project includes sewage infrastructure, ghats and crematoria, riverfront development, river surface cleaning, institutional development, biodiversity conservation, afforestation and rural sanitation. 64 of these projects have been completed and rest are at various stages of execution. 97 towns have been identified along the mainstream of river Ganga generating 3603 MLD (estimated for the year 2035) of sewage. Out of these 97 towns, the 10 most polluting towns are Haridwar, Kanpur, Allahabad, Farrukhabad, Varanasi, Patna, Bhagalpur, Kolkata, Howrah, and Bali are being covered extensively under STPs.

INNOVATIVE MODELS

- India has also brought in some innovative models in the sector like the Hybrid Annuity mode and One-City, One-Operator concept where all new and existing STPs will be under charge of one private operator ensuring better and keep and maintenance.
- The STP project coming up in Mathura is a unique one. The IOCL refinery at Mathura will reuse the waste water buying it at a rate of Rs 8.70 per litre this will save 2 crore litres of Yamuna water that was being used by IOCL, and make it available for other usage. In addition, 16 projects have been taken up on Ganga tributaries like Yamuna, sarayu, Kosi. Many private companies are also taking up projects to clean Ganga, renovate the ghats and crematoria or do afforestation along the banks under their are CSR activities. Many self motivated individuals are also coming forward for afforestation, Ghat cleaning and other such work. Known as the Ganga Praharis they motivate other people to help keep the river and its Bank clean. Given all the work that has been done so far or is in the pipeline, the Ganga will be 70 to 80% clean by March 2019, and fully clean by the end of 2020.

SWACHHATA IN THE ROAD

- Swachhata is also a major priority in other ministries like road transport and highways and shipping. Around 111 waterways have been declared as national waterways and will be developed for transport. Work is already on for developing 10 of these waterways including Ganga and Brahmaputra. In addition to this, efforts have been made to promote the use of cleaner fuel like ethanol, methanol, biodiesel, bio -CNG, and electricity in the transport sector as alternates to petrol and diesel.

The National Highway Authority of India is in the process of providing separate ladies and gents toilets on both upside and downside of toll plazas and all 372 toll plazas across the country will get covered by March 2019. 'Green ports', the Ministry of shipping has also focussed on the setting up of green ports for sustainable, environment friendly and long-term development of ports. Recently, Visakhapatnam Port trust was adjudged as the winner in the category of outstanding renewable energy user in the service sector in India by the Indian federation of green energy.

- It is important to know that the Prime Minister was awarded the UNEP Champions of the Earth Award, the United Nations highest environmental honour. The award was presented by UN secretary General Antonio Guterres at a special ceremony in Pravasi Bharatiya Kendra, New Delhi on October 3. The prime minister has been selected in the leadership category for his pioneering work in championing in the International Solar Alliance and forest unprecedented pledge to eliminate all single use plastic in India by 2022.

C. TOWARDS CLEAN AND HEALTHY VILLAGES

- Under the leadership of Prime Minister, the government is committed to all round development of rural areas. But this stream of development would remain unfulfilled without making rural India clean.
- The government is making all efforts to bring about large scale development in the villages and cleanliness is the most important component of this effort. An initiative that has made it marked contribution in changing the quality of life of rural people is this Swachh Bharat Mission.
- The objective of Swachh Bharat Mission, launched by Prime Minister on October 2, 2014, is to make human life cleaner, healthy and dignified.
- Cleanliness is not only a life force but also the cornerstone of human development. While launching Swachh Bharat Mission in New Delhi, the Prime Minister had said that it is our social obligation as a citizens of India to fulfill Gandhiji's vision of clean India in the year 2019 on the occasion of his 150th birth anniversary.
- Today 22 States, 468 district and more than 468 lakh and 68 thousand villages in the country have become open defecation free.
- Since October 2, 2014, more than 8.59 lakh individual household toilets have been constructed.
- On October 2, 2014, the sanitation coverage was 38.7 % and currently it is 93.9%.

Such as huge progress has not being seen anywhere in the world in the field of hygiene and cleanliness. This great effort of India has presented a unique example before the world about how the nation can be enthused and inspired on the issue of social concern.

TRANSFORMING THE DESTINY OF OUR VILLAGES

- Studies have revealed that in every house of an open defecation free village, about rupees 50000 are being saved because the family is savings on the expenditure otherwise been incurred on treatment of various diseases. Also, according to a study by the World Health Organization, with the implementation of swachh Bharat mission, every year we have successfully prevented a large number of children from becoming victims of deadly diseases in rural areas and the situation is continuously improving.

UNIQUE INITIATIVES

- Swachh Bharat has also led to certain unique initiatives in rural areas that have never been seen before. Women associated with Self Help Groups have made commendable contribution in the cleanliness movement. The panchayats have made sincere efforts to not only connect the masses with this program and with the corporation of all made the village panchayats Open Defecation Free, but they have also promoted environment related cleanliness by undertaking activities related to solid and liquid waste management.

  Swachh Bharat mission has now acquired the form of a mass movement and with them to take it forward, the rural development ministry has taken a number of measured through its ambitious scheme Mahatma Gandhi National Rural Employment Guarantee Act. This includes awareness promotion among the village panchayat towards cleanliness in the rural areas and encouraging training villagers to take up activities related to livelihood creation.

MANAGING WASTEWATER

Management of waste water is a big challenge for the whole world today. Whether it is rural area or urban, the lack of planning and infrastructure for wastewater management leads to unclean life situations. It causes spread of diseases and infections.

- In this regard, Telangana has constructed soakage pit through MGNREGA at family and community level.
- In same way, in Nanded district of Maharashtra MANREGA funds were utilized for making soakage pita which has helped to get rid of mosquitoes in the villages. The scheme was implemented in about 30 villages. Similarly, linked water tank of Telangana block in Aizawl district of Mizoram was started as an innovative experiment under MGNREGA. This water tank is built in tbe shape of an aeroplane along thr road leading to airport in Aizawl District.
- Haryana government has developed the five point system in rural areas for stabilization of wastewater under MGNREGA. The main objective is to ensure proper disposal of waste water in rural areas and to clean the environment of the villages by ensuring better living conditions.
  Individual Sanitation.
- During the current financial year, about Rs. 593070 lakh have been spent till now on all works really related to overall cleanliness of rural areas.

PHYSICAL ACHIEVEMENTS

- During the financial year 2017-18, also more than 183000 works like drainage channels, liquid bio fertilizer, recharge pits, school and anganwadi toilets, soakage channels, village drains have been completed. MGNREGA fund are been utilised efficiently in water conservation works which have also shown good progress.

MEETING CHALLENGES

- All these facts and data clearly indicate that the government is focussed on the development of google areas and making the villages clean in every respect. The Ministry of Rural Development is also making innovative effort in improving ecological balance and helping immensely in taking the countries population towards the clean and healthy environment.
Prime Minister has launched the "Swachhta Hi Seva" program from September 15, 2018 to October 2, 2018. The enthusiasm of people participating in this program is very commendable.

D. SWACHHTA: JUGGERNAUT OF CHANGE

- Swachh Bharat mission been one of the greatest social mission in recorded history that have 1 billion people aspired and work together for a common objective in such a short span of time. Swachh Bharat mission has moved from a vision into a juggernaut of change. While we still have not summited the task of universal swachhta, there has been an unprecedeted improvement across the country. Sanitation coverage in india has increased from 38 percent in 2014 to 90 percent in 2018. oven 9 crore toilets have been constructed and more than 4.5 lakh villages have been declared open defecation free. Millions of people today have access to swachhta through toilet facilities, clean drinking water and a cleaner environment leading to better health. The World health organisation recently reported that the swachh Bharat mission will result in averting more than 3 lakh deaths between 2014 and October 2019.
- Under Swachhta Action Plan, an inter-ministerial action plan for the Swachh Bharst Abhiyan, the Union Ministry of Petroleum & Natural Gas (MoP&NG) and skill development and Entrpreneurship (MoSD&E) has allocated 4th highest budget among all government of india ministries, at rupees 335.68 crores for 2017-18 and recorded 120 percent achievement with an expenditure of Rs. 402 crores.

MAKING COOKING WOMEN FRIENDLY

- Exposure to the smoke produced by the firewood/coal/ cow-dung burning choolha, apart from causing alarming household pollution and deforestation, also adversely affects the health of women and children causing several respiratory disorders. The Prime Minister emphasized with the suffering of these millions of underprivileged women and families India, who could not afford clean cooking fuel like LPG and set out to bring a Blue Flame Revolution.
- Since the launch of the Pradhan Mantri Ujjwal Yojana more than 5.51 crore LPG conne tions have been released for women from underprivileged and SC/ST communities in India. The Prime Minister has set a new PMUJ target of 8 crore LPG connections by 2020.

IMPROVING FUEL EFFICIENCY

- In Line with India's climate change commitments at COP21 in Paris, the Central Govt. Has taken several policy measures and interventions to reduce vehicular emissions and improve fuel efficiency. India has followed the regulatory pathway for fuel quality and vehicle emission standards termed as Bharat Stage.

BIOFUEL POLICY

- Pertinent to India's challenge of balancing climate change with rapid economic growth, biofuels hold great promise. With an objective of addressing both the environmental pollution from burning 0f agricultural waste and generating additional income for farmers, the government approved the Landmark National Policy on Biofuels in 2018. Plans are afoot to set up twelve 2nd generation bio-refineries which will be capable of generating bio-ethanol from agricultural residue. So far we have already achieved 4 Percent ethanol blending in petrol leading to a 7.8 million MT reduction in greenhouse gas emissions.
- MoP&NG has also driven an aggressive capacity expansion in its solar and wind energy projects While the history of India since 2014. The installed wind energy projects by oil & gas CPSEs has increased from 299.60 MW in 2010-14 to 369.80 MW in 2014-18.
- The oil & gas CPSEs are among India's most profitable corporations with a commitment to spend 33 per cent of their CSR funds on Swachh Bharat activities. They have undertaken a wide gamut of activities under Swachh Bharat Abhiyan which have brought about a lasting impact on the lives of thousands of people.
- Under the Swachh Vidyalayn Abhiyan sub-project, oil & gas CPSEs have constructed more than 21,50 school toilets across the country, 95 per cent of them in rural areas, which are being used by more than 5 lakh girls.
- There has been a significant reduction in drop-out rates across these schools showcasing how Swachhata can open doors for education and empowerment.

SWACHHTA IN TOURIST LOCATIONS

- While the history of India is preserved in the glory of its monuments, we have all seen the garbage left behind by heavy tourist footfall at these iconic places. It is most appropriate then to spread the message of Swachhata at these locations which are visited by thousands everyday. Ten such iconic places of historical and religious importance was identified and adopted by oil& gas CPSEs:-
- Tirumala Tirupati Devasthanam, Tirupati
- Kamakhya Temple, Guwahati
- Taj Mahal, Agra
- Vaishno Devi, Katra, Jammu
- Meenakshi temple, Madurai
- Golden Temple, Amritsar
- Gangotri
- Yamunotri
- Gaya and Kaladi

- Some of the most innovative projects undertaken by oil and gas CPSEs include a Bandicoot robotic manhole cleaner installed by Indian Oil Corporation in Thanjavur, Tamil Nadu which replaces manual scavenging.
- An Oil& Natural Gas Corporation project installed eco-friendly incinerators at locations in Gujarat and Rajasthan for disposal of used sanitary parts benefiting thousands of rural women.
- ONGC also provisioned 3 Water ATMs and solar RO water purifiers at location in Assam, Jharkhand and

Tripura which are used by more than a lakh people.

- Bharat Petroleum Corporation Limited has installed 33 micro composting centres to generate compost from 174 MT daily at Avadi and Poonamallee in Tamilnadu.
- Hindustan Petroleum Corporation Limited collaborated with the Tata trust to provide washing facilities at 300 schools for more than 50,000 students, in 4 States.
- The MoSD&E signed an MoU with the Ministry of Drinking Water and Sanitation in July 2018 to train over 50000 Masons in twin pit toilet construction.
- Skill India has developed new job roles for skill training oriented at waste management such as, agri-residue aggregator and waste management manager.

It is important to note that:-

i) the Ministry of Petroleum & Natural Gas was awarded the swachh Bharat inter-ministerial award in swachh Bharat National Award 2017.

ii) Kerala launches the first biogas plant under GOBAR-dhan.

- Kerala has taken the lead by setting up the country's first biogas plant under the GOBAR-Dhan scheme. The turuthi waste treatment plant in Pappinissery Gram Panchayat of kannur District will treat bio waste collected from public spaces, including community and commercial spaces such as markets.
- GOBAR-Dhan (Galvanizing Organic Bio Agro Resources) Dhan scheme has been conceptualized with the aim to convert waste into bio energy, gas and compost which would not only benefit the people but also maintain cleaness in the villages. GOBAR-dhan will benefit rural people in general and women in particular as it would improve both health in village cleaness. The initiative will support the recovery of biodegradable waste and convert it into a rich source, while providing economic benefits to farmers and households.

E. SANITATION REVOLUTION: IMPLEMENTATION AT SCALE

- Everything changed however on August 15, 2018, when, in his first Independence Day Speech the Prime Minister of India, took to the ramparts of the Red fort and put India on a historic journey, the journey for an Open Defecation Free India, a swachh Bharat.
- Never before had a Prime Minister put sanitation at the forefront of the national development agenda. Today India has a rural sanitation coverage of over 95% a percentage that we could not have ever envisaged in our wildest dreams 4 years ago. Further, a recent, Independent large scale household survey under the World bank support project found that 93% of the household survey which had toilets used them, confirming the behaviour change focus of the swachh Bharat mission.

But, the swachh Bharat mission had to change and amplify strategies in order to address what we like to call the challenge of the 4Ss i.e.
- Scale to meet the need to change the behaviour of 600 million people,
- Speed, to kick start and roll through the compaign.
- Stigmas and Myths, held by different communities.
- Sustainability, parallel focus pn sustaining jan andolan.

The swachh Bharat missionAlong with addressing these on the ground, at Central level, mass media campaign were launched, each with their own message and myth busters. The darwaza bandh campaigning, the release of Toilet, Ek Prem Katha, gave a holistic picture of the troubles obstacles faced mainly by women and the eventual achievement of safe sanitation practices and the community.

Following are key elements of the sustainability strategy:
- Open defecation free quality, requires every toilet constructed under the mission to be geo-tagged. in case of any report of poor quality, rapid response of reports and actions is sought by the state government.
- The swachh Bharat mission furthur supports institutional mechanisms and financial incentives to keep the safe sanitation practices going. In addition, the Ministry of Drinking Water and Sanitation is currently working on a Ten- year Sanitation Strategy for sustainability post-swachh Bharat mission.
- Open defecation free Plus
- swachh Bharat mission goes beyond toilets and works towards clean villages by prioritising solid and liquid waste management practices in ODF villages as well as prioritisation on rural water supply for ODF villages, in coordination with the National Rural Drinking Water Programme.
- Over the past 4 years, Ministry of Drinking Water Programme has been constantly working with all other ministries of Government, State Government, local institutions, non-government and semi-government agencies, corporate NGOs, faith organisations, media and the rest of the stakeholders; thereby making swachata everyone's business and not only that of the sanitation department. In this regard, a host of special initiatives and projects have been implemented.
- Among these are initiative such as Swachhta Pakhwada where all union ministries and departments take up Swachata related activities for fortnite each, Swachh iconic places are multi-stakeholder initiative focusing on cleaning up hundred places across India that are iconic due to their Heritage, religious or cultural significances.
- Swachata action plan where 76 ministries/department have earmarked funds worth 15248 crore for their swachata plans and making villages along the banks of the Ganga river open defecation free.
- The most recent initiative was Swachh Survekshan Gramin, 2018, Under which an Independent Sanitation Survey was conducted across 6980 villages in 698 districts of the country.
- That the mission has become the world's largest sanitation campaigning is not an exaggeration. Meanwhile, a UNICEF study estimates that in an open defecation free community, considering medical cost averted, the value of time saving and the value of mortality averted, the financial savings for each household is Ra 5 lakh per year and the benefit are highest for the poor section of the population.
- The swachh Bharat mission is setting an example for the rest of the world to move towards improving sanitation for all and achieving the United Nations Sustainable Development Goal 6 in mission mode and ensuring that behaviour change communication in all its form is the only tool for sustainable change. Thiis was duly acknowledge by the 59 Ministers for Sanitation from around the world who participated in the Mahatma Gandhi International Sanitation Convention at New Delhi from 29th September to 2nd October, 2018. The Swachh Bharat model of sanitation has lead India into a sanitation revolution, the effect of which are reverberating around the worldas it is propagating the message that sanitation is not a government program, but a jan andolan.

SATAT INITIATIVE

- To promote compressed biogas as an alternative, green transport fuel.
- An innovative initiative, SATAT was setup for the compressed biogas production plants and make available compressed biogas in the market for used in automotive fuels. It was launched recently by the Union Minister of Petroleum and Natural Gas and Skill Development and entrepreneurship, with public sector undertaking oil marketing companies inviting Expression of interest from potential entrepreneurs.
- SATAT is aimed at providing a Sustainable Alternative Towards Affordable Transportation as a developmental effort that could benefit both vehicle users as well as farmers and entrepreneurs. The initiative holds great promise for efficient municipal solid waste management and in tackling the problem of polluted urban air due to farm stubble-burning and carbon emissions.

F. SWACHHTA HI SEWA

- Swachhta hi Sewa campaign begins from 15 Septembr 2018 and ends on 2nd October, 2018, with the objective to re-energize the Swachh Bharat Jan Andolan, accelerates SBM progress in final stages, reinforce Sanitation as everyone's business.
- As many as 20 crore people were mobilized during the fortnight. Reports indicate that a large number of NGOs, schools, colleges, social cultural and political leaders, corporate and government officials, collectors and sarpanches undertook shramdaan activities during this period to include-mass cleaning of public spaces, segregation of solid waste and other waste management activities, door to door swachata awareness, IEC awareness through Nukkad Natak and folk songs, swachata rallies, wall paintings, toilet construction and retrofitting activities, twin pit emptying and building compost pits.

G. IMPROVING CLEANLINESS OF HEALTHCARE FACILITIES

- For addressing the growing challenges of sanitation and hygiene, The Ministry of Health and Family Welfare of Government of India has adopted a multi-pronged strategy and has launched many initiatives for improving hygiene and sanitation holistically. Since 2015, it has particularly made sanitation a center piece of its efforts to improve the health and well-being of our citizens. These initiative address hygiene and sanitation with an existing health facilities as well as in the community through its own programs, and also in partnership with other Ministries to address the issue holistically.
- Ministry of Health and Family Welfare's kayakalp initiative begin in 2015 with the aim of improving infrastructure and keep, hygiene and sanitation, and infection control practices in Central government institutions and public health facilities in all 36 states and UTs. Health facilities are assessed and scored on a number of parameters, and every year the highest scoring facilities at each level receive recognition through Kayakalp Awards that carry a cash award, apart from citation. The kayakalp scheme has resulted in significant improvement in the level of the cleanliness, hygiene and infection control practices at Public Health Care facilities and has inculcated a culture of ongoing assessment and peer review to promote hygiene, cleanliness and sanitation. Encouraged by the achievements of Kayakalp Scheme, the private sector has come forward and joined the efforts of the Government. National Accreditation Board for Hospitals and Healthcare providers (NABH) has decided to consider assessment of Healthcare facilities in the private sector on the lines of parameters of Kayakalp.

- Additionally, MoHFW has used the platforms of Village Health Sanitation and Nutrition Committees (VHSNCs) under the National Health Mission and Mahila Arogya Samitis (MAS) under the National Urban Health Mission (NUHM) to promote sanitation in vulnerable urban communities. Many states have adopted innovative practices in making VHSNCs and MASs effective. ASHAs also work with VHSNCs to mobilize the community for construction and use of toilets.
One such joint initiative between MoHFW and the Ministry of Drinking Water and Sanitation is the Swachh Swasth Sarvatra that attempts to bring synergy between the swachh Bharat mission and Kayakalp by enabling and awarding funds to Gram Panchayats where Kayakalp awarded PHCs and CHCs are located to become open defecation free.

VISHWAS- A NEW INITIATIVE

- In 2017, as a part of its effort to expand and strength and sanitation and hygiene interventions, NHM has launched a new campaign, VISHWAS- Village Based Initiative to Synergise Health, Water and Sanitation- a year long campaign to be carried out by VHSNCs to build community awareness and develop local champions. for action on water sanitation and health and create a platform for building synergies between various program such as a swachh Bharat Mission. The key strategies adopted under these initiatives are detail in the following section.

KAYAKALP INITIATIVE FOR HEALTH FACILITIES

- Under the scheme, health facilities undertake their own assessment, work on improving appearance of the facility, implementation of biomedical waste rules, strengthening of infection control practices and partnering with local NGO / civil society organisation. There are predefined assessment criteria for every dimension of 'Swachhata', within the facility and also outside the boundary- wall. Subsequently, facilities showing improvement go through peer assessment, followed by external assessment to validate the Kayakalp score. Outstanding efforts of the health facilities are recognised by Kayakalp Awards at each level of the facilities. Selection of District Hospitals, Sub-District Hospitals and Community Health Centres is decentralized at the State level, while for Primary Health Centres, it is at the district level.
- Based on the set criterion, the winner facility received cash prize with the citation. Additionally, Certificate of Comendation and a cash prizes given to all facilities that score over 70% under the kayakalp criteria.
- Under the scheme Central government institution may receive as award money upto rupees 2.5 crore, while the winner of District Hospital receive the sum of Rs. 50 lakh, Community Health Centre Rs. 15 lakh and Primary Health Centre Rs. 2 lakh.
- In financial year 2017-18, all states and UTs have rolled out the program, and over 28,000 facilities including District Hospitals, Sub-District Hospitals and Community Health Centres, Primary Health Centres have been assessed, of which 2970 facilities-11 Central government institution, 289 district hospitals, 760 Sub-district hospitals, 1729 public Primary Health Centres and 181 Uburn health facilities have been awarded.

IMPACT OF KAYAKALP PROGRAMME

- After launch of kayakalp scheme, there is significant improvement in the level of cleanliness, hygiene and infection control practices at public health facilities. The program has also built a culture of ongoing assessment and peer review of the performance to promote hygiene, cleanliness and sanitation. It has also provided opportunities and incentives to bolster intersectoral coordination for the improvement of health systems.

SWACHH SWASTH SARVATRA

- Swachh Swasth Sarvatra is a joint initiative of Ministry of Health and Family Welfare and Ministry of Drinking Water and Sanitation to achieve better health outcomes through improved sanitation and increase awareness on healthy lifestyles. Its objective is to have more synergy between two complementary programmes- swachh Bharat mission and kayakalp.

Three broad objectives of this scheme are:-

i) Enabling gram panchayats where Kayakalp awarded Primary Health centres is located to become Open Defecation Free.
ii) Strengthening Community Health Centre in Open Defecation Free blocks to achieve a high level of cleanliness to meet Kayakalp standards through a support of Rs. 10 lakh under NHM.
iii) Built capacity through training in water, sanitation and hygiene to nominees from such CHCs and PHCs.

VILLAGE HEALTH SANITATION AND NUTRITION COMMITTEES (VHSNCS)

- The Ministry of Health and Family Welfare has always promoted and some more supported sanitation and hygiene initiatives and linked them with Community Health Promotion interventions. National Rural Health Mission since its Inception in 2005, created Village Health Sanitation Committees across all states, as the platform for community action on health, clearly highlighting the key role of mobilizing communities in improving sanitation and achieving health outcomes. VHSCs were established at village level and provided and 'untied fund' of Rs. 10,000 per year, to support the community's own initiative for convergent action on health and other social determinants of health. VHSCs have been later renamed as Village Health Sanitation and Nutrition Committees (VHSNCs) to underscore nutrition as a part of its focus. Presently, about 5.2 lakh VHSNCs are in place (92% formed against the target, of which 97% have bank accounts). States have adopted innovative practices in making their VHSNCs effective.
- For example, Chhattisgarh has strengthened its VHSNCs through active participation ASHAs and has made VHSNCs a part of swachh Gram Panchayat Yojana, under which each gram panchayat is ranked annually and awarded on a set of parameters related to health and its social determinants.
- ASHAs plays a key role in facilitating VHSNCs and not only work for improving community level awareness, and support and facilitate the activities of VHSNCs in their villages, but they also mobilize the community for construction and use of toilets. The joint instruction by MoHFW and Ministry of Drinking Water Supply empowering ASHAs to play this role (by making a provision of an incentive of rupees 75 per toilet) has strengthened their efforts on the ground.

MAHILA AROGYA SAMITIS UNDER NUHM

- Under National Urban Health Mission also, equal Emphasis is placed on sanitation and hygiene interventions. Similar to VHSNCs, Mahila Arogya Samiti has been established in urban areas jnder NUHM. MAS are groups of about 12 to 20 women in an urban area, in a community of primarily poor and vulnerable sections. Every MAS received Rs 5000 per year as untied fund similar to VHSNCs. Presently, about 74000 MAS have been constituted across States, but the program is still evolving.

VISHWAS

- In 2017, as a part of its effort to expand in and strengthen sanitation and hygiene interventions, NHM has launched new campaign Village Based Initiative to Synergise Health Water and Sanitation, which is being undertaken by VHSNCs in their own area.
- Under VISHWAS, yearlong campaign is to be carried out by each VHSNC in its area, with focus on building awareness and social mobilization, developing community Champions for action on water sanitation and health, and creating a platform for building synergies between various government programmes. The campaign, along with Swachh Bharat Mission, is to carry out 11 monthly campaign days each one of which will be focused on a selected theme.

SWACHHTA HI SEVA 2017 CAMPAIGN

- Government of India launch Swachhta hi Sewa campaign, from September 15, to July 2, 2017. Campaigns were conducted across all states to conduct sanitation and hygiene related activities at Health Facilities and Community (rural and urban). MOHFW with the help of state was successful in conducting more than 1.2 lakh campaign activities, and stood first among all Government of India Ministries in conduct of swachhta hi Seva campaign. The swachhta hi Seva campaign for the year 2018 is currently underway across all states.

SWACHHTA PAKHWADA

- Swachhta pakhwada, an initiative of MOHFW, conducts sanitation and hygiene campaigni at public health facilities and at the community level every year. Under this initiative, each Ministry of Government of India conducts a swachata pakwada for a period as assigned in the Government of India annual calendar. This year, MOHFW was assigned the period of 1 to 15 April, 2018 and the campaign was conducted in a big way across all states.

H. A HYGIENIC ENVIRONMENT FOR MOTHER AND CHILD

- The concept of 'Sanitation' is a comprehensive one including effective management (collection, treatment and disposal / recovery, reuse and recycling)of human waste, solid waste (including biodegradable and non-biodegradable refuse/trash/rubbish), waste water, sewage effluents, industrial waste and hazardous waste (such as hospital Chemicals, radioactive plastic or other dangerous).

- Water, Sanitation and Hygiene are the three core issues which are group together to represent a growing sector. While each is a separate field of work, each is dependent on the presence of the other. For example, without toilets, water sources become contaminated, without clean water basic hygiene practices are not possible.
- Today, there are around 2.4 billion people who do not use improved sanitation, and 663 million who do not have access to improved water resources. Without these basic need, the lives of millions of children are at risk.
- For children under five, water and sanitation related diseases are one of the leading causes of death.
- Everyday, over 800 children die from preventable diseases caused by poor water, and a lack of sanitation and hygiene.
- Around 564 million people, which is nearly half the population of india defecate in the open.
- India accounts for 90% of the population in South Asia and 59% of the 1.1 billion people in the world who practice open defecation.
- The Ministry of Women and Child Development has been a pioneering Ministry in undertaking swachhta to the next level. It is one of the most proactive Ministries in the implementation of swachh Bharat initiative of the Government of India.

I. SANITATION REVOLUTION: CLEANSING URBAN INDIA

- A multi-pronged approach comprising regulatory and policy level changes, sustainable infrastructure creation and focusing on attitudinal and behaviour change among people through large scale citizen engagement has been the hallmark of the Government's initiatives on the journey towards a "Swachh Bharat".

THE COST OF POOR SANITATION

- The Sustainable Development Goals (SDGs) place significant emphasis on sanitation, cleanliness and hygiene. There is significant evidence globally that better sanitation, hygiene and cleanliness helps in effective control of various vector borne diseases, parasite infections and nutritional deficiencies. There have been studies linking cleanliness and hygiene with reduction in respiratory disorders, gastrointestinal diseases (especially diarrhea), psychological issues and allergic conditions. As per a UNICEF report 2011, almost 90 per cent of child deaths from diarrheal diseases are directly linked to contaminated water, lack of sanitation or inadequate hygiene.
- In addition to the impact on communicable diseases, better sanitation, hygiene and waste disposal lead to reduction in occurrences of low birth weight babies, spontaneous abortions and occurrences of birth defects.
- Studies have proved that improvement in sanitation and hygiene results in better health outcomes.
- As per the India Health Peport for Nutrition Security in India, the North Eastern state of Mizoram has reported a 13 percentage-point decline in stunting (below normal height for the age) and five percentage points decline in underweight children (underweight and short) between 2006 and 2014 due to improved access to sanitation.
  Also, an independent study conducted by UNICEF in India in August 2017 established that every Indian family will save about INR 50,000 annually if open defecation is eliminated.

THE LAUNCH OF SWACHH BHARAT MISSION

- The launch of Swachh Bharat Mission on 2nd October 2014 by the Prime Minister to address this burgeoning health crisis was a historic moment for India — not merely for placing the issue of sanitation at the centre of the Government's developmental agenda, but also for the resounding message that was sent out from the ramparts of the Red Fort, thereby making every citizen an equal partner in India's journey towards `swachhata'.
- The Swachh Bharat Mission (Urban), being implemented by the Ministry of Housing and Urban Affairs (MoHUA) is aimed at transforming Urban India into a garbage-free and open defecation free country across all its towns and cities by 2nd October 2019, and will be a fitting tribute to Gandhiji's memory on his 150th birth anniversary.

THE JOURNEY SO FAR

- During the first two years of launch of the Swachh Bharat. Mission, the major focus of the Government was on putting in place an enabling environment for achieving the Mission objectives making all statutory towns Open Defecation Free (ODF), alongwith 100 per cent scientific management of municipal solid waste.

Summary of Achievements under SBM Urban
- 19 states have become ODF in their urban areas
- 51.49 Lakh 1HHL constructed and 7.92 Lakh under construction
- 3,906 cities have been declared as ODF
- 4.06 lakh CT/PT seats built and 0.35 lakh seats under construction
- 44. 4% urban wards have 100% Segregation

SANITATION — THE ODF JOURNEY

- The most significant achievement in sanitation has been a paradigmatic shift in the way SBM (Urban) is being implemented - the focus is now on counting and sustaining Open Defecation Free (ODF) towns/cities, rather than only counting toilets.
- When the Mission was launched, 110 city or town in India was ODF. Today, urban areas of 19 States/UTs have become ODF.
- Also, ut has been realised that merely becoming ODF is not enough to address all the sanitation challenges that a city faces. Hence, `government had now introduced the SBM ODF+ and ODF++ protocols to address the issue of operation and maintenance of community and public toilets, and also the issue of holistic sanitation, including faecal sludge management, so that the ODF outcomes that have been achieved are sustained in the long run.
- It is important to note that MoHUA has partnered with Google to upload and make available on Google maps all the public and community toilets in the cities so that citizens and visitors are able to easily locate these facilities in their vicinity.
  So far this has been completed for 550 cities/towns across the country out of which 179 are with population over 1 lakh.

SOLID WASTE MANAGEMENT- A MULTI-PRONGED APPROACH

- In India, an estimated 65 million tonnes of Municipal Solid Waste is generated anually by around 400 million citizens residing in urban areas.
- Also, it is estimated that 165 million tonnes of waste will be generated by 2030 and 450 million tonnes by 2050.
- Therefore, MoHUA has adopted a multi-pronged approch to address the complex issue scientific waste management in urban areas of India.
  This includes policy and regulatory changes to encourage processing of waste to value added products on the one hand, along with Mission initiatives such as Swachh Survekshan to inculcate a spirit of healthy competition, and Star of the Swachh Rating for Garbage Free cities to ensure long term sustainability.
- At the time of launch of Swachh Bharat Mission, 95 lakh tonnes per annum of waste was the treatment capacity across processes such as composting, bio-methanation. RDF and waste to energy plants. This has been enhanced substantially in the last 4 years. and approximately 37 per cent of the total waste generated is being processed today.
- States such as Chhattisgarh, Kerala and Goa have been doing exemplary work on Solid waste Management.
- Similarly, cities such as Indore, Navi Mumbai, Aligarh, and Bengaluru are showing way forward in innovative and sustainable approaches managing their solid waste.

SWACHH SURVEKSHAN- A TOOL FOR MISSION MONTORING AND GOVERNANCE

- Under the SBM Urban, MoHUA has been conducting the Swachh Survekshan -an annual survey to rank cities on various sanitation and cleanliness parameters. In its first round in 2016, the `Swachh Survekshan' was conducted among 73 million plus cities and State / UT capitals of India. In 2017, the survey was conducted among 434 cities with population over 1 lakh.
  Swachh Survekshan 2018, which covered 4,203 ULBs, was the first ever Pan India Sanitation Survey impacting around 40 crore people and popably the largest such survey World.
  Swachh Survekshan 2019, which focuses on innovation, sustainability, citizen engagement, garbage-free status etc., will be conducted across all towns and cities in January 2019

STAR RATING FOR GARBAGE CITIES

- The Ministry has introduced a new innovative initiative for evaluating the Garbage Free status of Cities and awarding the "Garbage Free City Stars" to the city. The Star Rating initiative, which is a rating protocol based on twelve (12) parameters, follows a SMART framework — Single metric, Measurable, Achievable, Rigorous verification mechanism and Targeted towards outcomes — and has been devised in a holistic manner covering all aspects of Solid Management viz. Public Cleaniness, Door to Door collection, source segregation, processing, cleanlines of drains and water bodies, plastic waste management, managing construction and demolition waste, etc. which are critical drivers for achieving garbage free cities.

MOVING TOWARDS A `JANANDOLAN'

- At the time of launching the Mission, the Prime Minister had nominated nine celebrity icons as `Swachh Bharat Brand Ambassadors' a to act as role models for citizens to contribute their efforts towards swachhata' . Today, we have more than 150 such brand ambassadors who are inspiring citizens to become partners with the government in our collective journey towards swachhta. Through other initiatives such as thematic drivers with citizen participation, engaging students and self-help groups to be the agents for the social behaviour change.
- There is now a growing appreciation among people that sanitation and cleanliness is not the sole responsibility of the Government, and that each one is equally responsible for maintaining cleanliness in the surroundings. This feeling of janandolan' been demonstrated more than in the overwhelming participation by nearly 40 lakh citizens, comprising school children, students, home makers, RWAs, religious leaders, corporate houses and local business people, and celebrities 25,000 events in Urban India across thousands of towns and cities as witnessed during the 'swachhta hi seva' fortnight run across the country as a run-up to the 2nd October celebrations this year.

SOCIAL AND ECONOMIC IMPACTS OF SWACHH BHARAT MISSION: A FEW EXAMPLES

- A recent study by the Indore Municipal Corporation has found that vector-borne diseases have reduced by 70 per cent due to sanitation interventions under Swachh Bharat Mission. In fact, the number of patients affected by jaundice, cholera, vomiting, diarrhea, hepatitis and malaria in Indore have reduced from 1,00,000 between June to August 2016 to 35,000 during the same period in 2017. As a result, the sale of medicines across Indore has dropped by INR 20 crores, which has contributed in controlling healthcare related costs in the city.
- State of Chhattisgarh has reported a dramatic reduction in contamination and incidences of diseases such as diarrhea, typhoid etc., in the last two years.
- More than 74000 informal workers have been mainstreamed into waste management chsin across cities, thereby providing them with steady livelihoods.
- Social entrpreneurship and innovations are on the rise with citizens and start-ups getting into this sector for converting waste into value added product.

Locate Public Toilets on Google Maps

- The Ministry of Housing and Urban Affairs, under the aegis of Swachh Bharat Mission — Urban (SBM — U), has partnered with Google to launch the Loo Review campaign to encourage all local guides in India to rate and review public toilets on Google Maps.
- 500+ cities in India with more than 30,000 toilets with the name of "SBM Toilet" are currently live on Google Maps.

J. SANITATION AS EVERYONE'S BUSINESS

- On 15th August, 2014, the Prime Minister from the ramparts of Red Fort, appealed to the citizens of India to make villages, cities, lanes, localities, schools, temples, hospitals etc. Clean.

Charge of Every Department

- Sanitation as Everyone's Business does not serve only as a beautiful slogan in Swachh Bharat Mission. It is the functional foundation of serious mainstreaming efforts and systematic movement from policy to projects. Sanitation work by non-sanitation ministries and departments, giving time and resources out of their core business, holds eminent assurance that the path of Swachhata should be irreversible. To help the Union Ministries to build swachhala into their own schemes and policies, special projects with measurable outcomes have been developed. As a result, the Swachh Bharat Mission has become all-encompassing -a synergizer of efforts across all stakeholders.

SWACHHATA ACTION PLAN (SAP)

- SAP was launched on 1st April 2017. Under this, ministries and departments mainstream sanitation in their mandates through budgeted and accountable action plans.
  It is very encouraging that all ministries/ departments have committed funds for sanitation during each of the financial years 2017-18 and 2018-2019. This amounts to Rs. 18179 crore committed during FY 2017-18 and Rs.17000 crore during FY 2018-19.
- For the year 2018, the Ministries who won the awards for best execution of Swachhta Action Plan were:
- Ministey of Peteoleum and Natural Gas, Ministry Of Road Transport and Highways and Ministry of New and Renewable Energy.

SWACHHTA PAKHWADA

- Swachhta Pakhwada was launched in April, 2016 as an initiative of Prime Minister.
- Under this, 4-5 Ministeries are given 15 days in a year following a pre-decided calender to carry out country-wide initiatives within their juridiction to enhance sanitation. 92 Pakhwadas have been held to date.
- Ministry of Drinking Water and Sanitation has constituted awards for each Ministry to give away to its institutions/organizations/Divisions based on internal competition and ranking. Since its launch, Swachhata Pakhwada has emerged from a programme of routine activities to sustainable and constructive sanitation interventions, ensuring involvement of the all government functionaries.
- The Ministry of Drinking Water and Sanitation has documented thr efforts of Union Ministries and Departmcnt, observing Swachhata Pakhwad, last two years in the form of Yearbook. For the year 2017, the award for the, best Swachhata Pakhwada went to Ministry of Railways, Ministry of Water Resources, River Development and Ganga Rejuvenation and the Ministry of Micro, Small and Medium Enterprises. 76 Ministries and Departments are observing Swachhata Pakhwada during 2018-19.

SWACHH ICONIC PLACES(SIP)

- As a part of the Prime Minister's vision, it was decided that places of heritage, with significance for history and culture and centres of pilgrimage marked by high footfall would be taken up to raise them

to distinctly higher levels of cleanliness. Currently, 30 sites have been taken up under this project and are at different stages of implementation. The plan is to take up 100 such places to improve sanitation at such places.

GANGA GRAMS

- Ganga gram is another inter-ministry project between SBM and National Mission for clean Ganga. It was unveiled at Allahabad on August 12, 2017 at a grand sammelan of sarpanches where all 4,475 villages on ganga bank were declared Open Defecation Free. Later, State Govt. Identified 24 villages to be taken up as pilot project to tranform them into Ganga Grams that would have Open Defecation Free Status. Gram Panchayats have been empowered to play an active role in ownership and maintenance of Ganga Gram activities.

STUDENTS AND YOUTH TO THE FORE

- Swachh Bharat Mission has the most productive involvement of students and youth community to rejuvenate sanitation on campus and nearby areas and also to harness their potential as change agents. Through their daily activities in school and neighbourhood and special occasions like Swachhata Olympics, Swachh Polls and rallies, they are the biggest messengers of this Mission. They constitute a formidable force of Swachhata volunteers.
- A special `Swachh Bharat Summer Internship' programme was developed for college students and youth to devote at least 100 hours to Swachhata during summer this year. The Ministry of Drinking Water and Sanitation in association with the Ministry of Human Resource Development and Ministry of Youth Affairs and Sports conducted this programme between May and July, the vacation time for a large number of students. Close to 4 lakh youth participated in swachhata related shramdaan and behaviour change interventions.

CORPORATE PARTNERSHIPS

- The Swachh Bharat Mission has received significant support from the corporate sector. To facilitate financial contributions from individuals and corporates, Swachh Bharat Kosh was set up which has received a total of Rs. 839.3 crore as of March 2018. These resources are being used for lifting sanitation parameters in identified areas.
- The partnership between MDWS and Tata Trusts is an outstanding example of leveraging corporate strength to deliver a public mandate.
- This partnership focused on building a cadre of skilled young professionals to work as Zila Swachh Bharat Preraks (ZSBPs).
- Tata Trusts trained and deployed 475 motivated young professionals, to help districts design, implement and monitor various interventions under the SBM-G.
- They have, by nos. become a vibrant part of the Swachh Bharat implementation family.

SUPPORT FROM MEDIA

- The Media has also taken upon itself to sensitise the people about he ill effects of poor sanitation and is playing a significant role in influencing behavior change. It has elped amplify the voice of SBM and ensured its reach to all sections of society through numerous reports, specials, editorials and discussions.

SWACHHATA AMBASSADORS

- Swachh Bharat Mission has undoubtedly received the unflinching support from millions of Indians. From the rich to the poor, the young to the old, celebrities to common people, everyone has contributed her bit, thereby making a difference.
- A range of feature films like Toilet Ek Prem Katha, Padman, Halka and Gutar Gu) have been produced in recent times that promote the message of sanitation.

BUSINESS OF JAN JAN

- Millions have come together under special campaigns like Swachhata hi Seva (2017 and 2018), Chalo Champaran, ODF Weeks and fornights and many more for adoption of sustainable sanitation. Celebrities, officials, and common people alike have undertaken shramdaan and demonstration activities like pit digging, pit emptying etc. to remove the misplaced stigma appended to sanitation.
- Women have been championing the Swachh Bharat Mission like no other group. In the run up to International Women's Day on 8`h March, the Swachh Shakti was celebrated in both 2017 and 2018, with special events to honour women champions who have done exceptional work in the field of rural sanitation.

UNITED ACTION

- Swachh Bharat Mission, the largest behavior change programme in the world is not a matter of chance but that a well thought out engagement of all stakeholders holds the key. Everyone needs to put a brick for sustainable sanitation within their own spheres of influence. Yes, because sanitation is everyone's business.

K. KENDRIYA VIDALAYA SANGATHAN

- Kendriya Vidyalaya Sangathan, with more than 1190 schools across the country and abroad, is a pace setting organisation in school education. It imparts quality education to children from all walks of life from classes I to XII and has always laid thrust on connecting the child with rich value system for healthy and balanced growth. KVs have taken up various community outreach programmes through rallies, competitions, Bharat Scouts & Guides activities etc. to create mass awareness and sensitise people about cleanliness and personal hygiene.

- KV FRI Dehradun has been awarded `Rastriya Swachhata Award' under the cleanest government school category in 2016 by the Prime Minister.

- Around 18 per cent of the total 54 green schools from across India were Kendriya Vidyalayas.

- Kendriya Vidyalayas have been taking at least one GSP award every year
- KV Ottapalarn and KV Parigode has made it to the Change Makers category (only four schools in India have made it to this new and prestigious category out of which two are KVs) for demonstrating significant improvement in their environmental footprint.
Some of the notable contributions of these two Green Award 2017-18 winner KVs are listed below:

KENDRIYA VIDYALAYA, ARMY CANTT, PANGODE, KERALA

- **Green Cover:** More than 50 percent of the school area is under green cover.
- **Air:** 72 per cent of the school population uses sustainable modes of transport, 8 per cent uses non-polluting modes such as walking and cycling.
- **Waste:** Waste from the school is used as fuel for its biogas plant, which ensures regular supply of gas; the school has completely banned plastic within its premises.
- **Water:** Rainwater is channelised from various trenches to recharge the school's groundwater some of it is allowed to flow down to the adjoining forest and join the river Karamana.

KENDRIYA VIDYALAYA, OTTAPALAM, KERALA

- **Energy:** The school has recorded savings in electricity bills over a period of one year, Solar energy powers the administrative block of the school. A biogas plant, with waste storage capacity of 50 kgs, produces around 10 kgs of gas.
- **Air:** Only 1 per cent of the school's population relies on private vehicles.
- **Waste:** The school practices the principle of 'reduce your trash'.
- **Water**: An old rainwater harvesting structure has been renovated. Water from the shed is directed to an underground rainwater storage tank. The stored water is used in the school's toilets, and for mopping and gardening.IGBC Green your School Contest.
- KVS also participates in the contest organised by the Indian Green Building Council that awards a trophy with cash reward of Rs 3.5, Rs 2.5 and Rs 2.0 lakhs to top 1', 2' and 3" position holders respectively.
- KV AFS Begumput bagged the first position in 2015.
- KV Sector-2 RK Puram stood first amongst the 307 participating schools in the country in 2016.
- KV IIT Kanpur stood first in 2017.

In order to have a comprehensive view of cleanliness, sanitation, hygiene. and eco health. KVs have initiated various activities/ programmes within and outside campus as a part of regular school activity for promoting healthy well being of all. Some of the key initiatives are:

- Every school is sensitised towards waste disposal and utmost care is taken to ensure that the disposable waste is used within the school campus by way of dumping it in trenches/pits prepared for biodegradation to convert into compost manure for using in the school gardens.
- Students are sensitised not to waste food and left over food is disposed in identified places only.
- Personal hygiene, especially of girls is also given due care and sessions on health and hygiene are

conducted by experts.

- Use of plastic is being minimised and some schools are declared as plastic free zone.
- The senior students are encouraged to gift books to their juniors. In this process, on the one hand they develop the habit of keeping their books neat and clean to be passed on to their juniors and on the other it saves a lot of trees.
- In the year 2016-17, the senior class students gilled 2,58,385 books to their juniors and library, saving apprx. 51.677 tonnes of paper and about 874 trees.
- The children are encouraged to plant a tree on their birthday and visitors are also provided green plants instead of dead flowers/ bouquet.
- As a part of promoting good citizenship qualities among the students initiatives on saving the consumption of power in schools have also gathered momentum.
- About 273 Solar PV systems have been installed inKVs in the state of Bihar, Assam, Tripura, Karnataka, Maharashtra, Uttar Pradesh and Andhra Pradesh. In 12 KVs in Delhi, the installation of solar panels has also been completed.
- Rain water harvesting is also being put in place in existing school buildings. Out of total 755 permanent school buildings, 231 have developed rain harvesting system and in the rest of the buildings, the process is on.

Some of the key programmes/ activities organised in KVS under `Swachhata Abhiyan' during recent years are as under:

- Administration of 'sanitation pledge' to all students, staff and officers of the KVS.
- Cleaning of campus and surroundings.
- Motivational talks from people of repute on cleanliness.
- Checks or incentives on personal hygiene during morning assembly.
- Special drive for maintenance of school toilets and ensuring availability of potable water for children and staff.
- Observance or 'Swachhata Pakhwara' in Schools, ROs and hqrs.
- To emphasise upon clean and green environment in Kendriya Vidyalayas, `Swachch Vidyalaya Award' and 'Harit Vidyalaya Award' were instituted from academic session 2016-17 at Regional Level with running trophies and cash awards.
- Conduct of quiz competitions on sanitation.
- Celebration of Earth Day/ participation in climate change programmes etc.
- Painting and drawing competitions on the theme of cleanliness. • 'Harit Diwali- Swachch Diwali' campaign
- Mass participation at all levels in `Swachhata hi Seca' campaign launched from September 15, 2018.

SWACHHATA RANKING AWARDS 2018 FOR HIGHER EDUCATIONAL INSTITUTIONS

- The Swachhata Ranking Awards 2018 for higher educational institutions were confered by Union Minister for Human Resources Development in New Delhi recently. The best 51 higher educational institutions have been selected for Swachhata Ranking Awards in 8 different categories.

L. SWACHH RAIL, SWACHH BHARAT

- Rail transport is one of the most efficient and eco-friendly means for mass transportation of goods and passengers among the popular modes. Indian Railways has always committed itself towards adopting measures which are least detrimental r4, the environment, despite the impact of large scale population and regional effects.
- Consequent to the launch of the National level campaign, the Ministry of Railways launched the `Swachh Rail, Swachh Bharat' campaign with the mission to improve cleanliness across railway station premises and of trains.
- Indian Railways has more than 8700 stations, running an average of over 13000 trains every day. Maintaining and improving cleanliness of these stations and trains is a mammoth task due to heavy footfalls/overcrowding, uncontrolled usage and passenger habits, particularly on trains and at major stations where passengers tend to remain for long hours.

A series of initiatives have been taken by the Ministry of Railways under the Swachh Rail, Swachh Bharat compaign:-

(1) Outsourcing of cleanliness of all maior station,
(2) Improving, flooring of platforms to enable mechanised cleaning
(3) Providing separate dustbins for different types of waste;
(4) Employing CCTVs to monitor cleaning practices;
(5) Installation of bio-toilets in passenger coaches;
(6) Development of a "Customer Complaint" Web Portal and Mobile Application to collect continuous Citizen Feedback;
(7) Introduction of Pay-and-Use toilets at various stations;
(8) Introduction of on-board housekeeping services (OBITS), Clean my Coach and Coach Mitra services in nominated trains:
(9) Employing first of its kind, real time 24X7 public grievance system through Twitter and provision of medical, security and other emergency assistance to passengers.

- Clean Train Station' (CTS) are provided for limited mechanised cleaning services to passing through trains during their stoppages at selected stations enroute. So far, 39 CTSs have been made operational across Indian Railways.
- To assess the impact of cleanliness efforts at major stations, third party survey on cleanliness indicators is periodically being done at 407 major stations. Survey reports include guidelines for various steps to be taken to improve cleanliness standards.

CLEANLINESS DRIVE: MODALITIES

- Integrated Housekeeping Contracts have been put up in place at major stations to promote use of mechanised cleaning equipments and quality materials.
- General Conditions of Contracts (GCC) for service contracts has been introduced on Indian Railways to guide the Zonal Railways to tackle various situations governing the execution of service contracts.
- In the new standard bid document issued for housekeeping of stations, coaching depots and trains, a

10 per cent weightage has been given to 'use of type and quantity of consumables and machinery' in the evaluation of contractor's performance which is linked to the monthly payments.

- Two-packet tendering system is followed.
- Additional toilets at Railway Stations have been installed including Pay-and-Use toilets.
- Enforcement of Indian Railways (Penalties for activities cleanliness at railway premises) Rules 2012 has been intwnsified.
- Ise of CCTVs for monitoring cleaniness activities at major stations has also been increased.

EFFECTIVE CUSTOMER ENGAGEMENT

- Use of Weekly cleanliness drives have been undertaken at various railway stations in rotation by Zonal Railways.
- social media, electronic media, public announcements etc. is being made to create awareness amongst rail users about cleanliness.
- An amount, of Rs. 2522 crores was spent on cleanliness and sanitation, including bio-toilet by Railways in 2017-18.
- Indian Railways have already introduced social media platform for customer engagement through twitter and facebook page.
- Along with forwarding, such complaints through Twitter, passengers arc also made aware of the already existing system of "Clean My Coach" (wherein one can SMS his PNR no. to 58888 to get their complaint registered for cleanliness at his seat) and helpline no. 138.
- In addition, an online Complaint Management System (COMS) is also functional where users can register their complaints.

BIO-FRIENDLY TECHNOLOGY

- Bio-toilet technology has been developed jointly by Indian Railways (I R) and Defence Research and Development Organisation (DRDO). This environment- friendly, low-cost and robust technology is the first of its kind in the railway system in the world. The efficacy of the bacteria used in the system has been tested by DRDO conditions like those at Siachin Glacier. The biggest advantage of this technology is that the colony of anaerobic bacteria converts human waste mainly into water and biogas.
- The first train, Gwalior-Varanasti, Bundelkhand Express, fittedd with IR-DRDO bio-toilets was introduced in service in January 2011.
- After receiving encouraging feedback these bio-toilets were fitted in more coaches for in service trials. Since, 2014 the pace of fitment of bio-toilets has been increased substantially and it is planned to install bio-toilets in the entire coaching fleet by Mar 2019. Twenty seven sections on IR have been declared as Green Train Corridors which have no human waste discharge from trains, as all trains passing to these sections are fitted with 100 per cent bio-toilets.
- With an aim to provide clean and efficient toilets and to reduce the water consumption in toilets, IR is doing a trial of Bio-Vacuum Toilets. This has aircraft type vacuum toilet on the passenger interface and bio-digester tank is fitted beneath the toilet area on the coach. The faecal matter gets digested in the bio-tanks on board.
- Integrated mechanised cleaning is being provided at railway stations, on-board housekeeping service

has been provided in over 1000 trains, mechanised laundries are being set up to improve quality of washing linen provided to AC coach passengers.

SOLID WASTE MANAGEMENT

- Solid Waste Management is another important area to bring in visible change. To manage solid waste, segregation in three separate streams namely bio-degradable (wet waste), non-biodegradable waste (dry waste) and hazadous waste is required.
- For the first time in 2016, railway stations (407 stations of Al & A category) were audited for cleanliness by an independent third party agency. These surveys have been repeated in 2017 and 2018.
- A similar survey on ranking of 210 important trains on cleanliness is also nearing completion.
- The Swachh Rail, Swachh Bharat 2018 assessment has seen immense progress in the cleanliness aspect of railway stations. It is a clear outcome of the combined effort of the railway officials and passengers. The overall cleanliness score of 407 Al & A category stations in this year's assessment improved by 17.6 per cent as compared to that of 2017. The key areas of achievement of cleanliness behind the success stories are as under-
    o Reduction of plastic waste through bottle crushing machines.
    o Personal hygiene at railway stations through sanitary napkin vending machines.
    o Outsourcing of cleanliness at major railway stations.
    o Awareness initiatives carried out in schools, NGOs and communities.

Disinfestations of coaches by authorised and approved agencies is being regularly done to eradicate presence of cockroaches in coaches as per the following schedule:

- For AC coaches & pantry cars: Once in 15 days.
- Reserved non AC coaches: Once in 30 days.
- Unreserved non AC coaches: Once in 60 days

Railways are conscious of its duties and responsibilities towards providing a reasonably safe, clean and healthy mode of transportation to its passengers. Railways are, working on and seeking active involvement of all stakeholders in this effort of "Swachh Rail, Swachh Bharat".

KURUKSHETRA MAGAZINE SUMMARY

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KURUKSHETRA MAGAZINE SUMMARY: DECEMBER 2018

MODERN TECHNOLOGY IN IMPLEMENTATION OF RURAL DEVELOPMENT PLANS

- The Government of India has been taking several initiatives for the all-round development of rural areas and the prosperity of the village folk.
- **The Ministry of Rural Development has been making sincere efforts to bring prosperity and well-being in the villages through its programmes and schemes i.e.**
    - Pradhan Mantri Gram Sadak Yojana (PMGSY),
    - Pradhan Mantri Awas Yojana-Gramin (PMAY-G),
    - Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA),
    - National Rural Livelihood Mission (NRLM),
    - National Social Assistance Program (NSAP),
    - Sansad Adarsh Gram Yojana (SAGY),
    - Shyama Prasad Mukherjee Rurban Mission and
    - Mission Antyodaya.

In recent years, the schemes related to rural development have been re-structured and their implementation has also been made more effective.

- With the objective of providing pucca houses with basic facilities by 2022 to all the eligible homeless families and households living in the dilapidated houses, Pradhan Mantri Awas Yojana-Grameen was launched by on 20th nov, 2016.
- The Ministry of Rural Development, in collaboration with State Governments and UNDP, HUDCO, Construction Skill Development Council of India (MCI), National Skill Development Corporation (NSDC), National Institute of Rural Development and Panchayati Raj and Indian Institute of Technology (liT) Delhi, has undertaken training related initiatives in every state through which all housing zones are being provided with suggestions and guidance to adopt designs and construction technologies according to their geographical, environmental and other needs. Under this scheme, the target is to construct one crore residential units till March 2019.
- Under Pradhan Mantri Awas Yojana-Gramin, construction of 52.26 lakh houses has been completed by 19th November, 2018. In the implementation of this scheme, performance of Madhya Pradesh, Uttar Pradesh, West Bengal, Odisha, Chhattisgarh and Rajasthan has been commendable. In each stage of housing construction, information technology based MIS-AwasSoft, mobile-based application. Awas app and space technology are being used on a large-scale for monitoring Purpose.
- Transfer of funds to the beneficiaries are done on the basis of Electronic Funds Transfer order (FTO). Fund transfer is not permitted in any other form.
- The entire work of this scheme i.e. from the selection of beneficiaries to distribution of funds, verification of progress of construction work till the release of funds is being done through MIS

AwasSoft.

- To monitor the progress of housing construction, all photographs are geo-tagged with the help of mobile-based application-Awas app and uploaded through Awas Soft.
- ISRO has developed this software application through which 2-D, 3-D images of the Earth's surface can be seen. Off-line module of this application has also been launched to register geo-tagged photographs.
- Rural Housing Knowledg Network (RHKN) has been started in collaboratio with IIT Delhi with the objective to prepar multilingual web-portal in the public sector and t prepare comprehensive nationwide compilation o information related to business houses, institution and practices associated with affordable and sustainable solutions of rural housing.
- During the Fifth Five year Plan' in the year 1974, the development of rural roads was made a part of the "Minimum Needs Program."
- The subject of "Rural Roads" is included in the Constitution under the State List.
- The Centrally- Sponsored Scheme of "Pradhan Mantri e The Gram Sadak Yojana", launched on December 25, 2000, provides all weather roads to the habitations included in core network of plains areas not connected with roads and having population of 500 and more (as per 2001 Census).
- According to the Core network, the habitations not connected with roads and having population of 250 and more (as per 2001 Census) in Special category States like North East, Sikkim, Himachal Pradesh, Jammu and Kashmir and Uttarakhand, desert areas, tribal areas included in Schedule-V and 88 selected tribal and backward districts as determined by the Home Ministry / NITI Aayog are to be connected with roads.
- On a special initiative of Ministry of Rural evelopment, the Indian Roads congress has published a Rural Roads Manual IRCSP: 20 on the °metric standards, design, construction and aintenance of rural roads.
- Asian Development Bank approved technical assistance of US $ 500 million in December last year to emphasize on sustainability, innovative technology and and-disaster mechanism in the development of rural roads in the country.
- It is the result of the use of modern technology and scientific methods that under the Pradhan Mantri Gram Sadak Yojana, 1,68,394 out of 1,78,134 eligible habitations have been connected by road till 19th November, 2018 which is 94. 5 percent of the target.
- During the tenure of the present government, the growth of road construction has increased by 27 percent as compared to last four years of the previous government.
- The speed of road construction in the year 2013-14 was 75 km per day, which increased to 134 Kilometres per day in 2017-18.
- Pradhan Mantri Gram Sadak Yolana-II has been started for improvement in existing rural road network.
- Under this, with the aim of making road network more vibrant, selected rural roads are being upgraded by the use of modern technology and parameters and the target has been fixed to construct 50 thousand kilometres of roads.
- Out of this, construction of more than 21000 kilometers of roads has been completed.
- To develop road connectivity in areas affected by left wing extremism, funds to the tune of 11,725 croees have been allocated and the target is to construct 5411 kms road by March, 2020.
- Under World Bank-assisted PMGSV-Rural Road Project II, emphasis has been laid on adopting innovative and simplified methods of maintenance of rural roads.
- Under this, a mobile application Aarambh has been developed which helps in collecting necessary data for preparation of inventory of roads, GIS based mapping for survey of road surface, cost estimation and annual road maintenance plans and monitoring work.
- Modern Web-based, On-line Management, Monitoring and Accounting System (OMMAS) has been set

up to effectively monitor the entire program, bring in more efficiency in implementation and increase responsibility and transparency in the system.

- E-payment and e-procurement are new dimensions added to it. Using the dot-net technology, the new version of OMMAS 2.0 has also been started.

- National Institute of Rural Development and Panchayati Raj has issued guidelines on technology initiatives for promoting cost-effective technology in the construction of rural roads using new materials, waste materials and locally available material.

- States have been advised to propose the use of any one of the new technologies for at least 10 percent of the roads involved in annual proposals including material approved by Indian Roads Organization (IRO).

- All states have been advised under PMGSY to start rural road projects for about 100 km long road on experimental basis, using cold mix technology in the construction of upper surface of the roads.

- Keeping in view the use of non conventional materials and environment-friendly Green Technologies in the construction of PMGSY roads, the Ministry of Rural Development has fixed state-wise targets regarding the use of waste plastic and cold mix technology.

- The project of mapping waste material and locally available material on the GIS platform has been entrusted to Central Road Research Institute, New Delhi.

- In March last year, a tripartite agreement was signed by National Rural Road Development Agency, Rural Development Ministry, National Remote Sensing Center, Indian Space Research Organization (ISRO) and National Institute of Rural Development and Panchayati Raj for use of Geo-informatics and Satellite imagery on real time basis and to verify the progress of implementation as per the information received from the states electronically.

- To fulfil the objectives of e-Governance and Digital India, a new mobile application Meri Sadak has been launched on July 20, 2015 for resolving complaints related to PMGSY roads.

- The Meri Sadak app is available in 10 regional languages along with English and Hindi.

- Mahatma Gandhi National Rural Employment Guarantee Act - MGNREGA, which provides at least 100 days of unskilled manual labour to each family in the form of guaranteed employment in a financial year is an important program to ensure inclusive growth of rural India.

- A budgetary allocation of Rs 55,000 crore, largest ever, has been provided for MGNREGA in the financial year 2018-19.

- An exclusive initiative named Geo-MGNREGA was introduced in the financial year 2016-17 to strengthen the scheme and also to underpin transparency and monitoring mechanism in implementation.

- Under this initiative, space technology is being used for geo-tagging of all assets created through MGNREGA.

- In this scheme. 3.93 crore assets have been created so far. Out of these, 2.42 crore assets were created during the tenure of the present government.

- SECURE (Software for Estimate Calculation Using Rural Rates for Employment) is an online application, specially designed and developed to prepare online estimates of MGNREGA works.

- Ministry of Rural Development has started the National Electronic Fund Management System (NE-FMS) from Jan 01, 2016 to further simplify the fund flow system Funds are being transferred directly to beneficiaries in bank / post office accounts through this System in 24 States and one Union territory.

- In the year 2018-19 so far, the payment of 99 percent wages has been done directly in the account of MGNREGA workers electronically through direct benefit transfer (DBT) system whereas during the financial year 2013-14, only 37 percent payments could have been made electronically.

- 12.55 million job cards have been issued to MGNREGA workers and about 10 crore workers have been

linked to AADHAR.
- 6.95 crore workers have been linked to the AADHAR based payment system.

DIGITAL HEALTH SERVICES: SOME KEY INITIATIVES

MSAKHI

- It is an award winning mobile phone app to help health workers in providing high-quality health care to the families in even the remotest villages in different parts of the country. It is an open source Android application developed specifically for the health workers in India. With this app, ASHA workers can use their smartphones to update skills, stay in touch with supervisors, and track and report important data about health issues in their communities.

KILKARI APP:

- It delivers 72 audio messages about pregnancy, child birth and child care directly to families' mobile phones from the second trimester of pregnancy until the child is one year old. Kilakari has been launched in Jharkhand, Odisha, Uttar Pradesh, Uttarakhand and High Priority Districts (HPDs) of Madhya Pradesh and Rajasthan in the first phase.

MOBILE ACADEMY

- It is a free audio training course designed to expand and refresh the knowledge base of Accredited Social Health Activists (ASHAs) and improve their communication skills. Mobile Academy has been launched in Jharkhand, Madhya Pradesh, Rajasthan and Uttarakhand.

M-CESSATION:

- This programme being provided as part of any mHealth initiative, aims at reaching out to those willing to quit tobacco use and 'support them towards successful quitting through text messages sent via mobile phones. e-Hosoltal:
  It is an online registration services framework portal where people can avail online services such as registration and appointment, pay fees, view diagnostics reports and check for the availability of blood in government hospitals in this portal.

ANM ON LINE (ANMOL):

- The application aims at bringing awareness to the remotest populations, underserved communities and urban slums and through images and videos, and educating them about initiatives on health,

maintenance of good hygiene, basic health care and precautions.

MERA ASPATAAL:

- It is a Government of India initiative by the Ministry of Health and Family Welfare, to capture patient feedback for the services received at the hospital through user-friendly multiple channels such as Short Message Service (SMS), Outbound Dialling (OBD) mobile application and web portal.

BUILDING AGRICULTURE INNOVATION SYSTEM

- India needs to rapidly move towards 'innovation led agricultural growth'.
- This has to be achieved with speed, scale and sustainability.
- The combination of scarcity and aspiration had helped to India develop its own brand of innovation — getting more from less for more people, not just for more profit. This was called the MLM paradigm, i.e. 'More from Less for More.
- This means getting more output or productivity by using less resource (land, water, money, inputs) to create benefits for more and more people, not just more and more profit.
- It is important to note that Indian demand for food grains would increase from 192 million tonnes in 2000 to 342 million tonnes in 2030 and the challenge is that this 'more' has to be created with 'less'.

MAJOR CHALLENGES:-

LAND

- Availability of 'Less land' is also due to degradation caused by soil erosion, soil salinity and water-logging problems. Available estimates show that over 120 million hectares of land is degraded.
- However, the most powerful way of getting ' more from less' is the power of using new technology.
- For instance, GM crops present a great, opportunity of getting 'more from less'. Also, within the next so many years, fifty percent of our crops will be GM crops for which right policies are required and right policies are those that are 'promotional but precautionary'.
- Innovation through technology-enabled supply chain through the use of RFID, advanced GIS/GPS, tracing and trateabirty systems could get 'more from less' by reducing wastage and ensuring quality throughout the supply chain.
- 'more from less' can also be acheived by using leakage-free public distribution system, which uses computerized allocation of food grains, GPS/SMS monitoring, verifiable digital identify and web portal for public grievances.
- The second powerful way of getting 'more from less' is to empower more and more farmers with more and more knowledge.
- The third way of getting more from less' is by using the power of 'collective intelligence'.
- The fourth Strategy is 'collective intelligence must be used in removing drudgery in farm fields.
- The decade of 2010-20 was declared as the Indian Decade of Innovation.
- India in innovation based on the report published by Global Innovation Index: India's ranking among

143 nations has slipped from 62 (2011) to 64 (2012) to 66 (2013) to 76 (2014), 81 (2015). However, in the subsequent years, it has steadily improved, 66 (2016), 60 (2017) and 57 (2018).

KRISHI VIGYAN KENDRA: PROMOTING SCIENTIFIC TEMPER

- Innovation in agriculture has always shaped the Idestiny of a promising country like India. In order to draw true potential of farmers towards the state of the art technologies for the betterment of agriculture, Indian government has set up a big chain of over 700 Krishi Vigyan Kendras (KVKs) across the country.
- KVKs are emerging as the regional knowledge hubs and gaining trust of the farmer community.

ORIGIN, PHILOSOPHY & OBJECTIVES OF KVK:

- The concept of Krishi Vigyan Kendra was given by Dr. M. S. Swaminathan, initiator of green revolution in India and the father of Indian agricultural research.
- In light of his Inspiration, the Government of India established first KVK in Pondicherry during 1974 with the financial support and able guidance of Indian Council of Agriculture Research (ICAR).
- In Kapgari Village of West Medinlpur district, the first KVK in West Bengal and second in India was established in the year 1976.
  Since then, KVKs have been established in all Indian states and the number continues to grow. Presently, around 695 Krishi Vigyan Kendras are existing in different districts of India.
- ICAR has 11 Agricultural Technology Application Research Institutes (ATARIs) throughout the country and all the Krishi Vigyan Kendras fall under ATARI.
  The objective of the ATARI is to plan, monitor, evaluate and guide the programmes of the KVKs.

The objectives cum activities of Krishi Vigyan Kendras can be summarised as below:-

- On Farm Testing of new Technologies
- Frontline Demonstration Centre
- Capacity Building
- Multi sector Support and Advisory Services

Aligned to strengthen the efficiency of KVKs, a study was conducted by the National Institute of Labour Economics Research and Development (NILERD), an autonomous institute under NITI Aayog in the year 2017. The study intended to examine the efficacy of KVKs' services, assess them in terms of infrastructure and human resources, impact of new knowledge and practices on farmers' farming methods and the impact of new knowledge adoption by farmers on their income and quality of life. This study was based on field survey of 46 KVKs, covering about 1800 farmers in five States (Rajasthan, Madhya Pradesh, Maharashtra, Tamil Nadu and Arunachal Pradesh) following stratified random sampling technique.

THE STUDY FOUND THAT:-

- About 40% farmers reported that they implemented the technology immediately after its dissemination by KVK and that 25% did so from the next agricultural season.

With the intervention by KVKs, about 80% of the farmers have modified their agricultural patterns which were related to diversification of crops and changes in cropping pattern, seed planting technique, use of fertilizers and pesticides, changes in machinery used and in water use pattern.

- More than 50% of the farmers have mechanized their farm operations; however, ownership of farm machinery and technology adoption increased with the size of holdings and education level of the farmers.

KRISHI VIGYAN KENDRA PORTAL: EXTENDED ARM TO THE FARMERS

- Till the recent past, the efficacy of KVKs was difficult to measure due to the large number of farmers served by a single KVK and largely offline communication between the KVK and farmers. For this reason, research over the last 25 years has focused on the capacity of KVKs to make use of ICT for the purpose of a better management of communications with farmers.
- In 2016, Indian government launched Krishi Vigyan Kendra Portal to provide the information and advisory to the farmers and facilitate online monitoring of the KVK activities. At this portal, major events are reported on regular basis and reports are submitted online on monthly basis. This portal provides information of future plans and programmes of KVKs which benefit farmers, entrepreneurs andy outh in joining different training programmes being organised by KVKs.

NEW SCHEME TO PROMOTE YOUNG ENTREPRENEURS IN COOPERATIVES

- To cater to the needs and aspirations of the youth, the National Cooperative Development Corporation (NCDC) has come up with a youth-friendly scheme 'Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme" for attracting them to cooperative business ventures. The newly launched scheme would encourage cooperatives to venture into new and innovative areas. The scheme will be linked to Rs 1000 crore 'Cooperative Start-up and Innovation Fund (CSIF)' created by the NCDC. It would have more incentives for cooperatives of North Eastern region, Aspirational Districts and cooperatives with women or SC or ST or PwDk members. The funding for the project will be up to 80% of the project cost for these special categories as against 70% for others.
- NCDC, being the most preferred financial institution in the world of cooperatives, has also embarked on Sahakar 22, a Mission for Doubling Farmers' Income by 2022. The NCDC has the unique distinction of being the sole statutory organisation functioning as an apex financial and developmental institution exclusively devoted to cooperative sector. It has extended financial assistance of Rs 63702.61 crore during 2014-2018 (as on November 13), 220% more than Rs 19850.6 during 2010-14. KNOWLEDGE MANAGEMENT THROUGH DIGITAL TECHNOLOGIES.
- Adopting a suitable Knowledge Management system or combination of systems and tools is important to reach-out the target audience (84 crores population in 6,50,000 villages) with intended information and knowledge.
- Traditional Knowledge Management systems including classroom teaching and distance mode programs in rural development sector, mostly resulted in 'knowledge push' and very less scope for interactivity. These systems are more 'process-centric' rather than 'people-centric'.
- But, rapid technological developments over the years, have lead to paradigm shift in reaching-out information and knowledge to rural communities, owing to the affordability of internet and mobile phones in rural India. The recent trends in Information and Communication Technology (ICT), including

Web Portals, Social Media, Expert Systems, e-Learning, Mobile Apps, Internet of Things (IoT), Digital Videos, Community Radio etc. have made 'Knowledge Sharing more efficient and timely.

WEB PORTAL :A POWERFUL KNOWLEDGE MANAGEMENT TOOL

- Web portals are specially designed single access points to information collected from diverse sources.
- Web portals can be classified as horizontal (providing broad range of content for general user) or vertical (targeted offering for niche users), also called vortal. Some of the key web-portals hosting credible information on Rural Development in India, include — Vikaspedia, India Panchayat Knowledge Portal, India Portal, Ministry of Rural Development Portal, NIRD&PR portal, Panchayat Enterprise Suite, Digital India Portal and DISHA Portal monitoring 42 National Flagship Schemes.
- In India, most of the websites (76%), particularly Government websites, are available only in English and about 24% of the websites host bilingual content (Hindi/regional language).

SOCIAL MEDIA : A COST EFFECTIVE TOOL FOR KNOWLEDGE SHARING

- With increasing reach among especially the youth, through increasing mobile phone subscriptions and decreasing data tariffs, social media is the best knowledge management tool as on today to reach-out the target group in rural areas in shorter time and more effectively. Social Media includes social networking sites (Facebook, LinkedIn), Messenger Apps (WhatsApp), Wogs (Slogger, WordPress), microblogs (Twitter), video sharing tools (YouTube), podcasts, Wikis and many more.

VIKASPEDIA KNOWLEDGE PORTAL

- Launched in 2008, as part of India Development Gateway initiative of Government of India, Vikaspedia portal is aimed atSmart Phones: Dynamic power house of Knowledge

Strategic reforms in telecommunications sector since 1990's have facilitated strong ICT infrastructure in India, particularly it revolutionised the mobile penetration in rural India. As on 31st August 2018, the total number of mobile users in India were 1167 million (91% of total population), including 519 million subscribers from rural areas, as estimated by Telephone Regulatory Authority of India (TRAI).

Some of the successful mobile based services implemented in India, is listed below.

RURAL DEVELOPMENT:

- DISHA, Gram Somvad, Awaos App (PMAY-G), Mission Antyadaya App, My SHG App

AGRICULTURE AND ALLIED SECTORS:

- IFFCO Kisan Sanchar Ltd (1KSL), Fisher Friend, mKisan, Reuters, Market Light (RML), mKRISHI, Kisan Call Centre, Annapurna Krishi Prosaar Seva, eNAM

BANKING:

- BHIMApp, PhonePe, PayTm, FreeCharge, Airtel Money, Idea Money

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HEALTH:

- mSWASTHYA, MOTHER, Indian Blood Donors, Blood4India, eMamta, eAushadhi, Sanjeevani, 1mg App, mTIKKA

Understanding the need for promoting mobile based services, Ministry of Electronics and Information Technology, Government of India has launched 'Mobile Seva' initiative for mainstreaming mobile governance in the country. It provides an integrated platform for all Government departments and agencies in the country for delivery of public services to citizens over mobile devices using SMS, USSD, IVRS and mobile applications.

EXPERT SYSTEM : A VIRTUAL EXPERT TOOL PROVIDING SOLUTIONS FOR COMMON PROBLEMS

- An Expert System is basically a software application that attempts to reproduce the performance of an expert in a particular domain. Expert system adopts artificial intelligence to solve a particular problem with the help of pre-set conditions in the software application. There are expert systems available in Agriculture and allied sectors developed by Indian Council of Agricultural Research (ICAR) and are widely used in Krishi Vigyan Kendras (KVKs) and other organisations working in remote villages. 'Plantix' is a mobile based plant disease diagnostic tool getting popular in recent days.

E-LEARNING :

- Massive Online Open Courses (MOOCs) are recent trends adopted by many organisations to offer free online courses. Popular MOOC platforms include, SWAYAM (MHRD, Government of India), Coursera, edX, Khan Academy, Udacity and Future-Learn.

ADOPTING ICTS FOR CAPACITY BUILDING OF PANCHAYATI RAJ INSTITUTIONS (PRIS):

- There are 2,62,547 Panchayati Raj Institutions functioning in India (as on October 2018), which includes 2,55,576 Gram Panchayats, 6354 Block Panchayats and 617 District Panchayats.
- The chronic PRIs management problems are compounded by the presence of a large number of Elected Representatives (ERs) across three levels, to the tune of 31.0 lakhs (including 14.39 lakh Elected Women Representatives), coupled with higher attrition rate with every election cycle and low levels of managerial experience/capacities and exposure.
- Approximately 30 lakh functionaries assist the elected representatives to manage the PRIs.
- In order to address a major problem in terms of constraints associated with capacity building effort by various organisations and enabling them with continued learning, National Institute of Rural

Development and Panchayati Raj (NIRD&PR), Hyderabad has adopted Information and Communication Technology (ICT) as the best way to reach-out and impart training to the 60 lakh Elected Representatives and Functionaries associated with PRIs.

COMMUNITY RADIO:

- Community Radio is a broadcasting system established by the efforts of a specific community,
- As on today, there are 186 Community Radio stations operational in India, including 40 in rural areas.
- The 'Sangam Radio' started in 2008, by Deccan Development Society (DDS) in Telangana, is the first NGO operated Community Radio, successfully operated by women's collectives for the past 10 years.
- However, unlike other countries, Community Radios are not so successful in India, owing to many reasons including lack of funding, program skills, technology and licencing issues.

INNOVATIVE TECHNOLOGIES FOR HIGHER PRODUCTIVITY

- India has achieved a remarkable growth in production and productivity of various agricultural commodities over the last five decades.
- Major changes in agricultural production took place in mid-1960s with introduction and adaptation of new production technologies which is known as "Green Revolution" technology.
- Initially introduced in late 1960s it spread into other parts of the country during 1980s.
- The agriculture sector observed spectacular growth of over 4% per annum during 1980 to 1990.
- However, this growth rate did not sustain during 1990s due to several reasons including slowdown in public investment, low yield growth, decline in food productivity, declining water table and environment led stress problems, climate changes etc.
- Agriculture is still the main livelihood of approximately half of the rural households in India and contributing over 16% to its gross domestic product as per G01, 2018.
- The population of India is growing at 1.24% per annum and is expected to increase from 1.21 billion in 2011 to about 1.46 billion in 2030.
- It is estimated that in the year 2035 the total domestic food grains demand will be 398.6 mt and milk 237.8 mt against 264 mt and 132.4 mt respectively in 2013-14.
- To meet the estimated demand, the yield level over the base period yield (1994-95) is required to be enhanced by more than 50%.
- These targets could be achieved in a scenario of several odd factors which will constrain the sustainable development of agriculture. climate form the essence of all kinds of life and provide support to its various processes. Intensive input based high tech agriculture during last three decades has stressed these resources.

REASONS FOR INEFFICIENT PRODUCTION:-

- Degrading quality of natural resource base.
- Climate change and environmental degradation especially in African and Asian continents including India.
- Unsustainable management of natural resources and environment systems.

- Geographic information systems (GIS), global positioning systems (GPS) and remote sensing (RS) have enabled farmers to refine nutrient recommendation and water management models to the site-specific conditions of each field.

INNOVATIONS IN EFFICIENT INPUT RESOURCES UTILISATION:

- Site-specific Nutrient Management (SSNM):
- Real-time Nitrogen supply
- Use Decision Support System (DSS)
- Improving water productivity
- Sustained Adoption of Micro-Irrigation
- Nanotechnology
- Crop Diversification
- Integrated Farming System
- Conservative Agriculture
- Integrated Crop Management.

TECHNOLOGY INTERVENTIONS IN SANITATION

- The Swachh Bharat Mission, launched in 2014, is a unique programme that has brought focus on the cleaning up of cities and villages, in addition to the elimination of open defecation.
- As India moves towards achievement of universal access to toilets, the issue of Solid Waste Management in both urban and rural areas is getting special attention.
- Every year, about 55 million tonnes of municipal solid waste (MSW) and 38 billion litres of sewage are generated in the urban areas of India.

1. WASTE TO ENERGY:

- Waste-to-energy (WtE) also called by the term energy-from-waste (EfW) is the process of generating energy in the form of electricity or heat from the primary treatment of waste material.

2. INCINERATION

3. OTHER TECHNOLOGIES:

There are many other new and emerging technologies that have the potential to produce more electric power from the same amount of fuel than would be possible by direct combustion.
These technologies include the following:

A. THERMAL TECHNOLOGIES

- Gasification
- Thermal depolymerization
- Pyrolysis
- Plasma arc gasification or plasma gasification process (PGP)

B. NON-THERMAL TECHNOLOGIES:

- Anaerobic digestion
- Fermentation production
- Esterification

INDIA: WASTE TO ENERGY POTENTIAL

- The Indian Government has recognized waste to energy as a renewable technology and supports it through various subsidies and incentives.
- The Ministry of New and Renewable Energy (MNRE), is actively promoting technology options available for energy recovery from urban and industrial wastes.
- According to the MNRE, there exists a potential of about 1700 MW from urban waste (1500 from MSW and 225 MW from sewage) and about 1300 MW from industrial waste.
- Indian Renewable Energy Development Agency (IREDA) estimates indicate that India has so far realized only about 2% of its waste-to-energy potential.
- To promote biofuels in the country, a National Policy on Biofuels, revised in 2018, highlights its strategic importance as it converges well with the other important initiatives such as Make in India, Swachh Bharat Mission, Skill Development and offers possibilities to integrate other programmes of doubling of Farmers Income, Import Reduction, Employment Generation, and promoting Waste to Wealth.
- The policy has the objective of reaching 20 per cent ethanol blending and 5 per cent biodiesel blending by 2030.
- A plant to convert plastic waste into bio-diesel to be made operational at the Indian Institute of Petroleum (IIP) in Dehradun, has the capacity to convert one ton of plastic waste into 800 litres biofuel which will be of highest quality and it can be used in any diesel automotive vehicle.

GOBARDHAN:

- As a part of Swachh Bharat Mission, the Government launched the GOBAR-DHAN -'Galvanizing Organic Bio-Agro Resources Dhan' scheme in Feb 2018.
- This initiative of the Ministry of Drinking Water and Sanitation, aims to support biodegradable waste recovery and conversion of waste into resources. This aims to support, the creation of clean villages which is the objective of Swachh Bharat Mission (Gramin), and provide economic and resource benefits to farmers and households.
- The GOBAR-DHAN scheme is a crucial component of the ODE Plus (Open defecation free plus) strategy

of SBM(G) and will focus on supporting villages in management of bio-waste. • According to 19th Livestock Census of India, 2012, there are about 300 million bovines, 65.07 million sheep, 135.2 million goats and about 10.3 million pigs.

- At least 5,257 tonnes waste/ day is estimated to be generated from livestock alone.
- In addition, according to Indian Agricultural Research Institute's estimates in 2014, India generated 620 million tonnes of crop residue, of which 300 million tonnes are treated as waste and 100 million tonnes are burnt on farms.

AS PER MINISTRY OF DRINKING WATER AND SANITATION 2018:-

- GOBAR-DHAN scheme proposes to cover 700 projects across the country in 2018-19 with upto Rs. 10 lakhs available per GP.
- Eleven schemes under GOBAR-DHAN are in the process of being set up.

TECHNOLOGY FOR MANAGING PLASTIC WASTE:

4 main ways of managing plastic:

- Re-extrusion
- Mechanical Recycling
- Chemical and Thermal Recycling
- Energy Recovery

SOME EXAMPLES OF USE OF PLASTIC WASTE IN INDIA:

According to Ministry of Drinking Water and Sanitation 2018:-

- i. Plastics for road construction: More than 1200 kms of plastic waste mixed roads in rural areas have been laid by DRDA, Erode Tamil Nadu. Waste to fuel plant in Sriperumbudur in Tamil Nadu.
- ii. Waste to fuel plant in Sriperumbudur in Tamil Nadu run by Paterson Energy. The plant sources plastic waste from nearby automobile industries and paper manufacturers to run a plant at a capacity of 7.5 tonnes/day.

DISEASE MANAGEMENT IN HORTICULTURAL CROPS

- Demand for eco-friendly bio-pesticides and other methods in disease management is gaining momentum from the fact that slowly India is moving towards organic production of crops which need alternative approaches of crop protection. There are numbers of alternative approaches like botanical pesticides, bio-pesticides, plant resistance, manipulation of cultural practices, use of organic amendments, use of physical approaches like soil solorisotion and modern molecular techniques of developing Transgenic. In addition, tapping the potential of resistance sources through bio-technological tools hove also been effectively used for the management of plant diseases.
- Food and Agriculture Organization (FAO) of the United Nations estimates that pests i.e. insects, weeds,

plant diseases, rodents and birds cause up to 35 percent of the losses in the crop production worldwide, annually.

- When losses due to pests are combined with postharvest losses, worldwide food losses would amount to 45 percent.
- It is reported that less than 0.1 per cent of pesticide sprayed reaches the sites of action, due to loss of pesticide in air during application and as run-off, spray drift, off-target deposition and photo degradation affecting both the environment and application costs.
- It is estimated that approximately 1.8 billion people are engaged in agriculture and most use pesticides to protect food and commercial products that they produce.
- Worldwide, 4.6 million tonnes of chemical pesticides are sprayed into the environment every year.
- Developing countries account for 25 percent of world pesticide use in farming, but account for 99 percent of the world's deaths due to pesticides.
- Recent estimates indicate that the economic impact of pesticides on non-target species (including humans) is approximately $8 billion annually in developing countries.
- About 25 million agricultural workers experience unintentional pesticide poisonings each year around the world.
- In India, According to a report of the Ministry of Agriculture, residues of chemical pesticides were detected in 9.2 percent of the samples of different food articles collected between 2006 and 2012, out of which 1.5 percent of the samples contained residues above maximum permissible level.
- Almost 90 per cent of the microbial biopesticides currently available in the market are derived from only one pathogenic bacterium i.e. Bacillus thuringiensis or Bt which is used against insect-pests.
- In plant disease management, Trichodermo spp. are the most widely used microbial biopesticide.
- Agrobacterium radiobacter K1026 is used against crown gall disease worldover.
- One of the most successful examples of microbial biopesticide use is in the management of diamondback moth (Plutella xylostello) which is the most destructive insect pest on Brassicas vegetables in tropical Asia and Africa.
- Against diseases of vegetable crops, the major microbial biopesticides used are Trichodermo viride, E harzionum, Pseudomonas fluorescent and Bacillus subtilis.
- Currently, biopesticides comprise a small share of the total crop protection market globally, with a value of about $3 billion worldwide, accounting for just 5 per cent of the total crop protection market.
- According to the figures from BPIA (Bio-Pesticides Industry Alliance), the world market for biopesticides grew at a double-digit rate (10%) from USD 670 million to USD 1 billion, between 2005 and 2010.
- Further, between 2010-11 and 2016-17, usage of bio-pesticides increased by 23 per cent, while that of chemical pesticides grew only by 2 per cent.
- Data from the Directorate of Plant Protection, Quarantine & Storage, Ministry of Agriculture & Farmers Welfare, indicate that in 2010-11, the all-India consumption of bio-pesticide was 5,151 tonnes, which has increased to 6,340 tonnes for 2016-17.
- Bio-pesticides market in India, generated revenue of $102 Million in 2016 and is anticipated to contribute $778 Million by 2025, growing at a CAGR of 25.4 per cent.
- Globally, there were more than 430 registered bio-pesticide active ingredients and 1320 active product registrations in 2014.

BOTANICAL PESTICIDES

- Botanicals have low mammalian toxicity, target specificity, biodegradability and contain many active ingredients in low concentrations, thus possess biocidal activity against several insect pests and pathogens. Among such plants, neem is one of the most important trees which have a great potential for disease and insect-pest management in India and other parts of the world.
- This single tree has such potential that it can meet more than 50 per cent requirement of pesticides in crop production.
- India has more than 18 million trees of neem with seed potential of 4,14,000 tonnes which can yield 85,000 tonnes of oil and 3,30,000 tonnes of oil cakes.
- Neem pesticides have been reported to control more than 200 species of insect-pests, nematodes and also effective against more than 50 diseases.
- Neem contains at least 35 biologically active ingredients of which triterpenoides, nimbin, azadirachtin are present predominantly in the seeds, leaves and other parts of the plant.

SCOPE OF BIO-PESTICIDES:

- The use of biopesticides in agriculture is fully aligned with market trends that promote healthy eating without neglecting environmental conservation. Consumers are increasingly demanding residue-free food. The trend is becoming more and more powerful.
- Organic agriculture is practiced in 172 countries around the world and 43.7 million hectares of agricultural land are managed organically by approximately 2.3 million farmers.
- The global sales of organic food and drink reached 80 billion US dollars in 2014.
- Australia is the country with the largest organic agricultural area (17.2 million hectares, with 97 per cent of that area used for grazing), followed by Argentina (3.1 million hectares) and the United States of America (2.2 million hectares).
- In India, area under certified cultivable organic farming has increased to 1.49 million ha with production of around 1.35 million metric tonnes which will have tremendous requirement of different organic inputs.
- According to the U.S. Department of Agriculture's National Agricultural Statistics Service, US farms produced and sold $7.6 billion in certified organic commodities which was 23 per cent more than the previous year.
- As a result, there has been 11 per cent increase of organic farms in 2016 and a total acreage reached to 5 million acres, up 15 per cent from 2015.
- In 2016, Spain surpassed the figure of two million hectares dedicated to organic farming, registering an increase of 8.5 per cent than in 2015.
- According to Eurostat data, between 2012 and 2016, the area under organic farming grew by 18.7 per cent in the European Union.
- In 2009, the European Union voted a directive to phase-out a number of chemical pesticides in agriculture and governments of Sweden, Denmark and the Netherlands took the lead to announce measures for SO per cent reduction in on-farm chemical pesticide use.
- France has also taken initiative to halve the consumption of pesticides in agriculture by 2025.
- India needs to take lead by mix of initiatives may be in the form of gradual reduction of toxic chemicals and by incentivising the production and use of bio-pesticides to promote chemical free farming.

SWACHH BHARAT MISSION LEADS COUNTRYWIDE WORLD TOILET DAY CELEBRATIONS

- The World Toilet Day was celebrated on 19th November, 2018, by people from across the country with mass awareness and mobilization activities. The focus was on usage of toilets, which is closely linked to the Prime Minister's call for a Swachh Bharat by October 2019.
- The Prime Minister Shri Narendra Modi reiterated the country's commitment towards enhancing cleanliness and sanitation facilities.
- The Swachh Bharat World Toilet Day Contest was organized by the Ministry of Drinking Water and Sanitation.

TECHNOLOGY INNOVATIONS FOR SOIL HEALTH PRESERVATION

- Preserving soil health is vital to human health, ecosystem functions and nature conservation. Soil health is a burning global issue now than ever before. Its management is vital to ensuring food and nutritional security, preserving soil biodiversity, enhancing use efficiency of inputs, and mitigating global worming potential.

SOIL HEALTH:-

- Soil health and soil quality are considered synonymous and can be used interchangeably. However, one key distinction is that soil quality includes both inherent and dynamic quality. Soil health concept involves integration of physical, chemical and biological properties of a soil and role of its harmonious blend in sustaining growth, productivity and environmental security.

SUSTAINABLE SOIL HEALTH MANAGEMENT:

- Minimum soil erosion.
- Good soil physical properties.
- Sufficient soil cover.
- Stable soil organic matter.
- Improved soil fertility and productivity.
- Absence of Soil salinization, sodification and alkalinization.
- Absence of soil Contaminants.

GOOD PRACTICES FOR SOIL HEALTH PRESERVATION:

- Prevent soil erosion
- Increase soil organic matter content
- Soil Nutrient Balance and Cycles
- Mitigating Soil Salinization and Alkalinization

- Minimizing soil contamination
- Conserving soil Biodiversity

TECHNOLOGICAL OPTIONS FOR SOIL HEALTH MANAGEMENT

- Conservation Agriculture
- Farming systems approach
- Degraded land restoration
- Application of Organic amendments

USE OF ICTs IN EDUCATION

In the 21st Century, mastering the skills of computers can be considered alongside 3Rs (Reading, Writing and Arithmetic) as the fundamental requirements for a fully literate person.
No wonder government has undertaken several initiatives in recent years to augment the digital literacy of its citizens.

Various efforts can broadly be categorised as under the following.

- Through formal school education system where in subjects such as Information Technology is offered to students as part of main subjects at secondary level while a subject on Computer Science is offered at the senior secondary level.
- Through vocational courses on IT under National Skill Qualification Framework (NSQF), which envisages a smooth transition for students from what is considered main subjects to the vocational stream without worrying about certifications or mobility in career. Government of India has invested heavily in skill development of youth by enlisting National Skill Development Corporation (NSDC), Sector Skills Council (SSC), Pandit Sundarlal Sharma Central Institute of Vocational Education (PSSCIVE), National Council of Educational Research and Training (NCERT) and State Governments.
- Enhancing the technological competencies of teachers during both pre-service and in-service teachers training and
- creating a digital environment in the country by the massive use of digital technologies in increasing access, enhancing quality of education, ensuring inclusion in the educational systems.The focus of technological integration into the education cannot be different from the central concerns of education which are to improve the quality of education for children, ensuring joyful learning environment for every child of the country; making learning constructive, critical, inclusive and collaborative and finally, building on a lifelong intellectual partnership with technology by constantly reflecting and analysing one's learning.

So, overall technology should be used in providing quality education to 26 crore students studying in 15 lakh schools (66 % under government control) having 85 lakh teachers with majority of schools (close to 84 percent) falling in rural areas of the country.

In such a context, India's policy initiatives have kept pace with the technological evolution. A journey which began in 1972 in the form of Educational Technology scheme under which 100 % assistance was given to

establish 6 State Institutes of Educational Technology (SIETs) and States/UTs were assisted for procuring radio cum cassettes players and colour television sets has travelled a long distance indeed.

- The Union Budget, 2018-19, has proposed to start 'Samagra Shiksha' - an overarching programme for the school education sector extending from pre-school to class 12th by subsuming the erstwhile Schemes of Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE).
- The main outcomes of the Scheme are envisaged as Universal Access, Equity and Quality, promoting Vocationalisation of Education and strengthening of Teacher Education Institutions (TEIs).
- One of the important interventions envisaged under Samagra Shiksha is the Digital Initiatives.
- Some of the states like Andhra Pradesh, Delhi, Tripura and Telangana are in the process of implementing ICT curriculum for students. While state of Karnataka has adopted this curriculam for its teachers.

E-PATHSHALA

- Government of India has launched e-pathshala portal and mobile app in 2015. A joint initiative of Ministry of Human Resource Development and NCERT, this portal/app has all the textbooks of NCERT from Class I to XII in digital form.
- More than 35 million users access the contents on web portal of e-pathshala while about 1.8 million users access these contents through app.
- National Repository of Open Educational Resources was launched in 2013. It is a storehouse of all types of e-contents (more than 13000 contents are available now) arranged thematically and mapped according to the NCERT curriculum. More than 30 organisations have joined hands to share their respective e-contents under creative commons license on this repository.
- A bouquet of channels (32 DTH TV channels to be precise) was launched by the Hon'ble President of India on 9th July 2017 in New Delhi under the SWAYAM PRABHA initiative.
  The channels are uplinked from Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG), Gandhinagar. The contents are provided by NPTEL, IITs, UGC, CEC, IGNOU, NCERT and NIOS. The INFLIBNET Centre maintains the web portal.
- Along with SWAYAM PRABHA, SWAYAM was also launched on 9". July 2017 by the Hon'ble President of India.
- SWAYAM, an acronym for Study Webs of Active —Learning for Young Aspiring Minds, is a digital platform which hosts several courses offered by the best teachers of universities/colleges/ schools free of cost to the students living in any part of the country.
- SWAYAM has been developed by the Ministry of Human Resource Development (MHRD) and All India Council for Technical Education (AICTE) with the help of Microsoft.
  In order to ensure that the best quality contents are produced and delivered, nine National Coordinators have been appointed. They are AICTE for self-paced and international courses, NPTEL for engineering, UGC for non technical post-graduation education, CEC for under-graduate education, NCERT & NIOS for school education, IGNOU for out of the school students, IIMB for management studies and NITTTR for Teacher Training programme. University Grants Commission (UGC) has made provisions for transferring credits for the courses done on SWAYAM.
- Such courses are also known as MOOCs (Massive Open Online Courses).
- MOOCs is an excellent example of use of internet in education. Through MOOCs, India tends to achieve

all three concerns of education, viz., access, quality and equity. MOOCs is a relatively recent development and can be used in variety of ways from offering courses offered in colleges and universities to courses designed for mid-career professionals to in-house programs for skill training and so on.

- ShaGun portal was launched by the MHRD, Government of India (GoI) last year to monitor the progress of SSA scheme on the regular basis and also to make this portal a repository of best practices, innovations, success stories and resources available in the States/Union territories (UTs). ShaGun stands for Shag meaning schools and Gunvatta implying quality.
- **Shaala siddhi launched by National Institute of Educational Planning and Administration (NIEPA), New Delhi aims to improve the school functioning by evaluating schools holistically on 7 key domains such as**
    - o enabling resource of schools,
    - o teaching-learning and assessment,
    - o learners progress attainment,
    - o teacher performance,
    - o leadership and management,
    - o inclusion health and safety and
    - o productive community participation.
- Similarly, Kendriya Vidyalaya's Shaala Darpan is an e-government platform for all KV schools in the country to improve quality of learning, efficiency of school administration, governance of schools and service delivery to key stakeholders.
- DIKSHA, a joint initiative of MHRD and National Council for Teacher Education (NCTE) was launched by the Hon'ble Vice President this year to make one stop resource for all requirements of a teacher.

RENEWABLE ENERGY ADOPTION FOR RURAL AREAS

- With increasing pollution of the biosphere due to the burning of fossil fuels and cutting of forests, development of renewable energy has become a major societal challenge.
  Renewable energy, with its India has substantial renewable energy sources, including a large land mass that receives among the highest solar irradiation in the world, a long coastline and high wind velocities that provide many opportunities for both land-based and offshore wind farms, significant annual production of biomass, and numerous rivers and waterways that have potential for hydropower.
- A village is deemed "electrified", if at least 10% of the households and public places such as schools and health centres are connected and receive electricity from the grid, through the transformer established in the village.   This would still leave 90 % of people living in these villages "un-electrified".
- Homes without electricity are spread across major states such as Madhya Pradesh, Rajasthan, Bihar, Assam, Odisha, and Jharkhand each having nearly 6 million unconnected households.
- According to Debajit Palit, Associate Director at The Energy and Resources Institute, 14.6 million households in the giant north Indian state of Uttar Pradesh lack access to electricity.
- The government did embark on an ambitious $2.5 billion program named "Saubhagya", in order to provide power connections to every household by the end of March 2019.
- It is a known fact that India relies on coal, to meet 60% of its electricity demands. With stagnation in the production of coal, it would be an uphill task for the government to provide uninterrupted power to its citizens.
- A study by Tafesse et al, 2018, empirically tested the impact of cooperatives on Renewable Energy

adoption in rural parts of Ethiopia and have come up with some interesting findings.

- Renewable energy commonly refers to those energies that do not pollute the environment and could be recycled naturally. International experts have categorized renewable energy as traditional and new. The former referring to giant hydropower and biomass burnt directly, while the latter refers to small hydropower, geothermal energy, wind energy, biomass energy, solar energy, ocean energy, etc.

- India has substantial renewable energy sources, including a large land mass that receives among the highest solar irradiation in the world, a long coastline and high wind velocities that provide many opportunities for both land-based and offshore wind farms, significant annual production of biomass, and numerous rivers and waterways that have potential for hydropower (NREL, 2010).

- The Ministry of New and Renewable Energy (MNRE) is promoting multifaceted biomass gasifier based power plants for producing electricity using locally available biomass resources such as wood chips, rice husk, arhar stalks, cotton stalks and other agro-residues in rural areas.

- Increasing the share of renewables in the energy mix is high on the policy agenda in countries around the world.

- Several governments have set highly ambitious targets and have started to implement support schemes aimed at facilitating implementation.

- Recent research indicates that successfully implemented renewable energy projects are usually managed by co-op ventures rather than profit motive driven corporations.

- Co-ops are autonomous associations of people united voluntarily, in order to satisfy their mutual economic, social, and cultural needs and aspirations through jointly owned and consensually controlled enterprise (ICA, 1995).

- In rural India, the solution for rapid economic development can come in the form of rural cooperatives.

- Rural India requires institutions that are helpful in creating confidence, organizing people and utilizing their resources effectively.

- From this point of view, rural cooperatives have a vital role to play.

- A recent study from Bihar suggests that a critical determinant of elctricity access in rural India is proximity to the Central power grid. This essentially suggests remote villages in rural India would be deprived of access to power.

- Hence, it is imperative that rural India develops and adopts self-sustaining community-managed local generation, storage and grid-connected electricity models (popularly termed microgrids).

- The Government of India should consider setting up of the solar plants through a large number of Renewable Energy Cooperatives rather than through setting up Mega Solar parks.

- It is better to set up 500 numbers of 1 MW plant in each village rather than setting up a single 500 MW in one location.

- Providing grid electricity for the rural population is not economical due to the scattered ways of settlement and, low and seasonal income of the rural households.

- Off-grid rural electrification with RE is the best alternative to provide electricity for the rural population (Kotu, 2012).

- For instance, a village in Germany runs a successful microgrid rural cooperative model that generates four times the electricity needed to power individual businesses and homes of the community.
While Germany is well-known for its proactive collective renewable energy initiatives, a good number of success stories are emerging from different parts of India.

- A biomass-based rural cooperative in Tumkur district of Karnataka owes its success to institutional aspects like well-defined property rights in ownership, institutional ised mar kets and decentralised environmental governance. The biomass is derived through tree-based farming, which provides

employment to 30 households.

DIGITAL TECHNOLOGY IN FINANCIAL INCLUSION

- Financial Inclusion is the way the Governments strive to take the common man along by bringing them into the formal channel of economy thereby ensuring that even the person standing in the last is not left out from the benefits of the economic growth and is added in the mainstream economy thereby encouraging the poor persons to save, safely invest in various financial products and to borrow from the formal channel when they need to borrow.

- Scope of the financial Inclusion is not limited to only banking services but it extends to other financial services as well like Insurance, equity products & pension products etc. Thus, financial inclusion is not just about opening a simple bank account with a branch in an unbanked area.

- One of the most crucial of the several steps taken by this government is JAM- Jan Dhan, Aadhar & Mobile.

- With a view to increase the penetration of banking services and to ensure that all households have at least one bank account, a National Mission on Financial Inclusion named as Pradhan Mantn Jan Dhan Yojana was announced by Prime Minister Sh. Narendra Modi on 15th August, 2014 and the scheme was formally launched on 28th August, 2014.

- The use of technology, by way of every Bank A/c to be on-line with RuPay Card & Mobile Banking Facility, use of e-KYC to ease the account opening process, use of Aadhaar Enabled Payment System (AEPS) for interoperability, support for setting up FLCs, support for demonstrating banking technology (Mobile Van fitted with ATM), on-line Monitoring through system generated MIS and facility of Call Centre & Toll free number has resulted in astounding success of the scheme.

- To expand the network of ATMs, the RBI has allowed non-bank entities to start ATMs (called 'White label ATMs'). The RuPay Cards have significantly increased its market share in the country so far. The card has been provided to the account holders of PMJDY.

- Financial Literacy Centers were started by commercial banks at the request of RBI to give awareness and education to the public to access financial products.

- The launch of direct benefit transfers through the support of Aadhaar and Bank Account is one of the biggest developments that activated and retained people in the newly opened account.

- As a part of its financial inclusion plan, the RBI started the Business Correspondent model in 2006. Business Correspondents (Ks) are representatives appointed by banks to act as their agents, who provide banking services in remote locations.

- The Digital India initiative, coupled with a payment infrastructure, is laying thecornerstone for a digital economy, keeping in mind the increasing willingness of people to use the internet and the rising data traffic in the country, an investment of $18.4 billion has been made to provide last mile internet connectivity, better access to government services, and development of IT skills, provision of broadband Internet access to 250,000 village-clusters by 2019 at a cost of about $5.9 billion.

- Rupay Kisan Cards have been providing impetus to cashless transactions among the farming community. NABARD has extended support to Cooperative banks and RRBs in procuring EMV chip-based Rupay Kisan Cards.

- Direct Benefits Transfer scheme was initiated to facilitate disbursements of government entitlements such as those under the social security pension scheme, handicapped old age pension scheme, etc., of any central or state government bodies, using Aadhaar and authentication thereof, as supported by UIDAI.

- Payments banks are a new model of banks conceptualised by RBI. The main objective of payments bank is to widen the spread of payment and financial services to small business, low-income households, migrant labour workforce in secured technology-driven environment in remote areas of the country.
- To promote digital transactions for personal consumption expenditure, two schemes viz. Lucky Grahak Yojana and Digi Vyapara Yojana were funded through Financial Inclusion Fund for consumers and merchants respectively. National Payments Corporation of India (NPCI) determines the winners for cash rewards by choosing them through an electronic draw of lots from amongst the digital transaction IDs generated from 8 Nov. 2016, during the course of such transactions.