Kayakalp : Transforming Public Health Facilities

Kayakalp initiative of the Ministry of Health and Family Welfare began in 2015 with the aim of improving infrastructure upkeep, hygiene and sanitation, and infection control practices in Central Government institutions and public health facilities in all the States and UTs.

Result -
- The scheme has resulted in significant improvement in the level of cleanliness, hygiene, and infection control practices at public healthcare facilities and has inculcated a culture of ongoing assessment and peer review to promote hygiene, cleanliness and sanitation.
- Kayakalp has not only been able to facelift the public health facilities but has made significant contribution towards moulding the behavioural practices of the public.
- Kayakalp made a modest beginning in its first year with assessing only the District Hospitals (DH). Subsequently, within a span of three years, all the Sub District Hospitals, Community Health Centres, and Primary Health Centres (Rural and Urban) have also been brought under its ambit.
- Taking a step ahead, from FY 2019-20, Kayakalp has now been introduced to Ayushman Bharat Health and Wellness Centres (AB-HWCs).

New initiatives -
- In the current year, holistic and comprehensive improvement across the health sector, the Kayakalp scheme has been extended to the private sector health facilities.
- Quality Council of India (QCI) through its constituent National Accreditation Board for Hospitals and Healthcare Providers (NABH) conducted Kayakalp assessment in the private hospitals.
- Leveraging the momentum achieved under Kayakalp, MoHFW and Ministry of Jal Shakti started an integrated scheme, the 'Swachh Swasth Sarvatra' in December 2016. Under this initiative, resources have been provided to CHCs located in Open Defecation Free (ODF) blocks which are yet to meet the Kayakalp criteria.
- In 2019, the country's three best PHCs under Kayakalp from Andhra Pradesh, Gujarat and Karnataka were also felicitated by Ministry of Jal Shakti.

Studies/Reports -
- As reported by the WHO, it is expected that Swachh Bharat Abhiyan will result in averting more than 3,00,000 deaths (diarrhoea and protein-energy malnutrition) between 2014 and October 2019.
- More than 14 million DALYs (Disability Adjusted Life Years) are estimated to be avoided (diarrhoea and protein-energy malnutrition) between 2014 and October 2019.

- The achievements under the Swachh Bharat Abhiyan are applaudable. As many as one rore household toilets have been built since its launch in October 2014, almost 6 lakh villages have been declared ODF villages and 35 States/UTs too are now ODF.

Conclusion -

The synergy and momentum achieved under Swachh Bharat Mission shall continue to expand and deliver a 'Clean India', a Healthy India.

Sustainable Sanitation in the Cities

Concerns -
- The Census (2011) revealed that 12.6% of households in Urban India were practicing Open Defecation (OD). While this was definitely lower than the extent of OD (68%) in rural India, it was nonetheless adversely impacting the health of urban citizens and the overall environment.
- Moreover, with only 38% coverage of septic tanks and less than 33% coverage of sewerage network in the country, more than 70% of the discharge from the toilets, be it from household or from community/public toilets, were being disposed off in an unsafe manner.
- A bigger cause of worry was that 75% of freshwater resources used for drinking purpose was contaminated with sewage contributing to 60% of total pollution load (CPCB Report, 2009).

The Cost of Poor Sanitation -
- As per a UNICEF Report (2011), almost 90% of child deaths from diarrhoeal diseases are directly linked to contaminated water, lack of sanitation, or inadequate hygiene.
- As per the India Health Report for Nutrition Security in India (PFHI, 2015), the North Eastern State of Mizoram has reported a 13 percentage point decline in stunting (below normal height for their age) and five percentage points decline in underweight children (underweight and short) between 2006 and 2014 due to improved access to sanitation.
- An independent study conducted by UNICEF in India in August 2017 established that every Indian family will save about Rs 50,000 annually if open defecation is eliminated.

Journey to Sustainable Urban Sanitation -
- On 2 October 2019, Urban India became Open Defecation Free (ODF) - a fitting tribute to Mahatma Gandhi on his 150th birth anniversary.
- The Ministry of Housing and Urban Affairs (MoHUA) has been implementing various Missions of the Government of India, viz, Swachh Bharat Mission (Urban), AMRUT, Smart Cities Mission, NERUDP - all of which address the issue of urban sanitation.

What is SBM ODF?

A city/ward can be notified/declared as ODF city/ODF ward if, at any point of the day, not a single person is found defecating in the open.

What is SBM ODF+?
Not a single person is found defecating and/or urinating in the open, and all community and public toilets are functional and well maintained.

What is SBM ODF++?
All Faecal sludge/septage and sewage is safely managed and treated, with no discharging and/or dumping or untreated faecal sludge/septage and sewage in drains/water bodies/open areas.

Swachh Sarvekshan -
- The Swachh Sarvekshan (SS) is an innovative survey conducted by MoHUA under the Swachh Bharat Mission-Urban, to rank cities on various sanitation and cleanliness parameters.
- The SS 2019 was unique as the service level assessment was completely online and paperless. In fact, in the area of urban sanitation, the issue of safe Faecal Sludge Management has received a huge impetus and traction, thanks to the Survekshan, given that a major scoring criterion is achievement of ODF++ certification by a city.

Other initiatives by MoHUA -
MoHUA's initiatives in urban sanitation -
1. Leveraging technology and 'smart' solution to widen citizen outreach.
2. Robust online MIS and portal for real time data capture.
3. Swachh Manch for large scale citizen engagement.
4. Behaviour change initiatives (e.g. engagement of celebrities as ambassadors, mass media audio/video campaigns, swachhata selfie, on-ground citizen activation, etc)
5. Continuous capacity building of ULBs through dissemination of technical advisories, providing need-based handholding support, classroom - and field visit-based workshops, etc.

Way forward -
- The issue of maintenance of the community/public toilets needs to be strengthened further to ensure that the toilets do not fall into disuse.
- The issues of safe containment, transportation and disposal of faecal sludge and septage from toilets, as also the grey and black water from households and establishments need to be strengthened further.
- The focus should be on institutionalising the concept of swachhata, so that the holistic impacts from safe sanitation are achieved in line with our SDG commitments.
- We need to focus on sustainable sanitation (creating all cities ODF++ with complete FSSM solution) and wastewater treatment (as per Water+ protocol of MoHUA).

Role of Community Radio in Disaster Management and Climate-change Communication

Background -
- Community Radio provides an opportunity to the community to speak about issues concerning their lives. In December 2002, the Government released a policy that allowed well-established educational institutions to set up Community Radio Stations.
- In order to promote development and social change, the Government in November 2006 implemented new Community Radio Guidelines permitting non-profit organisations to own and operate community radio stations.
- With the new policy in place, it opened doors for community radio as a platform for development, social change, and voice of the community in concern.
- At present, 276 functional Community Radio Stations are operating in India. Radio Stations are operating in India. Out of these 276 stations, 129 are run by educational institutions, 132 by community-based organisations, and 15 by Krishi Vigyan Kendra/State Agricultural Institutions.

Significance of Community Radio -
Community Radio is useful in -
- Speaking to communities in local languages using terms and phrases that are easily and locally understood;
- Providing two-way interactive social learning through listening clubs, call-in shows, and other forms of exchange;
- Communicating local knowledge, needs, and demands beyond the community to inform policy, research and other communities;
- Providing only the media available to communities that have little or no access to other methods of conveying information and knowledge;
- Bringing together people from frequently disconnected stakeholder groups such as livelihoods, community leaders, organisations and governance.

Community Radio and Disaster Management -
- The presence of community radio in every phase of a disaster - disaster mitigation, preparation, early warning, response, recovery and revitalisation, is essential for the exchange and sharing of information and dialogue among residents as well as the enhancement of the community's capability and of self-governance ability.
- Most initiatives linking community radio and climate change are currently focusing on delivering information and messages to listeners about short - and medium - term

forecasts for farmers, alerts for extreme weather events, and messaging to discourage practices which degrades environmental assets.

Scope -
1. **Pre-disaster** - In the pre-disaster stage, community radio stations can provide guidance regarding its preparedness. Information regarding gathering locations and safety shelters can be disseminated. Programmes regarding sanitation measures and first aid practices can be broadcast. Also, safety drills can be organised, educating people about emergency plans and responses. Another important task is broadcasting warning signals in case there is a calamity foreseen or likely to occur.
2. **During disaster** - At the time of a disaster, most forms of communication are disrupted barrign radio signals. Community radio can help the community link with the relief agencies and Government control room. Two prime advantages of community radio are that they focus to the affected communities and the content is delivered in the local language. This can help in disseminating rescue operation information by location-specific stations.
3. **Post-disaster** - Having a medium of communication in their own language or dialect can help in strengthening the morale of the community. Post-trauma counselling and updates on relief and aid can be a part of the content being broadcasted. Guidelines regarding disposal of wastage, restoration of safe water supply and basic sanitation can be provided. The need is to build the capacity of operating personnel of community radio and equip them to handle and disseminate disaster-related information in an optimal manner.

Way forward -
For effective utilisation of community radio in disaster management, it is essential that the staff members should be trained in a specific and well-defined manner on disaster prevention, mitigation, and management communication.

Managing Electronic Waste

Electronic industry, one of the world's largest and fastest growing manufacturing industries, has provided some leverage to the socio-economic and technological growth of the developing society of India. However, the consequence of its consumer-oriented growth combined with rapid product obsolescence and technological advances are a new environmental challenge - the growing menace of "Electronics Waste" or "e-waste" that consists of obsolete electronic devices.

Challenges -

- Advances in information technology during the last century have radically changed 'Indians', especially urban citizen's lifestyle. But, its mismanagement has led to new problems of contamination and pollution.
- The Global E-Waste Monitor, 2017 published by the United Nations University estimated that India generates about 20 lakh ton of e-waste annually, nearly 82% of which is personal devices.
- Another study identified that computer equipment account for almost 70 percent of e-waste, followed by telecommunication equipment like phones (12%), electrical equipment (8%) and medical equipment (7%) with remaining from household e-waste.

Threat -
- Most of the components in e-devices contain lead, cadmium, mercury, polyvinyl chloride (PVC), brominated flame retardants (BFRs), chromium, beryllium, etc.
- TVs and video and computer monitors use CRTs, which have significant amount of lead and long-term exposure to these substances can damage the nervous system, kidneys and bones, and even the reproductive and endocrine systems.
- Some of them are highly carcinogenic. These e-wastes, when improperly disposed (incinerated/land filled instead of recycling) with domestic waste, without any controls, can contaminate the soil, water and air.

Effects on Air, Water and Soil -
- One of the most common effects of e-waste on air is through air pollution. Scavengers going through numerous landfills, looking for improperly disposed electronics to make some income from the recycling of these wastes, are exposed to such hazardous elements.
- When electronics items containing heavy metals such as lead, barium, mercury, lithium (found in mobile phone and computer batteries) are improperly disposed, these heavy metals leach through the soil to reach groundwater channels which eventually run to the surface as streams or small ponds of water.
- Resultantly, the local communities, often depending on these water bodies and groundwater, suffer from multiple diseases.
- Apart from these chemicals resulting in death of aquatic plants and animals, intake of contaminated water by humans and other animals results in lead poisoning.
- Burning of e-waste in open landfills for obtaining gold and other precious metals produces fine particulate matter and cause cardio-vascular and pulmonary ailments in children.
- The motherboards have high level of mercury and their improper disposal may cause skin and respiratory diseases.
- Drinking water contaminated with lead affects the central nervous system and causes poor brain growth, dwarfism, hearing disability, and impaired formation and function of blood cells.

Some solutions -

- E-waste can be contained by minimising its generation. The product designers must ensure the longevity of the products through their re-use, repair and/or upgradeability features.
- Stress should be laid on use of less toxic, easily recoverable and recyclable materials which can be refurbished, disassembled and remanufactured.
- Recycling and reuse of materials are the next options to reduce generation of e-waste. Recovery of metals, plastic, glass, and other materials reduces the magnitude of e-waste.
- Clear regulatory instruments adequate to control both exports and imports of e-wastes and ensuring their environmentally sound management should be in place.
- There is also a need to address the loopholes in the prevailing legal framework to ensure that e-wastes from developed countries are not dumped in our country for disposal.
- Manufacturers of products must be made financially, physically, and legally responsible for their products. The Eleventh International Waste Management and Landfill Symposium and regulations that cover Design for Environment and better management of restricted substances may be implemented through measures.
- All vendors of electronic devices shall provide take-back and management services for their products at the end of life of those products. The old electronic product should then be sent back and carefully dismantled for its parts to be either recycled or re-used, either in a separate recycling division at the manufacturing unit or in a common facility.
- Collection systems are to be established so that e-waste is collected from the right places ensuring that this directly comes to the recycling unit.

Plastic Waste in Construction and Road Making

The Government of India is encouraging waste plastic usage for roads and highway construction, especially on National Highways within 50 km periphery of urban areas that have a population of 5 lakh or more.

Constructive use of plastics -
- Melting down old plastic waste to repurpose it into useful new items is one of the ways of reducing the plastic in the oceans and landfills. Initiatives are being taken to use plastic waste out of landfills in building roads. Post-consumer Recycled (PCR) garbage is used in creating new polymer modified asphalt roads. These are found to be more resistant to erosion from weather and vehicle use, and the number of new potholes formed is reduced.
- A project in the Netherlands used plastic waste from the ocean in road construction. These roads are claimed to last 50 years or three times longer than conventional roads and can survive extremely hot or cold temperatures for all climate use.

Which plastics can be used?

The following types of plastics can be used in the construction of rural roads -

1. Films (Carry bags, Cups) thickness up to 60 micron (PE, PP and PS);
2. Hard foams (PS), any thickness;
3. Soft foams (PE and PP), any thickness; and
4. Laminated plastics with thickness up to 60 micron (aluminium coated also) packing materials used for biscuits, chocolates, etc.

Polyvinyl Chloride (PVC) sheets of Flux sheets should not be used in any case.

Significance -

- Use of plastic along with bitumen in construction of roads not only increases its life and smoothness but also makes it economically sound and environment friendly.
- Plastic waste used as modifier of bitumen improve some of the properties of bitumen.
- It has been found that such roads were not subjected to stripping when come in contact with water.
- Use of higher percentage of plastic waste reduces the need of bitumen by 10%.
- It also increases the strength and performance of the road.
- It has been proven by various studies that the coating of plastics and rubber reduces the porosity, absorption of moisture, and improves soundness.

Other uses of plastics -

Plastic materials have the potential to bring scientific and medical advances, including tissue and organ transplants; lightweight components, such as those in the modern aircraft will reduce fuel usage in transportation; components for the generation of renewable energy and insulation will help reduce carbon emissions and smart plastic packaging will no doubt be able to monitor and indicate the quality of perishable goods.