



**General Studies-2; Topic: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.**

## **Digitisation of Waste Management**

### **Introduction**

- Expanding urban areas, growing populations, increasing incomes and changing lifestyles are rapidly increasing the amount of municipal solid waste (MSW).
- To address the waste management issues, the Government of India launched the Swachh Bharat Mission in 2014 and updated the Solid Waste Management Rules in 2016.

### **Material recovery facilities (MRF)**

- Urban local bodies (ULB), in partnership with non-government organisations started setting up material recovery facilities (MRF).
- MRFs are centres where dry waste is collected, separated and sent to recycling facilities.
- They help to keep waste in the recycling loop, thus helping cities to become waste-free.
- Currently, there are more than 2,000 MRFs in India and many more are being set up.
- The MRFs also provide with the traceability and transparency.
- The Union Ministry of Jal Shakti, under the Swachh Bharat Mission – Grameen, has shared guidelines to establish an MRF in every block of India.

### **Present Status**

- Around 154,090 tonnes of waste is generated in the country every day.
- According to MoHUA estimate, almost 76 per cent of the waste is processed and about 93 per cent of all wards separate waste at source.

### **Concerns / Challenges**

- Improper waste management is often linked to global environmental issues such as marine litter, pollution from release of toxic gases, ultimately affecting climate change.

- 80 per cent of plastics enter the oceans from land.
- The main reason is the improper waste management in cities.

### **Digitalisation in waste management**

- Digitalisation in waste management has proven to be one of the most important solutions to make cities and towns cleaner.
- Digital tools in waste management help city administrators take informed decisions in involving the ecosystem stakeholders, on issues such as inclusivity of waste-pickers.
- Such tools are useful in tracking status of policy implementation.
- Sansaadhan Portal provides ULBs with a digital solution to monitor the performance of their MRFs.

### **Way Forward**

- The efficacy of the current methods of waste segregation needs to be monitored in more detail in most cities.
- If municipal solid waste is adequately segregated and sent to MRFs, the waste can be converted into an important resource.
- Integrate wastes from other sectors such as solar panels, batteries and other material resources to give a circular approach.
- Organics, which make up about 43-45 per cent of MSW, can be turned into a valuable resource that can be used in the production of biogas or compost.