Urban Solid Waste Management

What is the issue?

\n\n

\n
- Rising incomes and changing lifestyles are generating more and a different kind of waste,.
\n
- We need to set up systems to deal with this huge pileup.
\n

\n\n

What was happening before 1970s?

\n\n

\n
- In the past, in rural areas, food discards were returned to the soil.
\n
- Food leftovers were fed to animals and the cattle-shed wastes were **thrown in a pit to decompose**.
\n
- This returned both NPK (nitrogen, phosphorus, potassium) nutrients as well as micronutrients to the soil.
\n
- In Portuguese Goa, bullock carts would move from bungalow to bungalow, collecting kitchen leftovers for on-farm composting.
\n
- This was the earliest Indian version of **doorstep waste collection.**
\n
- These age-old practices have kept Indian soils rich in carbon, up to 4%.
\n

\n\n

What is happening now?

\n\n

\n
- Everything changed with the beginning of the **plastic era** in the 1970s.
\n

- When farmers took mixed waste of plastic and degradable items, to their farms, the fields started wearing a non-biodegradable plastic film.
  \n
- It prevented rain from entering the soil and kept seeds from germinating through them (an example of negative urban-rural connectivity).
  \n
- This assorted mixed waste presented a **major management challenge** for the municipal authorities.
  \n
- City managers forced to deal with this and they began collecting and **dumping the waste outside the city limits.**
  \n

\n\n

What are the ill-effects?

\n\n

\n

- Heaps of waste without exposure to oxygen **emit methane** which is 21 times more potent as a heat trapping gas than carbon dioxide.
  \n
- It also generated **ammonia** and **hydrogen sulphide.**
  \n
- These heaps also started to produce **leachate,** a black liquid oozing out from the waste.
  \n
- It usually take 25-30 years to slowly decompose, continuously releasing methane and leachate.
  \n
- The leachate seeped down into the soil and contaminated open wells and even **polluted bore wells** through natural water channels.
  \n
- There is no way to treat this deep underground contamination.
  \n
- It made the wells and bore wells unfit for drinking and even for irrigation for decades.
  \n

\n\n

What could be done?

\n\n

\n

- Households need to be made to stop mixing biodegradable waste with dry

waste and keep hazardous domestic waste completely separate.
\n
- The segregation of waste at source into **‘wet’, ‘dry’ and ‘sanitary’** categories is now compulsory for all citizens of India in the **Solid Waste Management Rules 2016** (SWM Rules).
\n
- **Tirunelveli in Tamil Nadu** is the latest of over 20 urban local bodies to achieve near zero waste to landfill.
\n
- The correct way to manage fresh waste is to **expose as much of it to air** as soon as possible via **windrows**.
\n
- Windrows are parallel heaps of waste, not more than two metres high, which are designed to achieve the best conditions for aerating the waste.
\n
- Weekly turning of the waste ensures that all parts of the waste are fully decomposed.
\n
- The process can be speeded up by the addition of **composting bio-cultures** (ex.fresh cow dung).
\n
- This bio-stabilising of biodegradable waste would make a city fully compliant with the SWM Rules 2016.
\n

\n\n

\n\n

Source: The Indian Express

\n

SHANKAR IAS PARLIAMENT
Information is Empowering