Environment & Ecology · GS - III

What are the impediments in disposing the huge quantities of discarded solid wastes which are continuously being generated? How do we remove safely the toxic wastes that have been accumulating in our habitable environment?

EXAM YEAR	PAPER	SUBJECT
2018	GS - III	Environment & Ecology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Rising waste generation; segregation failures; landfill constraints; hazardous waste; toxic contamination; scientific treatment; circular economy

Model Answer

Introduction

Rapid urbanisation, consumption and industrialisation have increased solid-waste generation. Inadequate collection, segregation and treatment cause pollution and expose people to hazardous substances.

Impediments to Safe Disposal

1. **Poor segregation:** Mixing biodegradable, recyclable and hazardous waste complicates treatment.
2. **Infrastructure gaps:** Many cities lack adequate collection, material-recovery facilities and scientific disposal sites.
3. **Land scarcity:** Urban land constraints encourage overflowing dumps and poorly managed landfills.
4. **Toxic composition:** Batteries, electronic waste, chemicals and biomedical waste require specialised handling.

5. **Weak enforcement:** Informal dumping, limited monitoring and unclear institutional responsibilities worsen the problem.
6. **Low public awareness:** Littering and poor source segregation increase management costs.

Safe Removal and Treatment

- Segregate waste at source into wet, dry and domestic hazardous categories.
- Compost or biomethanise suitable organic waste.
- Recover and recycle materials through authorised facilities.
- Treat hazardous and biomedical waste using prescribed methods.
- Send residual waste to engineered landfills after appropriate treatment.
- Remediate contaminated sites through risk assessment, containment, soil washing or other suitable technologies.
- Enforce producer responsibility for e-waste, batteries and packaging.

Conclusion

Waste should be managed through a scientific, integrated system prioritising prevention, reuse and recycling. Strong regulation, infrastructure and citizen participation are essential to protect public health and the environment.

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