Mains Practice Question

Q. What is ‘e-waste’? Discuss its impact on the environment and human health. What are the steps taken by the government to tackle the problem of e-waste? (250 words)

01 Mar, 2019 GS Paper 1 Geography

Approach

- Explain what is e-waste in introduction.
- Discuss its impact on the environment and human health
- Mention steps taken by the government to tackle the problem of e-waste
- Give a way forward.

Introduction

- E-waste or electronic waste refers to all waste from electronic and electrical appliances which have reached their end- of- life period or are no longer fit for their original intended use and are destined for recovery, recycling or disposal. It includes computer and its accessories monitors, printers; typewriters, mobile phones and chargers, remotes, batteries, LCD/Plasma TVs, air conditioners, refrigerators and other household appliances etc.
- India’s annual electronic waste (e-waste) generation was 1.8 million MTs in 2016 and is expected to reach 5.2 million MTs by 2020.
- Rapid growth of technology, upgradation of technical innovations, and a high rate of obsolescence in the electronics industry have led to one of the fastest growing waste streams in the world.

Body

Impact on the environment and human health

- **Pollutants in e-waste:** Many of these substances are toxic and carcinogenic. Some are Arsenic, Brominated flame-proofing agent, Cadmium, Cobalt, Chrome, Lead etc.
    - **Lead**: A neurotoxin that affects the kidneys and the reproductive system. It affects mental development in children.
    - **Chromium**: Inhaling hexavalent chromium can damage liver and kidneys and cause bronchial maladies including asthmatic bronchitis and lung cancer.
    - **Mercury**: Affects the central nervous system, kidneys and immune system.
    - **Cadmium**: A carcinogen. Long-term exposure causes Itai-itai disease, which causes severe pain in the joints and spine.
- **Non-biodegradable**: The materials are complex and have been found to be difficult to recycle in an environmentally sustainable manner causing health hazard.
- **Harmful substances from e-wastes** can leach into the surrounding soil, water and air during waste treatment or when they are dumped in landfills or left to lie around near it. It adversely affects human health and ecology.
- The impact is found to be worse in developing countries like India where people are engaged in recycling E-Waste are mostly in the unorganised sector, living in close proximity to dumps or landfills of untreated E-Waste. It can enter their body through respiratory tracts, skin, or the mucous membrane of the mouth and the digestive tract.

Steps taken by the government to tackle the problem of e-waste:

- The Ministry of Environment & Forests (MoEFCC) of the government of India is responsible for environmental legislation and its control. The Central Pollution Control Board (CPCB), an autonomous body under the MoEF, plays an important role in drafting guidelines and advising the MoEF on policy matters regarding environmental issues.
- Government of India announced the **e-waste (Management and Handling) Rules in 2011.** These Rules came into effect from 1st May, 2012.
- **E-waste Management Rules (2016):** These rules apply to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment.
    - **Deposit Refund System (DRS):** The implementation of a DRS would involve collecting a deposit from consumer that is refundable when consumer deposits the e-waste for safe recycling.
    - **Extended Producer Responsibility:** The new rules present a more stringent version of Extended Producer Responsibility as compared to the Rules of 2011. The authorized EPR entities now have obligation to declare targets of how much e-waste they will recycle which should be 30% of the e-waste they are likely to generate based on past sales.

Way Forward

- Build consumer awareness and define their roles and responsibilities around E-waste disposal through a regulatory framework.
- Recognise End-of Life (EOL) range for all Electrical and Electronic Equipment after due industry consultation.
- Adopt 'Informal Sector Franchisee Model' aimed to move the unorganised sector to an organised one
- Introduction of Advanced Recycling Fee (ARF) will help build a sound infrastructure, provide quality service for the public, and manage the backlog of old products, while placing the least financial burden on local communities.