



General Studies-3; Topic: Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

Circular Economy

Introduction

- The **World Economic Forum** defines "a circular economy as an industrial system that is restorative or regenerative by intention and design."
- With a **growing population, rapid urbanization, climate change and environmental pollution**, India must move towards a circular economy.

What is Circular Economy

- The circular economy is a model of production and consumption, which involves sharing, reusing, repairing and recycling existing materials and products as long as possible.
- In this way, the life cycle of products is extended.
- This is a departure from the traditional economic model, which is based on a take-make-consume-throw away pattern.

Principles of circular economy

- The following '5R' principles lies at the heart of achieving circularity.
- **Reduce:** The emphasis is on prioritizing use of regenerative and restorative resources.
- **Reuse:** This encompasses to reuse the useful parts / components of a product, wherever possible.
- **Recycle:** utilizing discarded material as a source of secondary resource, through extensive recycling.
- **Re-manufacture:** To create new products by utilizing waste streams.
- **Repair/refurbish:** The aim is to preserve and extend the life of a product.

Steps taken by India to promote circular economy

- **Plastic Waste Management Rules, e-Waste Management Rules, Construction and Demolition Waste Management Rules, Metals Recycling Policy, etc.**

- **NITI Aayog** has undertaken several initiatives to ensure sustainable economic growth.
- Promoting the **usage of fly ash and slag** produced in the steel industry in other sectors.
- NITI agog also organized an **international conference on ‘Sustainable Growth through National Recycling’**;
- To expedite the **transition of the country to a circular economy, 11 committees** have been formed—to be led by the concerned line ministries and comprising officials from MoEFCC and NITI Aayog.

Concerns / Challenges

- Products face high Goods and Services Tax (GST) rates because there is no distinction between a sustainable product and one with a large environmental footprint.
- Since agri-waste does not have GST, businesses are unable to offset GST payments further down the value chain.
- In the absence of effective standards in India for biodegradable materials, the startups must invest in getting certified in developed countries.
- Bank loans for the startups in circular economy are too small.
- The absence of enabling policies keeps circular economy businesses small-scale, often informal, uncertified and undifferentiated.

Way Forward

- Need for Legislation to promote the circular economy in the country.
- Policies like **Zero Effect, Zero Defect** in manufacturing stage, **National Electricity Mobility Mission Plan** in consumption stage, and the various **Waste Management Rules** in disposal stage, if tweaked properly, can be the ideal for integrating circular economy.
- Policy could mandate an increasing share of recycled plastic in FMCG industries (just like policy mandated renewable purchase obligations for power utilities).
- Need for extensive collaborative efforts between key stakeholders, including regulators, policy makers, corporates, and financial institutions.
- Adequate financing is needed through innovative financing instruments, such as **green bonds, municipal bonds, SDG-aligned bonds**.
- Innovation is key, and startups in the circular economy need innovation in product and process.

Conclusion

- India has immense resources — people, capital, supply chains and scale — to find value in waste.
- A billion-dollar-valued circular economy unicorn can indeed emerge if technology, finance, policy and behavioural change could create markets.