PLASTICS AND ITS CHEMICAL IMPACT - GS III MAINS

Q. It's the time to reevaluate the global approach to chemical regulation and environmental sustainability on plastic pollution with its serious consequences. Elucidate (10 marks, 150 words)

News: *Study exposes 4,200 harmful chemicals in common plastics*

What's in the news?

- The upcoming report and database from the Norwegian PlastChem project will unveil a shocking reality: a whopping 16,000 chemicals are employed in the production of polymers and plastics.

Key takeaways:

- The PlastChem Project reveals that thousands of chemicals in everyday plastic products may be harmful to our health and the environment.

PlastChem Project:

- The PlastChem Project, an initiative by the Norwegian University of Science and Technology, has compiled the most extensive database of plastic chemicals to date.
- This resource lists a staggering 16,000 different plastic chemicals currently in production.
- However, even more alarming is the revelation that at least 4,200 of these chemicals raise serious health and environmental concerns.

Harmful Plastic Chemicals of Concern:

The report highlights some of the most concerning plastic chemicals such as

1. Per- and Polyfluorinated Substances (PFAS):

- These so-called “forever chemicals” lurk in everything from non-stick cookware to fast-food wrappers. They’re linked to cancer, liver damage, and birth defects.

2. Phthalates:

- Designed to make plastic more flexible, they can act like hormone disruptors in our bodies, especially harmful to developing children.

3. Bisphenols:

- These estrogen mimickers are a common ingredient in food packaging and can potentially impact our endocrine system.

Ubiquitous Presence of Plastics:

1. Widespread Presence and Impact:

- Plastics have become integral to daily life, utilized in various forms ranging from food packaging to medical devices.

- However, their omnipresence raises concerns due to their adverse effects on both human health and the environment.

2. Chemical Hazards:

- The production of plastics involves the use of numerous chemicals, a significant portion of which are hazardous.
- These chemicals can leach into the environment, contaminating air, water, soil, and ultimately entering the food chain, posing risks to human health and ecosystems.

3. Lack of Regulation:

- Despite growing awareness of the hazards posed by plastics, regulatory oversight remains limited in many regions, including India.
- The plastic industry operates with minimal regulation, allowing for the widespread use of potentially harmful chemicals without adequate scrutiny or accountability.

Challenges in Regulatory Oversight:

1. Information Gap:

- Unlike industries such as food, cosmetics, and pharmaceuticals, where rigorous testing and regulation are mandated, the plastic sector lacks transparency regarding the chemical composition of products and their associated health risks.

2. Historical Precedents:

- Past incidents, such as the case of Dupont's use of hazardous chemicals in Teflon production despite knowing the associated health risks, highlight the urgent need for stricter regulations to prioritize public safety over corporate interests.

India's Position on Global Plastics Treaty:

1. Resistance to Binding Targets:

- India's stance opposes the inclusion of binding targets on plastic production in the Global Plastics Treaty, instead emphasizing addressing pollution without enforceable caps.

2. Differentiated Responsibilities:

- India advocates for considering varying levels of economic development in addressing environmental issues, highlighting the principle of common but differentiated responsibilities.

3. Viability of Alternatives:

- India proposes evaluating substitutes based on technical and economic feasibility. Additionally, India emphasizes the importance of national design standards and redefining single-use products in accordance with local contexts.

Measures Needed to be Taken:

1. Comprehensive Regulation:

- India should adopt a comprehensive regulatory approach grounded in independent scientific research, moving away from reliance on voluntary disclosures within the plastic industry.

2. Transparency and Traceability:

- Developing and contributing to global inventories of plastic chemicals and polymers can promote transparency and traceability, aiding in better regulation and management of plastic pollution.

3. Clear Definitions and Hazard Criteria:

- Establishing clear definitions and harmonized hazard criteria, alongside regulations grounded in the precautionary principle, can enhance the effectiveness of regulatory measures.

4. Chemical Prioritization:

- Grouping chemicals based on structure simplifies prioritization for regulation and helps prevent the substitution of hazardous chemicals with similar counterparts.

5. Industry Accountability:

- Enhancing transparency and accountability measures for the petrochemical industry, including mandatory disclosure of all chemicals used in production, is crucial to ensuring public safety and environmental protection.

The PlastChem project highlights the urgent need for reevaluating India's approach to chemical regulation and environmental sustainability. By implementing proactive measures and prioritizing public health and environmental preservation, India can mitigate the harmful impacts of plastic pollution and pave the way for a more sustainable future.