

1 Biopharma SHAKTI (Source: *The Hindu*)

A budget 2026-27 scheme focusing on transforming India into a biomanufacturing hub. The initiative with a ₹10,000 crore, five-year outlay focuses on making India a global innovator. Biopharma involves production, manufacturing, or extraction of therapies through biological organisms, such as human cells, fungi, or microbes.

What needs to be known?

- Will help in capturing 5% of the global biopharmaceutical market share.
- Examples of biopharmaceuticals include vaccines, antibody treatments, gene therapies, cell implants, modern insulin, and recombinant protein drugs.
- Establishment of National Institutes of Pharmaceutical Education and Research (NIPERs) and the upgradation of seven existing NIPERs to strengthen the scheme.
- Creation of a large-scale clinical research ecosystem.
- Enhancing the capacity of the Central Drugs Standard Control Organisation (CDSCO)



Central Drugs Standard Control Organisation (CDSCO)

- CDSCO is the National Regulatory Authority responsible for ensuring the quality, safety, and efficacy of drugs, cosmetics, and medical devices. Headed by the Drugs Controller General of India in Delhi, it regulates imports, approves new drugs, and sets standards.



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2 Marine Heatwaves (Source: *Down To Earth*)

Periods of extreme, sustained ocean warming, defined as sea surface temperatures (SSTs) that are significantly above the normal seasonal temperature range for a prolonged period.

Causes:

- **Climate Change:** Rising global temperatures lead to more frequent and intense MHWs.
- **Ocean Currents:** Changes in currents or atmospheric conditions (e.g., El Niño) can cause localized warming.
- **Atmospheric Patterns:** Persistent high-pressure systems can trap heat over certain areas of the ocean.
- **Anthropogenic Activities:** Human activities, including greenhouse gas emissions, contribute to increasing ocean temperatures.

Impacts on Marine Ecosystems:

- **Coral Bleaching:** Increased temperatures stress coral reefs, leading to mass bleaching events, which can cause widespread coral mortality.
- **Fish Migration:** Warm waters force fish to migrate to cooler areas, disrupting local fisheries and food security.
- **Harm to Marine Life:** Shellfish, plankton, and other marine organisms may suffer from heat stress, leading to ecological imbalances.
- **Loss of Marine Biodiversity:** Prolonged MHWs can lead to species extinction or significant reductions in biodiversity in affected regions.

Economic Consequences:

- **Fisheries & Livelihoods:** Disrupted fish stocks affect commercial fishing industries, leading to economic losses and food security issues.
- **Tourism:** Damage to marine ecosystems, particularly coral reefs, can hurt tourism industries that rely on healthy oceans.

Global Examples:

- **Great Barrier Reef Bleaching (2016-2020):** Successive marine heatwaves caused severe coral bleaching, affecting Australia's reef ecosystem.
- **Mediterranean Sea MHW (2022):** Affected marine life and coastal ecosystems in Europe, stressing vulnerable species.

3 Corporate Social Responsibility (CSR) in India (Source: *The Hindu*)

Corporate Social Responsibility (CSR) in India mandates companies to allocate 2% of their average net profits from the preceding three years toward social, environmental, and economic development activities and it is governed under Companies Act, 2013

Applicability: Applies to companies meeting any of these thresholds in the prior financial year:

- Net worth of ₹500 crore or more.
- Turnover of ₹1,000 crore or more or
- Net profit of ₹5 crore or more.
- Qualifying firms must form a CSR Committee (with at least three directors, including one independent), formulate a CSR policy, and spend the mandated amount on Schedule VII activities.

Key Provisions

- Companies spend at least 2% of average net profits annually.
- Unspent amounts go to specified funds or accounts, with reporting mandatory in annual reports.
- The 2019 Amendment introduced penalties for non-compliance (up to twice the unspent amount), and allowed contributions to central schemes like PM CARES

Fact

- India is the first country to legally enforce quantified CSR spending, integrating corporate contributions into national development goals.

