Biodiversity & Environment

Interconnected Disaster Risks Report 2023

Tags:

GS Paper - 2

- **Important International Institutions**
- **GS Paper - 3**
- **Disaster Management**
- **Environmental Impact Assessment (EIA)**
- **Environmental Pollution & Degradation**

For Prelims: UN Interconnected Disaster Risks Report 2023, Climate change, Space debris, Wet-bulb temperature, Floods, Renewable energy sources, Sendai Framework for Disaster Risk Reduction 2015-2030, The Climate Risk and Early Warning Systems, Coalition for Disaster Resilient Infrastructure Society, National Disaster Management Plan

For Mains: Major Findings of the Interconnected Disaster Risks Report 2023, Major Drivers of Increasing Disaster Risks.

Why in News?

Recently, the **release of the Interconnected Disaster Risks Report 2023** has thrust the world's interdependence into the spotlight, **warning of impending global tipping points and underlining the critical need for immediate action** to prevent potential **catastrophic consequences.**

What are the Major Findings of the Interconnected Disaster Risks Report 2023?

- **About**: The **UN Interconnected Disaster Risks Report** is an annual science-based report released by the **United Nations University- Institute for Environment and Human Security (UNU-EHS)**, (first published in **2021**).
    - The report analyses **several concrete examples of disasters each year** and explains **how they are inter-connected** with each other and with human actions.
    - The report illustrates how **seemingly stable systems can gradually deteriorate until a critical threshold is crossed,** resulting in catastrophic consequences.
        - It introduces the concept of **"risk tipping points,"** moments when **socio ecological systems** can **no longer buffer risks** and face a heightened risk of catastrophic impacts.
- **Note**
- **The United Nations University (UNU) is the academic arm of the United Nations and acts as a global think tank. The mission of the Institute for Environment and Human Security (UNU-EHS) is to carry out cutting edge research on risks and adaptation related to environmental hazards and global change. The institute is based in Bonn, Germany.Tipping Points:** The report highlights that the world is approaching six **environmental tipping points –**
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    - **Groundwater Depletion: Groundwater** stored in aquifers is vital for over **2 billion people, with 70% used for agriculture.**
        - However, **21 of the world's major aquifers are depleting faster** than they can recharge.
        - Aquifer water often took thousands of years to accumulate and is essentially non-renewable.
        - Over-extraction has occurred in some areas, like **Saudi Arabia**, depleting over **80% of its aquifer.** This forces reliance on imported crops, posing challenges for food security.

- Certain areas within the **Indo-Gangetic basin in India have already crossed the critical threshold of groundwater depletion**, and the entire northwestern region is expected to face severely limited groundwater availability by **2025.**

- **Accelerating Species Extinctions:** Human activities like land use changes, overexploitation, and climate change have accelerated species extinction.
- Current extinction rates due to human influence are hundreds of time
    - es higher than normal.
    - **Extinction can trigger a chain reaction,** causing the collapse of ecosystems.
- **Mountain Glacier Melting:** Glaciers are vital water sources, but they are **melting at double the rate due to global warming.**
    - Between 2000 and 2019, **glaciers lost 267 gigatons of ice per year. We are projected to lose around 50% of glaciers by 2100,** even with limited warming.
    - **90,000+ glaciers** of the Himalayas, **Karakoram and Hindu Kush mountains** are at risk, and so are the nearly 870 million people that rely on them.
- **Space Debris: Satellites** are crucial for **weather monitoring, communication, and safety**, but the growing number of satellites in space is causing a space debris problem.
    - Only **25% of objects in orbit are active satellites;** the rest are non-functional debris.
        - There are **about 130 million smaller, untrackable debris pieces.**

            - These objects move at high speeds and pose a collision risk to operational satellites, creating a hazardous orbital environment.
    - **Unbearable Heat:** Climate change is causing more deadly heat waves. High temperatures and humidity make it hard for the body to cool down.
        - When the "wet-bulb temperature" exceeds 35°C for over six hours, it can lead to **organ failure and brain damage**. This has already occurred in places like Jacobabad, Pakistan.
            - Also, during a **2023 heatwave in India,** wet-bulb temperatures went above **34°C.**
        - It is **expected to affect over 70% of the global population by 2100.**
    - **Uninsurable Future:** Frequent severe weather is causing a sevenfold increase in damages since the 1970s, with **USD 313 billion in losses in 2022.**
        - **Insurance costs are rising due to climate change,** making coverage unaffordable for many.
        - Some insurers are leaving high-risk areas, leading to regions being labeled **"uninsurable."**
            - For example, **in Australia,** about 520,940 homes may become uninsurable by 2030 due to increased flood risk.
- **Interconnectedness: Climate change, driven by increased greenhouse gas emissions,** acts as a common driver of tipping points. This includes glacier melting, extreme weather events, and shifts in the insurance risk landscape.
    - These **interconnected environmental issues can trigger feedback loops,** such as rising sea levels from glacier melt, intensifying coastal flooding and elevating the demand for disaster insurance.

- Ultimately, these tipping points have **significant socioeconomic consequences.**

What are the Major Drivers of Increasing Disaster Risks?

- **Urbanisation:** Rapid Urbanization often occurs without adequate planning and infrastructure development.
  - As cities grow, **more people and property become exposed to hazards like floods and earthquakes, increasing disaster vulnerability.**
  - **Environmental Degradation: Deforestation, soil erosion, and pollution weaken natural ecosystems and reduce their ability to act as buffers against disasters. Environmental degradation amplifies the impacts of hazards.**
  - **Inadequate and Inefficient Infrastructure: Insufficiently built or maintained infrastructure, such as bridges, buildings, and roads, can crumble during disasters, leading to significant economic and social losses.**
  - **Poor Land Use Planning: Inadequate land use planning can result in communities settling in high-risk areas like floodplains**
- or wildfire-prone regions. This contributes to increased exposure to disasters.
- **Water Management Issues:** Mismanagement of water resources can lead to **droughts, water scarcity, and flooding.**
  - These issues can have far-reaching consequences for food security, economies, and communities.
- **Global Interconnectedness:** As the world becomes more **interconnected, disruptions in one area can have cascading effects globally.**
  - This interconnectedness can propagate the economic and social impact of disasters.

What does the Report Recommend as Solutions to Mitigate Disaster Risk?

- **UN Interconnected Disaster Risks Report 2023** uses the four-category framework to classify and prioritize solutions for addressing disaster risks.

- **Avoid-Delay:** These are actions that aim to prevent disasters by slowing them down using current methods.
    - For example, implementing **strict building codes and land-use regulations** to prevent major damage from disasters.
- **Avoid-Transform**: These actions focus on **preventing disasters by making significant changes** in how things are done.
- For example, transitioning from **fossil fuel-based energy production to renewable energy sources (like solar and wind) to avoid the risks associated with climate change**
- **Adapt-Delay: These actions prepare us to handle disasters by buying more time to respond.**
- **For example, developing advanced early warning systems for tsunamis to buy time for people to evacuate and prepare for the disaster.**
- **Adapt-Transform: These actions involve making big changes to how we do things to adapt to disasters.**
- **For example, implementing coastal zoning policies and restoring natural barrier ecosystems (like mangroves) to adapt to rising**
    - sea levels and transform coastal protection strategies.

What are the Initiatives for Disaster Risk Reduction?

Global:

- Sendai Framework for Disaster Risk Reduction 2015-2030
- The Climate Risk and Early Warning Systems (CREWS)
- International Day for Disaster Risk Reduction - 13th October

- Green Climate Fund's Sectoral Guide on Climate Information & Early Warning Systems

India's Initiatives:

- Coalition for Disaster Resilient Infrastructure Society (CDRIS)
- National Disaster Management Plan (NDMP)

UPSC Civil Services Examination Previous Year Question (PYQ)

Mains:

Q. Discuss the recent measures initiated in disaster management by the Government of India departing from the earlier reactive approach. (2020)

Q. Vulnerability is an essential element for defining disaster impacts and its threat to people. How and in what ways can vulnerability to disasters be characterized? Discuss different types of vulnerability with reference to disasters. (2019)

Q. Describe various measures taken in India for Disaster Risk Reduction (DRR) before and after signing 'Sendai Framework for DRR (2015-30)'. How is this framework different from 'Hyogo Framework for Action, 2005'? (2018)

Indian Economy

India's Food Export Rejections in the United States

Tags:

- GS Paper - 3
- Agricultural Marketing
- GS Paper - 2
- Bilateral Groupings & Agreements
- Effect of Policies & Politics of Countries on India's Interests

For Prelims: India’s Major Food Exports to US, Salmonella, World Trade Organization, Sanitary and Phytosanitary (SPS) Agreement, Food Safety and Standards Authority of India , Codex Alimentarius

For Mains: Major Provisions of SPS Agreement, Measures to Improve Food Safety and Quality Standards in India, Agricultural Marketing.

Why in News?

The **United States Food and Drug Administration (FDA)** has recently disclosed data on food imports over the past four years. Among the nations engaged in **food exports** to the US, **India, Mexico, and China** have experienced the **highest incidence of refusals.**

- The data highlights the **hurdles faced by Indian food exporters in the American market**. High refusal rates continue to be a pressing issue.

What are the Key Aspects Related to India's Food Export Rejections in the United States?

- **Refusal Statistics: India, Mexico, and China:**
    - Between **October 2019 and September 2023**, India, Mexico, and China experienced significant refusals of **food export shipments to America.**
    - India's refusal rate, which measures the percentage of shipments refused out of all food export shipments, **was 0.15%.**
        - In comparison, **China's refusal rate was 0.022%**, and **Mexico's was 0.025%**.
        - India's rate is substantially higher, signaling a **higher incidence of refusal relative to the total exports.**
- **Majors Factors Behind Refusals:**
    - The products consisted in whole or in part of a **filthy, putrid, or decomposed substance** or be otherwise unfit for food.
    - The products **contained Salmonella,** a bacteria that causes severe stomach infections.
    - The products used an **unapproved new drug,** an unsafe food additive, or a prohibited substance.
    - The products were **misbranded in terms of nutritional labels,** ingredients information, or health claims.
- **Long-Term Trends in India's Refusals:**
    - In the last decade, India's food export refusals have seen a downward trend in absolute terms. From a peak of 1,591 refusals in 2015, it decreased to 1,033 refusals in 2023.
        - Despite these refusals, **India's food exports** to the US stood at **USD 1.45 billion in FY23**, representing a **16% increase from the previous fiscal year.** Key exports included basmati rice, natural honey, guar gum, and cereal preparations etc.

What is the International Measure Backing the Food Import Refusal By the United States?

About:

o The World Trade Organization (WTO)'s Sanitary and Phytosanitary (SPS) Agreement ensures that traded products between WTO members do not spread pests and diseases, and that food products do not contain harmful substances or pathogens.

o The "SPS Agreement" entered into force with the establishment of the WTO on 1 January 1995.

- WTO has 164 member nations (including India and the United States).

 Major Provisions:

o Members have the right to implement sanitary and phytosanitary measures for the protection of human, animal, or plant life and health, provided such measures align with this Agreement.

o Measures should be based on scientific principles and supported by scientific evidence, except as provided in Article 5(7) of the Agreement.

o Measures should also not discriminate unfairly between Members and should not serve as a disguised restriction on international trade.

o Members must accept equivalent sanitary and phytosanitary measures from other Members, even if they differ.

- The exporting Member must prove that its measures meet the importing Member's required level of protection.
- Access for inspection and testing should be provided upon request.

How India can Improve its Food Safety and Quality Standards?

Strict Inspection and Quality Control: Strengthening the role and capacity of the Food Safety and Standards Authority of India (FSSAI), the apex food regulator in the country, to monitor, inspect, and certify food products for domestic and export markets.

 Enhanced Testing Protocols: Developing and enforcing comprehensive testing protocols for food products to identify contaminants, pathogens, and adulterants.

o Investing in advanced laboratory equipment for more accurate and rapid testing.

 Supply Chain Transparency: Utilizing blockchain technology to create transparent and traceable supply chains, enabling rapid identification of the source of contamination or quality issues.

 Global Standards Adherence: Adopting international best practices and standards for food safety and quality management, such as Hazard Analysis and Critical Control Points (HACCP), Good Hygienic Practices (GHP), and Codex Alimentarius.