Impact of Water Crisis on Global Economy

Why in news?

Recent report by Global Commission on the Economics of Water, predicts that by 2050, the lower-income countries will suffer GDP losses due to water crisis.

What is the status of global water crisis?

- **Water crisis** – Annual per-capita water availability of *less than 1700 cubic meter* is considered as *water stress condition*.
- Whereas annual per-capita water availability *below 1000 cubic meters* is considered as a *water scarcity condition.*
- **UN report** – By 2050 nearly 4 billion people could live in areas under severe water stress.
- **Status in India** – The average annual per capita water availability for year 2021 and 2031 has been assessed as 1486 cubic meter and 1367 cubic meter respectively.
- **SDG 6** – It seeks to ensure the availability and sustainable management of water and sanitation for all.

The Global Commission on the Economics of Water was launched in 2022 by the Government of the Netherlands and facilitated by the OECD.

What are the factors leading to global water crisis?

- **Weak economic practices** – Over-exploitation of water resources in manufacturing and infrastructure sector.
- **Unsustainable land use** – Deforestation, urban sprawl, and improper agricultural practices disrupt water cycles, reduce groundwater recharge, and increase water scarcity.
- **Persistent mismanagement of water resources** – Over-extraction, inefficient irrigation, and pollution worsen water availability, depleting clean water sources.
- **Adversely changing climate** – Rising temperatures, changing rainfall patterns, and melting glaciers intensify droughts, floods, and water shortages.

Agriculture accounts for roughly 70% of freshwater withdrawals, followed by industry (about 15%) and domestic (or municipal) uses (about 12%).

What are the impacts of waters crisis?

- **Imbalance in global water cycle** – It is vital for ***generating rainfall***, as well as for

mitigating climate change and *ensuring economic stability.*

- **Agricultural loss** – More than half the world's food production will be at risk of failure within the next 25 years.
- **Impact on human development** – Water scarcity directly affects health, food security and poverty alleviation.
    - Increases the vulnerability of communities to health issues due to lack of clean water.
- **Hindrance to SDG** – Without sufficient water, efforts to achieve key SDGs are compromised.
- **Affects economic growth** – The combined effects of climate change and water scarcity could account for *15% GDP loss in lower-income countries and 8% in higher income countries by 2050.*

What are suggested measure by the report to tackle water crisis?

- **Redefine water governance** – The report offered a new perspective on *just access to water* for dignified life, adequate nutrition and consumption requires a *minimum of about 4,000 liters* per person per day.
- According to the World Health Organization (WHO), 50- 100 liters per day is required to meet essential health, hygiene needs.
- **Shift in perspective** – To properly recognize water scarcity and take water as public commodity rather than a personally owned commodity
- **Revolutionizing the food systems** – Increase agricultural productivity using regenerative agriculture *to reduce water usage by one-third.*
    - Shifting 50% of global cropland to regenerative agriculture by 2050.
- **Conserving natural habitats** – Act seriously to meet the 30% target for the restoration of degraded forests and inland water ecosystems
- **Establishing a circular water economy** – Reduce the strain on natural water resources by recycling wastewater to *make it up 8% of freshwater annually.*
- **Enabling sustainable innovation** – Such as *precision irrigation*, to improve efficiency and reduce waste.
- **Payment for Ecosystem Services (PES)** – Which provides a monetary value to ecosystem services such as water purification and climate regulation.
- PES provides incentives for conserving ecosystems that play a vital role in maintaining water cycles
- **Establishment of a Global Water Pact** – To promote international cooperation and innovative financing for water management.

Green Water Conservation

• Fresh water is classified into blue water and green water,
• **Blue water** – Encompassing surface and groundwater.
• **Green water** – Refers to moisture in soils and vegetation.
• **Part of hydrological cycle** – Green water flows into the soil, runs into rivers, lakes, and the ocean and evaporated to atmosphere.
• This is important since *almost half of the rain* falling over land originates from green water.
• A stable supply of green water is linked to stable patterns of rainfall, itself critical to economies and livelihoods.
• Deforestation, agricultural or urban expansion in one area can disrupt rainfall in another.
• It also *helps in carbon sequestration* and mitigation of climate change.
• So, it is essential to conserve regeneration of green water.

What are the measures taken by Indian government?

- **Jal Jeevan Mission** – Aimed at providing tap water to every rural household by 2024.
- **AMRUT 2.0** – To ensure water supply in statutory towns across the country.
- **Pradhan Mantri Krishi Sinchayee Yojna** – For optimal usage of water in agricultural irrigation.
- **Atal Bhujal Yojna** – Sustainable management of groundwater resources in water stressed blocks.
- **National Perspective Plan** – To improve water availability by transferring water from surplus basins to deficit basins.
- **Sahi Fasal** – Encouraging farmers to grow *water efficient crops*.
- **Mission Amrit Sarovar** – Developing and rejuvenating 75 water bodies in each district.
- **Catch the Rain** – Water conservation and rainwater harvesting to improve ground water table.

What lies ahead?

- To create a Global data infrastructure for better predictions of water-related risks and enabling informed policy decision.
- Mission-driven approach that engages all stakeholders to work in achieving common goal to tackle water crisis.
- Restoring Ecosystems by investment in green water conservation.

References

1. Down To Earth| Impact of Water Crisis Across the Globe
2. PIB| Per Capita Water Availability