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Water stress

Five states face water stress, while 60% districts witness water scarcity; more efforts needed from Govt, private sector and society to create sustainable water management

JULY 2024

CLIMATE CHANGE

The biggest crisis of our time

Overview

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Five states, growing major crops like rice, wheat, sugarcane, face severe water crisis.

Punjab and Uttar Pradesh, which have a concentration in production of water-guzzling crops such as rice, may face further depletion of groundwater.

- Global water stress is significantly linked to climate change. Rising temperatures due to climate change disturb precipitation patterns and the entire water cycle. This disruption leads to floods, droughts, unpredictable rainfall, shrinking ice sheets, and rising sea levels – which pollute the water, reduce the freshwater availability and ultimately result in a water crisis where demand for water exceeds the available resources.

- As per the United Nations Sustainable Development Group (UNSDG) report in 2022, water stress occurs when the ratio of freshwater withdrawn to total renewable freshwater resources is above 25%.
- India currently faces a medium level of water stress with the ratio of freshwater withdrawn to total renewable freshwater resources in the range of 50-75%.

- Though India is at the medium level of water stress level when compared globally, disparity exists between states and Union Territories (UT).
- Currently, five states (Haryana, Punjab, Rajasthan, Uttar Pradesh, and Uttarakhand) are facing acute water pressure with groundwater availability at >20 meters below ground level.
- These states have a major share in the domestic production of crops like rice, wheat, cereals, pulses and sugarcane.
- Water stress in these states may put pressure on production of these crops. Further, with rising population levels, demand for crops is further expected to increase.

- Haryana and Punjab witnessed 12% addition to water stressed area between FY2020 and FY2022.
- Punjab and Uttar Pradesh are amongst the largest domestic producers of high water-intensity crops like rice and sugarcane. Further, they depend primarily on groundwater irrigation, which is at an alarming level as per the Central Ground Water Board (CGWB).
- If the groundwater levels keep depleting, it may hamper the crop yield leading to food shortages and inflation, going forward.

Source: ICRA Research

Overview

60% of the districts may face water-scarcity conditions by 2025.

Stringent measures by the GoI and cautious efforts by the private sector and society are needed to build a climate-friendly water ecosystem.

- The average annual water availability of any region or country is largely dependent upon hydro-meteorological and geological factors, however, water availability per person is dependent on the population of a country.
- The per capita water availability in India is reducing due to the rapid increase in population.
- As per the Niti Aayog, 60% of the districts in 25 states/UTs of India will have annual per-capita water availability of below 1,000 cubic meters, which is considered a water-scarcity condition by 2025.
- The situation may further worsen by 2050 in Maharashtra and Madhya Pradesh.

- The GoI has initiated several steps and launched various schemes/ programmes for making water available, and for its conservation and distribution.
- In addition, water-stressed states have launched schemes/programmes in the field of water conservation/harvesting.

- To encourage states/UTs to take steps towards conserving water, Niti Aayog launched the Composite Water Management Index (CWMI), which provides an annual snapshot of the status and water management performance of states/UTs.
- The Index highlighted that 21 major cities, including Bangaluru, Delhi and Hyderabad may face water stress in this decade.
- Though the GoI has been active in introducing policies and schemes to address water availability, a collaborative approach involving the Government, private sector, and society will be needed to build a climate-friendly water ecosystem.

Source: ICRA Research

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Thank You!