



KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Perunthalsivam Kamarajar"

Tackle heatwaves with short and long term measures

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Context

- On March 15, some States and cities in India experienced the first of severe heatwaves for the year 2025.
- This was **20 days earlier than the first severe heatwave in 2024**. In the last decade, the number of severe heat days and the severity/intensity of heatwaves have been rising.
- The **year 2024 was the warmest year on record at about 1.55°C above pre-industrial level**, according to the World Meteorological Organization.
- In India, December 2022 was the hottest December since temperature monitoring in the country started in 1901.
- The **frequency of heatwaves in India has increased in the last two decades, in comparison to the previous two decades**

Heatstress

- The impact of **rising external temperature along with humidity and wind speed**, is reflected in the form of **heat stress**.
- **When the outside temperature reaches close to our body temperature of 37° Celsius, the body fails to release the internal heat** which is generated as a part of the basal metabolic rate.
- Thus, one starts to feel **heat-stressed**. Heat stress can affect multiple organs including the **kidneys, the liver and the brain, and may cause sickness and even death**.
- However, heatwaves have many **non-health and socio-economic impacts**. Climate change, specifically rising temperature, is one of the causes of **farming sector stress** in India.
- Livestock can die, further impacting the poor and farmers. Heat stress can reduce **livestock production, food production, farm productivity and the ability of outdoor workers/ workforce productivity**.
- As India is a labour-intensive country, especially in the agriculture and construction sector, heatwaves result in an individual's reduced working ability.
- Thus, **loss of work hours and loss of job reduce personal and family income**.
- In India, up to **75% of the workforce**, or 380 million people are dependent on **heat exposed labour**.
- There are estimates that heat stress results in an **economic loss of 3% to 5% of GDP** in many countries including India.

Initiatives to tackle heatstress

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- In 2013, **Ahmedabad, Gujarat, became the first municipal corporation in Asia to develop a heat action plan (HAP).**
- Since then, and in the last decade, more than 23 Indian States and around 140 cities across India have **State- and city-level HAPs.**
- India's **National Programme on Climate Change and Human Health (NPCCHH)** also provides **heat advisories** and other health-related information through the National Disaster Management Authority (NDMA).
- Most HAPs have **four to five components**, i.e., **early prediction** of heatwaves to raise alerts; increasing **awareness** among the communities/people on actions to be taken; and preparing and **getting the health system ready** to manage health conditions. The fourth component of such plans focuses on **ensuring long-term measures to reduce heat**, government initiatives to **increase the number of trees and parks and keeping gardens open for public use**