

General Studies – 1; Topic: Distribution of key natural resources

Drought and Water Scarcity in India

1) Introduction

- A drought is a period of below-average precipitation in a given region; resulting in prolonged shortages in its water supply, whether atmospheric, surface water or ground water.
- After two successive dry years, 330m people in India, around a quarter of the population, are facing acute water shortages.
- Desertification, land degradation and drought (DLDD) are contributing to the global water crisis.

2) Factors in India's water crisis.

- Poor infrastructure, a lack of legislation, inefficient farming and groundwater exploitation has contributed to the mismanagement of the country's water supply
- A rapidly increasing population and the expanding middle class have driven up demand
- Water mismanagement is arguably a more pronounced factor of the impending water crisis.
- The problem is not lack of adequate water, but its reckless overuse. China, with a larger population, uses 28% less fresh water than India.
- Deforestation, land conversion and degradation, as well as urban encroachment due to illegal construction, pose major threats to the water bearing capacity
- **Agriculture**
 - a) Between 85 and 90 per cent of all water consumed in India is used by the agricultural sector.
 - b) farmers have started to extract groundwater at rates faster than the resource can replenish itself
 - c) subsidised energy and water pumps because farmers form a large portion of voting population
 - d) Using subsidised electricity, farmers pump groundwater at will, drawing up more annually than China and America combined.
 - e) Lack of education and financial resources has prevented farmers from obtaining "more crop per drop".
 - f) Maharashtra is a good example of this as its sugar belt takes up only four per cent of farmland but consumes over 70 per cent of the state's irrigation water.
- **Non-Revenue Water (NRW)**
 - a) NRW is the water that is physically lost (through leakages or poor infrastructure) or apparently lost (through incorrect metering and theft).
- **Pollution**
 - a) Up to 80 per cent of all surface water in India is polluted.
 - b) Poor sewage treatment facilities, little public sanitation, poverty, industrial runoff and a lack of government regulation
 - c) Soaring temperatures in the summer and sporadic monsoons have served as a catalyst to bacterial growth in water, further reducing the amount of safe water.

3) Concerns

- India faces national water scarcity by 2050 if current trends continue.
- States that usually have surplus water, such as Latur and Uttarakhan, currently experience acute water scarcity.
- Resource stress can often escalate political pressures, often leaving governments grappling for quick fixes rather than long term solution

4) Impact / Consequences

- Falling water levels will adversely affect the agricultural industry, which is almost entirely cereal-based and therefore extremely water intensive.
- A struggling agricultural industry means the threat of unemployment for approximately 50 per cent of India's workforce, as well as implications for food security and human security
- With bore wells being dug deeper into the ground (where the risk of dangerous chemicals and poisons contaminating the water is high)
- Destitute farmers are committing suicide
- **Health**
 - a) Incidents of fever, infection, dehydration, vomiting and kidney ailments
- **Violence, Conflict and Politics**
 - a) The diminishing water supply is now a source of tension between rival groups
 - b) Water has been politicised in Delhi.
 - c) The rise of the tanker mafia is more distressing.

5) Way Forward

- **National River Linking Project**
 - a) The concept of linking rivers is not uncommon, China introduced a similar project over a decade ago
 - b) Interlinking of rivers will help water scarce areas to have water throughout the year.
- **Alternative Policies**
 - a) Conserving the nation's water source through increased efficiency.
 - b) Implementing Israel's water management systems and technologies
- Long-term investment in educational programs, social awareness campaigns, improved infrastructure and facilities, and water diplomacy
- Rainwater harvesting can provide the country with reliable water supplies throughout the year.
- Building check dams on riverbeds will improve groundwater levels.
- Farmers should be trained and encouraged to switch to drip irrigation.
- National drought policies should consider poverty eradication, economic growth and employment creation, while preserving ecosystems and tackling climate change.
- The implementation of the United Nations Convention to Combat Desertification (UNCCD) has a significant role in the sustainable availability of clean, adequate and safe water

6) Conclusion

- There is a need for an integrated approach, which addresses source sustainability, land use management, agricultural strategies, demand management and the distribution and pricing of water.
- With growing pressures due to climate change, migration and population growth, creative and imaginative governance is needed to manage this precious resource.