



## WATER: THE LOOMING FRONTIER

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**(Mains GS3: Conservation, environmental pollution and degradation, environmental impact assessment.)**

### **Context:**

- While world is still in the grip of the **COVID-19 pandemic**, which is airborne, world has forgotten that another such blight could well come from contaminated water.
- NITI Ayog and Water Aid, amongst others, have found that over 70% of India's surface and groundwater is contaminated by human and other waste and is likely to carry viruses.

### **Anthropogenic causes:**

- Indiscriminate human activity is often the reason for environmental degradation and pandemics.
- The practice of keeping animals locked together for mass production of meat produces an artificial environment that can birth mutations in erstwhile dormant viruses.
- Earlier, in the wild, animals were far away from human habitats.
- The viruses they harboured remained isolated.
- But today's practices can spawn viruses that can easily transfer to the human population.

### **A source of virus:**

- Once the virus has found its way into the human population, it is bound to proliferate in wastewater.
- For example, in England, Wales and Scotland, several wastewater samples were tested and were found to carry traces of SARS-CoV-2.
- Remnants of the virus have also been detected in raw sewage across Sydney.
- Research at the University of Stirling in Scotland indicates that the SARS-CoV-2 virus can spread through sewage water.

- But such water is often discharged into water bodies in India.
- This is an alarming prospect for us as river water or lake water, which carries human waste, sewage, and toxic waste, can be a very generous host for viruses of different kinds and we do not know where and how they can mutate and strike.
- Some water-transmitted viral pathogens are astrovirus, hepatitis A and norovirus.
- Unlike in the developed world, a huge section of the population in India uses polluted water from sources like rivers, lakes, or groundwater for drinking.

### **Dilemma of technology:**

- The government has announced a ₹3 lakh crore 'Nal se Jal' scheme to provide drinking water connections to every rural household by 2024.
- Since most of the water sources are contaminated, the only way to purify water is through reverse osmosis (RO).
- But though RO removes contaminants, it also takes out all the healthy minerals and nutrients required by the human body.
- This is an unhealthy and exorbitantly priced proposition.
- To neutralise the virus, we would need at least an ultraviolet aquaguard treatment. While this won't take out chemical contaminants, it is also costly.

### **Conserve fresh water:**

- No technological substitute for living natural resources like pristine natural water and soil.
- This means that we must conserve and use our natural living resources.
- The water beneath our forests is as good as natural spring water.
- We must safeguard it for our own lives and for future generations.
- We have destroyed our natural living resources in our rush for development
- Our development model is always focused on artificial infrastructure, building highways, industrial plants, high-rise structures.
- In building infrastructure, we kill our natural resources.
- As a result, we are running out of natural infrastructure at an alarming pace.
- Let's not forget that developed countries have stable landscapes and populations whereas India has a growing population, which means there will be growing consumption.

### **The freshwater sources:**

- There are two unpolluted fresh water sources left in the country.
- The first is the water lying below our forests; the second is the aquifers that lie below the floodplains of rivers.

- Both these sources provide natural underground storage and are renewable – the rains provide natural recharge year after year and it is this recharge which can be used to water our cities and towns.
- The aquifers underlying forests can provide healthy mineral water purely for drinking purposes.
- Since a person drinks only 2-3 litres of water a day, the mineral water requirement is modest.
- Such a scheme can provide quality natural mineral water, comparable to Himalyan mineral water at ₹2 a litre, 20 times less than the market price.
- The river floodplains are a great source of water for cities.
- The Yamuna floodplains in Delhi already use such a scheme to provide water to a million people each year.

### **Conclusion:**

- It is important to remember that these evolutionary resources, once lost, will be lost forever.
- Thus, Forests and floodplains will be declared as water sanctuaries.
- It is time we understood this is natural infrastructure bequeathed to us by nature. If we don't realise this, it will only be our loss.