



## Water Crisis: Challenges to the Aspirations of New India

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**Abstract :** *India aspires to become a global superpower but that can only be achieved by fulfilling the basic human needs of its population, access to adequate clean water resource being one of them. It is an important thread which binds development of economy, society and polity. Water crisis appears to be a major stumbling block on the road to a prosperous and peaceful NEW INDIA due to its immense disruptive potential. Water is the most basic commodity in human life, hence its crisis may trigger future security challenges as already being witnessed in the form of water wars between states, threats of stopping water to and fro neighbours and frequent water-related violence being witnessed all over the country. Given*

*the exigency of the situation, this project work aims to conduct a fact-finding ground study of ramifications of water-crisis on society, economy and national security; sensitize people about the gravity of the problem and to assess Indian states' level of preparedness towards tackling this looming catastrophe.*

**Keywords:** *New India, Water-crisis, Security Challenges, Water wars.*

### Introduction :

Over the course of history, numerous civilizations have peaked and then gradually fettered or even disappeared abruptly. In many cases, the cause of both their rise and disintegration was the same: “**WATER**”. The great Indian Indus Valley Civilization, considered an extremely advanced civilization of its time, perished due to mismanagement of water and climatic changes leading to floods, droughts and desertification. Other affluent civilizations, viz. Mesopotamian and Egyptian, had also fallen prey to the devastating effects of the very water that once supported their lavish existence.

From leaps in the Bronze Age to massive droughts that wiped out civilizations, what we have learnt from history is that life depends on water. This precious resource has been a driving factor of progress in the past and will continue to be a determining factor for development in the future as well.

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History has a tendency to repeat itself if humans don't learn lasting lessons in the first instance. The same spectre of **water crisis** seems to be unfolding once again and where could be its devastating effect more palpable than in the country which disproportionately sustains 16% of the world's population with only 4% of the water resources of the world.

From small farms to megacities spearheading economic growth, water woes plague every region and community in forms of droughts and floods, contamination and scarcity, over exploitation and inaccessibility and stake-holder conflicts

According to the **Composite Water Management Index Report**, released by **NITI AAYOG**, India is facing the worst water crisis in its history and 21 Indian cities will run out of groundwater by 2020. Another study by NITI AAYOG suggests that nearly 600 million Indians face high-to-extreme water stress. Years of mismanagement, overuse and wastage have led to plummeting of per capita water availability from **5,177 cubic metres in 1951 to 1,545 cubic metres in 2011 census** - a decline of about 70 per cent in 60 years.[Census 2011].

The Economic Survey 2017-18 acknowledged India's water crisis and explained the triggers, including rapid groundwater depletion, decline in average rainfall and increasing dry monsoon days, both associated with extreme weather events induced by climate change. [Times of India, June 21, 2018]

It is high time India understood the writing on the wall and prepare on a war-footing to avert this crisis from unfolding itself. In this endeavour, **Ban-Ki –Moon's** [former UN Secretary General] words are a guiding light:

"Saving our planet, lifting people out of poverty, advancing economic growth... these are one and the same fight. We must connect the dots between climate change, water scarcity, energy shortages, global health, food security and women's empowerment. Solutions to one problem must be solution for all." [Address to the 66<sup>th</sup> General Assembly: "We the Peoples"]

#### **Review of the Literature :**

Water, 'one of the five elements necessary for existence of life' or the so called 'elixir of life', is depleting at a much higher pace. However, the trending water-crisis and the growing talks over the issue is not new, a lot of research has already been undertaken on the

topic. India in this 21st century is emerging as the largest growing economy and is aspiring to become a regional superpower with an aim of becoming a 5 trillion-dollar economy by 2025. But if one looks at its water management policies, it performs at a very low level despite its growing GDP (Ray 2008). Various scholars have shown that the poor water management activities have resulted in the death of many great civilizations like ours, i.e., Indus Valley. The contemporary culture's veneration of water lacks morality and is potentially destructive (Fagan 2011). The large socio-economic differences between the countries and leadership failure have created an internal compulsion to act on the issue. With degrading farmland, little fresh water and increasing energy demands, India stands at the threshold of environmental insecurity leading to internal disturbances and external conflicts. The prosperity of nations and empires has been dependent on their access to water and ability to harness it. The leading democracies have untapped strategic advances of it that will only become more significant as water becomes scarce (Solomon 2010).

As for India, being an upper riparian State, becomes even more important for the government to look at the strategic ties and to different water treaties with its neighbours to maintain peace and stability in the subcontinent (IDSA Task Force Report 2010). The problem becomes even adverse with India's huge population density, space and time variability of rainfall and increasing depletion and contamination of groundwater. By failing to address the crisis and refusing to mitigate problems, the world's leading politicians have exacerbated the situation to the point of no turning back (Barlow 2008). For India to flourish, the issue of water crisis can only be addressed by rejuvenating our **water culture** and creating **water democracy**.

#### **Statement of the Problem :**

While the **economic** and **environmental** setbacks of water crisis are immediately apparent, less noticed are its **socio-cultural** implications. Even rarer is the understanding that India's internal water woes are directly connected to its **political stability, national security** and **development** goals.

Intractable **inter-state water-disputes** over Godavari, Krishna, Narmada, Kaveri in **south**; Rabi , Beas and Satluj in **west**; **international conflicts** over Indus river in **north** with Pakistan; Brahmaputra in **east**

with China and Teesta with Bangladesh and even local scuffles (for e.g. in parched Chennai and Ranchi) in society over securing **water** pose a grave threat to **national security** of the Indian nation-state. Hard-earned political integration and stability run the risk of divisive and violent politics over securing water resources and this may precipitate into **civil unrest** as well as **external aggression**.

On the **economic front**, drying up of major metro and IT cities like Bengaluru, Chennai, Mumbai, etc., which sustain a large workforce and are the real drivers of economy, is bound to have an effect on GDP growth and may result in **a loss of 6% in GDP by 2050** as predicted by NITI AAYOG. This doesn't augur well for the aspirations of **NEW INDIA** vying to become an economic superpower.

**“Water is a precious resource, crucial to realizing the Sustainable Development Goals [SDG], which at their heart aim to eradicate poverty.” [Ban-Ki-Moon Speech, World Economic Forum, 2016]** Water crisis can also adversely affect Indian state's efforts towards achieving **SDGs** for its people, especially:

GOAL NUMBER 5= GENDER EQUALITY

GOAL NUMBER 6= CLEAN WATER AND SANITATION TO ALL

GOAL NUMBER 11=SUSTAINABLE CITIES AND COMMUNITIES

Water crisis will also have grave repercussions on the **social fabric** of the nation. An already divided Indian society will be fast approaching a **“climatic apartheid”** like scenario where the rich afford water wastage while the poor cling on to the drops for survival.

#### **Objectives :**

- To assess the gravity of water crisis in India.
- To examine the probable impact of water crisis on socio-economic development of nation
- To study the implications of water-crisis on social fabric and political construct of Indian state
- To analyze the degree of threat it poses to national security.

#### **Hypotheses :**

1. Water crisis will adversely impact socio-economic development prospects of Indian state.
2. Water crisis can precipitate into civil unrest and external conflict and thus it poses a threat to national security.

#### **Research Questions :**

On the basis of the above hypothesis, the proposal aims to study the research questions given below:

- What will be the impact of water crisis on economic development of India?
- What will be the impact of water crisis on different demographic units of society?
- How will water-crisis affect national security?
- Is water-crisis a challenge to the aspirations of 'New India'?

#### **Methodology :**

The project work will be based on both Primary and Secondary data. Primary data will include the Interview of people living in water-crunch areas and belonging to different socio-economic class. Sampling method will be incidental-cum-purposive and the sample size will be 50. It will be a study of both qualitative and quantitative analysis. Inductive reasoning method would be applied to draw general conclusions. Secondary data will be collected from magazines, newspapers, websites and different internet portals.

**Area of Study :** The universe of the study will be water-crunch slum dwellings of Govindpur Mushari near Phulwari Sharif and residential colonies of Boring Canal Road, Patna

#### **Findings:**

- Society seems to be aware of the acuteness of water-crisis. However, this awareness is largely limited to its immediate impact on individual's life. Common people lack awareness of its greater consequences on the nation's development and security.
- At ground level, the brunt of water-crisis is felt more by the poor class than the richer class. This is breeding the feeling of disgruntlement in them. They are increasingly acquiring rebellious attitude towards administration and their well-off brethren.

- Poor people are already incurring heavy losses due to water crisis. Their children often fall ill due to poor quality of water. Cholera, Diarrhoea, Typhoid, etc. **Water-borne diseases** are rampant in their settlements. It not only leads to heavy expenses on immediate treatment but it also sets in motion a cycle of expenditure on health issues as frequent infections due to bad drinking water leads to poor absorption of food nutrients by the body, resulting in malnourishment. This further leads to a body with weak immune system which is prone to more diseases.
- To meet treatment expenses most often they have to take loans on arbitrary interest rates which they are not able to pay back on time. It further reinforces their '**poverty**'. On the other hand, rich were able to meet the treatment expenses of water-borne diseases from their savings and need not borrow.
- Children, who are the only asset for them to get out of this vicious cycle of poverty, often get late or miss their schools as they walk long distances to fetch water. This is a double whammy for poor people.
- Among children, **most of the times it is the girl's responsibility to fetch water**. In the long-run, this acts as an impediment in way of continuing their school education thus stripping off the family of a valuable productive asset of future.
- Impact of water-crisis on **food security** was felt by both the sections viz. rich and poor. Dwindling agricultural output and resultant high prices of certain necessary food items bothered both. It affected their household budget.
- Water-crisis is also causing high unemployment, especially in agriculture and related sectors, which previously engaged more than 50% of workforce. As a result, rural people are migrating in large numbers to urban areas causing extra pressure on limited resources of water therein. National capital Delhi stands as a stark example of it.
- In times of acute shortage, scuffles over securing water are taking dangerous forms, often resulting in life threatening violence.
- People are not willing to share their water resources with anyone, be it with the people of the same province or the other. Thus, **inter-state and intra-state conflicts over sharing of water are aggravating**.
- At the national level too, public opinion is highly opposed to sharing of water resources with any neighbour let alone the hostile Pakistan
- Common people also feel that the government is not doing enough to address their water woes. In face of the reports suggesting that situation will further deteriorate, governmental measures appear to be grossly inadequate.

#### Suggestions :

- To avert this **aqua-calypto**, the first thing which India needs to realize is that the solution lies in managing what we have been blessed with, sustainably and equitably; rather than merely focusing on augmenting more water supply through more construction and extraction. After all "**there is enough in this world for everyone's need, but not for anyone's greed**", said Mahatma Gandhi. Gandhi's advice may bring a '**paradigm shift**' in water management. India needs to call for this model, based on the principles of multi-disciplinary approach, people's participation and balance.
- **National Water Mission** with the objectives of conserving water, minimizing wastage and ensuring more equitable distribution both across and within states through integrated water resource development and management is a splendid way forward. However, its implementation on the ground has hitherto remained dismal. For detailed aims and objectives of national water mission, see *annexure2*. ([https:// national water mission.org](https://nationalwatermission.org))
- Since water is a state subject, it is the primary responsibility of the states to take necessary measures to conceive, plan, execute and manage water resource projects. **Rajasthan's Jal Swavlamban Abhiyan**,

**Bihar's Jal Jeevan Hariyali Mission, Andhra Pradesh's Neeru Meeru** may serve as examples for policy makers of different states.

- Since farming sector consumes 90% of freshwater, majority of which is extracted from groundwater, there is an urgent need to **disincentivise** groundwater extraction for irrigation purposes. Subsidies provided for the same should be withdrawn at the earliest. In its place, traditional surface water irrigation mechanisms of canals, ponds, etc., need to be revived. Modern water-efficient techniques of drip and sprinkle irrigation should also be promoted. Farmers should be given incentives to shift to less water-consuming crop varieties such as millets, pulses, etc.
- Since the water table has depleted to a critical stage, **ground water extraction must be strictly regulated by** a law passed by the Parliament. **Aquifer mapping** should be made mandatory. Private boring should be outrightly banned and substituted with assured piped water supply to every household. Industries and farming sector should be provided with alternative water sources mostly from surface-based storage units and recycling plants.
- **Inter-State River Water Disputes (Amendment) Bill, 2019** which proposes to set up a **permanent Central Dispute Resolution mechanism** for inter-state water conflicts and provides for a transparent data collection system at the national level for each river basin must be passed from Parliament at the earliest and enacted in due letter and spirit. Political parties must put aside their petty political gains and support this reform measure.
- On the international front, India should expedite its efforts towards settling all long-standing water issues with neighbours and secure well negotiated treaties for water-sharing arrangements between its lower and upper riparian neighbours as soon as possible.

- India can also learn the techniques and methods of other countries which are breaking new frontiers in water conservation viz., **Israel's drip irrigation and 'Tipa' irrigation techniques**, its waste water recycling and highly energy and cost efficient desalination plants. **Peru's Fog catcher technology, U.S.A's solar powered water conversion technologies**, etc.

Apart from these recommendations, other measures like rain water harvesting, restoring and maintaining our water bodies, growing trees, mandatory water recycling in all apartments and industries like textiles, reusing the waste water from RO machines and creating social awareness among the people about effective usage of water are also effective solutions to problem of water-crisis.

#### **Conclusion :**

Water crisis poses an existential threat to millions of underprivileged Indians and has the potential to thwart our march towards a prosperous, developed and secure future. This challenge once again warrants nation's concerted efforts. As Indian state prepares to celebrate the platinum jubilee of its independence, relishing all the challenges it conquered as a nation despite all odds and headwinds and looks forward to the aspirations of **NEWINDIA@ 75**, water crisis stand as yet another formidable challenge. The creation of ministry of 'JALSHAKTI' and the launching of 'JAL JEEVAN MISSION' is a positive step in that direction but a large section of general public is still insensitive to the gravity of problem. Sensitization of general public about the situation on the ground is the fundamental step in the direction of its mitigation. This study is significant in this respect, as it tries to contribute to the existing literature and provide better insights into probable multidimensional impacts of looming water crisis; evaluates government's preparedness towards combating it both according to national and international parameters and also recommends certain policy measures for Indian state to mitigate it. It is high time we realized the exigency of the situation at hand which can be beautifully expressed in this beautiful couplet by Rahim,

रहिमन पानी राखिये, बिन पानी सब सून ।

पानी गयेन ऊबरे, मोती, मानुष, चून ।।

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