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THE INTERSECTION OF CLIMATE CHANGE AND WATER LAW: ESTABLISHING SUSTAINABLE GOVERNANCE IN SCARCITY CONTEXTS IN INDIA.

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Abstract

Water has a major role in our life. It becomes one of the most basic and primary natural resources essential for our survival. Water is an essential resource that sustains life in multiple ways. Whether it is used for supporting farming activities, serving as a drinking water, or fulfilling domestic needs, it performs a central role in ensuring not only survival but also well-being. Its significance extends beyond basic necessity which includes influencing food production, medical usage, application as a thermal coolant in Industries and for daily lifestyle as well. As the population keeps increasing and the demands for water absorbency rise, its availability is steadily declining. In India, water distribution is uneven, and the rivers and reservoirs drying up at an alarming rate. This crisis is further exacerbated by delayed monsoons and extreme climate fluctuations, worsening the imbalance in water accessibility.

This Paper is drafted to highlight the effect of climate change and other factors like water waste, lack of water management that contribute to the steady decline in water availability along-with a parallel study of water law in affecting changes. Since agriculture directly constitutes a larger part of Indian economy and the recurrent fluctuations in the climate mostly in the eastern and southern zones cause either excess or shortage of water. As a result of this, our ecosystem experiences significant suffering. It also emphasizes on the importance of water conservation and effective management strategies to ensure sustainable usage of water thus safeguarding the principle of Inter-generational equity. This paper evaluates various Global Agreements and Treaties, National policies, and legal frameworks that contribute to water conservation efforts. However, it considers the urgent need for more stringent laws and strategic measures to effectively evaluate the ongoing water supply crisis in the country.

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(I) Introduction

Water, which is the most plentiful substance on Earth, has become one of the most infrequent resources in contemporary times. Marine water, non-saline water, spring water, mineral water, distilled water and alkaline water, and many more types can be distinguished. In our socio-economic system, water is an immensely functional tool for maintaining of biodiversity and ecological health. Water vapor plays a vital role in both weather patterns and the environment. Without it, clouds, rain, and snow would not exist, as all these phenomena depend on the presence of water vapor for their formation. The water vapor that evaporates from the ground eventually condenses into precipitation, such as rain or snow, and subsequently returns to the atmosphere. Just as humans rely on clean drinking water for good health, fish and other aquatic creatures need unpolluted water to thrive. The Geological Survey continuously tracks streams, lakes, rivers, and groundwater to ensure high-quality drinking water, minimize environmental harm, and improve wastewater treatment efficiency.

It is needless to say, that India being an Agriculture-based Country the role of water is primary in every stage of agriculture and for securing of a healthy plant life.

There are numerous origins of water as the sustainable water management becomes a prime topic at this juncture. However, for better management of water, individuals must actively involve in rainwater harvesting technique, wastewater recycling procedure and adopting a comprehensive water resource management framework.

To fulfil the need, water is extracted from surface or underground sources and transported to its intended destination. The total amount of water taken is referred to as the water intake. Any excess or unused water is returned to the reservoir, known as the process of water discharge. When water discharge is subtracted from water intake, the remaining quantity is called water consumption, representing the amount used for a specific purpose. Water consumption is categorized into domestic and non-domestic sectors—domestic usage includes activities like drinking, cooking, cleaning, and household chores, whereas non-domestic usage covers irrigation, industries, businesses, mining, livestock farming, and similar other applications.

Monsoon is a seasonal wind shift that brings significant changes in precipitation patterns. Approximately 10–20% of India's total rainfall is caused by the North-East monsoon, whereas nearly 80% is caused by the South-West monsoon. The change of climate on these monsoon

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cycles plays a vital role in decreasing rainfall and likely to exacerbate water shortages across the country. In recent years, monsoons have become increasingly unpredictable, with shorter durations and reduced overall precipitation. The severe scarcity of water for everyday use has led both governmental and non-governmental organizations to implement stricter measures to address this concern.

(II) Water Allocation System in India

Water has to be a common property resource that must be assessable to everyone. Water allocation system in India is by far shaped by Geographical boundaries, constant agricultural needs, demands of the population and the current pattern of governance. India categorizes its surface water into 22 distinct basins[1]. The Ganges, Indus, Godavari, and Brahmaputra Basins encompass over half of the nation's area. The Ganges and Brahmaputra Basins originate in the Himalayas and are components of the transboundary Ganges-Brahmaputra-Meghna Basin, which drains into the Ganges Delta. Nearly 60 percent of India's substantial renewable water resources are located in these two basins namely the Ganges and Brahmaputra Basins[2]. The sectoral distribution of water pattern depends on agriculture, domestic and industrial usage.

Water serves as a crucial resource in agriculture, and its careful utilization significantly contributes to improving of agricultural water productivity. India receives approximately 4000 billion cubic metres (BCM) of rainfall annually, accompanied by an average river flow of 1869 cubic kilometres[3].India holds the position of second largest producer of agricultural products globally. The irrigation infrastructure comprises a system of canals sourced from river, tanks, groundwater, well-based system and most evidently the practice of rainwater harvesting gives the solution for agricultural activities. The industry has proven resilient, as evidenced by the steady yearly growth velocity of 4.18 percent at fixed prices over the previous five years. Based on the preliminary projections for the year 2023-2024, the growth rate of the agricultural sector is noted to be 1.4 percent[4].

[1] India Water Resources Profile Overview, India, available at: https://winrock.org/wp-content/uploads/2021/08/India_Country_Profile-Final.pdf (Last visited on June 08, 2025).
[2] Ibid. at 1.
[3] A. Kumar, A. sarangi, D.K. Singh, K.K. Bandyopadhyay & M. Khanna, S. Dash, Digital Water Allocation System in Surface Irrigation, National Water Development Agency (NWDA).
[4] AGRICULTURE SECTOR HAS REGISTERED AN AVERAGE ANNUAL GROWTH RATE OF 4.18 PER CENT OVER THE LAST FIVE YEARS: ECONOMIC SURVEY, India, available at: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2034943 (last visited on June 08, 2025).

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The domestic consumption of water depends on lifestyle in urban and rural areas. Water becomes very essential for direct consumption, sanitation purpose and for cooking purposes in daily lifestyle. It was during the Covid-19 pandemic, water was the most essential resource for cleaning of surface to prevent or reduce the transmission of infectious diseases and to save our lives. It is essential to comprehend and mitigate water wastage. However, the existing strategies aimed at managing household water usage predominantly concentrate on reducing demand. This focus is primarily directed towards water-utilizing appliances and fixtures, neglecting the human requirements and the individual water-use practices that these products facilitate.

The utilization of water in global industries presents a multifaceted challenge, as it encompasses various sectors, geographical areas, and temporal contexts. The volume of water allocated for industrial activities can fluctuate based on several determinants, including the specific characteristics of the industry, its geographical setting, the accessibility of water supply and the level of technological progress. Water can be used as a coolant or can be used in chemical industries as a solvent. It can be even used in power plant which is utilized to operate turbines or to cool equipment used in power generation. Water is used in fire industries, semi-conductor industries, pharmaceutical manufacturing industries and even in metallurgical industries. Industrial and municipal wastewater is often in need of treatment to ensure that whether the sewage released into the water body meets the regulatory requirements as well as the norms. The methods used during sewerage treatment can encompass approaches like remediation, detoxification and purification that seek to remove containments.

The global distribution of industrial waste water exhibits significant variation. Certain places and areas consume significant quantities of industrial water due to the magnitude and intensity of their industrial operations., while others consume lesser quantities. The crucial function of industrial water is its vital contribution to production processes in diverse industrial sectors, which directly affects the efficiency of production, the quality of products, and the growth of the economy. This includes the oversight of water quality, the minimization of pollutant emissions, the implementation of water conservation methods, the promotion of water recycling, along-with the assurance of sustainable water resources to satisfy both present and future needs while safeguarding ecosystem and environment.

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(III) National Policies Outlining Water Management Strategies

India's water policies serve as a central framework aimed at the effective management and allocation of India's varied water sources. The policies serve an important role in promoting sustainable use of water, increasing the productivity of agriculture, and aiding economic development with the guarantee of sustainable agricultural administration.

Water policies perform a crucial part in promoting sustainable water management that helps in creating an organized framework for the distribution, conservation, and governance of water supplies. The adoption of technological innovations, such as Geographic Information Systems (GIS), sensors, and satellite imagery techniques, is essential for the effective modulation and monitoring of water flow. The aims of water policies are to identify issues related to water scarcity, various forms of industrial and modern pollution, and ineffective usage, while also advocating for practices that conserve water, safeguard water bodies, and to work for better societal flexibility in the face of climate-related challenges.

A National Water Mission will be established to ensure intensive management of water resources, which will help to preserve water, reduce waste residues, and ensure a better fair division within and between states, as envisioned in the National Action Plan on Climate Change (NAPCC). The Bhakra-Nangal project represents one of India's most significant engineering accomplishments since Independence. This initiative is centred around the Bhakra Dam, a substantial structure situated on the Sutlej River close to Bhakra village in Himachal Pradesh, serving multiple functions. The main objective is to capture water from the river which includes the portion of river’s natural flow and the runoff from rain. Then the stored water is carefully allocated for the provision of essential irrigation to bordering state’s valley, thereby turning barren field into productive agricultural place. The project is also significant as a source of energy in the region by generating electricity, and reflecting its contribution towards agricultural and industrial development.

The National Water Policy established in 1987 was a turning point in acknowledging the absolute need for integrated water management in India. Understanding water resources to maintain ecological balance was a major step in transitioning the policy framework toward a more comprehensive and sustainable approach. The updated policy was about looking beyond fragmented and sectorial management of water to a holistic approach that recognizes and integrates our various water-related challenges (i.e., conservation, efficient use and equitable

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distribution). The policy established significance of maintaining ecological balance and importance of protecting water bodies and ecosystems for long-term sustainability.

The updated National Water Policy (2002), represented major pathway towards demand management and equitable leveraging of a national water resource. The new policy highlighted the emerging, and accelerating, demand-side issue of scarcity, and encourages development of actions and initiatives for effective use of current water supplies and equitable access across society. It encouraged water conservation practices across agriculture, industry, and domestic uses, and looked at measures of conservation, harvesting, and reuse of water. The ethos of the new national policy was efficient which provided for the use of existing water resources and minimal water wastage to improve overall water security.

The National Water Policy of 2012[5] constitutes a significant movement in the management of water resources in India. The policy was drafted and adopted by the National Water Resources Council and is premised on the requirement for a unified national frame of reference law on water resources. The policy sought to encourage equitable distribution and economic the use of water resources while promoting the improvement of interstate rivers while focusing on river valleys. The need for support by local community involvement was prohibited and promoted to develop the capacity of local stakeholders in the evaluation processes of would be undertaken by the National Water Policy. The policy also addressed the issue of the private sector in practice, public-private partnership arrangements, and using their resources and expertise for the provision of services and to develop infrastructure.

The Report of the Mihir Shah Committee proposes a shift to a multi-stakeholder, and multi-disciplinary approach to water management. This conceptual framework demands a degree of partnership unanticipated between agencies of the government, local social and situated organisations and private sector operations to manage the distribution of resources and enable sustainable practices. The proposed policies acknowledged the need for interspersed perspectives, and knowledge to develop comprehensive solutions. Presently, being evaluated by the Union Ministry of Jal Shakti[6], the draft policy has the capacity to transform the future of water governance in India, encouraging a more fair and sustainable use of major essential

[5] Water conservation & the National Water Policy (2012) Saurabh Chandra, India, available at: https://philarchive.org/archive/CHAWC-2 (Last visited on July 27, 2025).
[6] Ministry of Jal Shakti, India, available at: https://www.jalshakti-dowr.gov.in/ (Last visited on August 01, 2025).

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resource for all involved parties.

(IV) Global Agreements on Water Rights

Essentially, although a singular, all-encompassing global water law has not yet been established, International Water Law offers a strong and developing framework for collaboration and sustainable management of shared water resources. International Water Law (IWL) establishes a foundational legal framework that enables amicable cooperation among nations in the utilization of water resources. International Water Law (IWL) encompasses the international treaties, Agreements related to basins—whether Bilateral or Multilateral—and principles intended to encourage cooperation among states that share freshwater resources. International treaties must be ratified and executed at the national level to guarantee that States adhere to the standards and principles of law of nations as outlined in these treaties.

Guidelines and Proclamations from Global Water Conferences:

A. Global Consultation on Safe Water and Sanitation for the 1990s, New Delhi, 1990[7]---

The implementation of safe and effective waste disposal methods is crucial for achieving environmental maintainability, and the enhancement of human health should be a primary focus within integrated water resource management.[8]

Four fundamental principles were Proposed:-

- Water resources and solid and liquid waste must be managed holistically to safeguard the environment and preserve human health.
- Systematic rectification that encourages a holistic approach.
- Community oversight of services.
- Prudent financial management.

B. International Conference on Water and the Environment, Dublin 1992---

The Dublin Principles, highlighted the fact that water is a limited and delicate resource that is crucial for life, development, and the progress of the ecosystem. The Dublin Statement and its related principles significantly impacted the discussions and outcomes of the Earth Summit that took place in Rio de Janeiro. These principles remain a standard for assessing the management and protection of water resources.

[7] IELRC.ORG - New Delhi Statement, Global Consultation on Safe Water and Sanitation, India, available at: https://ielrc.org/content/e9005.pdf (Last visited on August 03, 2025)
[8] Ibid. at 7.

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Four fundamental principles have been established:

- A limited resource, freshwater is necessary for sustaining life, fostering development, and protecting the environment.
- A participatory approach should be used to advance and manage water resources, involving planners, policymakers, and users at all levels[9].
- Women are pivotal in providing, administration, and protection of water resources.
- Water ought to be regarded as an economic good because it is economically significant in all of its uses.

C. United Nations Conference on Environment and Development, Rio de Janeiro, 1992—

The United Nations Conference on Environment and Development (UNCED), commonly referred to as the Rio de Janeiro Conference or the Earth Summit, was a significant United Nations event that took place in Rio de Janeiro from June 3 to June 14, 1992. A significant accomplishment of the 1992 conference was the creation of the United Nations Framework Convention on Climate Change (UNFCCC)[10], which was partially established as a global environmental treaty aimed at addressing "dangerous human interference with the climate system" and achieving stability in greenhouse gas levels within the atmosphere.

The initiatives that were suggested for this section:

- Comprehensive management and advancement of water management;
- Analysis of water management;
- Safeguarding water resources, quality of water, and ecosystems under water;
- Provision of water used for drinking and sanitation facilities;
- Eco-urbanism related to water;
- Water for eco-friendly food production; and
- Country-side growth relating to water resources influenced by climate change.

D. Second World Water Forum and Ministerial Conference in The Hague, March 2000

The Second World Water Forum was a significant event in the history of the World Water Forum process, paving the way for upcoming discussions and efforts focused on water management and sustainability. The World Water Forum second time took place in The Hague

[9] Intrapolating Global Agreements on Water: A Policy Matrix for Demand Management, India, available at: https://www.gdrc.org/uem/water/global-water.html (Last visited on August 03, 2025)
[10] United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, India, available at: https://www.un.org/en/conferences/environment/rio1992 (Last visited on August 04, 2025)

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in 2000 and sparked a lot of discussions about the Water Vision for the Future and the related Framework for Action. These involved topics like the condition and ownership of water resources, their potential for development, management and financing strategies, and how they affect poverty, as well as social, cultural, economic growth, and the environment.

The World Water Council, which was responsible for organizing the Second World Water Forum, articulated the subsequent memos aimed at achieving a water-secure world:

- A comprehensive systematic strategy that depends on amalgamated water resources management should supersede the existing disjunction in water management.
- It is essential to establish participatory institutional mechanisms that engage all segments of society in the problem-solving process.
- It is essential to acknowledge that fresh water is a limited resource and should be managed appropriately.
- Comprehensive cost pricing for water services accompanied by specific subsidies aimed at assisting the impoverished.
- Incentives are required for the mobilization of resources and the transformation of technology.

E. 10th World Water Forum

The 10th World Water Forum which happened in Bali, Indonesia on 2024. The central theme of the forum was "Water for Shared Prosperity"[11]. It was attended by 30,000 participants all over from 172 countries. It focuses on promoting the ethos and initiatives surrounding sustainable lake management: generating enthusiasm for World Lake Day. It even emphasises on advancing a Comprehensive One-Health Strategy in Public and Environmental Surveillance.

(V) Approach on Sustainable Water Management in India

India utilizes a comprehensive strategy for water management that incorporates a blend of both traditional and contemporary methods, alongside initiatives from both governmental and community sectors. This approach encompasses rainwater harvesting, enhanced irrigation practices, community education programs, and an emphasis on the integration of science and

[11] Participate in 10th World Water Forum in Bali, India, available at: https://www.unep.org/events/conference/10th-world-water-forum-water-shared-prosperity (last visited on August 04, 2025)

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policy. India's reliance on a progressively unpredictable monsoon for its water needs heightens this challenge. Climate change is expected to intensify this strain on water resources, particularly when the occurrence and severity of floods and droughts in the nation rise. Water management is crucial for keeping water sources sustainable and avoiding waste. A major goal of water management is to preserve freshwater sources. Water is essential, and conserving it is important. Agriculture relies on effective water management. Ineffective water management can result in economic and social problems.

- **Rainwater Harvesting:**

Collecting rainwater is one of the easiest and oldest ways for households to supply their own water, a practice that has been utilized in South Asia and other regions for thousands of years. Rainwater harvesting (RWH) involves acquiring and sustainable preserving rain instead of allowing it flow away. Collecting rainwater alongside urban farming could effectively contribute to accomplish the Sustainable Development Goals of United Nations agenda that aims in promoting cleaner, and more sustainable urban environment and cities, health and well-being, and ensure food and water security as under (Sustainable Development Goal 6)[12]. The existing technology needs to be restructured to utilise water in a more efficient manner, particularly in city environments. Collecting rainwater is an eco-friendly method that aids in saving the water for future use.

- **Groundwater Recharge:**

Groundwater recharge is when water from the surface infiltrates into the ground, refilling underground aquifers. Groundwater recharge is a method where water that seeps in moves through the insatiable area of groundwater and reaches the water table. This process depends on factors like soil type, land utilization, land cover, geomorphology, geophysical properties, and climate characteristics such as rainfall, temperature, and humidity in a specific area.

- **Aquifer Storage and Recovery (ASR):**

The practice of Aquifer Storage is gaining traction globally. Surplus fresh water is absorbed and retained in aquifers via wells or infiltration ponds, and retrieved from these wells as required. ASR makes use of surplus water from multiple sources, such as stormwater, treated wastewater, or surface water, during times of high availability.

[12] Department of Economic and Social Affairs Sustainable Development, India, available at: https://sdgs.un.org/goals/goal6 (Last visited on August 04, 2025)

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- **Desalination:**

As the human population expands daily, the demand for freshwater rises correspondingly. Regions that are arid and lack direct access to freshwater depend on rainfall and subterranean water supplies, both of which are finite. The water sourced from underground reservoirs becomes progressively more saline with ongoing extraction, thereby heightening the importance of desalination as individuals strive to obtain freshwater. Desalination is a process that extracts salt and other minerals from seawater, rendering it appropriate for human use as well as for other applications. Consequently, desalination has the potential to address various issues and generate water that can assist in sustaining diverse populations. The primary sources of water utilized for desalination processes are predominantly seawater and brackish water. Brackish water contains significantly lower salt concentrations compared to seawater and is typically located in aquifers, which serve as underground reservoirs of water, or in estuaries, where rivers converge with the sea.

(vi) Conflicts Over Water dearth

As the demand for water mounts owing to population augmentation, urban development, and industrial growth, the availability of freshwater resources continues to be constrained. A condition of water scarcity exists when the existing water resources are insufficient to satisfy the demands of the population. The scarcity of water is expected to incite conflict. The excessive use of water is one of the primary factors contributing to water scarcity. As per the 2019 report on the "Composite Water Management Index" by NITI Aayog, India is currently facing the maximum critical water crisis in its history, impacting approximately 600 million people who are experiencing significant to severe levels of water shortage.[13] Keoladeo National Park has experienced numerous disputes regarding water resources. "Each year, the allocation of water for the park in comparison to that for local agriculture becomes a contentious issue. This disagreement frequently intensifies, leading to the occurrence of forest fires in the park with alarming frequency during the dry season. Annually, the park administration must advocate to the state irrigation department for their share of water from Ajan bund," according to Malavika Chauhan's "Contending Water Uses," 2006.[14] The Bhavani River basin, located in Tamil Nadu, India, has faced conflicts related to water resources stemming from the competing

[13] A Parched Nation: Analyzing India's Water Scarcity Challenges, India, available at: https://www.epw.in/engage/article/parched-nation-analyzing-indias-water-scarcit, (Last visited on August 05, 2025)
[14] Ibid. at 11.

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needs of agriculture, industry, and domestic consumption. This scenario is exacerbated by concern for drought, uneven allocation of water resources, and the impact of political agendas.

(vii) Legal Regime on Water Conservation Method In India

India's legal structure governing water conservation is undergoing development, with the honourable apex court of India significantly contributing to the acknowledgment of the entitlement to water as an essential component of fundamental rights. In most of the countries, the water rights possessed by individuals are categorised as usufructuary rights, as opposed to being categorized as ownership or possessory rights. Although India does not have a singular, all-encompassing national legislation that directly pertains to water use efficiency, it adopts a diverse strategy that incorporates multiple laws, policies, and initiatives. Article 21[15] of the Constitution of India, which ensures the basic right to life, has been broadened for encompassing the right to a clean and unpolluted environment[16]. The Sustainable Development Goal 13[17] (SDG 13) emphasises on the necessity for immediate steps to focus on change of climate along with its consequences and is intricately connected to the Paris Agreement on climate change. SDG 13 highlights the necessity of improving resilience and adaptability in response to climate-related risks, especially in at-risk areas. Incorporating climate factors into larger development strategies is essential for reaching lasting sustainability.

The Water (Prevention and Control of Pollution) Act, 1974[18]

The increasing industrialization and urbanization that occurred after independence resulted in significant environmental deterioration, especially the contamination of aquatic ecosystems. The Water (Prevention and Control of Pollution) Act, 1974 represents a significant milestone in India's environmental legislation. The Water (Prevention and Control of Pollution) Act was formulated by the Indian Parliament in 1974[19], according to Article 252[20] of the Constitution. Article 252 of the Indian Constitution allows Parliament to make laws for two or more states on topics in the State List, as long as those states pass resolutions asking for this legislation.

[15] Article 21: Right to life and Personal Liberty.
[16] M.C. Mehta vs. Union of India, AIR 1987 SC 1086.
[17] Goal: 13-- Take urgent action to combat climate change and its impacts, India, available at: https://sdgs.un.org/goals/goal13 (Last visited on August 05, 2025)
[18] The Water (Prevention and Control of Pollution) Act,1974, India, available at: https://www.indiacode.nic.in/bitstream/123456789/15429/1/the_water_%28prevention_and_control_of_pollution%29_act%2C_1974.pdf (Last visited on August 06, 2025)
[19] Central Pollution Control Board, India, available at: https://cpcb.nic.in/water-pollution/ (Last visited on August 06, 2025)
[20] Article 252 of the Constitution Act, 1950, - Power of Parliament to legislate for two or more States by consent and adoption of such legislation by any other State.

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The legislation was enacted to encourage the prevention and management of water pollution, as well as to preserve or rehabilitate the purity of water.

The research shows that creating portable systems for treating greywater and rainwater, along with educating the community about conserving groundwater, can help reduce water shortages. The Act aims to establish agencies focused on preventing and managing water pollution. It helps protect water bodies to keep water clean and healthy. The Act requires the creation of the CPCB [Central pollution Control Board] at the National level and State Pollution Control Board at State level. It has the authority to set standards for prohibiting release of pollutants into water bodies. They can examine facilities and production processes to make sure they follow the established standards.

The Environment (Protection) Act, 1986

The Environment (Protection) Act, 1986 provides for a broader framework for tackling different environmental problems, such as water pollution, while also ensuring overall environmental safety. It specifically functions in relation to climate change by offering a structure for controlling pollution, preserving natural resources, and encouraging sustainable environmental growth. The Stockholm Conference on the Human Environment in 1972 highlighted environmental issues worldwide and motivated India to act[21]. It tries to restore polluted water resources and safeguard wetlands. The Environment (Protection) Act, 1986 established the idea of Environmental Impact Assessment, mandating that specific industries and projects must complete an environmental impact assessment prior to receiving approval. It evaluates the possible environmental effects of a planned project and recommends ways to reduce these effects. The EPA Act was established under Article 253[22] of the Constitution of India, allowing the formation of laws to execute international agreements or conventions, or international conferences, associations, or other bodies or their decisions so on, fundamentally, it enables the Indian Parliament to meet its international commitments by enacting legislation that is essential for implementing these agreements, even when such issues are generally managed by individual states[23].

[21] Environment Protection Act, 1986, India, available at: https://sathee.iitk.ac.in/article/geography/environment-protection-act/ (Last visited on August 06, 2025)
[22] Article 253 in Constitution of India, Legislation for giving effect to international agreements.
[23] Article 253 in Constitution of India, India, available at: https://indiankanoon.org/doc/741672/ (Last visited on August 10, 2025)

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The National Green Tribunal Act, 2010

The National Green Tribunal (NGT) is a specific organization created by the NGT Act of 2010 in order to handle cases efficiently plus quickly relating to conservation of forest, environment and basic natural resources. Our Country has now become the third country in the world, following Australia and New Zealand, to establish a dedicated environmental tribunal. Thus, India became the first nation to accomplish this as a developing nation. NGT offers a method for advancing environmental law by creating an alternative way to resolve disputes. NGT provides an expedited process to resolve various environmental disputes that are informal and low-cost. It aids in limiting actions which are harmful to the environment. NGT ensures that the Environment Impact Assessment (EIA) process is undertaken and adhered to. NGT provides remedy and restitution for damages suffered by the persons and property.

(viii) Conclusion

Climate change is occurring. Human actions, especially the combustion of fossil fuels, serves as the main catalyst for this transformation. The changing climate often has consequences for the quality of water through salinity level increases in coastal regions. Climate change has shifted the character of monsoon patterns. Climate change is creating increased variability and frequency of changing rainfall patterns, especially increasing drought and flood variants. The problem of climate change is an opportunity for reforming water laws to plan for sustainable development, which incorporates water management with climate development, and multidisciplinary approaches to foster water security, and public policy responses to growing water scarcity issues and variability. The courts have expanded the meaning of fundamental rights by recognizing the right to access clean drinking water. They recognized the right to a clean climate, sustainable development, and an intact environment. The existing legal framework governs environmental protections and water management. However, statutory measures are increasingly focused solely on addressing climate change's impact on water resources, especially in terms of adaption and mitigation plans. The disproportionate impacts of climate change emerge from vulnerable communities, especially those struggling to live economically. Unfortunately, there is a demand to guarantee access to water and protect their traditional rights to water. The effective management of water resources as climate changes requires integrated planning approach across numerous sectors. Enabling water laws, supporting fair access, and encouraging collaboration is critical for moderating the implications of climate variability on water resources, while also supporting economic intensification.

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- Suggestions:
  - Enhance Energy Efficiency: Enhance energy efficiency in buildings, transportation and key industries to reduce overall energy consumption.
  - Eco-Friendly Transportation model: Promote the Moving on foot, Bicycles, Transit and Shifting to Electric cars Etc.
  - Protect and Restore Forests and wildlife: Conserve and rehabilitate forests, which are crucial for absorbing carbon dioxide from the atmosphere.
  - Ending Deforestation: Significantly reduce the deforestation that is a huge driver of climate change.
  - Greening of agriculture: Promoting practices to reduce GHG emissions from agriculture and improve soil carbon sequestration.
  - Industrial: Develop and deploy technologies that reduce emissions in industrial processes.
  - Build Climate-Resilient Infrastructure: Develop and build infrastructure that will be able to withstand the effects of an altering climate, such as increased storm surges and rise in sea-level.
  - Resilient crops: Investment in the research and development of crop varieties that flourish under altered climate conditions.
  - Create Drought-Resistant Crops: Put funding into researching and developing crop types that will last through any harsh weather in the future.
  - Early Warning Systems: Early alert mechanisms for extreme meteorological events to support fast evacuations and disaster risk mitigation in addition to management.
  - Adaptation at the Community-Level: Facilitate the development and execution of own adaptation plans by local communities that is responsive to local needs and customised for vulnerability targeting.
  - Public health: Introduce measures to address the implications for public health of climate impacts, such as heatwaves and infectious disease.
  - Encourage Climate Education and Awareness: Increase awareness of the climate change science, its implications, and potential solutions available to individuals and communities.

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