RIVERS OF CONFLICTS: ANALYSING INTERSTATE WATER DISPUTES

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ABSTRACT

In many federal countries, especially those where rivers cross several political and administrative borders, water, a vital resource for life and development, has been a crucial cause of conflict. In these situations, distributing water fairly becomes a difficult task that is made worse by conflicting interests, unpredictable weather patterns, and government constraints. With an emphasis on India, where rivers like the Cauvery, Krishna, and Narmada have long been the subject of heated discussions and court cases, this book explores the dynamics of interstate water disputes. Using a multidisciplinary approach, the study investigates the legal frameworks that control water sharing, such as Supreme Court rulings, tribunal decisions, and constitutional provisions. It critically examines the political factors that frequently affect or intensify disputes, as well as the socioeconomic ramifications for riparian communities that rely on constant and equitable water availability. The research investigates historical grievances, power disparities across states, and the role of popular mobilization in affecting water-sharing outcomes using extensive case studies. Furthermore, the study assesses the efficacy of current institutional procedures, including the Interstate River Water Disputes Act (1956), several river water courts, and ad hoc negotiation groups. It highlights the structural limits of these bodies in making timely, enforceable, and scientifically sound conclusions. The study also analyzes growing concerns such as climate change, rising water demand, and inter-sectoral competition, which exacerbate current tensions and necessitate a new governance model. In the final analysis, the study promotes a change to water governance models that are inclusive, flexible, and sustainable. To settle conflicts and advance long-term water security, it highlights the significance of federal collaboration, data transparency, integrated river basin management, and stakeholder participation. The study adds to the larger conversation on hydropolitics, cooperative federalism, and environmental justice by providing a comprehensive examination of the trends, causes, and methods of resolving interstate water disputes.

Keywords: Interstate Water Disputes, Hydro-politics, Water Governance, Legal Framework, Conflict Resolution

INTRODUCTION:

"Water, the hub of life, Water is life's matter and matrix, mother and medium. There is no life without water.".[1]

Of the four classical elements (earth, air, water, and fire), we cannot live without two: air and water. The very existence of mankind and all living creatures depends on the air we breathe and the water we drink. Yet, we shamelessly waste and pollute these very life-sustaining elements. Natural resources like river water know no human-made political boundaries, and the sharing of river water across political boundaries is a matter of contention and conflict. The matter is worsened in a federal country like India, where most rivers are inter-state, covering two or more states, and inter-state water sharing is perceived as a political problem. River water disputes between states pose a potential threat to national unity and integrity, as well as federal stability.

According to Justice Holmes, a river can be recalled as a place of pleasure, where it has treasures and offers anyone the opportunity to live, regardless of powers and ownership. Article 262 of the Constitution also empowers the parliament to provide for the adjudication of any dispute or complaint concerning the use, distribution, or control of the waters of or in any interstate river or river valley. In pursuance of this article, the Interstate River Water Dispute Act 1956 and, parliament also passed the River Boards Act, 1956. In our country, there are areas with an abundance of water and areas with a shortage. Adopting a highly effective, efficient, and sustainable water program is urgently needed to enable us to make prudent and efficient use of the water resources that are already accessible. To provide a sufficient water supply to fields, villages, towns, and businesses throughout the year without endangering our environment, the water from the excess rivers can be connected to the water-scarce rivers. The National Water Development Agency (NWDA) of India has suggested the Indian Interlink River Project (ILR) as a remedy.

The National Water Development Agency's national river linking project, also known as an inter-basin water transfer, aims to reduce the likelihood of recurrent floods in the eastern regions of the country, particularly in the Ganga basin, while simultaneously alleviating water scarcity in the western and southern regions. According to NWDA, connecting rivers is one of the best strategies to enhance agricultural output and irrigation while reducing the likelihood of several natural.

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[1] Albert Szent–Gyorgyi 1971

Disasters like droughts and floods. Farmers in the monsoon-deficient region face a dire scenario as a result of the regional imbalance of river water. Regional imbalance can be lessened by this river connection project, which makes it simple to move water via canals from rivers that flow continuously to those that flow seasonally. The proposal has drawn criticism from several well-known specialists and figures who say it will be a financial, social, and environmental catastrophe. Whether or not the NRLP is implemented, supporters and opponents alike believe that India would be doomed.

OBJECTIVES OF THE STUDY

- To study interstate river water disputes in India and related cases.
- To evaluate the environmental impacts of the National River Linkage.
- To critically analyse the laws that regulate India's interstate river water disputes.

RESEARCH QUESTIONS

- Whether the Inter-State River Water Tribunal effective in resolving disputes?
- Is Whether National River Linkage Project beneficial or detrimental to the environment?
- Whether the Inter-State River Water laws in India adequate to deal with Interstate river water disputes?

SIGNIFICANCE OF THE STUDY

The study provides a critical analysis of judicial trends in handling interstate water disputes over the years. A comprehensive study on the National River Linking Project (NRLP) is crucial from an environmental law perspective. It can assess compliance with environmental laws, identify potential legal challenges, recommend mitigation measures, inform policy development, and promote environmental justice. This will ensure the project's sustainability and minimise negative environmental impacts.

RESEARCH METHODOLOGY

This legal research was doctrinal, where the study was conducted through the examination of provisions relating to Inter –State River Water Dispute. Primary material, such as statutes, regulations, and as well as secondary sources such as articles found in journals, magazines, websites, and case judgements are being used here.

REVIEW OF LITERATURE

- Alan Richards and Nirvikar Singh, in their article "Inter-State Water Disputes in India: Institutions and policies," critically analyse the mechanisms for resolving water conflicts among Indian states. The authors highlight the challenges arising from ambiguity and opacity in existing dispute settlement processes, particularly in cases of pure conflict where negotiations may be futile. They recommend a reformed framework for dispute negotiation, including a national water commission and a federated structure of management. The article underscores the need for a systematic redesign of water dispute mechanisms in India to enhance water governance.
- Abhitosh Pratap Singh and Kalpana Tyag (2007-2008) in their article "Water: Legal Issues and Social concerns" explore the historical and cultural significance of water. It highlights the importance of water management and the challenges arising from its distribution within political borders. The authors emphasise the need for a national approach to water resource management in India, given the interdependence of states and the constitutional provisions related to water.
- S.K. Jain's in his article "Interstate Water Disputes in India: A Review," offers a comprehensive overview of the legal and policy framework governing interstate water disputes in India. The article examines the Inter-State River Water Disputes Act, 1956, and the role of tribunals in resolving these disputes. Jain discusses the challenges and opportunities associated with interstate water sharing in India, providing valuable insights for policymakers and legal professionals.
- Naveen M. Joshi, in his article "National River Linkage of India'' provides a comprehensive overview of this ambitious project. He delves into the project's objectives,

potential benefits and challenges. The article highlights the need for careful planning, environmental impact assessments, and sustainable water management practices, and also discusses the potential socio-economic and environmental impacts of the project, emphasizing the importance of balancing water security with ecological sustainability.

- Neha Sharma, in her article "Interlinking of Rivers in India'' provides a comprehensive overview of the concept, its potential benefits, and challenges. The article highlights the significant environmental and social concerns associated with the project, including ecological disruption, displacement of communities, and potential conflicts among states. It also emphasizes the need for careful planning, environmental impact assessments, and public participation to ensure the sustainable implementation of interlinking projects.

HYPOTHESIS

- "Existing Legal Frameworks governing interstate river water disputes adequately address the needs for equitable water allocation, conflict resolution, and environmental sustainability, resulting in a reduction of litigation and cooperative water management among states."
- River Water Linkage Projects, while aimed at addressing Water Scarcity and improving irrigation, pose significant environmental challenges, such as disruption of the ecosystem and loss of biodiversity, which may cause more harm than the benefits they provide to society.

CHAPTER – II

LAW, POLICY, AND GOVERNANCE IN INDIA

2 . 1 HISTORICAL BACKGROUND

Soon after independence, at the time of the drafting of the Constitution of India, water played a key role in the negotiation of the distribution of power between the centre and the states. The negotiation mainly focused on the issue of whether water and other natural resources should be managed locally by the provincial states or be subjected to supraordinate rule by the Union of

India.[2] Consequently, the territory, after independence, was reorganised on a linguistic basis, resulting in the formation of states with particular linguistic and cultural affiliations and orientations[3]. India currently has twenty-nine states and seven union territories with different topographies and geographical circumstances, and all territorial divisions are competent and empowered to enact laws governing and managing water resources. [4]However, during the process of negotiation, the central/federal government reserved some of the provisions in its favour, which gave it wider powers to legislate on national issues, and concerning the sharing of river water, among other things. Regardless of the legislative framework, water flows easily across territorial divisions due to natural causes, making resource sharing both involuntary and unavoidable. A further issue is that natural resources are not evenly distributed, and indeed, nature is unaware of, and indifferent to, human-made territorial divisions. As a consequence, in times of crisis or rising demand, disputes have broken out among riparian or non-riparian states over the sharing of water.

The legislative competence and jurisdictional authority[5] of the union and the states for the regulation of the water resource are not rigid, and therefore overlap at times, resulting in contradictory legal provisions. 6 However, these legal contradictions per se are not addressed by the judiciary, which restricts itself to the question of the legal competence of the authority making that law, as per the constitutional guideline. Maintaining harmony between the units of governance is important. In some cases, the conflict arises between the law made by the centre and the law made by the provincial state, on the same subject matter, whilst both have the legal competence to make that law. To settle the dispute, the Supreme Court of India exercises its original jurisdiction. In so doing, the Court broadly decides the legislative competence of the concerned parties, by interpreting the lists mentioned in the Seventh Schedule, which indicate if the law-making body is authorised by the constitution to legislate on the matter at hand, or conversely, if the body involved.

[2] S CHOKKAKULA, "The Political Geographies of Interstate Water Disputes in India" 2015 A dissertation submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy, University of Washington at 102
[3] Government of India, The States Reorganisation Act, 1956 (Act No. 37 of 1956).
[4] Constitution of India, supra note 1 at Schedule Seven, State List.
[5] Ibid., at Art 248, 249, and 254.
[6] Constitution of India supra note 1 at Seventh Schedule, State List: Entry-17

Has overstepped its limits, making the act ultra vires. However, this interpretation is done keeping the object of distribution of power and the constitutional philosophy in mind.

If the issue remains unsettled, then the court will try to explore the possibility of coexistence for the laws by implying the doctrine of severability. In which case, if the law made by the provincial state on the same subject matter is inconsistent with the law made by the centre, then the law made by the provincial state is repudiated by the legislature to the extent of such inconsistency[7]. However, if the omission of the part is substantial to the statute and without it, the statute loses its impact, then the existence of the statute is open for reconsideration. The issue mentioned above is only a part of the problem. Perhaps, the legal question concerning the conflict of law/legal provisions among the applicable law itself remains unanswered, and possibly outside of the judicial mandate. This creates a hindrance in the governance of the resource, or at times, reduces the impact of the law and policy created for the cause. The resolution of both these issues is paramount to the success of efficient water governance and for the resolution of interstate water disputes within the country. A definitive terminology that defines the principles, theories, and doctrines acceptable within the territory of the federal-state of India, for the regulation of the freshwater resource, does not exist.[8]Additionally, the manner territorial integrity is understood and applied within he domestic jurisdiction when exercised by the sovereign authority vested in the federal and provincial states is not distinctly made clear. Therefore, strict implementation of the theory in principle raises concerns about the transboundary nature of the problems that arise from dealing with the natural resources within the limited territorial jurisdiction. A clear distinction of the attributes of the theory of territorial integrity is required to be made while dealing with sovereign rights of the state in environmental matters. This is, although the overall governance of the resource depends on such matters and their effective resolution.

[7] Constitution of India supra note 1 Art 254.
[8] SR MARIA, "Strategic Analysis of Water Institutions in India: Application of a New Research Paradigm" (2004) 79 Research Report, International Water Management Institute (Sri Lanka), at 26.

2.2 LEGAL DOCTRINES RELATING TO INTERSTATE RIVER DISPUTES

[9]THE THEORY OF RIPARIAN RIGHTS

The theory of riparian rights, a lake, river, or stream that owns land next to it is entitled to use the water that flows from it, according to the riparian rights idea. The question of permissible usage was established based on the degree of need. According to Lockwood, J., each riparian must use the flowing water while doing as little harm as possible to the co-riparian below him. In other words, rather than being taken away, a landowner's right to use water without interference from the exploitation of another co-riparian. Two major problems with this philosophy are an unequal allocation of water among non-riparian landowners and a deficiency of water conservation techniques.

THE DOCTRINE OF PRIOR APPROPRIATION

Some people see the common law of riparian rights as the opposite of the principle of prior appropriation. Water is seen as public property; therefore, "first in time, first in right" should govern who owns and uses it. Because of this, the individual who uses the water wisely initially gets the right to utilize it, which is in line with the state's interests. The first appropriator has precedence over all other appropriators.

TERRITORIAL SOVEREIGNTY

Originally developed by Attorney General Judson Harmon to justify the US decision to lower the Rio Grande River's flow in 1895, this theory is often referred to as the Harmon notion or the Absolute-sovereignty thesis. To put it simply, it said that nations upstream of a river owed no obligations to those downstream and might divert or capture the water flow as needed.

[9] https://www.ijcrt.org

THE NATURE WATER FLOW THEORY

The Nature Water Flow Theory. Sometimes referred to as the Territorial Integrity Theory, holds that the upper riparian states may only reasonably use the water and may not obstruct the channel's or stream's natural flow into the territory of the lower riparian states. The main criticism of this concept is that it hinders the relevant basin's technological growth because of its obstructionist nature. [10]

EQUITABLE UTILIZATION

According to the idea of equitable utilization, Fair and reasonable sharing of water is required between the riparian administrations. Article IV of the Helsinki Rules, 1966, permits each basin state in an international drainage basin to utilize its portion of the water for beneficial purposes. Article V provides an overview of the several factors that should be taken into account when determining each basin state's portion. An example of how this idea may be applied was provided by the Narmada Water Tribunal in India.

2.3 ENACTMENTS RELATING TO INTERSTATE RIVER WATER DISPUTES:

RIVER BOARDS ACT 1956

The River Boards Act, 1956, is a significant piece of legislation in India that aims to address the complex issue of interstate river water disputes. It provides a framework for the establishment and functioning of river boards, which are empowered to regulate and coordinate the use of river waters across state boundaries [10]

The Need for River Boards:

India's diverse geographical landscape, coupled with varying climatic conditions and water demands across different regions, has led to numerous disputes over the sharing of river waters. These disputes often arise when multiple states depend on a common river for their water needs, leading to conflicts over water allocation, usage, and pollution control. The River Boards Act was

[10] https://unacademy.com/content/daily-news-analysis/interstate-river-water-disputes/

Enacted to address these challenges by creating a mechanism for collaborative management of river resources. River boards, established under the Act, are intended to serve as platforms for cooperation between the concerned states, promoting equitable distribution of water and ensuring its sustainable use.

Key Provisions of the River Boards Act, 1956

The Act outlines several key provisions that govern the establishment, functions, and powers of river boards: The Central Government may, by notification, constitute river boards for specific river basins or groups of rivers. The composition of a river board typically includes representatives from the concerned states, as well as experts in various fields such as hydrology, irrigation, and environmental engineering.

Role of River Boards in Interstate River Water Disputes

River boards play a crucial role in resolving interstate river water disputes by providing a platform for dialogue, negotiation, and consensus-building.

They can help to: Facilitate cooperation: River boards can foster cooperation among the concerned states by providing a neutral forum for discussing water-related issues.

Promote equitable distribution: By analyzing the water needs and entitlements of different states, river boards can help to ensure that water is allocated equitably.

Prevent conflicts: River boards can help to prevent conflicts by developing and implementing joint water management plans.

Resolve disputes: In cases where disputes arise, river boards can act as mediators or arbitrators to facilitate their resolution.

INTERSTATE RIVER WATER DISPUTE ACT 1956

The Inter-State River Water Disputes Act, 1956, is a significant piece of legislation in India that provides a legal framework for the adjudication of disputes between states concerning the sharing of river waters. The Act establishes tribunals to resolve these disputes and empowers them to make binding awards on the allocation of river waters.[11]

[11] https://www.indiancode.nic.in/bitstream/123456789/1659/1/195649.pdf

Composition of Tribunals:

The Central Government appoints the members of the tribunal. The composition of the tribunal is as follows:

- Chairperson: A person of eminence in public life.
- Judicial Members: Two High Court Judges or retired High Court Judges.
- Expert Members: Three experts in relevant fields such as hydrology, irrigation, and law.
- The Chairperson and members of the tribunal hold office for a term of five years or until they attain the age of 70, whichever is earlier.

Powers of Tribunals:

Tribunals have wide-ranging powers to enable them to effectively adjudicate interstate river water disputes. These powers include:

- Tribunals can summon witnesses to give evidence and issue commissions for the examination of documents and sites.
- Tribunals can collect evidence, including documents, maps, and other relevant materials.
- Tribunals can inspect sites, such as dams, reservoirs, and irrigation channels.
- Tribunals can make binding awards on the allocation of river waters among the disputing states. These awards are final and cannot be appealed against.

Functions of Tribunals:

Tribunals are required to perform the following functions:

- Tribunals must inquire into and determine disputes between states concerning the sharing of river waters.
- Tribunals must consider the interests of all concerned parties, including states, central government, and local communities.
- Tribunals must make just and equitable awards on the allocation of river waters. These awards must be based on the principles of equity, efficiency, and sustainability.
- Tribunals must ensure the conservation and equitable distribution of water resources. They must take into account the needs of all users, including agriculture, industry, and domestic use.

2.4 SARKARIA COMMISSIONS RECOMMENDATIONS:

The Sarkaria Commission, established in 1976, was a high-level body tasked with reviewing the working of the Constitution about the Centre-State relations. Its recommendations, published in 1988, covered a wide range of issues, including interstate river water disputes.

> When a State applies to Section 3 of the Inter-State River Water Disputes Act (33 of 1956), the Union Government must convene a Tribunal within one year of receiving the application of any disputant State. The Inter-State River Water Disputes Act could be changed appropriately for this purpose. The Inter-State Water Disputes Act should be changed to allow the Union Government to form a Tribunal suo motu if it is satisfied that a dispute exists in fact. A national data bank and information system should be established as soon as possible, together with suitable gear. The Inter-State Water Disputes Act should also include a provision requiring states to provide appropriate data, for which the Tribunal may be granted court-like powers.[12] The Inter-State Water Disputes Act should be changed to ensure that the Tribunal's award is implemented within five years of its formation. If, for whatever reason, a Tribunal believes that the five years should be extended, the Union Government may do so based on the Tribunal's recommendation. "The Inter-State Water Disputes Act of 1956 should be changed to give a Tribunal's award the same force and sanction as a Supreme Court order or decree, making a Tribunal's ruling binding.

KEY RECOMMENDATIONS

The Commission recommended that the Inter-State Council, established under Article 263 of the Constitution, be given a more prominent role in resolving inter-state disputes. It suggested that the Council should act as a forum for discussion and negotiation, and should have the power to make recommendations to the Central Government.

[12] For further details of the recommendations, see chap.XVII of the Report

The Commission proposed that the Central Government should be mandated to establish a Tribunal within a specified timeframe after a dispute has been referred to it under the Inter-State River Water Disputes Act, 1956. This would help to prevent delays in the resolution of disputes.

The Commission emphasized the importance of data collection and sharing among the states involved in a dispute. It recommended the establishment of a national data bank to collect and disseminate information on water resources. The Commission suggested that states sharing river basins should engage in joint planning and development of water resources. This would help to ensure that the interests of all states are taken into account. The Commission recommended that mediation and conciliation should be explored as alternative dispute resolution mechanisms. This could help to resolve disputes without resorting to litigation. The Commission suggested that the Inter-State River Water Disputes Act should be reviewed to ensure that it is adequate to address the challenges of modern water management.

Impact of the Sarkaria Commission's Recommendations

While the Sarkaria Commission's recommendations were not implemented in their entirety, they have had a significant impact on the way inter-state river water disputes are handled in India. The establishment of Tribunals and the increased role of the Inter-State Council have helped to improve the dispute resolution process. However, challenges related to data sharing, cooperation among states, and the political nature of water disputes continue to pose significant obstacles.

CHAPTER III

NATIONAL RIVER LINKAGE AND ITS IMPACT ON THE ENVIRONMENT

OVERVIEW OF NATIONAL RIVER LINKAGE PROJECT

One of the key factors that not only controls life on Earth but also affects human development in the fields of agriculture, industry, and the economy is water. There is a widespread belief that the planet's freshwater resources are not keeping up with the demand due to the expanding human population and rising living standards. India experiences a monsoon climate. Rainfall is mostly concentrated during three to four monsoon months, except a tiny coastal area in the south. In some parts of our country, water is scarce, while others have an abundance. There is an urgent need to implement a highly efficient, effective, and sustainable water program.

That will allow us to use the available water resources wisely and effectively. Water from excess rivers can be linked with water-scarce rivers to ensure a year-round supply of water to fields, villages, towns, and industry while inflicting no harm to the environment. The Indian Interlink River Project (ILR) has been provided as a solution by India's National Water Development Agency. India's national river linking project, also known as an inter-basin water transfer by the National Water Development Agency, is intended to alleviate water scarcity in the country's west and south while also reducing the likelihood of recurring floods in the east, particularly in the Ganga basin. According to the NWDA, interlinking rivers is one of the most effective strategies to boost irrigation and agricultural production while also mitigating major natural disasters such as floods and drought. Farmers in the monsoon-deficient region face a dire scenario as a result of the regional imbalance of river water. Regional imbalance can be lessened by this river connection project, which makes it simple to move water from rivers that flow continuously to seasonal rivers via canals.[13]

The NRLP proposes to build 30 river links and more than 3000 storage sites to connect 37 Himalayan and Peninsular rivers. The NRLP concept was contentious from the outset. The key disputed issues were the drivers that justified the concept, the hydrological and technical feasibility, environmental concerns, people's displacement and rehabilitation and resettlement, socio-economic costs and benefits, and lack of attention to alternative water management options. Yet, addressing public interest litigation, the Supreme Court of India has enjoined the Government of India to complete the project by 2016.

The most recent Supreme Court order in early 2012 has once again aroused the nation's interest in the NRLP. The proponents want fast implementation of the project, while opponents concentrate on the contentious issues. This paper examines the merits of only the following three contentious issues:

- water surpluses of donor river basins;
- key drivers of justification, and the potential of alternative options for water management.

[13] https://www.nepjol.info

BACKGROUND

India is planning a very ambitious and gigantic water transfer project called the National River Linking Project (NRLP) from the surplus region in the north-east with major rivers of the South Asian region, i.e, the Ganges and the Brahmaputra, to the water-scarce areas of western and southern India. It will be in two parts- one is the Himalayan part involving 16 links, and the other is the peninsular part involving 14 links. It will connect 37 rivers and have 3,000 storage units. A total of 174 billion cubic meters of water will be conveyed via a network of 14,900 kilometers of canals. It claims to be the world's largest infrastructure project. It will cost US$ 120 billion (at 2000 prices) and is expected to provide enormous benefits, including increased irrigation capacity of 34 million hectares (MHa) of agricultural land (24 MHa surface + 10 MHa groundwater), hydropower generation of 34,000 MW, reduced flooding in the eastern region, and so on. The projected project will relocate around 1.48 million people. The Supreme Court of India's decision, which urged the Government of India to proceed with the project in a timely way, emphasizes the project's legal basis. Critics argue that the Indian government has not conducted adequate, extensive evaluations of alternatives, while the government maintains that, given the scale of the situation, the NRLP is the only option. Both opponents and supporters of the enterprise believe that India will be doomed regardless of whether the NRLP is implemented. There are several opinions and assertions about the project, but they lack analytical rigor (Amarsinghe 2009). India is dealing with catastrophic flooding in certain areas while also experiencing drought in others. The non-homogeneity of accessible water resources, both regional and temporal, has provided impetus for large-scale water resource development in India. Large inter-basin transfers have been proposed as a means of increasing agricultural production, improving home water supply, addressing the energy issue, and improving socioeconomic conditions in water-deprived regions.[14] Previously, this project was set to be completed in 2016. Now, the completion date could be within 2050. There is little disagreement regarding the need for more water in the next decades due to rising population and declining river flows, exacerbated by the climate change phenomenon. However, critics believe that the project is designed without considering alternatives and will be an economic, social, and environmental disaster.

[14] D. Mehta and N. K. Mehta, "Interlinking of Rivers in India: Issues and challenges," Geo Eco Marina, vol. 19, pp. 137-143, 2013

PROJECT BENEFITS

The NRLP envisages to:

Add 34 GW of hydropower potential to the national grid, increase irrigation to 35 million hectares of cropland and water supply to domestic and industrial sectors, reduce floods in Eastern India, and support a range of other economic activities like internal navigation, fisheries, groundwater recharge, and the environmental flow of water-scarce rivers.

The NRLP, when completed, will increase India's utilizable water resources by 25 percent and reduce the inequality of water resource endowments in different regions. The increased capacity will address the issue of increasing India's per capita storage. It currently stands at a mere 200 m/person, as against 5960, 4717, and 2486 m/person for the USA, Australia, and China, respectively.

ADVANTAGES OF NATIONAL INTERLINKAGE OF RIVER:

- Create the possibility of a further 100% growth in agricultural output over the following five years.
- Bring the nation together by establishing an agency and including all Panchayats as shareholders.
- Eradicate the flooding problems which recur in the north-east and the north every year;
- Solve the water crisis by providing alternative, perennial water resources;
- To solve the problem of the water crisis in cosmopolitan cities of India and interstate water disputes.
- The rural areas of the country will get an all-out development on a modern line. It will boost the rural economy and the lifestyle of the Indian village.
- Due to the interlinking of rivers, the overall economic activities of the country will be

[15] Vijay Kumar, "Perspectives on water resource policy for India, " The Energy and Resource Institute, www.teriin.org

enhanced, resulting in an annual increase in GDP. Employment opportunities also increase.

- Not only will environmental protection and pollution control be achieved, but this creation of the "National Rivers Water Grid" shall also provide extra security to the country as a whole. Generate employment in agriculture, power, transport & construction sectors.

DISADVANTAGES OF NATIONAL INTERLINKAGE OF RIVER

- Environmental costs (deforestation, soil erosion, etc.)
- Rehabilitation: not an easy task
- Social unrest/Psychological damage due to the forced resettlement of local people;
- Political effects: strained relationship with neighbors (Pakistan, Bangladesh)

CHALLENGES OF INTERLINKAGE OF RIVER

Political Challenges

Water is a state's most basic need, hence, numerous states are hesitant to participate in the national river connection project for fear of losing surplus water to neighboring states. A lack of political ambition will make this project lip service, so excitement for the project is required; only then can the dream project become a reality.

Environmental Challenges

Environmentalists have criticized the national river-linking project since its inception. 16 They believe the proposal is careless, reckless, and impertinent. According to the majority of environmentalists, the project will irreversibly alter the landscape of the entire country, posing several obstacles and having the worst consequences on wildlife. [16]

International Challenges

Himalayan rivers such as the Ganga and Brahmaputra flow along multinational or combined boundaries. India's neighbors, particularly Bangladesh, would oppose this project since the flow of the Ganga in Bangladesh will be diminished, posing a barrier for implementation.

[16] S. Praveen and J. Bandopadhyaya, "The Interlinking of Indian Rivers: some questions on the scientific, economic and environmental dimensions of the proposal,"

3.2 WHETHER THE NATIONAL RIVER LINKAGE ACT IS A TOOL TO RESOLVE INTERSTATE RIVER WATER DISPUTES?

The National River Linking Project (NRLP) is a massive undertaking in India aimed at connecting surplus rivers with deficit ones to address water scarcity, flood management, and hydroelectric power generation. While the project offers the promise of a more equitable distribution of water resources, it has also faced significant challenges and controversies. One of the primary objectives of the NRLP is to alleviate water scarcity in regions that experience chronic droughts. By transferring surplus water from rivers like the Ganges and Brahmaputra to deficit rivers like the Kaveri and Krishna, the project seeks to ensure a more equitable distribution of water resources across the country. This could potentially reduce conflicts over water sharing between states and alleviate the suffering caused by water shortages.

Moreover, the NRLP can play a crucial role in flood management. By diverting excess water from flood-prone areas to deficit regions, the project can help mitigate the devastating impacts of floods. This could reduce property damage, loss of life, and disruptions to economic activities. Additionally, the construction of dams and canals associated with the NRLP can generate hydroelectric power, contributing to India's energy needs and reducing reliance on fossil fuels.

However, the NRLP is not without its challenges and controversies. One of the major concerns is the potential environmental impacts of the project. The construction of dams and canals can lead to habitat destruction, biodiversity loss, and changes in river ecosystems. Additionally, the diversion of water can affect downstream communities and agricultural practices. These environmental impacts have raised concerns among environmentalists and local communities.

Another significant challenge is the interstate disputes over water sharing. The NRLP involves the transfer of water across state boundaries, which can lead to conflicts and disagreements between states. States with surplus water may be reluctant to share their resources, while states with water deficits may demand a larger share. These disputes can be difficult to resolve and can hinder the implementation of the project.

Furthermore, the NRLP is a massive and expensive project. The estimated cost of the project runs into billions of dollars, and there are concerns about the financial feasibility of undertaking such a large-scale project. Additionally, the project requires significant infrastructure development, including dams, canals, and tunnels, which can take years to complete. These factors can delay the

implementation of the project and increase its overall cost.

In addition to the challenges mentioned above, there are also concerns about the long-term sustainability of the NRLP. The project relies on the availability of surplus water from certain rivers. If these rivers experience reduced water flows due to climate change or other factors, the project's effectiveness may be compromised. Additionally, the long-term impacts of the project on the environment and society need to be carefully monitored and addressed.

While the NRLP offers the potential to address water scarcity, flood management, and energy needs, it is not a silver bullet solution for resolving river water disputes. The project faces significant challenges, including environmental impacts, interstate disputes, economic costs, and sustainability concerns. To ensure the success of the NRLP, it is essential to address these challenges through careful planning, stakeholder engagement, and environmental impact assessments. In addition to the NRLP, there are other approaches to resolving river water disputes. These include integrated water resource management (IWRM), water conservation measures, and the use of technology to improve water efficiency. IWRM involves a holistic approach to water management that considers all aspects of the water cycle, including supply, demand, and quality. Water conservation measures, such as reducing water wastage in agriculture, industry, and households, can also help to alleviate water scarcity. Technology can also be used to improve water efficiency, such as through the use of drip irrigation systems and water treatment technologies.

3.3 IF CLIMATE CHANGE IS A POSSIBILITY, WILL THERE BE A REALLOCATION OF INTERNATIONAL WATERS?

The distribution of water resources on the Earth is neither spatially equal nor temporally static, even during normal times. Sources of water, whether rainfall or snowmelt, differ from place to place. Studies have also revealed the presence of temporal cycles in both. However, if the phenomenon of climate change is a possibility and that change were to cause an impact on the distribution of the precipitation and snowmelt, then what adaptations are required, or what ramifications will it have on the fundamental circumstances constituting the regimes of the international waters shared by two or more States?

BASINS, DISPUTES, AND APPORTIONMENTS

Nearly half of the drainage basins in the world are transboundary ones, where flows move from the upstream riparian State to the downstream riparian State. The United Nations Environment Programme (UNEP) has surveyed, as on 2002, and found that there are 263 international drainage basins spread across 145 countries and they "account for nearly one half of the earth's land surface, generate roughly 60 per cent of the global freshwater flow and are home to approximately 40 percent of the world's population".[17]Among these, the Danube is spread out in 17 States in Europe. The Amazon has the largest drainage basin area of 58,66,100 sq km, which is almost eight times more than the Danube. The Tibetan plateau or Himalayas in South Asia, which has been described as "Asia's New Battleground", is the home for five international drainage basins, namely, Indus, Ganges, Brahmaputra (Yarlung Tsangpo), Salween, and Mekong.

International water disputes have arisen over the use of water for navigation, irrigation, hydropower, and drinking water requirements. The expression water disputes "could be viewed as covering every dispute relating to water, including rainfall, results of climate change, and maritime water, both on the national and international levels. Of late, disputes have also arisen on the environmental flows, known as summer flows or minimum flows. Historically, in 2500 BC, the Sumerian States resolved the water disputes on the use of the Tigris River. Since then, the sharing of international waters has come a long way. The famous concluded treaties apportioning the waters are on the Danube, Rio Grande, Nile, Indus, and Mekong basins. However, where the States had failed to agree, the practice appears to have been to refer the water disputes for adjudication.

CLIMATE CHANGE, IMPACT ON FRESHWATER, AND REALLOCATION

The threat of global warming and the increase of atmospheric concentrations of greenhouse gases, particularly carbon dioxide (CO_2), compelled the United Nations to take an initiative to build a consensus of nations. In 1992, the "United Nations Framework Convention on Climate Change" (UN Convention, 1991) was adopted. Article 1(2) of the UN Convention, 1992, defined climate change as

[17] Aaron T. Wolf, Atlas of International Framework Agreements (United Nations Environment Programme, 2002)1-2. Helmand Arbitration[23], Lake Lanoux Arbitration[24], Oder case[25], Meuse case[26,] and Gabčíkovo- Nagymaros case are notable among them

…. a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable periods.

Article 1(1) defined adverse effects of climate change as changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience, or productivity of natural and managed ecosystems or on the operation of socio-economic systems, or on human health and welfare.

In Article 3, principles to be guided by the party States have been laid down, which include the application of "precautionary measures". Article 4 spells out the general comments to be observed by the Parties. Article 5 is on research, and Article 7 provides for the establishment of a Party Conference of the party States as a supreme body.

Though climate change and its impact on the water should be answered by assessment and evaluation, however, the Party Conference did not establish any expert body to conduct studies and give its opinion. But, the UNEP and World Meteorological Organization (WMO) had already established the Intergovernmental Panel on Climate Change (IPCC) with the endorsement of the UN General Assembly in 1988. The IPCC, so far, has submitted four assessment reports in 1990, 1995, 2001, and 2007, and the fifth report is stated to come in the year 2014. The fourth report of IPCC made in 2007 is in four volumes (IPCC of 2007) and Volume I is the report of the Working Group I inter alia on the science of climate change and Volume II is the report of the Working Group II inter alia on the impact of climate changes and in that report, Chapter 3 is on the freshwater resources."[18]

[18] https://www.ipccc.ch/organization.shtaml

CHAPTER IV

MAJOR INTERSTATE RIVERWATER DISPUTE IN INDIA AND JUDICIAL PRONOUNCEMENTS

4.1 INTER-STATE WATER DISPUTE AND JUDICIAL RESPONSE IN INDIA

Within the limits prescribed by the Constitution, the Supreme Court of India has played an important role in resolving the inter-state water disputes of different kinds. Some of the important judgments of the Supreme Court are discussed hereunder.

CAUVERY WATER DISPUTE TRIBUNAL, RE[19]

In pursuance of the direction of the Supreme Court, the Cauvery Water Disputes Tribunal was constituted under Section 4 ISWD Act for the adjudication of dispute regarding sharing of water of the Cauvery (inter- State river) between the States of Karnataka (the upper riparian State), Tamil Nadu (the lower riparian State) and Kerala and the Union Territory of Pondicherry. Following the failure of negotiations, the State of Tamil Nadu filed a letter of request under Section 3 of the ISWD Act for the dispute to be resolved. It sought an interim relief against the State of Karnataka for the stoppage of construction works in the latter's territory for appropriation of water. It also sought an implementation of a couple of agreements executed in 1892 and 1924, and as an emergent measure, filed another petition for the release of at least 20 tmc of water as a first installment till the final order is made. Pondicherry also sought direction against Karnataka, Tamil Nadu for the release of water from September till March. The States of Karnataka and Kerala contest the matter on merit and also raised a preliminary objection that the constituted tribunal has a limited jurisdiction without any inherent power of an ordinary civil court to grant any interim relief. However, the Supreme Court upheld the appeal of Tamil Nadu and Pondicherry and directed the tribunal to decide the application of an interim measure. The tribunal directed the State of Karnataka, through an interim order, to supply 205 tmc of water to Tamil Nadu every year and 6 tmc to Pondicherry, and not to increase the existing irrigation area by utilizing the water of the Cauvery. The order, however, was nullified by the Karnataka Cauvery Basin Irrigation Protection Ordinance of 1991,

[19] 1992 AIR 0522 SCC

Which was subsequently replaced by the Act. The State of Karnataka once again objected to the competency of jurisdiction of the tribunal to issue an interim order under Article 131. The President of India sought the advisory opinion of the Supreme Court under Article 143(1) regarding the validity of the said ordinance and the decision of the tribunal. The court held the ordinance ultra vires the Constitution for deciding its cause and for transgressing the judicial power of the State. Furthermore, because the ordinance affects the flow of water from the river Cauvery into the territory of Tamil Nadu and Pondicherry, the lower riparian States, it has an extraterritorial operation, is thus beyond the State's legislative competence, and violates the provisions of Article 245(1) of the Constitution. The court ruled that if the ordinance is upheld, the Constitutional machinery will break down.

STATE OF KARNATAKA V. STATE OF A.P. [20]

The State of Andhra Pradesh instituted a suit under Article 131 against the State of Karnataka and Maharashtra and the Union of India. In particular, the mandatory injunction was sought for implementing the decision of the Krishna Water Disputes Tribunal. The court expressed its inability to issue a permanent mandatory injunction as regards the construction of the dam at Almatti. The court stated that the height of the dam at Almatti may be raised to 519.6 meters, but is subject to obtaining a clearance certificate from the concerned authority under the Central Government or other Statutory Authority.

N.D. Jayal v. Union of India[21]

The Supreme Court has elaborately dealt with the State preparation to manage environmental impacts of Tehri Dam Project, which included the issues relating to treatment of catchment area, avoidance of soil erosion, development of command area, protection of flora and fauna, promotion of water quality management, rehabilitation of evictees and safety of dam against earthquake threats. The court appreciated the State's efforts and insisted on the effective implementation of the proposed scheme.

[20] (2000) 9 SCC 572: AIR 2001 1560
[21] (2000) 10 SCC 664

MULLAIPERIYAR DAM CASE[22]

In this case, the court dealt with the problem of submerging of forest due to the heightening of the dam and viewed that the total extent of forest will not fall, and said: The vegetation and fauna will be unaffected by the increase in water level. According to the reports, the environment will improve. It is documented that the animals, notably elephant herds and tigers, will be happier as the water level gradually increases to reach the woodland line. In nature, all birds and animals enjoy water and spread and express their joy when heavy rains fill the reservoir, resulting in a lot of greenery and an ecological environment.

KRISHNA WATER DISPUTE

The Krishna River, a major river system in South India, is shared by the states of Maharashtra, Karnataka, and Andhra Pradesh. The allocation of water from this river has been a source of contention among these states for decades, leading to the Krishna Water Disputes Tribunal (KWDT).

The Krishna water dispute arose among the States of Maharashtra, Karnataka, Andhra Pradesh, Madhya Pradesh, and Orissa and was not resolved through negotiations. The dispute mainly concerned the interstate utilization of untapped surplus water. When rendering its decision, the Krishna Water Disputes Tribunal considered three issues: the regulations controlling the preferential uses of water, the diversion of water to another watershed, and the degree to which current uses should be preserved in contrast to future or planned uses. Under Article 131 of the Indian Constitution, the State of Andhra Pradesh filed a lawsuit, claiming that the State of Karnataka had committed serious violations of the Krishna Water Disputes Tribunal's ruling, which harmed the people of Andhra Pradesh. The state is seeking a mandatory injunction and a declaration.It was contended in the suit by the State of Andhra Pradesh that the Supreme Court should direct Karnataka to stop construction over the river and also direct Karnataka not to raise the height of the dams. [23]

[22] 2006 AIR 1428 SC

[23] https://www.civilsdaily.com

CHAPTER V

CONCLUSION AND SUGGESTIONS

CONCLUSION

The legal framework of the dispute-settlement mechanism must be constantly strengthened. It is noticed that the water disputes are merely seen as political issues and water management problems. Thus, for solving such disputes interminable conference attended by political representatives, bureaucrats, and water-management engineers takes place, and legal aspects get pushed into the background. With legal aspects getting blurred, such conferences hardly lead to any settlement, with the result that the water disputes drag on. The consequent delay in the settlement of a water blockage prevents the development of water resources and causes untold dispute and misery to the concerned States and their people. It should be clearly understood that wherever there is an element of rights or interests of several contesting parties, the content of law automatically comes into play, and its proper recognition and handling are a must. Apathy towards the legal aspects is bound to result in the unwanted prolongation of the concerned disputes.

The strengthening of legal framework of the dispute-settlement mechanism would require updating the relevant statutory provisions of the concerned polity, improving the specialized intellectual potential of the human tools, employed or likely to be employed for the settlement of such disputes and developing the help-material to be utilized in the process of the settlement of such disputes. All this qualitative Improvement is necessary for enabling the contemporary dispute-settlement mechanism to work smoothly and expeditiously for settling the said disputes, keeping in view the demands of the times and the needs of the concerned socio-political units.

If climate change is a possibility, its impact on water should serve as a wake-up call for the riparian States. However, the collection of observed discharge data of the rivers up to 2040 by installing a State-of-the-art river gauge station for obtaining the actual measurement of the river runoff is necessary, as a precautionary measure, to projections of IPCC, 2007, based on model studies. Verify if the time series of the observed data up to 2040 validates the projections on the river run off, the aggrieved riparian State may seek a fresh treaty or adjudication by midcentury. But, in the interregnum period, the shortages may be shared by applying the pro-rata principle and or ground realities.

The National River Linking Project (NRLP) is not a direct tool for resolving interstate river water disputes. It is a large-scale infrastructure project aimed at transferring surplus water from water-rich river basins to water-scarce regions. While this could potentially alleviate water scarcity in some areas, it may also exacerbate existing disputes or create new ones.

For instance, the project could alter the natural flow of rivers, impacting downstream states and potentially leading to new conflicts over water sharing. Additionally, the construction of dams and canals could displace communities and affect local livelihoods, further complicating interstate relations.

SUGGESTIONS:

EFFECTIVE IMPLEMENTATION OF LAWS BY APPROPRIATE REGULATORY AUTHORITIES: The need for appropriate regulating authorities with technical, scientific, and environmental knowledge is prominent for resolving Interstate river water disputes.

AWARNESS THROUGH EDUCATION: Awareness through education is crucial for resolving interstate river water disputes. By incorporating water resource management into school curricula, organizing public awareness campaigns, and empowering communities, we can foster a culture of water stewardship. Educating policymakers and water managers can lead to informed decision-making and effective water management strategies.

SUPPORTIVE GOVERNMENT MEASURES: The government can play a pivotal role in resolving interstate river water disputes. By strengthening the Inter-State River Water Disputes Act, promoting collaborative water management, and establishing independent regulatory authorities, the government can facilitate equitable water sharing and sustainable water management. Additionally, investing in water conservation and efficiency measures can reduce the need for large-scale water transfer projects and mitigate conflicts.

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