

INTERLINKING OF RIVERS IN INDIA-A CRITICAL ANALYSIS

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Abstract

India depends on monsoon rains that are erratic as well as regionally imbalanced. Interlinking of rivers will reduce the amount of surplus rain and river water that flows into the sea. Interlinking can provide a solution to the rain-fed irrigation problems of Indian agriculture through the transfer of surplus water to deficit regions. This can help in mitigating the effect of drought and floods to a certain extent. Hydropower generation, Round the year navigation, Employment generation, and Ecological benefits as dried up forests and lands will be replenished. The project threatens to obstruct the natural ecology of rivers. The proposed dams could threaten the forests of the Himalayas and impact the functioning of the monsoon system. In interlinking systems, it is assumed that the donor basin has surplus water that can be made available to the recipient basin. The whole concept goes for a toss if this basic assumption goes haywire for any system due to climate change. Economic Costs: It is estimated that river interlinking will be a huge fiscal burden on the Government. Socio-Economic Impact: It is estimated that the network of canals extending to about 15000 km would displace about 5.5 million people, mostly tribal and farmers.

Keywords

Canal, Irrigation, Drinking Water, Rivers, Inter-linking.

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The idea of Interlinking of Rivers in India was first presented by the Arthur Cotton, in the nineteenth century and the rationale behind this was to easily transport the goods by way of rivers and to promote the business during the colonial era. As we know that India was the colony of the British at that time and the aim was to trade with India.

Dr. K.L. Rao, in 1970 proposed the plan for the “National Water Grid”.¹ Dr. K.L. Rao suggested in his study that the North part of India is regularly facing flood problems and another hand south part of India is facing a water crisis. He proposed that surplus water to be transferred to the region where people are facing a water crisis.

Ministry of Water resources in 1980 presented a proposal that the developments of water resources are the parts of the two components namely Himalayan and Peninsular components.

After two years in 1982 Government of India set up a body of experts through National Water Development Agency (NWDA) to study the feasibility of interlinking Peninsular Rivers and water resources management. Many reports were sent by the National Water Development Agency but did not implement by the Government of India. NWDA carried out Water Balance Studies of 137 basins/sub-basins and 71 diversion points. It also carried out toposheet studies of 74 reservoirs & 37 link alignments. Based on these studies, NWDA identified 30 links (16 under Peninsular Component & 14 under Himalayan Component) for preparation of Feasibility Reports (FRs). Out of these, FR of 14 links under Peninsular Component and FR of 2 links (Indian portion) and Draft FR of 7 links under Himalayan Component has been completed. Field surveys & investigations for these maining links under Himalayan Component are under progress except one link namely Kosi-Mechi which lies entirely in Nepal.²

In 1999, the new proposal was in favor of intra-basin development, not to inter-basin transfer of water.

In 2012 Hon’ble Supreme Court in the disposing of Writ Petition (Civil) No.512 of 2002 “ In Re: Networking of Rivers” along with W.P Civil No. 668 of 2002 on 27 Feb. 2012 did not issue any order to implement the program but directed to constitute a committee by the Ministry of water resources to implement the program.

NWDA has identified 30 links with Feasibility Reports (FR), Sixteen under the Peninsular component and fourteen under the Himalayan Component. Out of them, Detailed Project Reports (DPR) of eight links have been completed.³

The implementation of the National Perspective Plan would give benefits of 35 million hectares of irrigation (25 million ha from surface water and 10 million ha by increased use of ground waters), raising the ultimate irrigation potential from 140 million ha to 175 million and generation of 34000 Megawatt of hydropower, apart from the incidental benefits of flood control, navigation, water supply, fisheries, salinity and pollution control etc.

Detailed Project Report(DPR) for four Interlinking projects has been prepared by the NWDA, These projects are the Ken-Betwa link project, Mahanadi-Godavari link project, Damanganga-Pinjal Link and Par-Tapi-Narmada link project.

In 2014 Ken-Betwa River linking Project has been approved by the cabinet.

In August 2005, The Centre Government and two States Governments (Madhya Pradesh and Uttar Pradesh) signed a memorandum of understanding for the preparation of a Detailed Project Report (DPR) on the Interlinking of Ken-Betwa Rivers. The central Government in 2008, declared the Ken-Betwa project as a National project, after some time this project was declared as part of the Prime Minister's package for Bundelkhand region development. Finally, in 2021, the Ministry of Jal Shakti and the above two states signed a memorandum of agreement to implement this project.

To implement this project Centre Govt. constituted a steering Committee and Ken-Betwa Link Project Authority (KBLPA).KBLPA as per notification has authority to execute the Daudhan Dam, Power House, Ken-Betwa Link water Carrier Canal, Tunnel, Lower Project, Kotha Barrage and Bina Complex multipurpose project.

In the Budget 2022, Finance Minister Nirmala Sitharaman has allocated the Rs.44605 crore for the implementation of the Ken-Betwa river link project for irrigation, drinking water and electricity.

The project involves the transfer of water from Ken to the Betwa River through the construction of the Daudhan Dam and the canal linking the rivers. This project covers thirteen total Districts and out of them nine Districts of Madhya Pradesh and four Districts of Uttar Pradesh. After the Interlinking of the Ken-Betwa rivers projects ten lakh hectares of land will be irrigated, Sixty-two lakh people will get clean drinking water and 103 MW hydropower, and 27MW solar plants will be established.

With the growth of population and economic activity, the demand for water has been increasing. Technological advancements have made it possible to tap both surface and groundwater resources on a large scale. As a result, the gap between

availability and use is narrowing everywhere and in India, there is a lack of a comprehensive water law to regulate water properly. In India maximum share of ground and surface water is consumed in Agriculture and the 'Green Revolution' put extra pressure on groundwater and has over-exploited our groundwater storage. Additionally, the sources of groundwater recharge like ponds, Johar, and wells are damaged or encroached due to unplanned urbanization and the infrastructure required. People in villages encroach on these water bodies for their personal use. There is no clear road map to recharge groundwater and the efforts that have been made are a drop in ocean to date.

Water is deeply connected with food and hydropower and it is this nexus that needs to be understood for addressing balanced growth and development challenges. Water is also integrally linked with the common well-being of humans. It contributed to achieving food security and a critical bond exists between water resources management, agriculture, food security and power generation. There is a possibility of a growing problem of impending food crisis due to damage to the ecology and a shortage of water and fertile land with the additional pressure of increasing population.

Irrigation in India has a history extending over millennia. Not only in India, but in most eastern countries, irrigation works, for artificial application of water to the land for purposes of agriculture as a means of supplementing the natural rainfall have existed from time immemorial. In India, this is a natural result of conditions of climate. It contains large rainless tracts in the North and west where there can be no cultivation without irrigation. The existing indigenous systems of irrigation in India which have evolved with reference to topography and climate, have thousands of years of tradition behind them. British Engineers understood the importance of water diversion for irrigation and they designed and executed canals in South India. Er. Courtney designed and executed Upper Ganga Canal and Madhya Ganga Canal in North India, diverted from River Ganga.

Benefits of Interlinking of Rivers

The benefits of Interlinking of Rivers are namely- Water crisis, Hydropower generation, weather flow augmentation, agriculture, and Inland waterways.

- Transfer of excess water from one basin to another basin and thereby would control droughts and floods.
- This project would control the water crisis in India.
- Major changes would be in the irrigation to solve irrigation problems in droughts areas.

- This project would be helpful to resolve the electricity problem through hydropower generation.
- This project would also be helpful for navigation, water supply, pollution control and fisheries.
- It will control the food crisis in the country.

Challenges to Implementing Interlinking of Rivers Projects

Challenges to implementing these projects are namely- Environmental impact, Feasibility, Social Impact, Inter-State water disputes, floods, and disputes with neighboring countries.

- These projects shall affect the ecosystem on a large scale. In this series, many National Parks and Sanctuaries are to be covered by the water.
- The feasibility of these projects shall be on the cost of huge money and engineering with advanced technology.
- Villages would be shifted from one place to another place and rehabilitation would be challenged before the Government. It would also harm to the social relations of the people.
- Inter-State disputes may be arisen for water.

Conclusion

17.7 percent of the world population resides in the India, four percent of world water resources. It is a challenge for the country how to manage the water need of the India. Out of many solutions, one solution to this problem is managing the wasting of water by the Interlinking of rivers in India. The interlinking of the rivers program may be divided into three parts as per the expert's suggestions and NWDA reports. These parts are (i) Northern Himalayan rivers Inter-link component, (ii) Southern Peninsular Component, and (iii) Intra State rivers link⁴. NWDA has prepared reports to interlink 14 projects for the Himalayan Component, 16 projects for Peninsular Component and 37 intrastate river linking projects.⁵

These projects would be helpful to provide water security, transportation through navigation, hydropower, fish farming, and employment generation.

NIRA will function as an umbrella body for all river linking projects and to be headed by a Government of India Secretary-rank officer. It will coordinate with neighboring countries and concerned states and departments and will also have powers on issues related to the environment, wildlife and forest clearances under river linking projects and their legal aspects. NIRA will have the power to raise funds and act as a repository of borrowed funds or money received on deposit or loans given on interest.

Inter-Basin Water Transfer popularly referred to as Inter-Linking of rivers is a proposed large-scale civil engineering undertaking that ambitions to successfully manage water sources in India by linking Indian rivers by way of a network of reservoirs and Canals and so lessen persistent floods in some parts and water shortage or droughts in other elements of India.

The common rainfall in India is about four thousand billion cubic meters, however maximum of India's rainfall comes over a four-month length-June to September moreover, the rain across the very big kingdom isn't uniform, the east and north receive a maximum of the rain, at the same time as the West and South get less. India also sees years of extra monsoon and floods, followed by way of under-average or overdue monsoons with droughts. This geographical and time variance in the availability of natural water versus the year-round call for irrigation, ingesting and commercial water creates a demand deliver gap, that has been worsening with India's growing population. Proponents of the rivers inter linking initiatives claim the answer to India's water hassle is to preserve the ample monsoon water bounty, shop it in reservoirs and supply this water-the usage of rivers inter-linking task to regions and over instances whilst water becomes scarce. The Himalayan element envisions the transfer of water from Brahmaputra and Gange's river structures westward to Southern Uttar Pradesh, Haryana, Punjab and Rajasthan then hooking up with the Peninsula aspect to carry water to the south. Inter-linking of rivers undertaken in India is the most important inter-basin water transfer initiative ever undertaken in the international. After of entirety of the inter-linking of rivers venture, it might provide additional irrigation benefits of 25 million hectares from floor water and about 10 million hectares through higher use of groundwater. The extra capacity to generate hydropower could be resulted in 34000 MW. Besides, India, might additionally get big benefits from home water supply, floods management, drought mitigation, navigation, control of pollutants, fisheries, improvement of environment and improvement of infrastructure. Apart from this, there are a few apprehensions concerning environmental demanding situations and rehabilitation demanding situations of displaced people and demanding situations of survival of untamed lifestyles due to deforestation in the method to finish the project. Disturbance in water ecology in linked rivers is also apprehended by professionals, it'll result in a threat to the lifestyles cycle of the aquatic habitat of the river. Some initiatives create an international effect and the rights of the countries including Bangladesh, and Nepal must be respected and negotiated.

The project involves the transfer of water from Ken to the BetwaRiver through the construction of the Daudhan Dam and the canal linking the rivers. It is

a big step by the central Government and State Governments to implement the Interlinking of rivers projects. Ken-Betwa Pilot project would be the key to other interlinking projects.

In the Interlinking of rivers programs, there should be no compromise with the environment eco-system, and all sustainable development measured should be followed by the authority. Rehabilitations and compensations to villagers who are affected by the projects should be on a priority basis, landless villagers should be the part also.

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