



Interlinking of Indian Rivers: A Boon for India

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ABSTRACT

The idea of Inter-linking of Rivers in India proposal has a long history. During the British colonial rule in the 19th century, engineer Arthur Cotton proposed the plan to interlink major Indian rivers in order to hasten import and export of goods from its colony in South Asia, as well as to address water shortages and droughts in southeastern India, now Andhra Pradesh and Orissa. This excess-scarcity regional disparity and flood-drought cycles have created the need for water resources management. Rivers inter-linking is one proposal to address that need.

A former irrigation minister proposed "National Water Grid" in 1970's. He was concerned that the Brahmaputra and Ganga basins are water surplus areas, and central and south India as water deficit areas. He proposed that surplus water be diverted to areas of deficit. Again in 1980, India's Ministry of Water Resources came out with a report entitled "National Perspectives for Water Resources Development". But abandoned the plan on political grounds.

Interlinking got a boost when then President Dr. APJ Abdul Kalam made a passing reference to the need for finding a solution to simultaneous floods and droughts in his address to the nation on the eve of Independence Day in 2002. Former Prime Minister Atal Bihari Vajpayee is credited with giving the interlinking programme a big push in

KEYWORDS :

Introduction

The concept of interlinking of rivers in India is not a new one, but has a long history since British Rule in 19th Century. The Need of this plan arose due to excess-scarcity of surface water regional disparity in the Country. But this plan was abandoned due to many reasons. But with the reference of former President Dr. A.P.J. Abdul Kalam and the then Prime Minister Sh. Atal Bihari Vajpayee, it got push in 2002.

But a lot of states do not want to go ahead with these projects, for fear of losing surplus water and thus getting states to agree for this gigantic task is not an easy work. Lack of political consensus will make the project an utter failure. The states having the government of political parties other than the party in power at the centre will certainly oppose the project either on the ground of lack of financial resources or on the ground of losing the surplus water.

Again, in 2012, the apex Court of India directed Indian Government to move the plan of inter-linking of rivers. Anyhow with the guidelines of Supreme Court the National Perspective Plan (NPP) prepared by the Ministry of Water Resources, the NWDA has identified 14 links under the Himalayan Component and 16 links under the Peninsular Rivers Component.

On the completion, the country will have 30 river links, 3,000 storage structures, a canal network stretching almost 15,000 km and can generate 34 GW of hydroelectric power, create some 87 million acres of irrigated land, and transfer 174 trillion litres of water a year.

Andhra Pradesh, Bihar Chhattisgarh, Gujarat, Jharkhand, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Odisha, Puducherry, Rajasthan, Telangana, Tamil Nadu, Uttar Pradesh and West Bengal are the major States to benefit from, the project.

INTER-BASIN TRANSFER LINKS					
HIMALAYAN COMPONENT			PENINSULAR COMPONENT		
Sr. No.	Proposed Links	States	Sr. No.	Proposed Links	States
1	Manas-Sankosh Teesta Ganga	Assam, West Bangal, Bihar	1	Mahanandi (Manibhadra)- Godawari (Dowlaiswaram)	Odisha and Andhra Pradesh
2	Kosi- Ghagra	Bihar and Uttar Pradesh	2	Godawari (In-champalli) Krishna (Pulichintala)	Telangana
3	Gandak-Ganga	Uttar Pradesh	3	Godawari (In-champalli) Krishna (Nagarjun Sagar)	Telangana

4	Ghagra-Yamuna	Uttar Pradesh	4	Godavari (Polavaram)- Krishna (Vijawada)	Andhra Pradesh
5	Sarda-Yamuna	Uttar Pradesh	5	Krishna (Almati) Pennar	Karnataka
6	Yamuna-Luni	Uttar Pradesh, Rajasthan	6	Krishna (Srisailem) Pennar	Karnataka
7	Luni-Sabarnati	Rajasthan Gujarat	7	Krishna (Nagarjun Sagar) Pennar (Somasila)	Andhra Pradesh and Tamil Nadu
8	Chunar - Sone Barrage	Uttar Pradesh	8	Pennar (Somasila) Cauvery (Grand Anaicut)	Tamil Nadu
9	Sone Dam-Southern Tributaries of Ganga	Uttar Pradesh	9	Cauvery (Kattalai) - Vaigai - Gundar	Tamil Nadu
10	Ganga-Damodar-Subemarekha	Bihar, Jharkhand, W.Bengal and Odisha	10	Ken - Betwa	Madhya Pradesh and Uttar Pradesh
11	Subemarekha- Mahanadi	Odisha	11	Parbati - Kalisindh - Chambal	Rajasthan
12	Kosi - Mechi	Bihar	12	Par-Tapi-Narmada	Gujarat and Maharashtra
13	Farrakha- Sunderbans	Bihar and W. Bengal	13	Damanganga - Pinjal	Gujarat, Maharashtra Daman and Diu and Dadra and Nagar Haveli
14	Jogighopa-Teetsa-Farrakha (Alternative to I)	Assam and W. Bengal	14	Bedthi - Varada	Karnataka and Maharashtra
			15	Natravati-Hemavati	Karnataka
			16	Pamba-Achankovil - Vaiparu	Tamil Nadu and Kerla

Importance of River linking in India

The importance of river linking can be understand through following points:

- India receives about 4,000 cubic kilometers of rain annually, or about 1 million gallons of fresh water per person every year. However, the rainfall pattern in India varies dramatically across distance and over calendar months. About 85% of rainfall is received during monsoons in the Himalayan catchments of the Ganges-Brahmaputra basin. The north-eastern region of the country receives heavy rain, in comparison with the northwestern, western and southern parts. The uncertainty and uneven distribution of monsoon is a serious problem for the country. The nation sees cycles of drought and flood.
- Population increase in India is another important need for

river inter-linking. India's population growth rate has been falling, but still we are adding about 18 to 20 million people every year. The resulting demand for food require adequate irrigation for higher yields of about 140 million hectares of land. Currently, a fraction of that land is irrigated where mainly relies on monsoon. So, river linking is claimed to be a possible means of assured and better irrigation for growing demand of food for a growing population.

- India needs infrastructure for logistics and movement of freight. Using connected rivers as navigation is a cleaner, low carbon footprint form of transport infrastructure, particularly for ores and food grains. Besides, it is lucrative for tourism and enhancement.
- India currently stores only 30 days of rainfall, while developed nations strategically store 900 days worth of water demand that makes about 3% only of developed countries like America in arid areas river basins and reservoirs. India's dam reservoirs store only 200 cubic meters per person. India also relies excessively on groundwater, which accounts for over 50 percent of irrigated area with 20 million tube wells installed. About 15 percent of India's food is being produced using rapidly depleting groundwater. The end of the era of massive expansion in groundwater use is going to demand greater reliance on surface water supply systems. Proponents of the project suggest India's water situation is already critical, and it needs sustainable development and management of surface water and groundwater usage.
- Lakra et al., in their 2011 study, claim large dams, interbasin transfers and water withdrawal from rivers is likely to have negative as well as positive impacts on freshwater aquatic ecosystem. As regards to the impact on fish and aquatic biodiversity, there could be positive as well as negative impacts.
- The population of India is expected to grow further at a decelerating pace and stabilize around 1.5 billion by 2050, compared to the 2011 census. This will increase demand for reliable sources of food and improved agriculture yields—both of which, claims India's National Council of Applied Economic Research, require significantly improve irrigation network than the current state.
- The river linking project is designed to ease water shortages in western and southern India, while mitigating the impact of recurrent floods in the eastern parts of the Ganga Basin. Says One or the most effective ways to increase the irrigation potential to improve food grain production, mitigate floods and droughts and reduce regional imbalances in the availability of water is the Inter Basin Water Transfer from surplus rivers to deficit areas. The Brahmaputra and the Ganga, particularly their northern tributaries; the Mahanadi, the Godavari, and the west-flowing rivers originating from the Western Ghats are found to be surplus in water resources.
- If storage reservoirs are built these (surplus) rivers and connect them to other parts of the country regional imbalances could be reduced significantly and lot of benefits by way of additional irrigation domestic and industrial water supply, hydropower generation navigational facilities would accrue.
- Under the National Perspective Plan (NPP) prepared by the Ministry of Water Resources, the NWDA has identified 14 links under the Himalayan Component and 16 links under the Peninsular Rivers Component.

Hindrances in Interlinking of Rivers

Interlinking of river project is contentious issue with many socio-economic, political and environmental zigzags. Some of these are the following:

- Environmentalists, hydrologists and economists around the country and world have expressed deep concerns at the irreversible damage that this sort of a mega project can do to the country's environment and India's water resources.
- A lot of states do not want to go ahead with these projects, for fear of losing surplus water and thus getting states to agree for this gigantic task is not an easy work.
- Lack of political consensus will make the project an utter failure. The states having the government of political parties other than the party in power at the centre will certainly oppose the project either on the ground of lack of financial resources or on the ground of losing the surplus water.
- The idea of transferring the water from rivers which receive flood water to rivers that are drought – prone goes against nature's principles and can alter the hydrology and ecological conditions of rivers to an irrecoverable extent.
- The interlinking of rivers project is expected to displace about 5.5 million people, mostly the tribals and the farmers, estimates the World Wildlife Fund.
- The implementation cost of the project is so high that it appears rather difficult to arrange such a big amount in an easy way.

Discussion

Despite serious objections from the environmentalists, geologists, engineers and experts, the issue of equitable distribution of surface water throughout the country is of paramount importance. In that way the interlinking of rivers may provide a long lasting solution to floods and droughts in various parts of the country. The opponents should consider the success of Indira Gandhi canal in Rajasthan and Sardar Sarover Yojana in water scarce regions of Gujarat, while criticizing the whole idea of inter linking of rivers. There might be certain issues of ecological significance that must be given due consideration at the time of implementation of individual projects. But any how it will certainly benefit in India economically and socially.

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