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Innovation The Research Concept

Interlinking of Rivers: Dreams to Reality

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Abstract

The irregularly distributed precipitation patterns & increasing population propulsion have greatly influenced the water resource planning and management in India. Specifically these attributes have led to the development of several water transfer project such as INTER-LINKING RIVER Project. This plan was actively taken up under the prime minister Atal Bihari Vajpayee in 2002 when the Supreme Court ordered the Central Government to initiate work on inter linking the major rivers of country.

The core objective of this paper is to analysis major justifications & challenges of Interlinking River Project. Will it be a solution for water crisis or a decision in doubt?

Regional water transfer involves diverting the surplus water through a network of canals, tunnels & water lifts to relatively dry zones. This Project has been promoted as a solution to "the paradox of Flood and drought" in India and will also provide water for irrigation & power generation. However we necessarily need to look at every option by which the water problem can be solved in an economically efficient and ecologically sustainable manner. The only issue is to what extent & what cost?

This paper looks into the history of adoption of Interlinking River Project, its presents scenario along with future implications & different case studies of global & national water project. In last a set of potential alternatives have been recommended that meets the Inter river basins Project while minimizing ethical, Social and environmental impacts

Keywords: Interlinking of Rivers, Water Crisis, Hydro Electricity Generation.

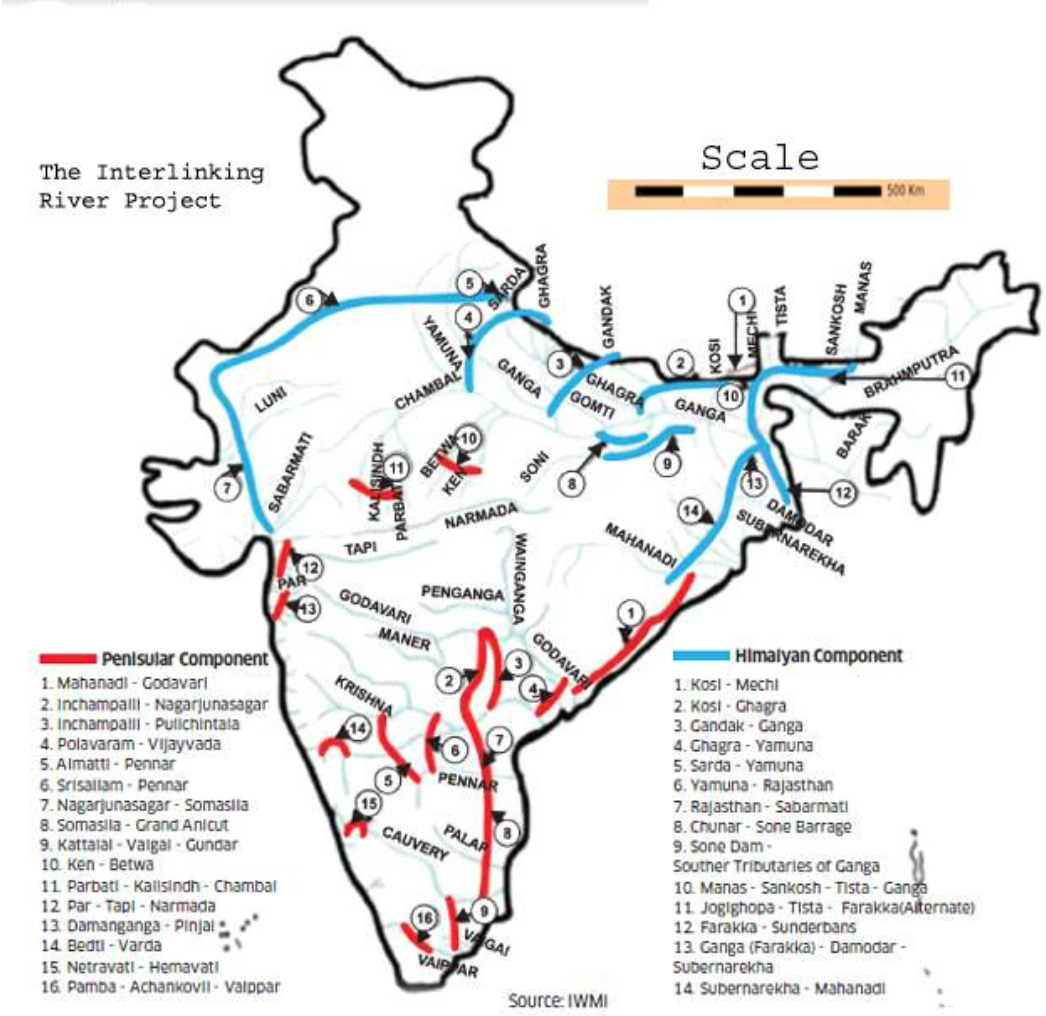
Introduction

Water is undoubtedly the most important natural resource on the planet, as it sustains all aspects of life in a way that no other resource can. Coping with annual floods and droughts has been as paramount concerns for India over the millennia. Such concern will increase with a growing population and changing climate. Designed to address these concerns the **National River linking Project** envisages transferring water from potentially water surplus river basin to water scarce river basins. Inter linking of Rivers is Nothing but Joining the rivers of the country by network of canals and reservoirs.

It got a push in 1982 when National water Development Authority (NWDA) was set up to carry out surveys of the links and prepare feasibility studies further in 2012, Supreme Court, gave its go- ahead to the interlinking of the rivers and asked the Govt to ensure that the project is implemented expeditiously.

The National inter linking river Project formerly known as national Perspective Plan (NPP) comprises (3) components -

1. Himalyan Component : 14 Link
2. Peninsular Component : 16 Link
3. Inter State Component : 37 Link
   (Added in 2005)



Benefits of the Interlinking River Project

Being able to successfully Transfer water through the interlinking of revivers will raise the ultimate irrigation Potential From - 140 million hectare to 175 Million hectare and generation of 34000 megawatt of power apart from the incidental benefits of -

1. Flood control
2. Navigation Facilitation
3. Water Supply
4. Reducing the regional imbalance in the availability of water
5. Drought Mitigation
6. Fisheries etc.

This water transfer project is very helpful in proper channelizing the irrigation facility that will intensify out rained production. As we know magnitude of Rainfall in India varies from 300 cm in worth India to 15 cm in arid semi arid parts of Rajasthan.

Details of Interlinking River Project

The National water Development Authority has proposed the planning of nearly 1835 km long sarda- Yamuna - Rajasthan Sabarmati link canal to provide surplus water of - Himalyan rivers to (Gujrat and) Rajasthan.

The Sarda- Sabarmati river linking project was revived during Prime minister narenda Modi's Nepal visit in August 2014, 12 Years after it was envisaged by previous NDA Govt. as part of its rives linking Project.

Another link of - Rajasthan river basin is parbati - Kalisindh - Chambal of Peninsular Component. This is identified as priority links for building consensus between Rajasthan and Madhya Pradesh for taking up their detailed project Report. Parabati, Kalisindh, Mej, Chakan tributaries of Chambal river basin have surplus water which after meeting the Chambal, yamuna and Ganga ultimately drain to Bay of Bengal. This wasted/surplus water available in chambal basin can be interring basin tranferred to the deficit areas, placed in Banas, Banganga, Gambhir by constructing a link Canal.

Apart from these inter basin linkages; the state govt. has submitted intra state link proposal i.e Mahi- Luni Link, Wakal- Sabarmati –Sei- West Banas-Kameri Link.

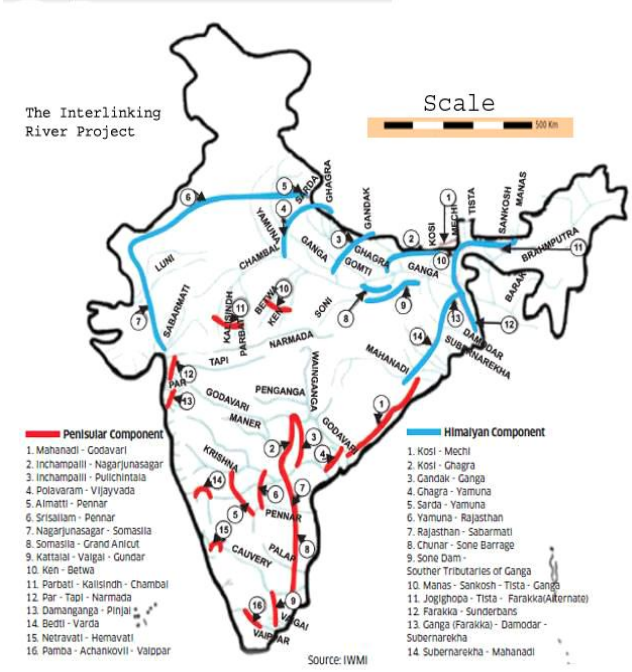
Challenges in Interlinking of Rivers

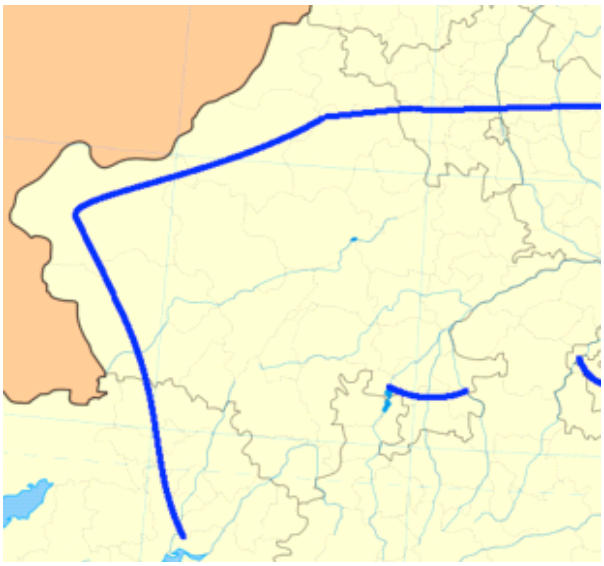
But this project is not left untouched with ecological concerns where due to linking the river they may shift their courses and it also possess a biological threat to aquatic eco system rivers interlinking at national level will cost the govt about **10**

trillion which is very huge investment and construction of 15000 kms of new canal would require land on a large scale which in turn lead to deforestation of affected people after constructing dams and embarkment may arise.

In last this project can be worked out only with the cooperation of state as the article 246 and 7th schedule give exclusive jurisdiction for the states over its territorial resources.

Study Area





The desert state of Rajasthan is in the grip of water crisis with 19 out of the 33 districts being famine affected. Nearly 17000 out of total 44672 Villages are facing water crisis.

The largest state of India by area, has Jaipur as capital and a total of 33 districts. The State of Rajasthan is located in the north western part of India. It's geographical location is between $23^0 3'$ to $30^0 12'$ north latitude and $69^0 30'$ to $78^0 17'$ east longitude with the tropic of cancer passing through the southernmost tip of the state.

It is the largest state of India from the view point of area. It's total area is 3,42,239 sq. kms which is equivalent to about 10.41 area of India.

Review of Literature

The researcher gets an idea and insight of the study area by review of literature. On the forefront of research in river linkage area some research papers books, manuals, reports have been taken.

Gupta 2001, MOWR mentioned One-sixth of India is declared as drought prone while at the same time, one-eighth of India's territory is susceptible to flooding. As a result, while 270 million people struggle for their livelihood in a parched condition, about 60 million people are liable to annual flooding

National Water Policy 2002 Article 3.2 states that --- "Non---conventional methods for utilization of water suchas through inter---basin transfers, artificial recharge of ground water and desalination of brackish or sea water as well as traditional water conservation practices like rainwater harvesting, including roof---top rainwater harvesting, need to be practiced tofurther increase the utilizable water resources. (MOWR 2002).

IWMI-CPWF project (2009) provides the public and policy planners with a balanced analysis of the benefits and costs of different components of the National River Linking Project (NRLP).

Dipak Naik (Aug, 2014) mentioned that development of navigation in Yamuna – Rajasthan Sabarmati link canal – "Y-R-S link canal pass through three state viz Haryana, Rajasthan and Gujarat and it is well connected with national highways and rail routes. Its main objectives are to grow the water resources development in the real sense that is far beyond merely calculating and redirecting surface water runoff by proving the most fuel efficient ad eco friendly transport system".

Objectives of the Study

The general objective of the research work is to study the issues, challenges and potentiality of water transfer through interlinking of rivers in Rajasthan where upon it would be utilized to develop proper channel of irrigation potable water for rural and urban areas and to generate significant employment opportunities. However following are the more precise objectives

1. To take a brief review of physical, geomorphic and social profile of Rajasthan so that river interlinking can be evaluated in adequate manner of cost efficiency and sustainability.
2. To look into surface water resource available in Rajasthan.
3. To examine the water project in respect of water shortage water loss and utility.
4. Identification of probable natural changes in the course of interlinking in the state.
5. To study about the water ways connectivity with the hinterlands in the state this will support in overall socio economic development.
6. To check the water availability for diversifying agriculture and crop production.

7. The draw the conclusion and suggest some remedial measures to reduce hydrological problems in Rajasthan.

Hypothesis

1. Transfer of water from Chambal Basin (Surplus) to Parbati Basin (Deficit) region will bring balanced regional development in Rajasthan.
2. Proper planned water resource management will boost the agriculture production and food security in Rajasthan.
3. Budgetary outlay of Rajasthan to counter seasonal menaces will be minimized that can be spent over the development projects.

Data Base and Research Methodology

The proposed research work is based on both primary and secondary data. To assess the holistic water budget of the region total precipitation, evaporation and ground water percolation is analyzed. To collect primary data based on Research design questionnaire detailed interview and field observation methods are applied.

Secondary sources of data have been used for detail analysis of physical and environmental set up of study region in Rajasthan. There are many secondary sources of data collection viz village directory, district gazetteer, land record office, state irrigation and metropolitan department ground water survey department, census, various journals and activities will be brought under use for the sake comparative study.

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