INDIA NEEDS INTERBASIN WATER TRANSFER

Dr. Navanath V. Khadake

[1]Ph.D. Civil, F.I.E., F.I.V., M.I.C.A., M.B.A.

ABSTRACT:- India, An ancient rural & agricultural society that is rapidly modernizing, receives a fair share of its yearly precipitation in only a few days of the monsoon, with high-annual variability. In most of its regions, therefore, India needs to store a large proportion of its annual runoff in reservoirs for use in non-monsoon months. In spite of this strategy being in operation for the last 65 years, India's per capita reservoir storage is relatively small, and water-use efficiency also remains low. Though overall performance of the water sector in terms of matching of supply and demand has improved, the country remains challenged by deficiencies in law, regulation policies etc. This paper represents how India needs to protect a region or country from floods and droughts; it is in inevitable to have a remedy/ solution to transfer the water from surplus basin to deficit basins through Inter- Basin Water Transfer (IBWT).

1.1 INTRODUCTION

Water as liquid gold since it is scared and precious natural resource for health and wealth of the humanity. It is one and only one the lifer sustaining elements of nature and second to "Air" for survival of mankind & live stock on the earth.

Earth is the only planet at resent contains liquid water. The spatial and temporal uniformity in rainfall may possibly meet the Water requirements for various sectors such as Agriculture, Power, Industries, Domestic requirements etc, for overall development of a region or country.

If non uniformity is observed in results in the flowing situations in certain areas & drought conditions in some areas which have adverse impact on the socio economic growth of a developing country.

The government of India is spending enormous amount every year to overcome their natural unforeseen calamities.

To protect a region or country from flood & droughts, Inter Basin Water Transfer (IBWT) is the only solution.

1.2 Literature Review

Interbasin water transfers and diversions are among the most controversial water-resources-planning topics worldwide.

They provide supply alternatives to receiving basins and potential challenges to the donor basins within a context of changing global water problems. This study presents a bibliometric analysis of global interbasin water transfer research between 1900 and 2014. The bibliometric analysis analyzes general characteristics of publications, the national, institutional, and personal research outputs, participating regions and their research activity, and global trends and hot issues in the field of water transfers. Our results show that the rate of annual publication of interbasin water transfer research grew steadily after 1972 and is rising quickly at present. The United States produced the largest number of single-country publications (37.4 %) and international collaborative publications (46.6 %). However, China had a high growth rate of publications after 2001, and surpassed the United States and ranked 1st in 2012, with the Chinese Academy of Sciences playing a leading role in the emergence of China's research output. The global geographic distribution of publication activity shows that an increasing number of countries, agencies, and scholars have become part of the research enterprise. There is ample opportunity for cooperation between them to be strengthened in the future. The results of keyword evolution generally indicate that the research on interbasin water transfers expanded from 1991 through 2014. The hydrological and eco-environmental impacts of the South-to-North Water Transfer/Diversion Project in China and the corresponding long-term monitoring and conservation strategy have become one of the top topics of attention.

1.3 Water Resources Potential of India India is blessed with many rivers. Following are the major rivers of India.

Indus System

This comprises river Indus, its tributaries Jhelum, Chinab. Ravi, Beas and Sutlej. These originate in north and generally flow in west or south-west direction to eventually flow into Arabian Sea through Pakistan.

Ganga-Brahmaputra-Meghana System

The main river ganga and its tributaries Yamuna, Gandhak, Kosi and many others. Similarly Main River Brahmaputra, Meghana and their tributaries.

Eventually all these flow into Bay of Bengal.

Rivers of Rajastan & Gujrat

Mahi, Sabarmati, Luni etc then flow to Arabian Sea.

East flowing Peninsular Rivers

Damodar, Mahanadi, Brahmani, Krishna, Godavari, Kaveri. All these flow in Bay of Bengal.

West flowing Peninsular Rivers

Narmada and Tapi, these originates in Central India and flow in western direction to meet Arabian Sea

West Coast Rivers

Maharashtra and Karnataka with entire Kerala, this drain only 3% of the India's land area but carry 11% of India's Water Resources.

1.4 National Water Policy of India

Nation Water Policy is formulated by the ministry of water resources of Govt. of India. To govern the planning and development of water resources and their optimum utilization. The first National Water Policy was adopted in Sept. 1987. It was reviewed and updated in 2002 & later in 2012.

Ministry of Water Resources has evolved the Draft National Water Policy (2012) to meet the present challenges in the water sector. The salient features of the Draft National Water Policy (2012) are at Annexure I.

State Governments have been actively involved while drafting the Policy. The National Water Board comprising of Chief Secretaries of all the States and Secretaries of related Union Ministries considered the draft National Water Policy (2012) at its Meeting held on 7th June, 2012. Thereafter, the National Water Resources Council with Chief Ministers of all States as members is to consider and adopt the draft National Water Policy (2012) arrived at as per deliberations in the National Water Board.

There is no proposal at present for a separate Interlinking River Policy. However, the draft National Water Policy (2012) stipulates that inter basin transfers of water should be considered on the basis of merits of each case after evaluating the environmental, economic and social impacts of such transfers.

The comparative details of National Water Policies of 1987, 2002 and draft National Water Policy (2012), sector-wise, are at Annexure II.

The Supreme Court in its order dated 27.02.2012 has directed the Union of India and particularly the Ministry of Water Resources to forth with constitute a Committee to be called 'Special Committee for Inter-Linking of Rivers'. Accordingly, the Government is constituting the High Power Committee for interlinking of rivers as per the direction of the Supreme Court. The nomination from the States involved in the Inter-linking of rivers have been called for.

The draft National Water Policy (2012) is to be considered by the National Water Resources Council (NWRC) for adoption. Thereafter, the National Water Policy would be recommended to all States for implementation.

India accounts for 15% of the world population and about 4% of the world's water resources. One of the solutions to solve the country's water woes is to link the rivers.

India has been successfully in creating live water storage capacity about 253Billion Cubic Meter so far. The major provisions under the policy are:

i. Resource Planning and Recycling for providing maximum availability.

ii. To give Importance to the impact of projects on human settlements and environments.

iii. Guidelines for safety to the storage dams and other water structures.

iv. Regulate exploitation of ground water.

v. Setting priorities, Drinking Water, Hydro Power, Navigation, Industrial and other usages.

vi. The water rates for surface water and ground water are to be rationalized.

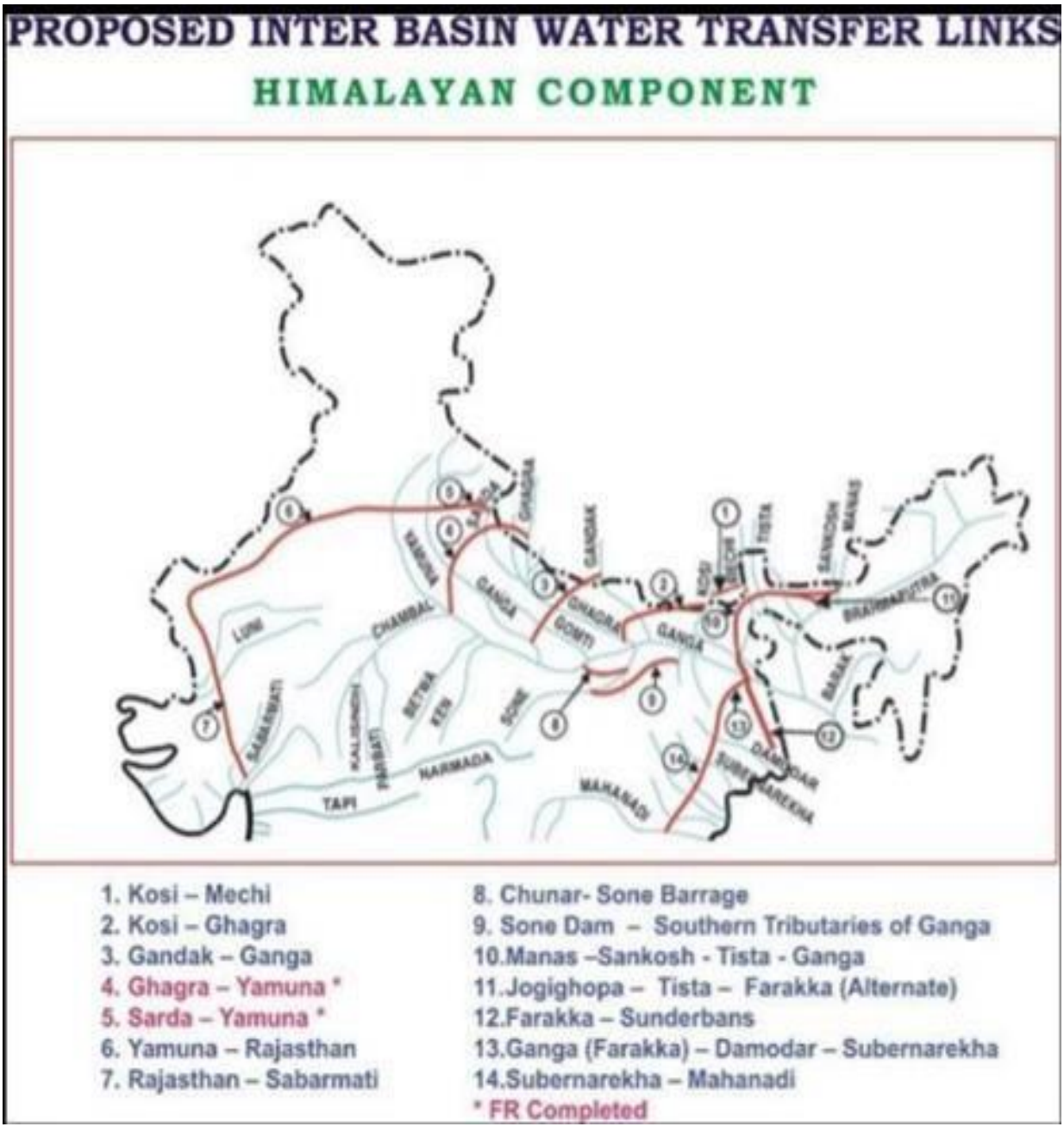
vii. The policy also deals with participation of farmers and voluntary agencies.

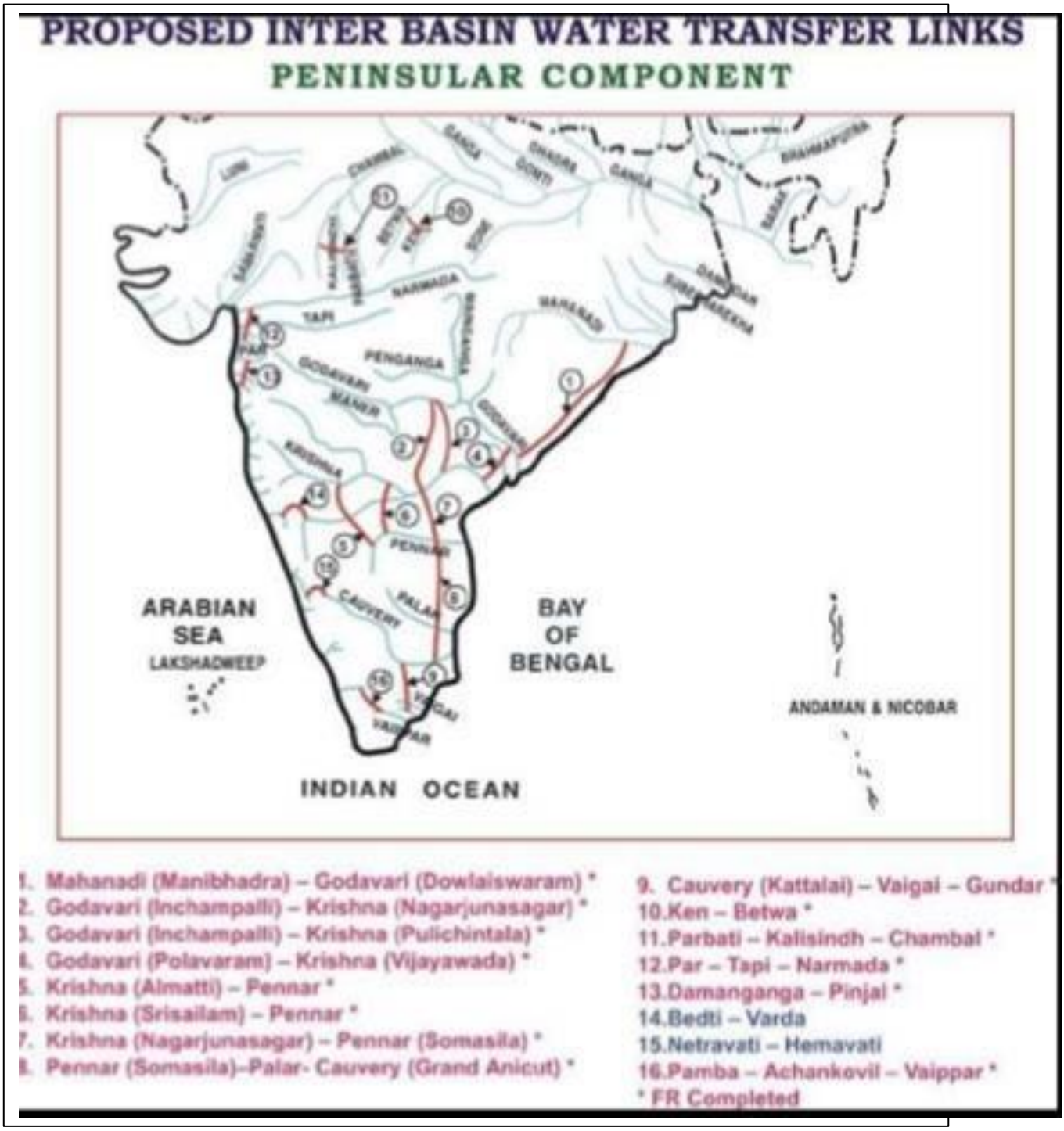
1.5 Proposed Water Transfer links in India

In 1980, the ministry of Irrigation and Central Water Commission formulated the National Perspective Plan (NPP) for Water Resources Development. Accordingly Inter-Basin Water Transfer comprising of two components;

Himalayan Component – 14 links

Peninsular Component- 16 links





Transfer of water from river basin with higher rainfall to the drier basin with objective of irrigation started to encourage policy makers to think on IWTS. In this line; Rao (1975) proposed three links of canals between Brahmaputra and Ganga, between Ganga and Cauvery, and between Narmada and parts of Rajasthan with the purpose of transferring water to the drier areas in southern and western India. Such proposal was not favored by CWC of India on various grounds including cost. The main idea of transferring water from the Ganga-Bramhaputra river system to the less water endowed areas in southern and western parts of India by linking canals, nevertheless, remained alive in the minds of official in India's Ministry of water resources and CWC. With the formation of National Water Development Agency (NWDA) in 1982, it got in circulation again.

The NWDA was, subsequently entrusted with the task of developing plans for interbrain transfer of water to examine the possible storage site and interconnecting link in details. After detail studies, he proposed 30 links in the Himalayan and peninsular components which are now important part of the recent proposal for ILR in the country (TFILR 2003).

Secured supply of the domestic water needs is a basic human right and should receive top priority in policy. For this, water may transfer across river basin at all costs. In term of quantity, the domestic requirements are small and transferring such quantities across basin will not be costly.

Nigam et al. (1997) had undertaken water availability studies in few water scares areas of India and their study made it clear that if the precipitation available within the concern water shades or sub basins is harvested and conserved properly, supply of domestic water needs would not pose serious problem in most of the parts of the country. For promoting domestic water security in dries area of India, local level water harvesting and conservation has been proven technology. It is a cheap and socially acceptable technological option even today when compared with large storage a long distance diversion facilities, which often carry high financial, social and ecological costs (WCD, 2000).This article stressed that in hydrological science there is no differentiation of river basins as surplus or deficit. Through an analysis of whatever is available in the open, this article questions whether

a) The ILR can control floods in high rainfall areas and provide water security in the water scarce area of India.

b) India's food self-sufficiency depends on irrigation from the proposed ILR and c) a comprehensive knowledge based for the Himalayan component available.

1.6 CONCLUDING REMARKS:

From the above literature it can be concluded

- Additional Irrigation potential of approximately 35 million hectors will be achieved.
- Hydro-Power generation of 34000Mega watt is estimated.
    - Other benefits forecasted…..
        - Assured Domestic and Industrial water supply
        - Mitigation of Droughts
        - Flood management
        - Navigational Facilities
        - Employment Generation
        - Fisheries
        - Salinity Control
        - Pollution Control
        - Infrastructural Development
        - Socio-Economic Development

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