

**RIVERS – LIFELINES FOR ECONOMIC GROWTH**

**\*Mr. Haribhau Sama Kharat**

*\*Assistant Professor, Department of Economics, Changu Kana Thakur Arts, Commerce and Science College, New Panvel, Raigad, Maharashtra.*

**Abstract:**

*When Arthur Hamilton wrote the famous song “Cry me a River” in 1953 he used it as a metaphor for grief. Today that grief may well pervade the state of our rivers in India. Rivers have had both a cultural, economic and spiritual significance in the life of Man since time immemorial. For example the famous Dr David Livingstone a medical missionary whom we learnt about in school, went on a long adventure of the Rift Valley which extends all along from Egypt to East Africa, in search of the origin of the Nile. When Henry Morton Stanley met Dr Livingstone in the town of Ujiji on the shores of Lake Tanganyika he is known to have uttered those famous words “Dr Livingstone, I presume”. Many old civilisations flourished next to rivers and that is true of India as well. The first Harappan civilisations were located next to the River Indus. The Indus Valley Civilisation located itself mainly in the north-western regions of South Asia extending from what today is northeast Afghanistan to Pakistan and northwest India. Along with ancient Egypt and Mesopotamia it was one of three early civilisations of the Old World and of the three, perhaps the most widespread. In this paper I will try to prove the importance of Rivers in Indian Economy and its growth.*

**Key Words:** *River, Economic growth, Economic development, water supply etc.*

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**Introduction:**

India is a country blessed with a number of rivers, twelve of which are classified as major rivers whose combined catchment area is 252.8 million hectare. Of the major rivers, the Ganga-Brahmaputra-Meghana system is the biggest with catchment area of about 110 million hectare which is more than 43% of the combined catchment area of all the major rivers in the country. The other major rivers with catchment area more than 10 million hectare are Indus (32.1 million hectare), Godavari (31.3 million hectare), Krishna (25.9 million hectare) and Mahanadi (14.2 million hectare). The catchment area of medium rivers is about 25 million hectare and Subernarekha with 1.9 million hectare. Rivers are major national assets as they provide irrigation, potable water, cheap transportation, electricity, as well as provide livelihoods for a large chunk of the population. From ancient times, major cities have always grown around large rivers across the globe. Examples are London built around Thames River, Kolkata around Hooghly River, New Delhi around Yamuna River, and Ahmedabad around Sabarmati River etc. Many cities are located near the Danube River, one of the largest rivers in Europe. River water is extremely important for countries that are dependent on agriculture. Rivers are extremely important to fulfil various human needs. They are the most basic natural resource. Rivers offer various economic benefits like generating hydroelectric power, they are used for internal navigation, they provide fish for human consumption, rivers are used for navigation purposes, transporting goods, and irrigation

purposes. Lakes are an important destination for tourism. It gives opportunities for swimming, water sports, and boating which attracts tourists. Dal Lake in Kashmir attracts many tourists, for its beautiful scenery, shikharas and houseboats.

**Objectives of the Study:**

1. To Study the Problems of Rivers in India
2. To Study the role of Rivers in Economic growth

**Research Methodology:**

The Research approach used in this project is a ‘Secondary Data Analysis’. The information existing in the following analysis is based on internet, newspapers, magazines and books etc.

**The Study:**

With industrialization, increase in population and aggressive cropping patterns, our rivers have been subject to much abuse. Whether it is the case of the river Yamuna or the river Mithi turning into virtual drains carrying untreated sewage or industrial pollutants, or increasing apprehension regarding large hydroelectric projects and dams in Uttarakhand or Kerala, or unseasonal floods in Chennai or Patna, it is a question about taking care of our rivers the same way as they take care of us. It is in this light that measures such as the Inter-Linking of Rivers programme, National Mission for Clean Ganga, National River Conservation Plan, and National Water Mission, Namami Gange project, development of national waterways along with recent legislations such as the Inland Vessels Act or the Dam Safety Bill need to be seen.

**INTER-LINKING OF RIVERS (ILR):**

This ambitious project envisages transferring water from water-surplus basins to water-deficit basins. Under the National Perspective Plan (NPP), the National Water Development Agency (NWDA) has identified 30 links to connect 16 rivers under the Peninsular Component and 14 under the Himalayan Component to form a gigantic South Asian Water Grid. While the implementation of the ILR projects depends on the consensus among the concerned states, implementing the NPP would ensure 35 million hectares of irrigated land (25 million ha from surface waters and 10 million ha by increased use of ground waters), raising the ultimate irrigation potential from 140 million ha to 175 million ha and generation of 34000 MW of hydro power, apart from the incidental benefits of flood control, navigation, water supply, fisheries, salinity and pollution control.

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The Himalayan Component envisages construction of storage reservoirs on the main Ganga and Brahmaputra rivers and their principal tributaries in India. Links will transfer surplus flows of the Kosi, Gandak and Ghagra to the west. In addition, the Brahmaputra-Ganga Link will augment dry-weather flow of the Ganga. Surplus flows that will become available on account of inter-linking of the Ganga and the Yamuna are proposed to be transferred to the drought prone areas of Haryana, Rajasthan and Gujarat.

**The proposed 14 links in the Himalayan Component are:**

1. Kosi-Mechi, 2. Kosi-Ghagra, 3. Gandak-Ganga, 4. Ghagra-Yamuna, 5. Sarda-Yamuna, 6. Yamuna-Rajasthan, 7.

2. Rajasthan-Sabarmati, 8. Chunar-Sone Barrage, 9. Sone Dam-South Tributaries of Ganga, 10. Brahmaputra-Ganga (MSTG), 11. Brahmaputra-Ganga (JTF) (ALT), 12. Farakka-Sunderbans, 13. Ganga- Damodar-Subernarekha, 14. Subernarekha-Mahanadi.

The central component of peninsular rivers development is the Southern Water Grid which is envisaged to link Mahanadi, Godavari, Krishna, Pennar, and Cauvery rivers. The Peninsular Component comprises diversion of surplus flows of Mahanadi and Godavari to Krishna, Pennar, Cauvery and Vaigai, diversion of west flowing rivers of Kerala and Karnataka to the east, inter-linking small rivers flowing along the west coast, north of Mumbai and south of Tapi and inter-linking the southern tributaries of Yamuna.

**The proposed 16 links in Peninsular Component are:**

1. Mahanadi(Manibhadra)-Godavari, 2. Godavari (Inchampalli)-Krishna (Nagarjunsagar), 3. Godavari (Inchampalli Low Dam)-Krishna (Nagarjunsagar Tail Pond), 4. Godavari (Polavaram)-Krishna (Vijaywada), 5. Krishna (Almatti)-Pennar 6. Krishna (Srisailam) – Pennar, 7. Krishna (Nagarjunsagar) – Pennar (Somasila), 8. Pennar (Somasila)-Cauvery (Grand Anicut), 9. Cauvery (Kattalai) – Vaigai – Gundar, 10. Ken-Betwa, 11. Parbati-Kalisindh-Chambal, 12. Par-Tapi-Narmada, 13. Damanganga-Pinjal, 14. Bedti-Varda, 15. Netravati-Hemavati, 16. Pamba-Achankovil-Vaippar

Under the NPP, it is proposed to link Ganga to Cauvery river through a series of links viz., Ganga (Farakka) Damodar-Subernarekha, Subernarekha-Mahanadi, Mahanadi-Godavari-Krishna-Pennar-Cauvery. The proposal envisages diversion of surplus waters to be delivered by the preceding Manas-Sankosh-Teesta- Ganga (MSTG) link upstream of Farakka barrage through Ganga-Damodar- Subernarekha link and further south. NWDA has completed the draft feasibility reports of Ganga (Farakka)-Damodar-Subernarekha, Subernarekha-Mahanadi links and circulated among party States in July 2020. The feasibility reports of the links viz., Mahanadi-Godavari, Godavari-Krishna, Krishna-Pennar, Pennar-Palar- Cauvery link projects have also been completed and circulated to party states.

**NATIONAL RIVER CONSERVATION PLAN (NRCP):**

The Ministry of Jal Shakti has been supplementing efforts of the States/UTs by providing financial and technical assistance for abatement of pollution in identified stretches of rivers in the country through the Central Sector Scheme of Namami Gange for rivers in Ganga basin and Centrally Sponsored Scheme of National River Conservation Plan (NRCP) for other rivers. NRCP has so far covered polluted stretches on 34 rivers in 77 towns spread over 16 states, with sanctioned cost of projects as Rs 5961.75 crore, and sewage treatment capacity of 2677.03 MLD (million litres per day) created.

**Table 1: Details of funds (in Rs. crore) allocated and utilized / released for cleaning/rejuvenation of rivers:**

Financial Year	National River Conservation Plan		Namami Gange Programme	
	Budget Allocated	Funds Released	Budget Allocated	Funds Released
2018-19	150.50	150.32	2370.00	2626.54
2018-19	196.00	136.66	1553.44	2673.09
2020-21	100.00	99.87	1300.00	1339.97

Source: <http://164.100.24.220/loksabhaquestions/annex/176/AU2954.pdf>

#### **NAMAMI GANGE PROGRAMME:**

Under Namami Gange programme for conservation and pollution abatement of the River Ganga and its tributaries, a total of 353 projects have been sanctioned at a cost of Rs 30,458 crore, out of which 178 projects have been completed and made operational. A total of 157 sewerage infrastructure projects from among these have been taken up with a sanctioned cost of Rs 24,249 crore for creation and rehabilitation of 4952 MLD of STP capacity and laying of around 5212 KM sewerage network, out of which, 74 projects have been completed resulting in creation and rehabilitation of 1092 MLD of STP capacity and laying of 3752 KM sewerage network. CPCB has identified priority drains responsible for carrying sewage, industrial wastes and agriculture run-off into river Ganga. These drains are being monitored on half yearly-basis. Out of a total of 151 priority drains, flows from 145 drains will be covered through their interception and diversion or sewer network for treatment through 113 sewerage projects taken on main stem of Ganga under Namami Gange Programme for creation of 2171 MLD capacity.

The sewage treatment capacity in main stem towns has increased from 1305 MLD (2014) to 2372 MLD (November 2021). Altogether, 42 projects have been taken up in towns located along rivers Yamuna, Kali, Ramganga, Saryu, Gomti, Damodar, Banka, Rispana, Kharkai, Kosi and Burhi Gandak. Development of ghats and crematoria works in select cities has been taken up, of which 173 ghats and 45 crematoria have been completed. During the last three years, 39 projects under Namami Gange programme have been completed. Further, 572 MLD of installed sewage treatment capacity was added in the towns along river Ganga main stem.

#### **Conclusion:**

As per the National Register of Large Dams (2019) compiled and maintained by CWC, there are 227 large dams in India which are older than 100 years. Under the World Bank assisted Dam Rehabilitation and Improvement Project (DRIP), Phase-I, which was implemented during April 2012 to March 2021, new technologies and innovations were utilized for rehabilitation and repairs at 223 dams located in Jharkhand, Karnataka, Kerala, Madhya Pradesh, Odisha, Tamil Nadu and Uttarakhand. The original financial outlay was Rs 3466 crore, with final completion cost of Rs 2567 crore. Apart from structural measures to improve hydrologic safety, hydro-mechanical measures, seepage reduction, structural stability etc., non-structural measures such as dam break analyses, emergency action plans, O&M manuals, were put in place for the selected dams.

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