



MP-Rajasthan MoU on PKC-ERCP Link Project

For Prelims: Parbati-Kalisindh-Chambal (PKC) Linking Project, Eastern Rajasthan Canal Project (ERCP), [National Perspective Plan for Interlinking Rivers](#), [Chambal basin](#), [Vindhya mountains](#), [Yamuna River](#), National Interlinking of Rivers Authority (NIRA)

For Mains: Interlinking of Rivers in India and associated issues, Issues Relating to Development, Water Management

[Source: TOI](#)

Why in News?

Recently, a **Memorandum of Understanding (MoU)** was signed between **Rajasthan** and **Madhya Pradesh** to implement the **Modified Parbati-Kalisindh-Chambal Eastern Rajasthan Canal Project (PKC-ERCP)** river link project.

- This project is being implemented as part of the Government of India's [National Perspective Plan \(NPP\)](#) for the interlinking of rivers (ILR).

What is the Modified PKC-ERCP?

- **Parbati-Kalisindh-Chambal (PKC):** It is a **river-linking initiative** designed to **divert surplus water** from the **Parbati, Newaj, and Kalisindh** rivers to the **Chambal River**.
 - It is part of the 30 links in the **National Perspective Plan (1980)**, formulated by the **Central Water Commission** and the **Union Ministry of Irrigation**.
 - It aims to **provide water for domestic use, optimise water** resources within the Chambal basin, and benefit regions in **Madhya Pradesh** and **Rajasthan**.
 - **Rivers Involved in the Project:**
 - **Chambal River:**
 - Origin: Singar Chouri Peak, Vindhya Mountains, Indore, Madhya Pradesh.
 - Major Tributaries: Banas, Kali Sindh, Sipra, Parbati.
 - **Parvati River:**
 - Origin: Vindhya Range, Sehore District, Madhya Pradesh.
 - Significant Tributaries: None.
 - **Kali Sindh River:**
 - Origin: Bagli, Dewas District, Madhya Pradesh.
 - Major Tributaries: Parwan, Newaj, Ahu.
- **Eastern Rajasthan Canal Project (ERCP):** The ERCP was proposed by Rajasthan in 2019 to optimise water resources.
 - It aims to **facilitate intra-basin water transfer within the [Chambal basin](#)**.
 - It aims to harness **surplus monsoon water** from the **Kalisindh, Parvati, Mej, and Chakan** sub-basins and divert it to the water-deficient sub-basins of **Banas, Gambhiri, Banganga, and Parbati**.
 - This initiative will supply **drinking and industrial water** to **13 districts in eastern**

Rajasthan, including Alwar, Bharatpur, Sawai Madhopur, and Jaipur.

- The ERCP aims to establish a **network of water channels** that will span **23.67% of Rajasthan's area** and **benefit 41.13% of the state's population**.
- **Benefits:**
 - The ERCP is expected to create an **additional command area of 2 lakh hectares** and provide **irrigation to 4.31 lakh hectares**.
 - It aims to **improve groundwater levels** in rural Rajasthan, enhancing socio-economic conditions.
 - The project also supports the **Delhi-Mumbai Industrial Corridor (DMIC)** by ensuring sustainable water sources to boost industrial growth and attract investment.
- **Modified PKC-ERCP:**
 - The **Modified Parbati-Kalisindh-Chambal-ERCP (PKC-ERCP) Link Project** is an inter-state project that **merges the PKC link** with the **Eastern Rajasthan Canal Project (ERCP)**.
 - This integration addresses issues like water sharing, cost-benefit distribution, and water exchange between the concerned states.
- **Need of Such Project:**
 - Rajasthan, the **largest state in India** with a **geographical area of 342.52 lakh hectares (10.4% of the country's total)**, has **only 1.16% of the nation's surface water** and **1.72% of its groundwater resources**, as reported by the Water Resources Department of Rajasthan.

Chambal River

- **About:** It originates at Janapav, south of Mhowtown, near Manpur Indore, on the south slope of the **Vindhya Range** in Madhya Pradesh. From there, it flows in the North direction in Madhya Pradesh for a length of about 346 km and then follows a north-easterly direction for a length of 225 km through Rajasthan.
 - It enters UP and flows for about 32 km before joining the **Yamuna River** in Etawah District.
 - It is a rainfed river and its basin is bounded by the Vindhyan mountain ranges and the Aravallis. The Chambal and its tributaries drain the Malwa region of northwestern Madhya Pradesh.
 - The Hadoti plateau in Rajasthan occurs in the upper catchment of the Chambal River to the southeast of the Mewar Plains.
- **Tributaries:** Banas, Kali Sindh, Sipra, Parbati, etc.
- **Main Power Projects/ Dam:** Gandhi Sagar Dam, Rana Pratap Sagar Dam, Jawahar Sagar Dam, and Kota Barrage.
- The **National Chambal Sanctuary** is located along the Chambal river on the tri-junction of Rajasthan, Madhya Pradesh, and Uttar Pradesh. It is known for **the critically endangered gharial, the red-crowned roof turtle**, and the endangered Ganges river dolphin.



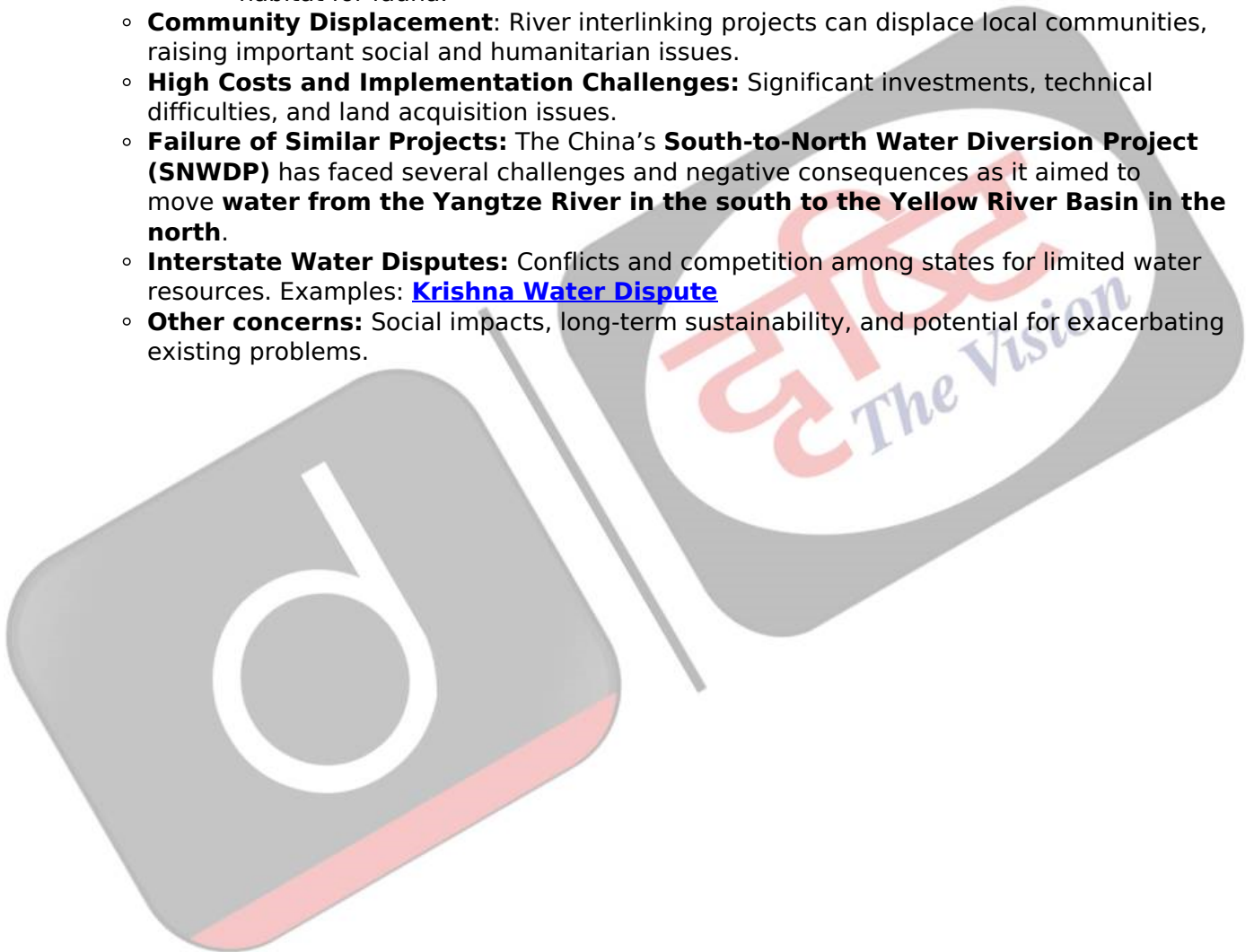
Yamuna

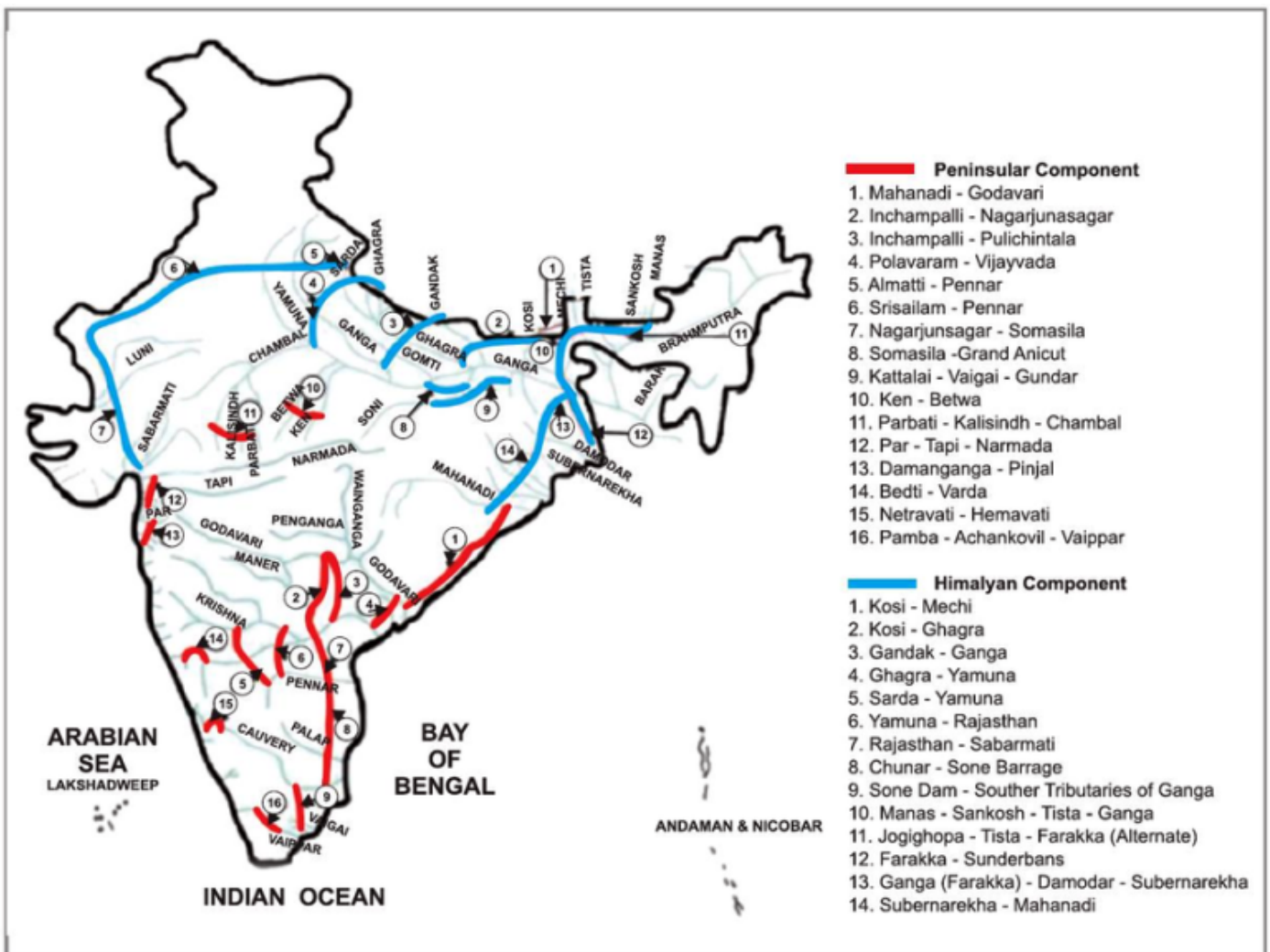
- The river Yamuna, a major tributary of river **Ganges**, originates from the **Yamunotri glacier** near **Bandarpooch peaks** in the Mussoorie range of the lower Himalayas in Uttarkashi district of Uttarakhand.
- It meets the Ganges at the Sangam in **Prayagraj, Uttar Pradesh** after flowing through **Uttarakhand**, Himachal Pradesh, **Haryana** and Delhi.
- **Important Dam:** Lakhwar-Vyasi Dam (Uttarakhand), Tajewala Barrage Dam (Haryana) etc.
- **Important Tributaries:** **Chambal**, Sindh, **Betwa and Ken**.

What is the National Perspective Plan for Interlinking Rivers?

- **About:**
 - The **River Interlinking Project**, also known as the **National Perspective Plan (NPP)**, formulated in **1980** by the **Ministry of Jal Shakti** is a large-scale civil engineering project that aims to **transfer water from surplus basins to deficit basins** in India.
 - It involves the **creation of artificial channels** to connect rivers and water bodies.
- **Components:**
 - Himalayan and Peninsular Rivers Development Component
- **Projects Identified:**
 - **A total of 30 link projects** have been identified, with 16 under the Peninsular Component and 14 under the Himalayan Component.
 - **Key Projects Under Peninsular Component:** Mahanadi-Godavari Links, Godavari-Krishna Links, Par-Tapi-Narmada Link, and **Ken-Betwa Link** (first project under the NPP to begin implementation).
 - **Key Projects Under Himalayan Component:** Kosi-Ghagra Link, Ganga (Farakka)-Damodar-Subernarekha Link, and Kosi-Mechi Link.
- **Significance:**
 - **Flood Management:** It aims to **manage flood risks** in flood prone areas such as Ganga-Brahmaputra-Meghna basin.
 - **Addressing Water Shortages:** It seeks to **mitigate water shortages** in western and peninsular states, including Rajasthan, Gujarat, Andhra Pradesh, Karnataka, and Tamil Nadu.

- **Irrigation Improvement:** It aims to **enhance irrigation in water-scarce regions**, thereby boosting agricultural productivity and improving food security, with the potential to double farmers' incomes.
 - Example: [Ken-Betwa link project](#).
 - **Infrastructure Development:** It facilitates the establishment of **environmentally friendly inland waterways** for efficient freight movement such as [national waterway-1](#).
 - **Sustainable Water Use:** It is designed to **optimise surface water utilisation** to **alleviate groundwater depletion** and minimise the freshwater flowing into the sea.
- **Concerns:**
- **Biodiversity Loss:** Altering natural river courses may lead to significant biodiversity loss and habitat disruption.
 - Example: The [Ken-Betwa link project](#) in Madhya Pradesh is expected to submerge a significant portion of the [Panna Tiger Reserve](#), leading to a loss of habitat for fauna.
 - **Community Displacement:** River interlinking projects can displace local communities, raising important social and humanitarian issues.
 - **High Costs and Implementation Challenges:** Significant investments, technical difficulties, and land acquisition issues.
 - **Failure of Similar Projects:** The China's **South-to-North Water Diversion Project (SNWDP)** has faced several challenges and negative consequences as it aimed to move **water from the Yangtze River in the south to the Yellow River Basin in the north**.
 - **Interstate Water Disputes:** Conflicts and competition among states for limited water resources. Examples: [Krishna Water Dispute](#)
 - **Other concerns:** Social impacts, long-term sustainability, and potential for exacerbating existing problems.

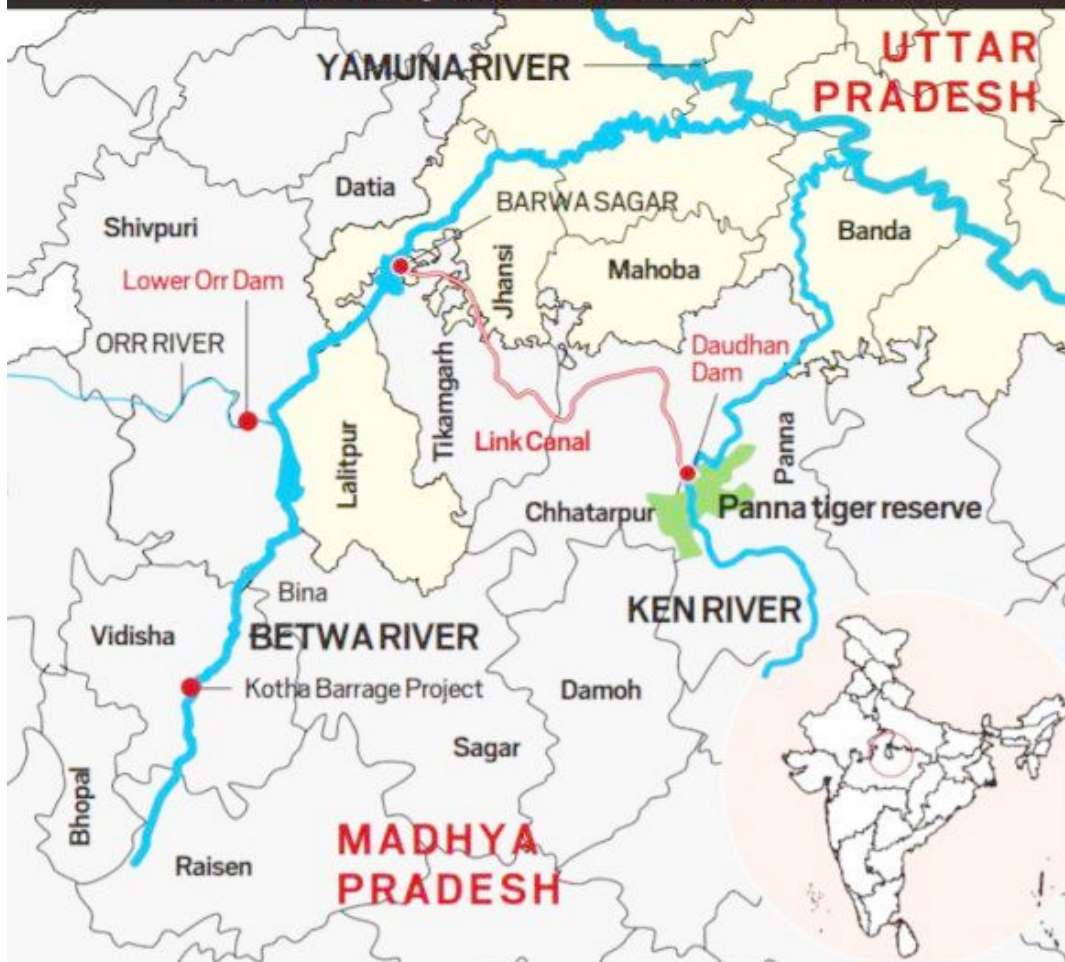




Ken-Betwa River Link Project (KBLP)

- It is the **first project** under the **National Perspective Plan (NPP)** for the **interlinking of rivers**.
- The KBLP involves **transferring water** from the **Ken River in Madhya Pradesh** to the **Betwa River in Uttar Pradesh**, both of which are tributaries of the Yamuna River.

TWO STATES, TWO RIVERS AND A LINK



National Interlinking of Rivers Authority (NIRA)

- It is a **proposed independent body** that will replace the **National Water Development Agency (NWDA)**.
- **It will be** responsible for the planning, investigation, financing, and implementation of river interlinking projects in India and will serve as an umbrella organisation for all river-linking initiatives.
- It will **coordinate with neighboring countries, relevant states, and departments**, and will have authority over environmental, wildlife, and forest clearances related to these projects.

Drishti Mains Question:

Discuss the potential benefits and challenges of the river interlinking project in India. How can these projects contribute to water management and socio-economic development in the country?

UPSC Civil Services Examination, Previous Year Question (PYQ)

Q. The interlinking of rivers can provide viable solutions to the multi-dimensional inter-related problems of droughts, floods, and interrupted navigation. Critically examine. (2020)

