





WBCS 2022



GEOGRAPHY

RIVERS OF INDIA

PART-4



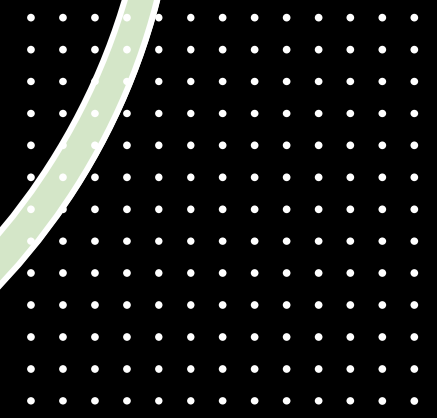
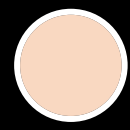
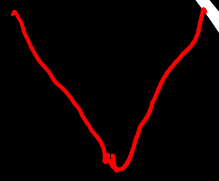
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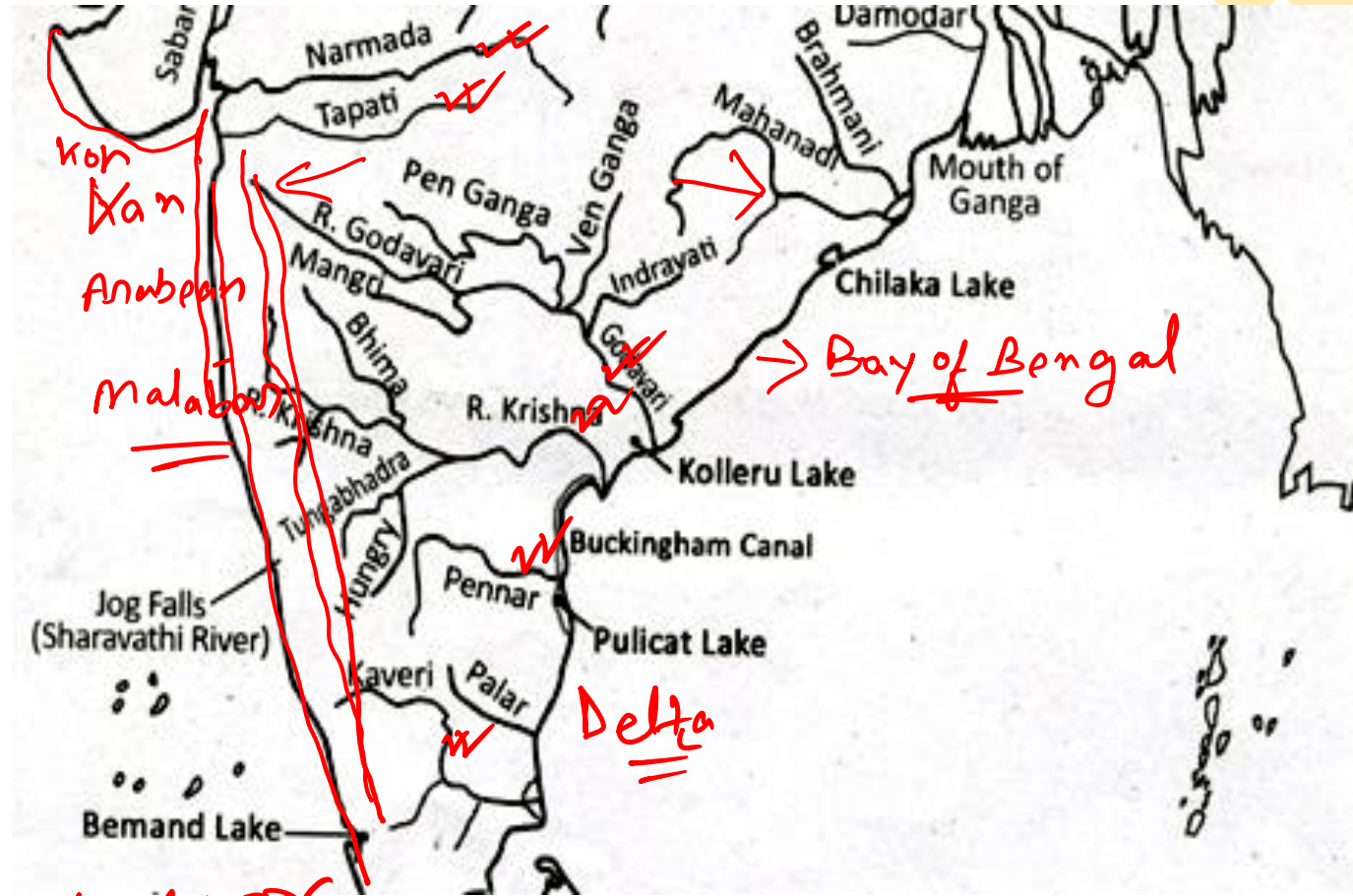
Indus, Ganga &
Brahmaputra

The Peninsular River System



INTRODUCTION

- Peninsula rivers are much older than the Himalayan rivers. ✓
- The main water divide in peninsular rivers is formed by the Western Ghats, which run from north to south close to the western coast.
- The velocity of water in the rivers and the load carrying capacity of the streams is low due to low gradient.
- Most of the major rivers of the peninsula such as the Mahanadi, the Godavari, the Krishna and the Cauvery flow eastwards and drain into the Bay of Bengal. These rivers make deltas at their mouths.



West Coast → Estuary - (STRONG)


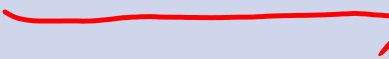
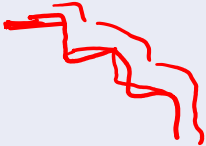










FACTS

- But the west flowing rivers of Narmada and Tapi as well as those Tapti originating from the Western Ghats and falling in the Arabian Sea form estuaries in place of deltas. (Estuary)



WATERFALLS

Kunchikal (Varahi)

RIVERS	WATERFALLS
 SARAVATI 	 <u>JOG, GORSOPPA FALLS (HIGHEST FALLS)</u>
 NARMADA 	<u>MARBEL FALLS & KAPILDHARA FALLS</u>
CAUVEERY 	<u>HOGENAKAL FALLS & SIVASAMUDRAM</u>
SUBARNAREKHA 	<u>HUNDRO FALLS & DASAM FALLS</u>
INDRAVATI 	<u>CHITRAKOT FALLS</u>
 MANDVI 	<u>DUDHSAGAR FALLS</u>
 KRISHNA 	ETHIPOLA FALLS 

FACTS

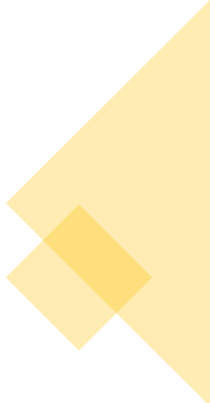
• Rivers that drain into Bay of Bengal: The Mahanadi, the Godavari, the Krishna, the Cauvery and several smaller rivers drains south-east into the Bay of Bengal.

• Rivers that drain into Arabian Sea: The Narmada, the Tapi, the Mahi flowing west as well as several small streams originating from the Western Ghats flow westwards into the Arabian Sea.

• Rivers that drain into the Ganges: Tributaries of the Ganga and the Yamuna such as the Chambal, the Betwa, the Ken, the Son and the Damodar flow in the north-easterly direction

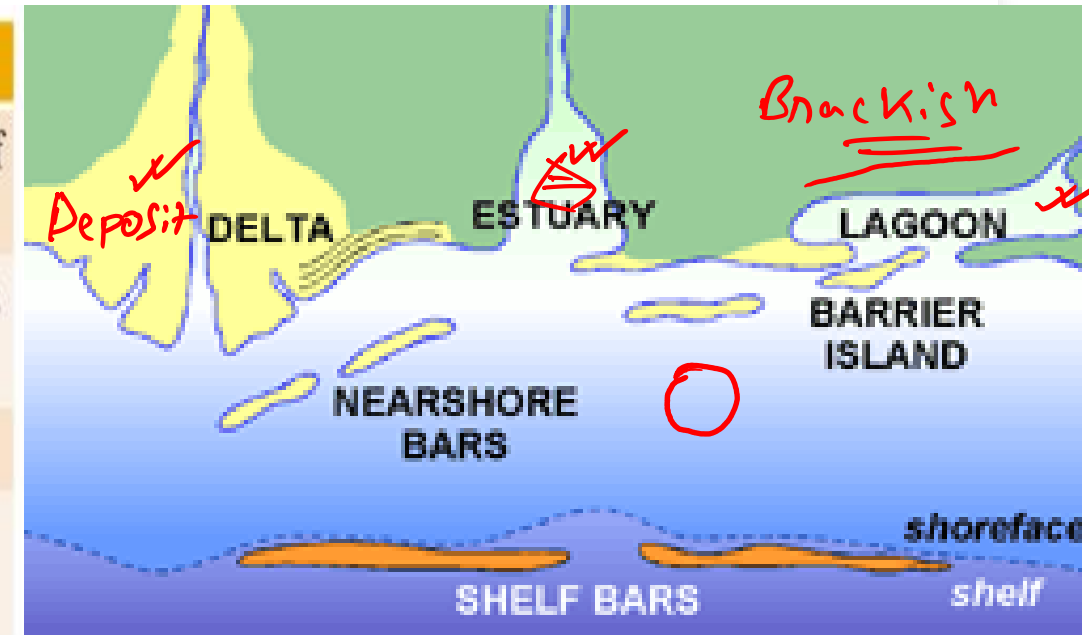


Comparison Chart



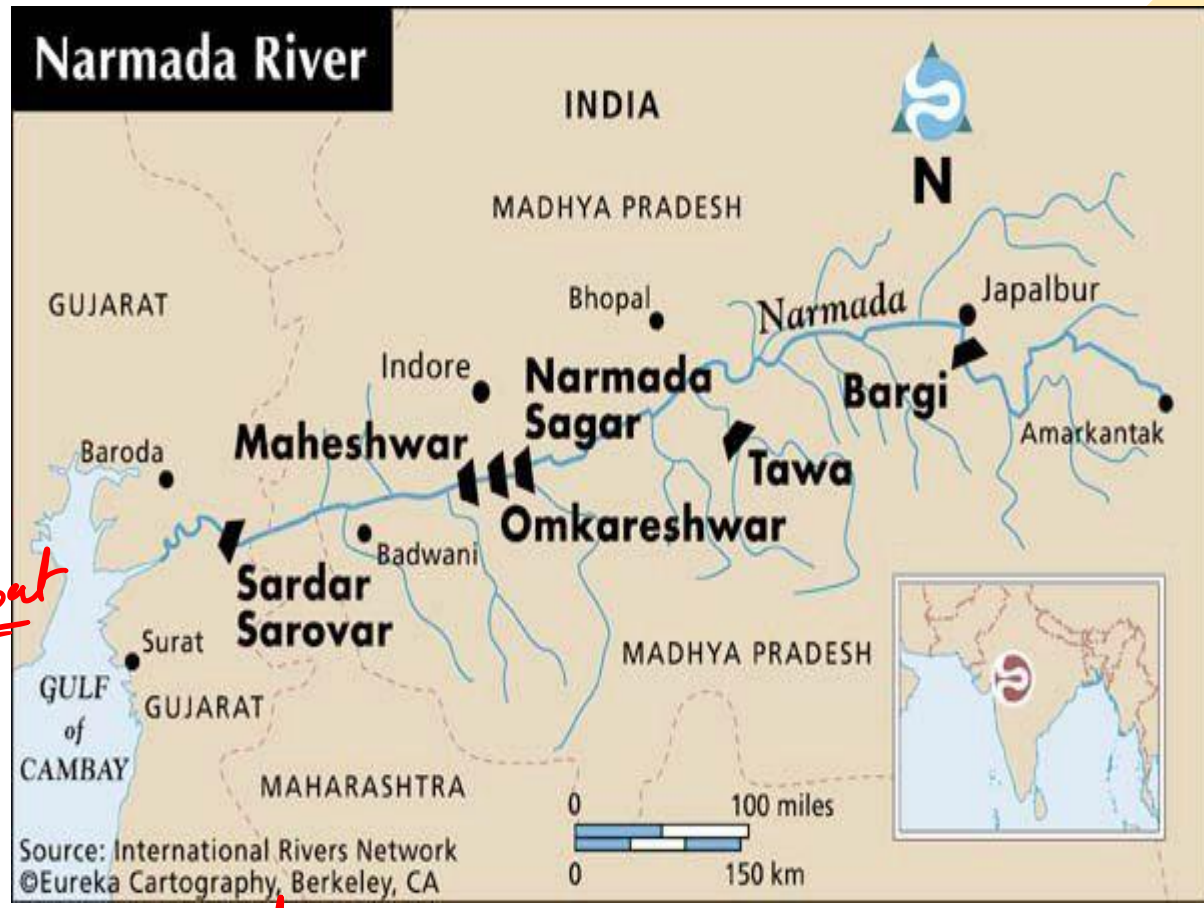
BASIS FOR COMPARISON	HIMALAYAN RIVERS	PENINSULAR RIVERS
Meaning	Himalayan Rivers are the rivers that originate from <u>(Himalayan)</u> ranges and flows <u>throughout</u> the year. ✓✓	Peninsular Rivers include those rivers that arises from <u>(Western)</u> Ghats and receive water only <u>during a (particular) period.</u>
Nature	<u>Perennial</u>	Non-perennial
Form	Delta ✓✓	<u>Estuary</u> ✓✓
Shape	Meandering ✓✓	<u>Straight</u>
Rocks	Bed rocks are <u>(soft, sedimentary)</u> and <u>(easily erodible)</u>	Bed rocks are <u>(hard, resistant)</u> and <u>not easily erodible</u>
Fed by	Snow and rain ✓✓	<u>Rain</u> ✓✓
Drainage basin	<u>Large</u>	<u>Small</u>
Irrigate	Northern Plains ✓✓	<u>Deccan Plateau</u>
Valley	<u>V-shaped valley</u> is formed	<u>U-shaped valley</u> is formed

Delta	Estuary
1. The <u>triangular deposits</u> made by the rivers at their <u>mouth</u> form Delta.	1. The <u>sharp edged mouth</u> of rivers, devoid of any deposits is known as Estuary.
2. Deltas are formed in the regions of <u>low tides</u> and <u>coastal plains</u> . ✓	2. Regions of <u>(high tides)</u> and <u>rift valleys</u> witness Estuaries.
3. Deltas are <u>fertile lands</u> . ✓	3. Estuary does not have <u>fertile lands</u> .
4. <u>(Ganga and Brahmaputra)</u> , Krishna, Kaveri and Mahanadi form delta.	4. <u>Narmada and Tapi</u> rivers form Estuaries.



Difference between Delta and Estuary

- ❖ It originates on the western flank of the Amarkantak plateau at a height of about 1,057 m. *M.P.*
- ❖ Flowing in a rift valley between the Satpura in the south and the Vindhyan range in the north.
- ❖ It forms a picturesque gorge in marble rocks and Dhuandhar waterfall near Jabalpur. *Gulf of Khambhat*
- ❖ After flowing a distance of about 1,312 km it meets the Arabian sea south of Bharuch, forming a broad 27 km long estuary. *(1,312 km)*
- ❖ Its catchment area is about 98,796 sq. km
- ❖ The Sardar Sarovar Project has been constructed on this river.
- ❖ The river hold great importance in India as they facilitate agricultural practices and also the generation of Hydro-electric power in the areas they flow through.



Narmada Valley Project
Omkareshwar Dam

THE TAPI // Tapti

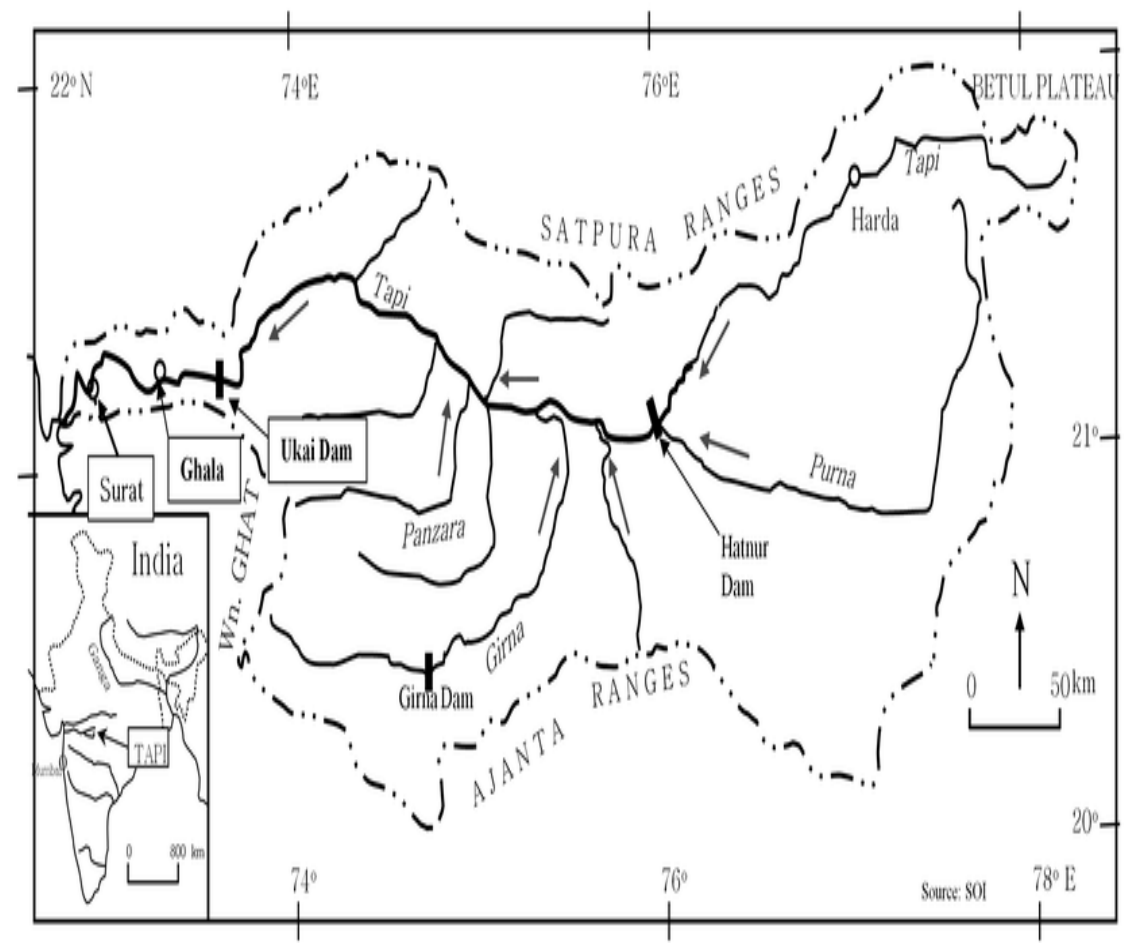
- It is the other important (westward flowing) river.

It originates from Multai in the Betul district of Madhya Pradesh. It is 724 km long and drains an area of 65,145 sq. km. → Basin/Catchment Area.

- Nearly 79 per cent of its basin lies in Maharashtra, 15 per cent in Madhya Pradesh and the remaining 6 per cent in Gujarat.

The principal tributaries of Tapi River are Waghur River, Aner River, Girna River, Purna River, Panzara River and Bori River ✓

// Ukai Dam // Surat



The Luni

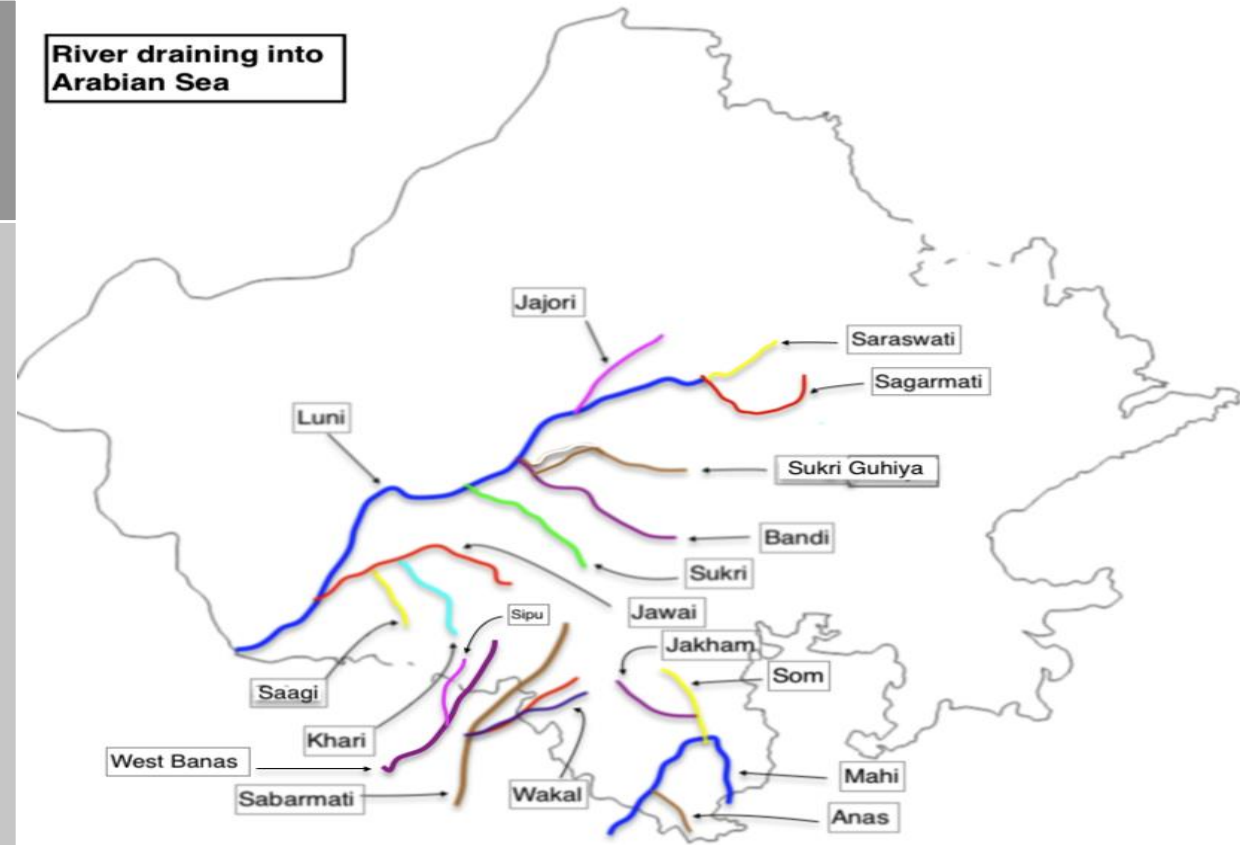
It is the largest river system of Rajasthan, west of Aravali.

It originates near Pushkar in two branches, i.e. the Saraswati and the Sabarmati, which join with each other at Govindgarh.

From here, the river comes out of Aravali and is known as Luni.

It flows towards the west till Telwara and then takes a southwest direction to join the Rann of Kuchchh.

The entire river system is ephemeral.



The Godavari ✓ ((2525 km))

It is the largest peninsular river system due to this it is also called the Dakshin Ganga or Vridhhi (Old) Ganga. ✓)) (✳)

The Godavari River is the second-longest course in India with brownish water. Covering a length of about (1465 km). ✓

It has one of the largest drainage basins in the subcontinent covering an area of 313,000 square km.

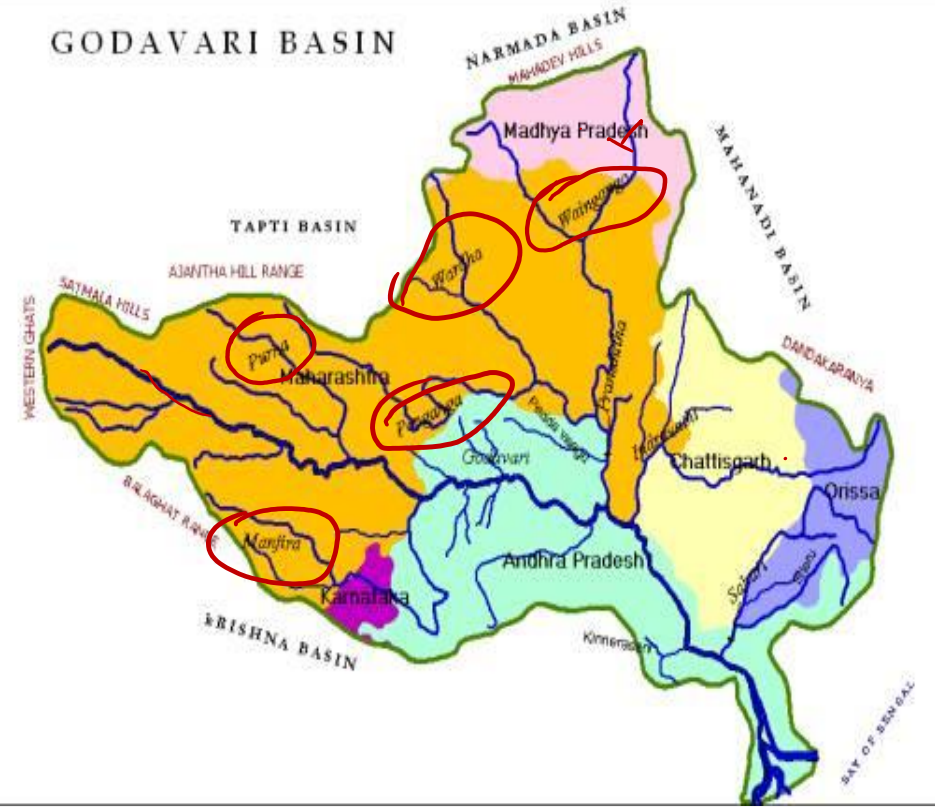
It rises from the Trimbakeswar Nasik district of Maharashtra and discharges its water into the Bay of Bengal.



The Godavari

Its tributaries run through the states of Maharashtra, Madhya Pradesh, Chhattisgarh, Orissa and Andhra Pradesh.

The Penganga, the Indravati, the Pranhita, and the Manjra are its principal tributaries.

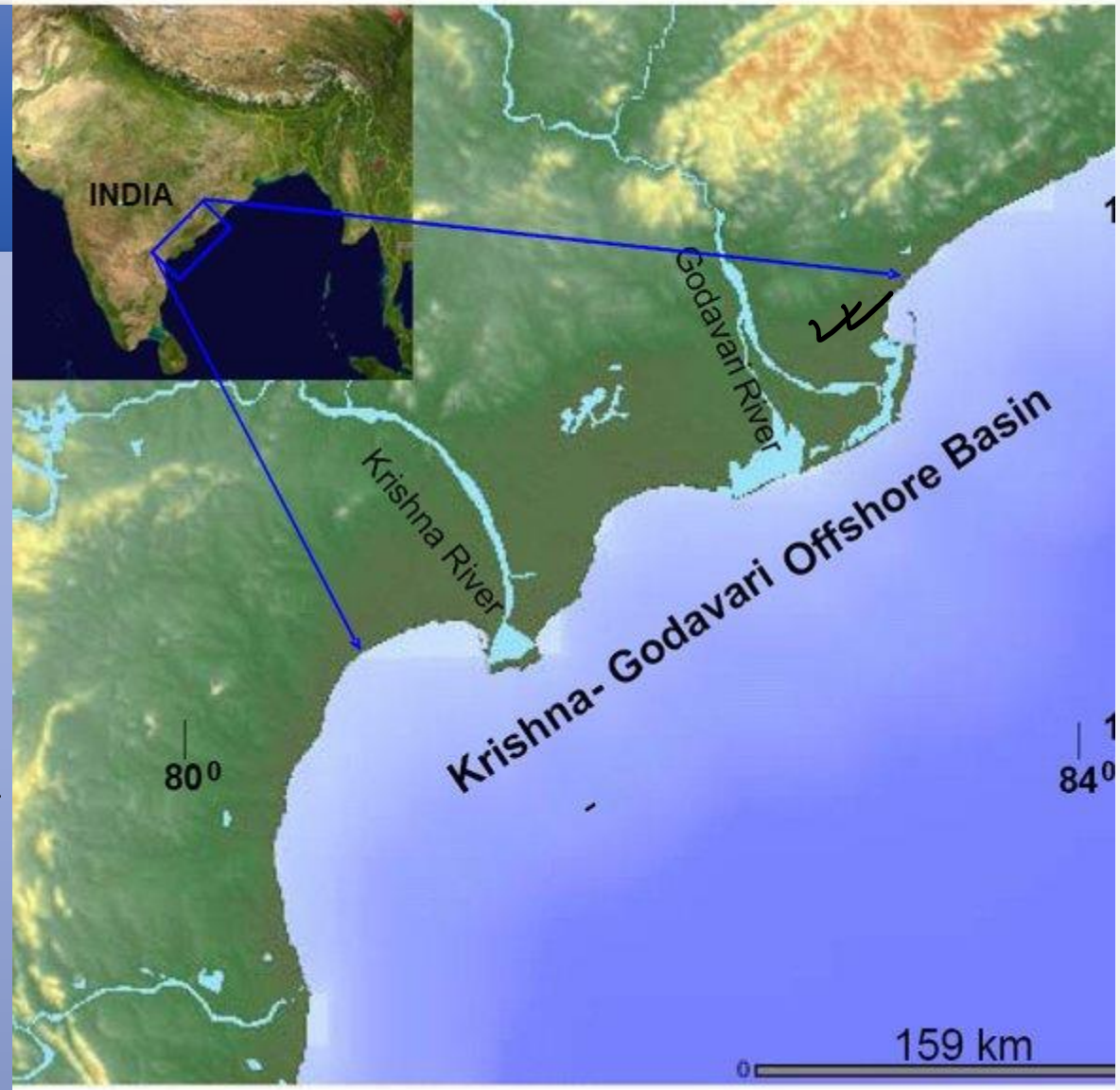


The Godavari

The Godavari is subjected to heavy floods in its lower reaches to the south of Polavaram, where it forms a picturesque gorge.

It is navigable only in the deltaic stretch. The river after Rajamundry splits into several branches forming a large delta.

Asia's largest (rail-cum-road bridge) which links Kovvur and Rajahmundry is located on the river Godavari.



Mahanadi

One of the largest and a major river of eastern India, Mahanadi originates from near Sihawa in Raipur district of Chhattisgarh, draining the state of Odisha and finally flows into the Bay of Bengal forming a delta on its mouth.

The literal meaning of the term Mahanadi is 'Great River', justifying its course of 858 km that drains an area of 141,600 square km. Barin

Mahanadi

The river is famous for the Hirakud Dam built across the river, the longest and the second largest dam in the world which is utilized for the generation of hydro-electricity. (5 Km)

Fifty three per cent of the drainage basin of this river lies in Madhya Pradesh and Chhattisgarh, while 47 per cent lies in Orissa.

