



NOTES

SOCIAL SCIENCE

(GEOGRAPHY)

DRAINAGE



**REVISION NOTES
CHAPTERWISE &
TOPICWISE**

Chapter 3: Drainage

Concepts Covered:

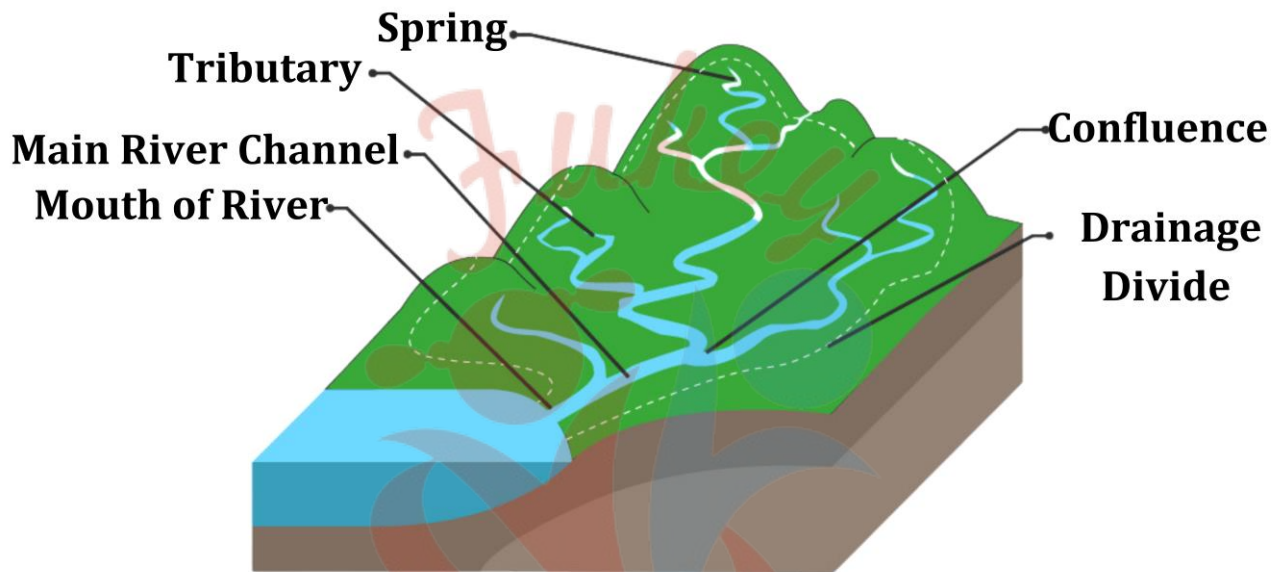
1. **Introduction**
 - Drainage
 - Water divide
2. **Drainage systems in India**
 - Comparison between Himalayan and Peninsular rivers
3. **The Himalayan rivers**
 - The Indus river System
 - The Ganga river System
 - The Brahmaputra river System
4. **The Peninsular Rivers**
 - The Narmada Basin
 - The Tapi Basin
 - The Godavari basin
 - The Mahanadi basin
 - The Krishna Basin
 - The Kaveri Basin
5. **Lakes and its importance**
 - Fresh-water lakes
 - Lagoons
 - Inland drainage lakes
6. **Role of rivers in the Economy**
 - Importance of River
 - River pollution
 - Water Pollution Problems in India
7. **Mind Map**
(Colourful & Interactive/ Complete All Concept Covered)
Practice Questions (All Topics Available)

INTRODUCTION

Drainage

Drainage Basin:- The area drained by a river along with its tributaries and distributaries is known as Drainage Basin.

Drainage Basins



Water divide

When any elevated area, such as a mountain or an upland separates two drainage basins it is known as **Water Divide**.



Drainage Basin
of Stream A

Drainage Basin
of Stream B



DRAINAGE SYSTEMS IN INDIA

Comparison between Himalayan and Peninsular rivers

Basic	Himalayan Rivers	Peninsular Rivers
Point Of origin	Himalayas and Glaciers	Western Ghats and Central Highland
Nature	Perennial	Seasonal
Source Of water	Rainfall and Glaciers	Rainfall
Course	Long course, Performs erosional activity and carry huge loads Of silt and sand.	Short and shallower courses
Drains in?	Most of the rivers flow towards east and drains in Bay of Bengal. Indus is an exception.	Most of the rivers flows towards east and drains in Bay of Bengal. Narmada and Tapi are some major rivers which flows in west and drains in Arabian sea.
Other features	Forms flood plains, oxbow lakes, meanders and delta.	Forms estuaries unlike himalayan rivers.
Example	Ganga, Brahmaputra, Indus, Yamuna etc.	Narmada, Godavari, Krishna, Kaveri etc.

Future's Key

Fukey Education

THE HIMALAYAN RIVERS

The Indus River System

The River along with its tributaries may be called a **river system**.

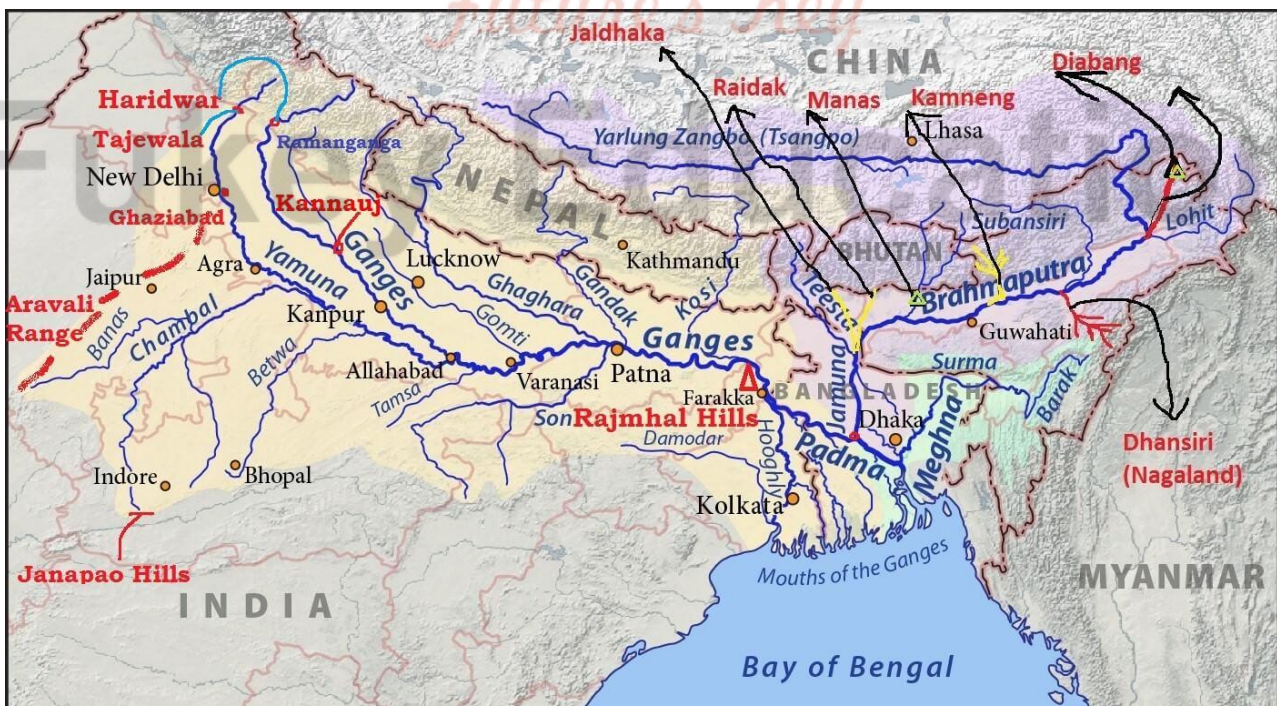


DRAINAGE**THE HIMALAYAN RIVERS**

Indus rises in Tibet, Near lake Man Sarovar. It Enters India from Ladakh. It is joined by the tributaries such as the Zaskar, the Nurba, the Shyok and the Hunza. Further flowing from the Baltistan and Gilgit, Indus is joined by other tributaries such as the Satluj, the Ravi, the Chenab, and the Jhelum at Mithankot in Pakistan. Flowing Southwards Indus finally drains into Arabian Sea.

Rivers indus

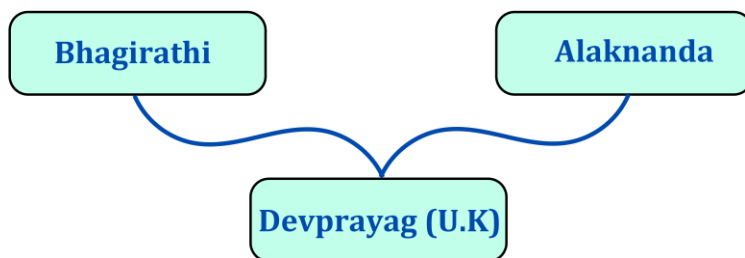
- Total length of 2900k.m
- Title over a third of Indus basin is located in india

The Ganga River System

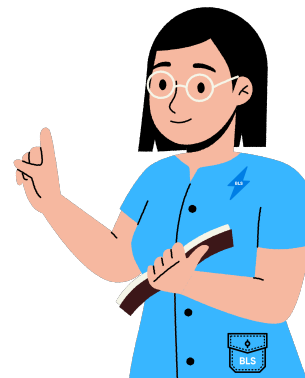
DRAINAGE

THE HIMALAYAN RIVERS

Headwaters of Ganga is called Bhagirathi and Alaknanda which meets at Devprayag.



At Haridwar, Ganga emerges from mountains to plains

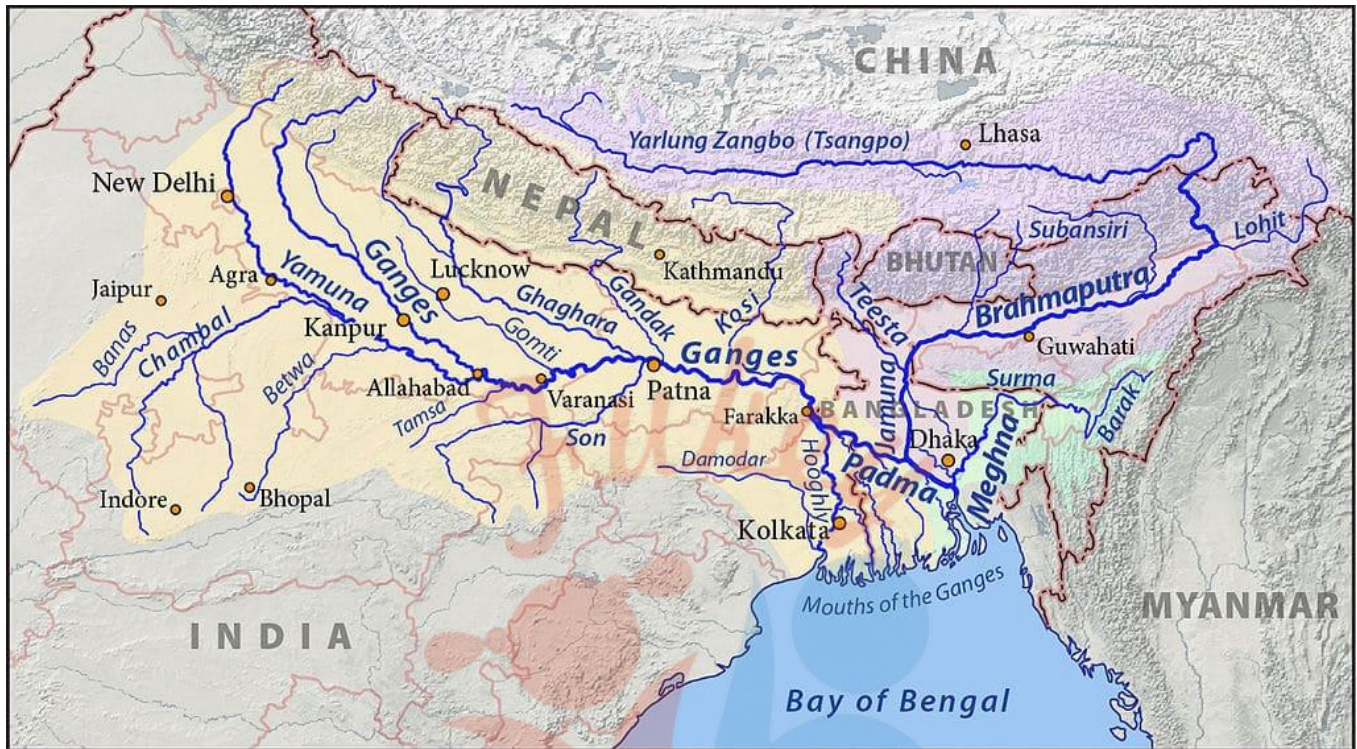


Further coming on the plains River Ganga is joined by many tributaries from Himalayas.

Left Bank Tributaries of Ganga	Right Bank Tributaries of Ganga
<ul style="list-style-type: none"> • The Yamuna • The Ghaghara • The Gandak • Kosi <p>[Rises from the glaciers in Himalayas]</p>	<ul style="list-style-type: none"> • The Chambal • The Betwa • The Son <p>[Rises from Semi-arid part of Peninsular]</p>

These Rivers floods parts of the Northern plains every year. Causing damage to life and property but at same time they enrich the soil for agricultural use. They have a shorter courses and do not carry much water.

The Brahmaputra River System



The Brahmaputra rises in Tibet; East of Mansarovar lake [Mansarovar lake = Water divide] Slightly longer than the Indus and most of its course lies outside India. From Namcha Barwa, it takes 'U' turn and enters into India in Arunachal Pradesh. Here, it is known as Dihang, joined by other tributaries such as Dibrang, the Lohit etc. Volume of water in river varies in Tibet and India.

DRAINAGE**THE HIMALAYAN RIVERS**

Entering in India Brahmaputra carries a large amount of water and silt forms Riverine Island. The river overflows its banks, causing widespread devastation due to floods in Assam and Bangladesh. The Brahmaputra is marked by huge deposits of silt on its bed causing the river bed to rise.



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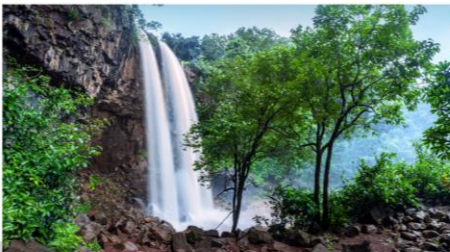
THE PENINSULAR RIVERS

The Narmada Basin

Narmada flows westwards in Rift valley due to faulting. River Narmada flows through deep gorge, forming picturesque location.



[The 'Marble rocks', near Jabalpur, where the Narmada flows through a deep gorge, and the 'Dhuandhar falls'] Most of the tributaries of Narmada are short and joins at right angle. [Rectangular pattern] River flows in the parts of M.P and Gujarat.



Amarkantak Point



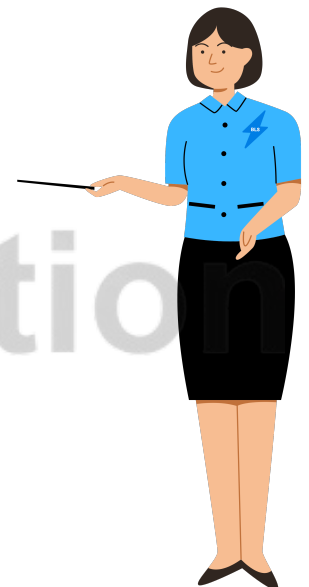
Dhuandhar



Deep Gorge of River Narmada



Bhedaghat



The Tapi Basin

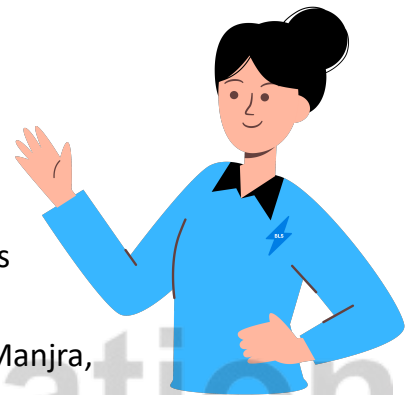
- Rises in Satpura range in Betul district of Madhya Pradesh.
- It also flows in Rift valley parallel to Narmada but shorter in length.

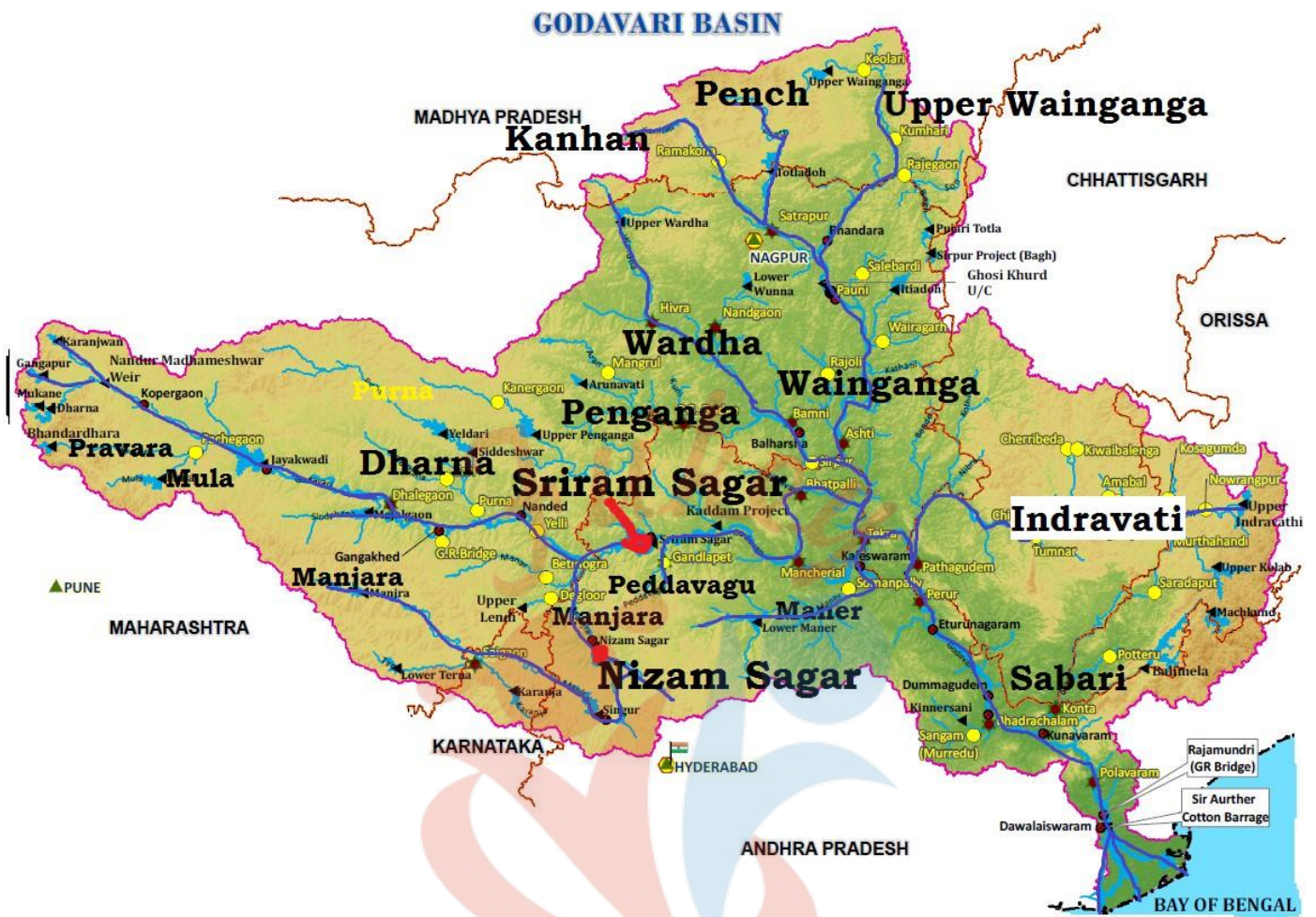
DRAINAGE**THE PENINSULAR RIVERS**

- Flows through three states [M.P, Gujarat and Maharashtra]
- Drains in Arabian sea. E.g.

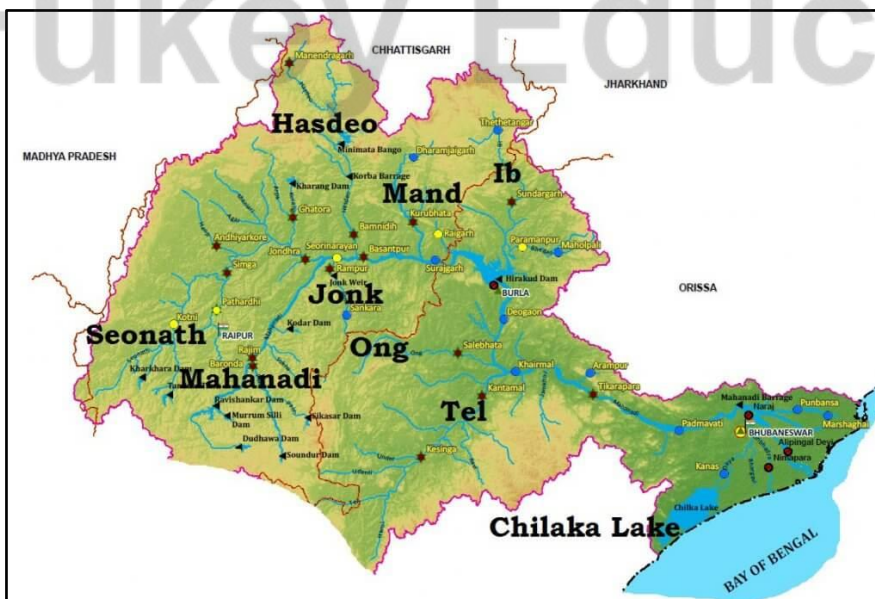
**The Godavari basin**

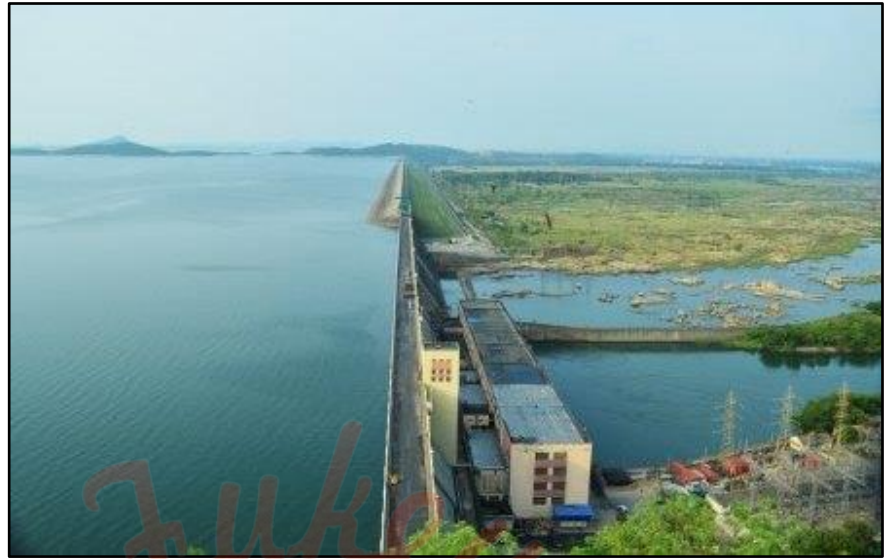
- It is the largest Peninsular River.
- Covers a large area along with its tributaries Dakshin Ganga
- Rises from slope of the western ghats in the Nasik district of Maharashtra.
- Length = 1500km
- About 50% of drainage basin covers Maharashtra. Also extends to M.P, Odisha and Andhra Pradesh.
- Tributaries such as the Purna, the Wardha, the Pranhita, the Manjra, the Wainganga and Penganga.
- Finally drains into Bay to Bengal.



DRAINAGE**THE PENINSULAR RIVERS****The Mahanadi basin**

- Rises in the Highlands of Chhattisgarh. Total length of Mahanadi = 860 km
- It flows mainly in Odisha.
- Joined by the tributaries such as Seonath, Jonk, Hasdo, Mand, Ib etc.



DRAINAGE**THE PENINSULAR RIVERS**

- Its drainage basin is shared by Maharashtra, Chhattisgarh, Jharkhand, and Odisha.

The Krishna Basin

Rises from the springs near Mahabaleshwar, flows Eastwards. Its drainage is shared by Maharashtra, Karnataka and Andhra Pradesh. The tributaries of river Krishna are the Tungabhadra, the Konyana, the Ghatprabha, the Musi and the Bhima etc. It flows over the distance of 1400 km and drains into Bay of Bengal.



The Kaveri Basin

Rises in the Brahmagiri range of Western Ghats [Karnataka] Flows West and drains in Bay of Bengal in South of Cuddalore in Tamil Nadu The total length of river is about 760km. Its main tributaries are Amravati, Bhavani, Hemavati and Kabini covering the parts of Karnataka, Kerala and Tamil Nadu. 71 percent of the world's surface is covered with water, but 97 percent of that is salt water. of the 3 percent that is available as freshwater, three quarters of it is trapped as ice. The river Kaveri makes the second biggest waterfall in India, known as Shivasamudram Falls. The hydroelectric power generated from the falls is supplied to Mysore, Bengaluru and the Kolar Gold Field. There are some smaller rivers which flows towards East such as –

- The Damodar
- The Brahmani
- The Baitarani
- The Subarnarekha



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LAKES AND ITS IMPORTANCE

Fresh-water lakes

The basin is dug out by glaciers and the impoundment is filled with snowmet. E.g. The Dal lake, Bhimtal, Nainital, Loktak etc. Wular lake is the largest Freshwater lake in India is a tectonic lake. Similarly there are Meteoroid lakes also. E.g Lonar Lake



Due to turns and twists Erosion and deposition along the sides of the meander. In due course of time the meander loop cuts off from the river and forms a cut-off lake known as Oxbow Lakes.

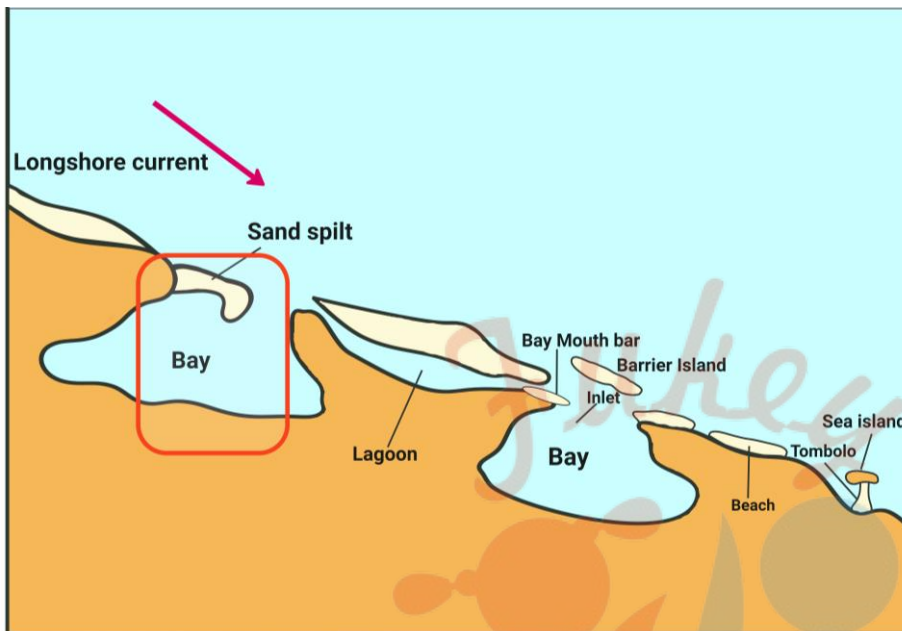


Lagoons

- Another important type of lakes.
- Mostly lagoons are salt water lakes [connected with sea]

DRAINAGE**LAKES AND ITS IMPORTANCE**

- Lagoons are a shallow body of water separated from a larger Body of water by barrier islands or reefs.
- Example of lagoon lakes are Chilika lake, the Pulicat lake and Kolleru lake.

**Chilika Lake****Kolleru Lake****Inland drainage lakes**

They are formed due to the drainage of river water. E.g. Sambhar lake. They are sometimes seasonal. Most of the time they are salt water lake. Apart from these natural lakes there are lake which are constructed by humans known as Human made or Artificial lakes.



DRAINAGE**LAKES AND ITS IMPORTANCE****Sambhar Lake**

ROLE OF RIVERS IN THE ECONOMY

Importance of River

1. Rivers are used for irrigation, navigation, hydro-power generation.
2. Water is required for variety of need
 - Domestic
 - Municipal
 - Industrial
 - Agricultural
3. Due to all this rivers are being drained out.
4. Polluted by the heavy load of untreated sewage and industrial effluents.
5. This affects the quality of water as well as the self - cleansing capacity.



River pollution

Water pollution can be defined as the contamination of water bodies. Water pollution is caused when water bodies such as rivers, lakes, oceans, groundwater and aquifers get contaminated with industrial and agricultural effluents.

Water Pollution Problems in India

Water pollution is a big problem in India. There are many reasons for this.

- One reason is that many people in India do not have access to clean water. This is because they live in rural areas where there is not enough infrastructure to provide clean water.
- Another reason is that many people in India do not have access to proper sanitation. This means that they do not have toilets or places to dispose of their waste properly. This leads to a lot of waste being dumped into the country's rivers and lakes.
- Another reason is that India has a lot of industry. This means that there is a lot of pollution from factories.
- Lastly, India is a very crowded country. This means that there is not much space for people to live and there is a lot of traffic. This leads to a lot of pollution from cars and trucks.



