



BPSC

Prelims & Mains

Bihar Public Service Commission

General Studies

Paper 2 – Volume 1

**Geography, Economy and Polity of
Bihar**



G.S. PAPER – 2 VOLUME – 1

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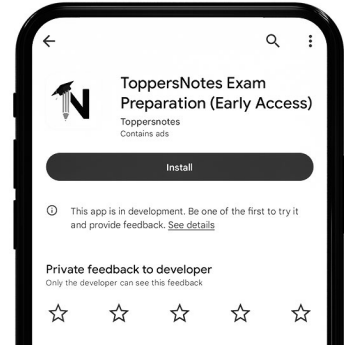
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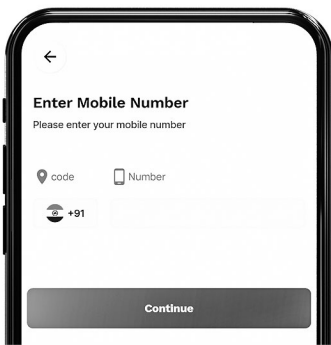
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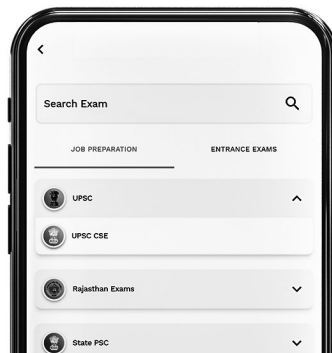
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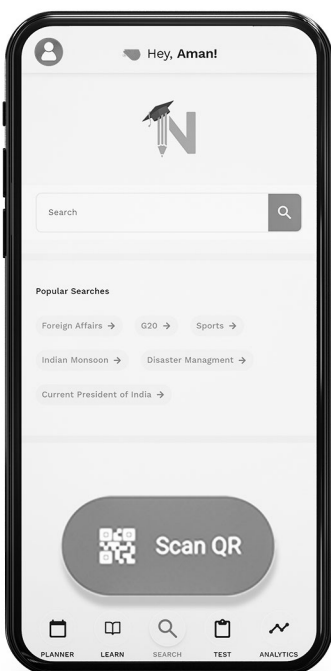
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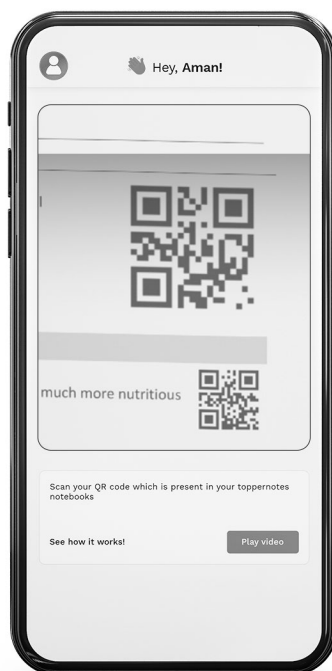
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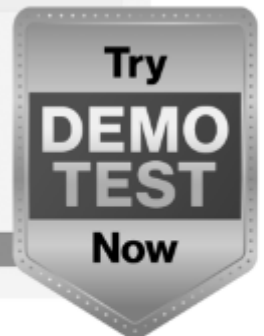
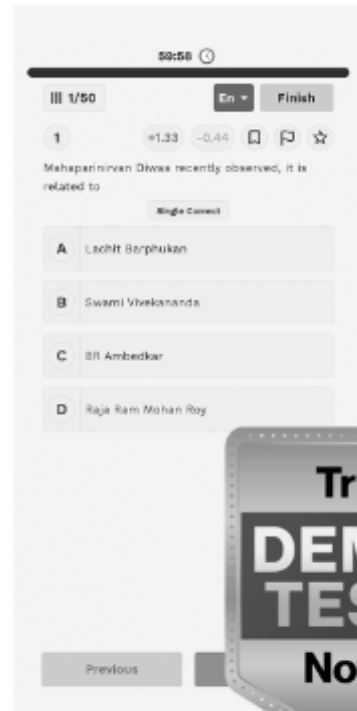
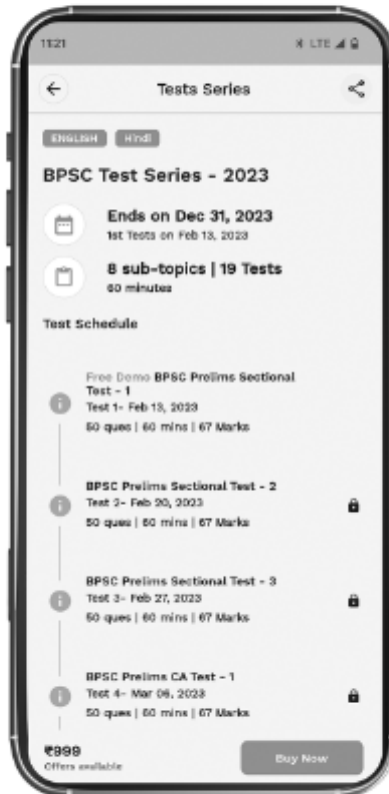
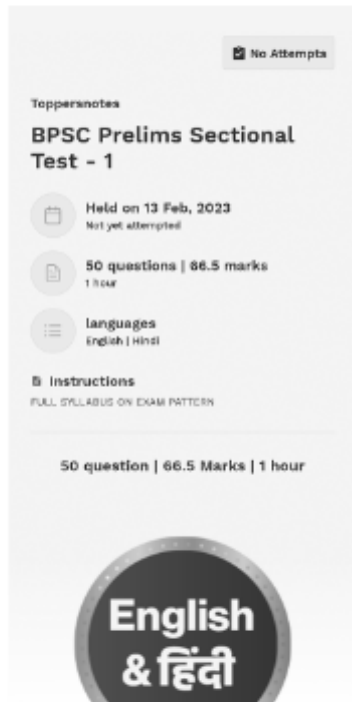
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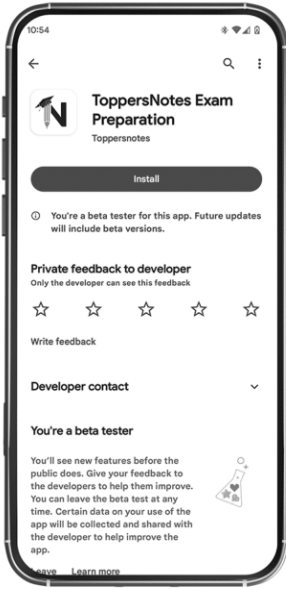


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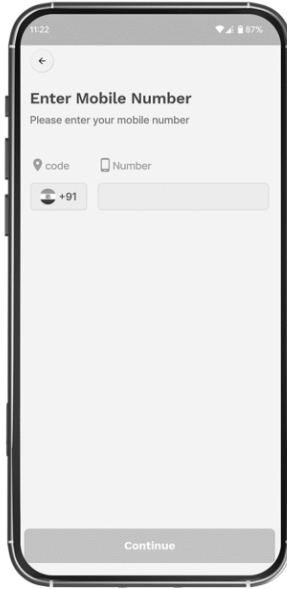
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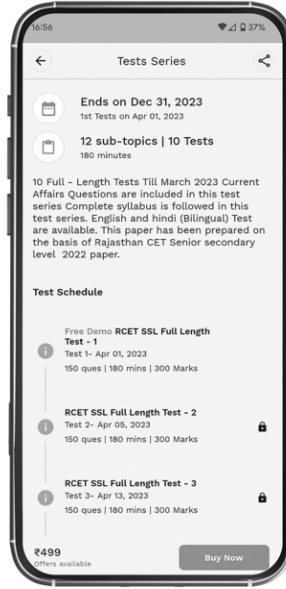
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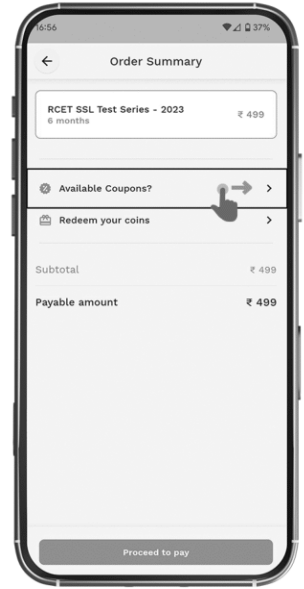
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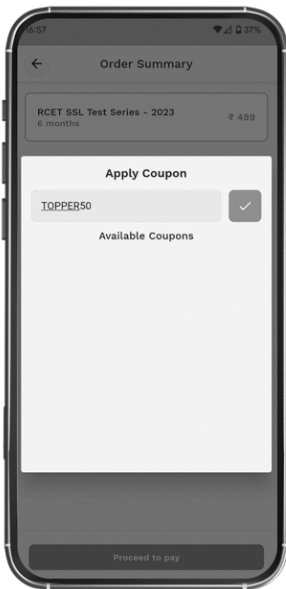
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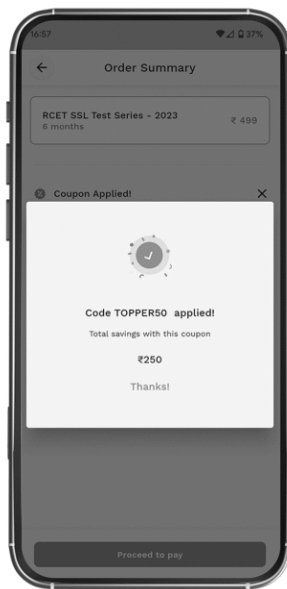
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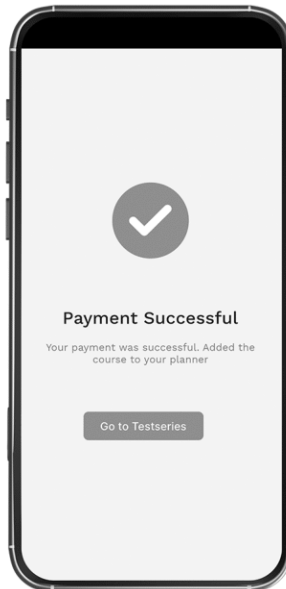
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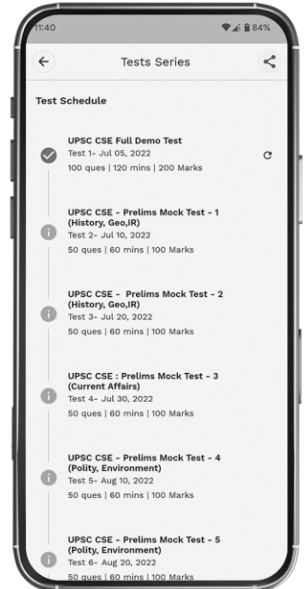
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1 CHAPTER

BIHAR AT A GLANCE

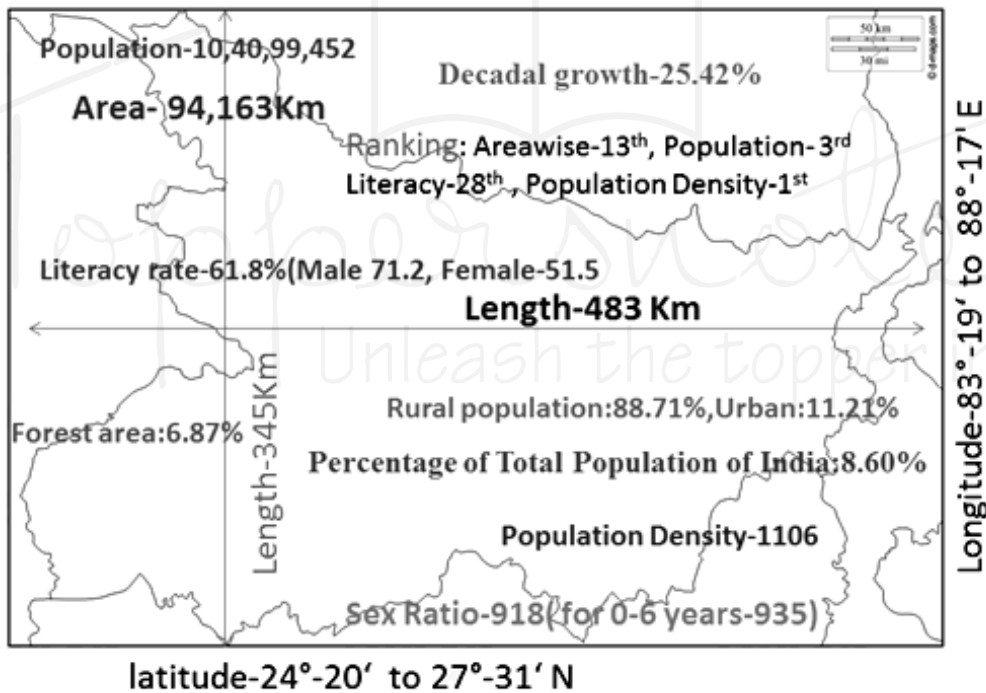
- **Capital:** Patna
 - **Ancient names of Patna:** Pataligram, Kusumpur, Patliputra, Azimabad, Palibothra.
- **Year of Formation:** 22 March 1912 (Bihar and Orissa as a separate province).
- **Viceroy of India at the time of Bihar formation:** Lord Hardinge
- **Bihar Diwas:** 22 March.
 - The theme of Bihar Diwas 2022 is 'Jal, Jeevan, Hariyali'
- **Division of Bihar**

- **1st division:** 1 April 1936 (Orissa)
- **2nd division:** 15 November 2000 (southern Bihar was ceded to form the new state of Jharkhand)

State Symbols

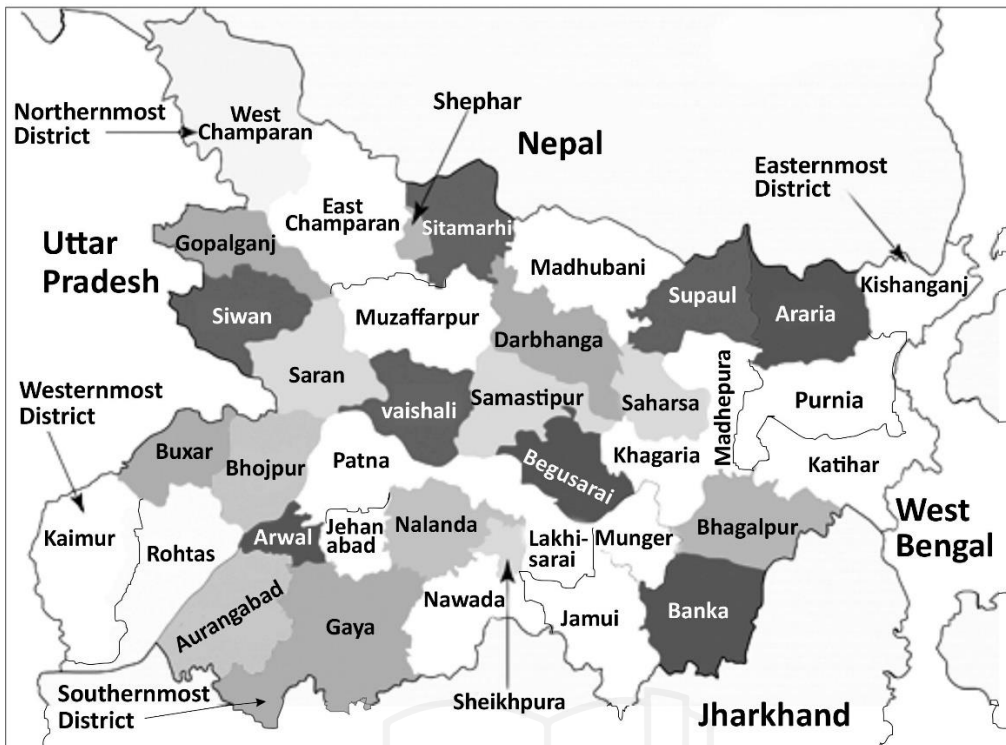
- **State Animal:** Ox (*Bos indicus*).
- **State Bird:** Sparrow (*Passer domesticus indicus*).
 - **Bihar Sparrow day:** 20 March.
- **State Flower:** Marigold (*Tagetes*).
- **State Tree:** Peepal (*Ficus religiosa*).
- **State Fish:** Mangur

Size and Location of Bihar



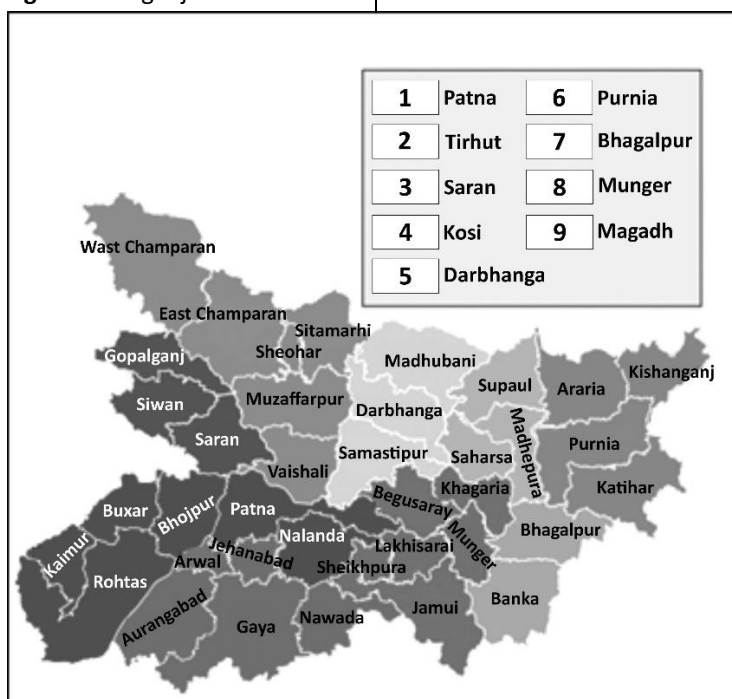
- **Latitudinal extent:** 24°20'N to 27°31'N
- **Longitudinal extent:** 83°20'E to 88°18'E
- **Height above Sea-Level of Bihar:** 173 Feet
- **Geographical Extent**
 - North: Nepal (46th BPSC 2004).
 - West: Uttar Pradesh
 - East: West Bengal
 - South: Jharkhand
- **12th largest state in India - 94163 km² (48th-52th BPSC Pre 2008, 46th BPSC 2004).**
 - **Length:** 345 km (North to South)

- **Width:**483 km (East to West)
- **Rural Area of Bihar:** 92,257.51 sq. kms.
- **Urban Area of Bihar:** 1,095.49 sq. kms
- **Normal Rainfall in Bihar:** 1,205 mm Avg.
- **Number of Rainy Days in Bihar:** 52.5 Days in a Year
- **Total districts:** 38, 45th BPSC Pre 2002
- **38th district:** Arwal,
 - Came into existence in **August 2001** and was earlier part of Jehanabad district.
- **Districts sharing the border with**



- **Nepal:** West Champaran, East Champaran, Sitamarhi, Madhubani, Supaul, Araria and Kishanganj (7 districts)- **63rd B.P.S.C 2018**
- **Uttar Pradesh:** West Champaran, Gopalganj, Siwan, Saran, Bhojpur, Buxar and Kaimur (7 districts)
- **West Bengal:** Kishanganj, Purnia and Katiar (3 districts)
- **Jharkhand:** Rohtas, Aurangabad, Gaya, Nawada, Jamui, Banka, Bhagalpur and Katiar. (8 districts)
- **Nepal and West Bengal:** Kishanganj







- **Nepal and Uttar pradesh:** West Champaran
- **West Bengal and Jharkhand:** Katiar
- **Northernmost district:** W. Champaran
- **Easternmost district:** Kishanganj (**56-59th B.P.S.C. 2015**)
- **Southernmost district:** Gaya
- **Westernmost district:** Kaimur
- **Capital city Patna:** Vaishali, Saran, Bhojpur, Arwal, Jehanabad, Nalanda, Lakhisarai, Begusarai and Samastipur (9 districts) **64th B.P.S.C 2018**
- **Administrative uni**



| | |
|----------------------------|---------------|
| Divisions | 9 |
| Districts | 38 |
| Sub-Divisions | 101 |
| CD Blocks | 534 |
| Panchayats | 8,406 |
| Number of Revenue Villages | 45,103 |
| Number of Towns | 199 |
| - Statutory Towns | 139 |
| - Non-Statutory Towns | 60 |
| Police Stations | 853 |
| - Civil Police Stations | 813 |
| - Railway Police Stations | 40 |
| - Police Districts | 44 |
| Civil Police District | 40 |
| Railway Police District | 4 |

● **Saat Nischay Yojna Part I (2015-2020)**

- To fulfill this vision Program of Good Governance (2015-20) has been framed which includes 7 Nishchay, Agriculture Road map, Human Development Mission, Skill Development Mission and Industrial Incentives Policy.

| | |
|---|---|
|  | Aarthik Hal, Yuvaon Ko Bal (Youth Empowerment) |
|  | Aarakshit Rozgar Mahilaon Ka Adhikar (Reservation in Jobs for Women) |
|  | Har Ghar Bijli (Electricity for each household) |
|  | Har Ghar Nal Ka Jal (Piped water supply to each household) |
|  | Ghar Tak Pakki Gali Naaliyan (Road and drainage facility to households) |
|  | Shauchalay Nirman, Ghar Ka Samman (Toilet facility for each household) |
|  | Avsar Badhe, Aage Padhein (Opportunities through Higher & Technical Education) |

● **Saat Nischay Part II (2020-2025)**

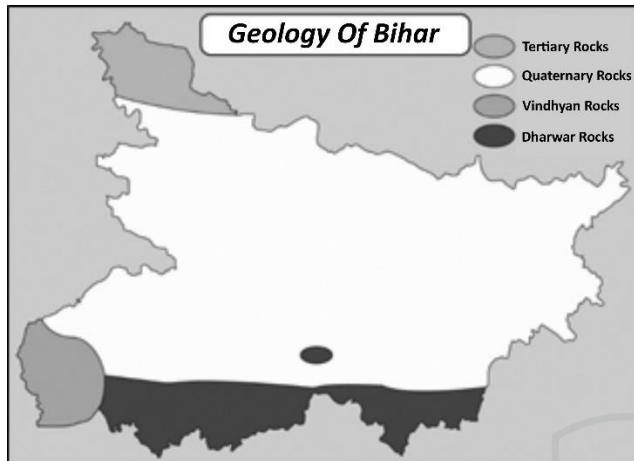
- Bihar Government has allocated 4,671 for Saat Nischay Yojna Part 2 in the budget of 2021-22.
- According to the Saat Nischay Yojna Part 2 government is planning for **holistic development of the state.**

2

CHAPTER

GEOGRAPHICAL STRUCTURE OF BIHAR

Geological Structure of BEihar

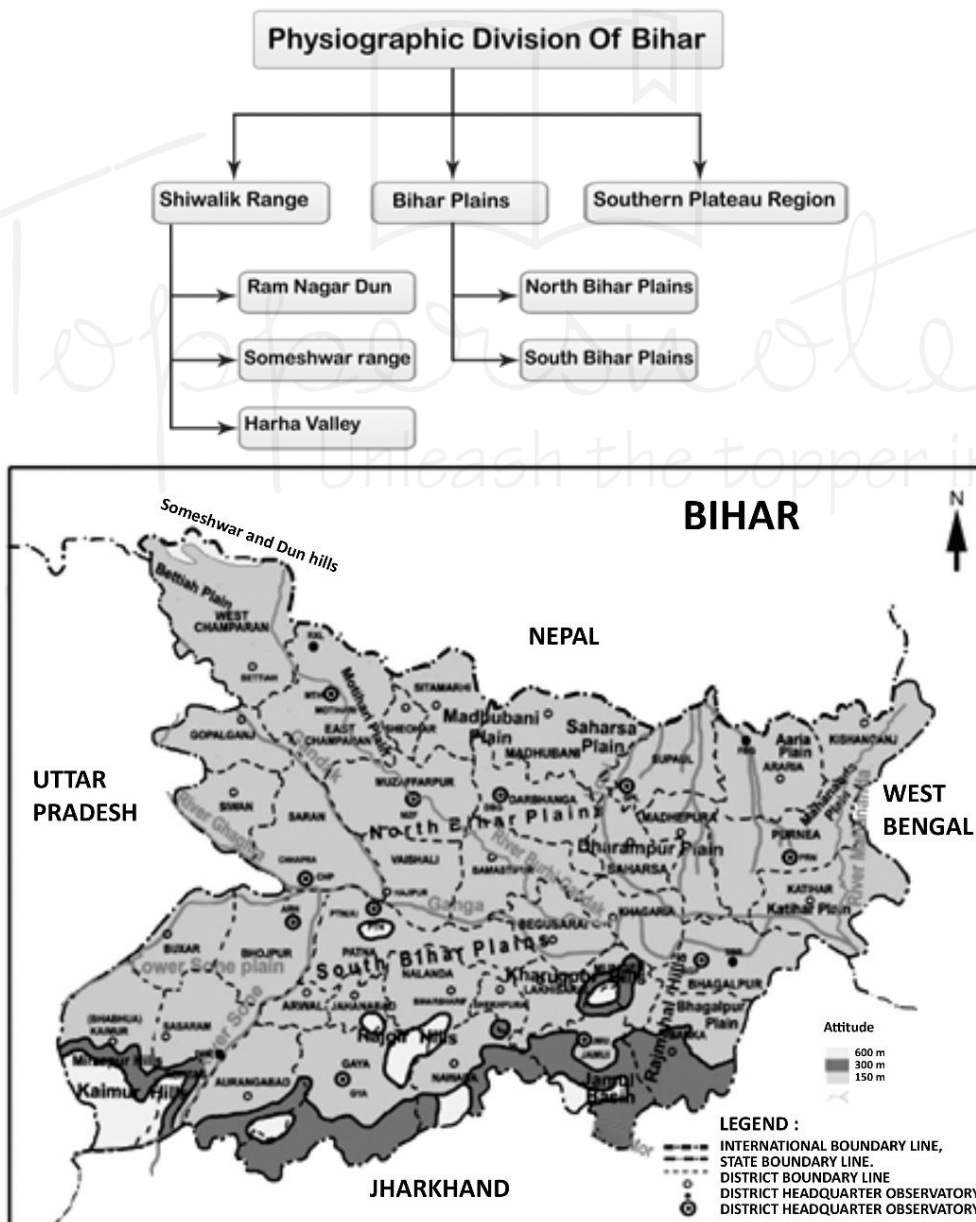


- The four components of Bihar's geological structure are as follows:
 - Dharwar Rock System
 - Vindhyan Rock System
 - Tertiary Rock System
 - Quaternary Rock System

| Rock System Types | Description |
|--|--|
| <p>Dharwar Rock System (Pre cambrian)</p> <p>(The earliest Archaean Rock System's subsystem.)</p> | <ul style="list-style-type: none"> • Formation: <ul style="list-style-type: none"> ○ The weathering of the Archaean rocks yielded the earliest sediments and formed the oldest sedimentary strata, the Dharwar system • Features: <ul style="list-style-type: none"> ○ Oldest metamorphosed rocks of India. ○ Formed as a result of the erosion and sedimentation of Archaean system rocks ○ Azoic, because either no origin of species during their formation or destruction of fossils with the passage of time. • Found in: Southern part of the state, bordering Jharkhand. <ul style="list-style-type: none"> ○ Aurangabad, Gaya, Nawada, Jamui and Munger (SE Bihar) • Mica & schist dominate the region. • Minerals: Quartzite, Phyllite, Gneiss, Schist, Shale and Slate |
| <p>Vindhyan Rock System (Pre cambrian)</p> <p>(Purana Rock System was formed between 130 and 600 million years ago.)</p> | <ul style="list-style-type: none"> • Formation: <ul style="list-style-type: none"> ○ The Vindhyan System is separated from Aravallis by the Great Boundary Fault. • Features: <ul style="list-style-type: none"> ○ Named after the Vindhya mountains ○ Extends from Rajasthan to Bihar (Sasaram) in saucer shape. ○ Ancient sedimentary rocks superimposed on the Archaean base. ○ Unfossiliferous rocks and covered by the Deccan trap. ○ Devoid of metalliferous minerals • Found in: Kaimur District and the Son Valley of Rohtas district. 65th B.P.S.C 2019 • Minerals::Sandstone, Limestone, Dolomite, Quartzite and Shale (47th BPSC 2005). |
| <p>Tertiary Rock System</p> | <ul style="list-style-type: none"> • Formation: <ul style="list-style-type: none"> ○ Formed due to down warping of Sediments in the Tethys Sea between Eurasian Plate and Indian Plate. |

| | |
|--|---|
| <p>(The Tertiary rock system belongs to Cenozoic era, about 66 million years back)</p> | <ul style="list-style-type: none"> ○ formed between the Eocene and Pliocene periods. ● Features: ● Found in: The Upper North-Western parts of Bihar or the Terai Region of Shivalik Ranges in Bihar in Western Champaran districts. ● Minerals: Sandstone, Sandy Shale, Mudstone & Conglomerate |
| <p>Quaternary Rock System (formed during the recent Pleistocene period in last one Million)</p> | <ul style="list-style-type: none"> ● Features: <ul style="list-style-type: none"> ○ It is a very recent deposit. ○ Contains fossils of species with living representatives. ● Distribution: Central part of the state (in between Dharwar System and Tertiary rock system of North-Western Terai Region of Bihar) ● Found in: between Himalayan Terai Region of Bihar in the North and Chota Nagpur plateau region in the south. ● Minerals: Sandstone, conglomerate, coarse gravel |

Physiographic Divisions of Bihar



1. Sub-Himalayan foothills (Shiwalik Range)

- **Features:** Shiwalik has **its origin in the geological formation** found in and around a place **called Sivabala near DehraDun**.
- **Location:** North-West Bihar in West Champaran.
- **Area:** 32km in length and 6-8km in width.
- **Hills found:** Someshwar and the Dun hills (W. Champaran). It is further subdivided into three parts

a. Ramnagar Doon

- **Feature:**
 - Small hills of **maximum height 240 meter**.
- **Location:** Southernmost part of terai region.
- **Area:** Spread into 214 sq km.
- **Highest peak:** Santpur Peak (240m).

b. Someshwar Ranges

- **Features:**
 - It is **dated between the Pliocene and Pleistocene epochs**.
 - **Extension of Shiwalik Ranges** in Bihar.
 - Maximum altitude of the Range is 874 meter, **highest point in Bihar**.
 - Several Passes formed due to river erosion.
- **Important passes:** Someshwar, Bhikhnathori and Marawat Pass.
- **Geographical extension:** Triveni Canal (in the West) to Bhikhnathori (in the East).
- **Location:** Northernmost Bihar
- **Area:** over 75 sq. Km.
- **Highest point:** Someshwar Fort (874m)

c. Doon Valley (Harha Valley)

- **Features:**
 - Known as Harha Valley **because the Harha River** flows through it.

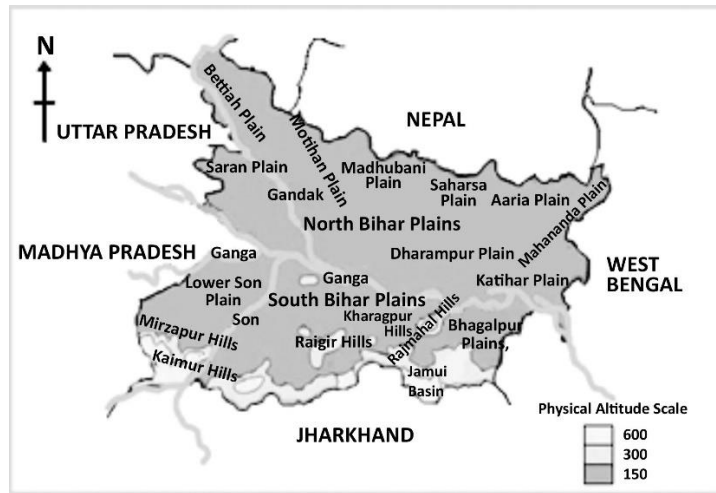
- **River passes** - Bhikhana, Someshwar and Makhat.

- **Extension:** lies between Ramnagar Doon and Someshwar **Ranges**.
- **Area:** 643 sq. Km.
- **Elevation:** Higher than northern plain.

2. Indo Gangetic Plain (The Bihar Plain)

- **Features:**
 - **Area:** 90,650 sq km (95% of total area of Bihar)
 - **Slope:** 6cm/km.
 - **Average height:** between 60 to 120 cm.
- **The Ganges bifurcates Bihar Plains** into two parts.
- a. **Northern Plains of Bihar**
 - **Formation:** due to deposition of alluvium brought by the Northern tributaries of Ganga in Bihar i.e. Ghaghara, Gandak, Bagmati, Burhi Gandhak, Kosi, Mahananda etc.
 - **Represents the Quaternary Rock system** in Bihar.
 - **General features North Bihar Plain**

| | |
|----------------------|--|
| Location | Northside of Ganga. |
| Extent | <ul style="list-style-type: none"> ● Spread over the whole of Tirhut, Saran, Darbhanga and Kosi division. ● Ghaghra-Gandak Doab in the west to Mahananda valley in the east. |
| Drainage area | Ghaghra, Gandak, Bhagmati, Kamla, Kosi and Mahananda rivers. |
| Marked by | Chuar formation (Oxbow lakes) |
| Represents | Quaternary Rock system |



- Rivers of Northern plains divides Bihar into **important Doabs:**

- **Ghaghra-Gandak Doab**

- **Districts of this region:** Saran, Siwan and Gopalganj districts.
- **Annual rainfall:** 120 cm.
- **Important crops:** Paddy, maize, wheat, sugarcane, oilseeds and pulses.
- **Rich in agriculture**, also has industries related to agriculture.
- **Due to the high production of sugarcane**, the **sugar industry** has developed more in this region.
- **Main centers of sugar industry:** Gopalganj, Chhapra, Siwan, Mirganj, Mehraura etc.

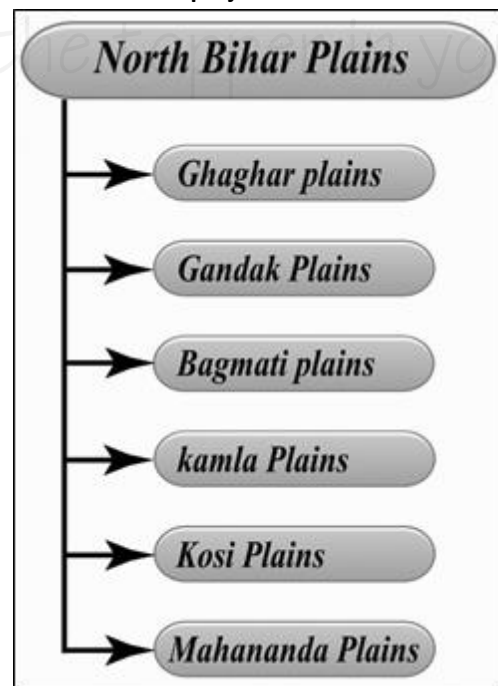
- **Gandak-Kosi Doab**

- **Districts of this region:** East Champaran, West Champaran, Sitamarhi, Sheohar, Darbhanga, Muzaffarpur, Vaishali, Madhubani, Begusarai etc.
- **Sugar industry and fruit processing industry** are the major industries here
- **Centers of sugar industry:** Chanpatia, Sugauli, Samastipur, Motihari, Bagaha etc.
- **Main crops:** Paddy, Maize, Sugarcane, Wheat, Barley, Pulses, Oilseeds etc.
- **Main cash crops:** Sugarcane, tobacco and red chillies.
- **Districts famous for:**
 - ✓ **Darbhanga:** Mango,
 - ✓ **Muzaffarpur:** litchi
 - ✓ **Hajipur:** Banana
 - ✓ **Barauni:** Fertilizer factory, oil refinery and thermal power station.

- **Milk industry has developed in Barauni and Muzaffarpur.**

- **Kosi-Mahananda Doab**

- **Districts of this region:** Purnia, Araria, Kishanganj, Madhepura, Khagaria and Saharsa
- **Backward area** in terms of agriculture, industry, and transportation.
- **Flood affected area:** It receives excessive rainfall, due to which the Kosi and its tributaries bring floods every year.
- The government has made efforts to control the flood situation through the **Kosi project.**



- North Bihar plain is **divided into following regions:**

- **Ghagra Plain**

- **Western most** part of the North Bihar plain.
- **Spread over:** Siwan, Gopalganj and Saran.
- **Gandak Plain**
 - **Location:** between Bagmati and Ghaghra plains.
- **Bagmati Plain**
 - **Special Features:** Chauras are formed
 - **Location:** Kamala plain in the east and Gandak plain in the west.
 - **Spread area:** Sitamarhi, Muzaffarpur, Samastipur, East Champaran and Sheohar.
- **Kamala Plain**
 - **Special Features:** The river Kamala also changes its course, due to which a large number of **chauras are formed in the regions.**
 - **Location:** Central part of the North Bihar plain.
 - **Surrounded by:** Kosi plain in the east, Bagmati plain in the west, Indo-Nepal border in the north and river Ganga in the south.
- **Kosi Plain**
 - **Surrounded by:** Mahananda plain in the east, river Kamala in the west, Nepal border in the north and river Ganga in the south.
 - **Spread area:** Supaul, Saharsa, Madhepura, Madhubani, Darbhanga.
 - The river Kosi is **known to change its course** and hence it is the **most flood affected area of Bihar.**
- **Mahananda Plain**
 - **Location:** Easternmost part of the North Bihar plain.
 - **Spread area:** Indo-Nepal border in the north, river Ganga in the south, West Bengal in the east and river Kosi in the west.

b. Southern Plains of Bihar

- **Formation:** Sandy soil formed **out of older alluvium (Bhangar)** brought by Peninsular Rivers like Son, Punpun, Phalgu, Kiul, Ajay.
- **Physiographic features:** Protruding **hill due to batholith outflow.** Examples Gaya Hills (266 metre), Rajgir Hills (466 meter), Kharagapur (510 metre), Barabar Hills and Giriak Hills.

- **Physical feature:** Western part of the Southern Plains is **much wider** than the Eastern part.
- **Slope:**
 - **Southern plain gentler than Northern plains.**
 - It's slope is about **6cm/Km from South to North towards Ganga Basin,**
 - Due to slope formation of **numerous swamps** near southern bank of Ganga **from Badh (Patna) to Bhagalpur.**
 - These Swamps in Bihar known as '**Tal**'.
- **South Bihar Plains categorized into 5 different plains.**
 - **Central South plains:**
 - **Shape:** Triangular.
 - **Surrounded by:** Ganga in the north, Son in the west and Tal region in the east.
 - **Area:** 17000 sq km.
 - **Spread area:** Aurangabad, Jehanabad, Patna, Nalanda and Nawada.
 - **Chandan Plains:**
 - **Location:** Easternmost part of south Ganga plain and
 - **Spread area:** Banka and Bhagalpur districts.
 - **River:** The Chandan river originates from the **Digharia Hills** which is a part of Rajmahal Hills
 - **Kiul Plains:**
 - **Location:** Western side of Chandan plain and east of Tal region.
 - **Characteristics:** The Kharagpur hills form a watershed region between Kiul and Maan rivers.
 - **Shahabad Plains:**
 - **Location:** Western most part of south Bihar plain.
 - **Surrounded by:** Ganga on the north, Kaimur plateau in the south, river Son in the east and river Karmanasa in the west.
 - **Spread area:** Bhojpur, Buxar and some parts of kaimur.
 - **Tal region:**
 - **Surrounded by:** East of Tal region is Kiul plain and to its west is Magadha plain.
 - **Soil:** The alluvium deposited is important for rabi.

General features South Bihar plains

| Facts | Characteristics |
|-------|-----------------|
|-------|-----------------|

| | |
|-----------------|--|
| Extension | <ul style="list-style-type: none"> From the Ganga up to Chhota Nagpur Plateau. Smaller than North Bihar Plains. |
| Shape | <ul style="list-style-type: none"> Triangular in shape. |
| Important Hills | <ul style="list-style-type: none"> Barabar Hills Rajgir Hills Giriak Hills Kharagpur Hills (Jehanabad, Nalanda and Munger). |
| Elevation | <ul style="list-style-type: none"> Higher in the south and slopes towards Ganga. |

3. Southern Plateau region

- **Features:** many conical hills which are made of Batholith, like Pretshila, Ramshila and Jethian Hills etc.
- **Rivers:** Sone, Uttari Koel, Pinpun, Panchane and Karmnasha which flow towards north from the plateau region.
- **Hills:**
 - **Central Bihar** consists of Rajgir Hills and Kharugpur Hills (Munger) which are two parallel ridges extending around 65 kms. These hills are around 300 meters high.

- **South Bihar - Brahmayoni hills (Gaya) 67th B.P.S.C 2020**
- **Surrounded by:** South of Bihar plains lie in the plateau region which consists of Kaimur plateau also referred as Rohtas Plateau in the west and Chhota Nagpur plateau in the east.
- **Geologically:** It is made up of hard rocks - **Gneiss, Schist and Granite.**
- **Resources:** This region is rich in minerals and almost all mineral resources of Bihar are found from this region itself. This can be further divided into two parts: -
 - **Western Part:**
 - **Extension of Chhota Nagpur Plateau in Bihar.**
 - It is spread in Kaimur, Rohtas Aurangabad, Gaya, Nawada and some parts of Jamui.
 - **Eastern Part**
 - It's a continuation of Rajmahal Hills (Oldest Part in Bihar).
 - It extends from Banka, Jamui, Munger, and certain areas of Bhagalpur.

3

CHAPTER

DRAINAGE SYSTEM

Major River Basins of Bihar

As per “**Second Bihar State Irrigation Commission 1994**” report, the rivers of Bihar have been divided into **14 basins** namely

1. Ghagra
2. Gandak
3. Burhi Gandak
4. Bagmati-Adhwara
5. Kamla-Balan
6. Kosi
7. Mahananda
8. Main Ganga stem which includes the drainage area of Kao river, Dharmavati river, Ganga, Mahi river, and Baya river

9. Karmnasa
10. Sone
11. Punpun
12. Kiul-Harohar
13. Badua which includes the drainage area of Belharha river.
14. Chandan which includes the drainage area of Bilasi and chir rivers

Prelims fact

Ganga river basin area (11 States & UT)

Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, West Bengal, Uttarakhand, Jharkhand, Haryana, Chhattisgarh, Himachal Pradesh and Union Territory of Delhi



- The **Ganga** flowing from east to west in this state is the **main drainage channel** with majority Rivers associated with it.
 - **North: seven major rivers/basins** namely Ghaghra, Gandak, Burhi-Gandak, Kamla Balan, Bagmati, Kosi and Mahananda
 - **South: six rivers** namely Karmnasa, Sone, Punpun, Kiul-Harohar, Badua and Chandan.

- All its **left bank tributaries** in Bihar excluding Burhi-Gandak **originate from Himalayas**, flow through Nepal and large part of their catchment falls in the glacial regions of the great Himalayas.
 - These rivers are **snow fed** and hence **perennial**.

| River Basin | Total Catchment Area (Sq.km) | Catchment in Bihar (Sq Km) | Name of Main River |
|-----------------|------------------------------|----------------------------|--------------------|
| Ghaghra | 127950 | 2995 | Ghaghra |
| Gandak | 40553 | 4188 | Gandak |
| Burhi Gandak | 12021 | 9601 | Burhi Gandak |
| Bagmati-Adhwara | 14384 | 6500 | Bagmati |
| Kamla-Balan | 7232 | 4488 | Kamla |
| Kosi | 74030 | 11410 | Kosi |
| Mahananda | 23700 | 6150 | Mahananda |
| Main Ganga Stem | 136970 | 16205 | Ganga |
| Karmnasa | 7792 | 5127 | Karmnasa |
| Sone | 70228 | 1483 | Sone |
| Punpun | 9026 | 7536 | Punpun |
| Kiul-Harohar | 17225 | 12806 | Kiul |
| Badua | 2215 | 2215 | Badua |
| Chandan | 4093 | 2371 | Chandan |

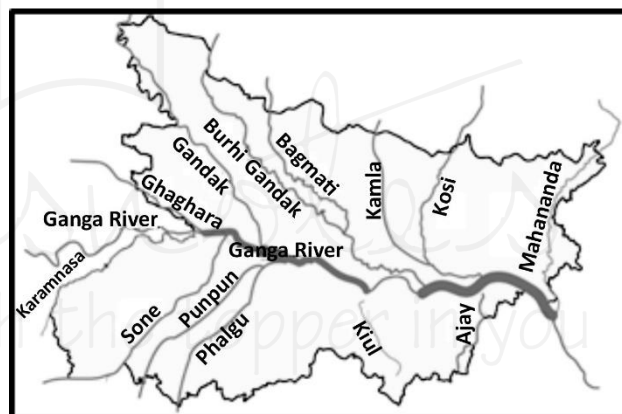
Badua

- The basin is situated between latitudes 24.5°N and 25.25°N and Longitude 86.22°E and 86.55°E.
- The river Badua originates from hills of Chakai Black in Munger district and falls into the Ganga near Nathnagar (West of Bhagalpur) through Chanal Nadi.
- The Belharana river runs almost parallel to the Badua river on its left and falls independently into the Ganga about 26 Km above the outfall of Badua.
- The total catchment area of the basin is 2215 Sq Km and the length of main river Badua in Bihar is 130 Km.

Chandan

- The basin is situated between latitudes 24.30°N and 22.51°N and Longitudes 84.36°E and 87.27°E.
- The basin is drained independently by the river Chandan and the Chir.
- The river Bilasi runs almost parallel to the Chandan river on its left and falls into Chandan which ultimately outfalls into the Ganga.
- The river originated from the hills of Deoghar in Jharkhand state at an elevation of 274 M and after travelling 110Km length bifurcates into number of small channels with deltaic river characteristic before meeting the river Ganga through Jamunia Nala.
- The important tributaries of Chandan are Orhni, Kuldar and Chatri.
- Its total catchment area is 4093 Sq Km and Catchment in Bihar is 2371 Sq. Km as per GIS.
- Length of main river Chandan in Bihar is 118 Km.

River System of Bihar



| Rivers of Bihar | Characteristics |
|--|--|
| North Bihar Rivers <ul style="list-style-type: none"> • Ghaghra. • Gandak. • Burhi Gandak • Kosi, • Mahananda. • Bagmati-Adhwara, Kamla-Balan etc. drain into the Ganga through the Kosi. | <ul style="list-style-type: none"> • The Ghaghra, Gandak and Burhi Gandak rivers of north Bihar are now more or less stabilized. • In this process of shifting, it has created numerous chauras (saucer like depressions) and mauns (deep horseshoe shaped water bodies formed due to avulsions/cut-offs) in the basin. • The other north Bihar Rivers such as the Bagmati, Adhwara group of rivers, Kamla-Balan and Kosi are still very unstable due to steep slopes in their upper reaches and high silt charges. • The major rivers of north Bihar have catchments in Himalayan origin and a considerable portion of their catchments lie in the glacial region. They are, therefore, snow-fed and perennial in flow. |

| | |
|--|---|
| <p>South Bihar River</p> <ul style="list-style-type: none"> • Karmanasa, • Sone. • Punpun. • Kiul. • Badua. • Chandan. • Falgu. • Ajay. | <ul style="list-style-type: none"> • Southern Bihar rivers are rained having their origins either in the Vindhyachal hills or in the hills of Chhotanagpur and Rajmahal. • A peculiar phenomenon in this region is the formation of Tal. • The southern bank of the Ganga is naturally formed as a levee obstructing the drainage of the land on the south of it, which extends up to the foot of Chhotanagpur hills. • Mokama group of Tals, the area just on the south of the high Ganga bank extending from Fatuha to Barahia, which comprises of Fatuha Tal, Bakhtiyarpur Tal, Barh Tal, More Tal, Mokama Tal, Barahiya Tal and Singhaul Tal etc. are the important rivers of this region which joins Ganga. |
|--|---|

Major Rivers of Bihar

The Ganga:

- **Source:** Gaumukh in the southern Himalayan Glaciers.
- **Total length:** of the Ganga in Bihar is nearly **445 km.**
- **Catchment area :**16900 sq. km.
- **Enters: At Chausa (near Buxar) after its confluence with Karmanasa.**
- **Flows through 12 districts:** Buxar, Bhojpur, Saran, Patna, Vaishali, Samastipur, Begusarai, Munger, Khagaria, Katihar, Bhagalpur and Lakhisarai.**65th B.P.S.C 2019**

- **Longest length: In Patna(99km) -65th B.P.S.C 2019**
- **Joined by:** the Ghaghra, the Gandak, and the Son and their tributaries in **patna district.**
- **Confluence:**
 - Punpun joins it at Fatuha in Patna district,
 - **Sone near Maner(Patna) 67th B.P.S.C 2020**
 - Koshi joins it at khagaria district.
 - Harohar and the Kiul join it near Surajgarha, (Lakhisarai).

Tributaries of Ganga River

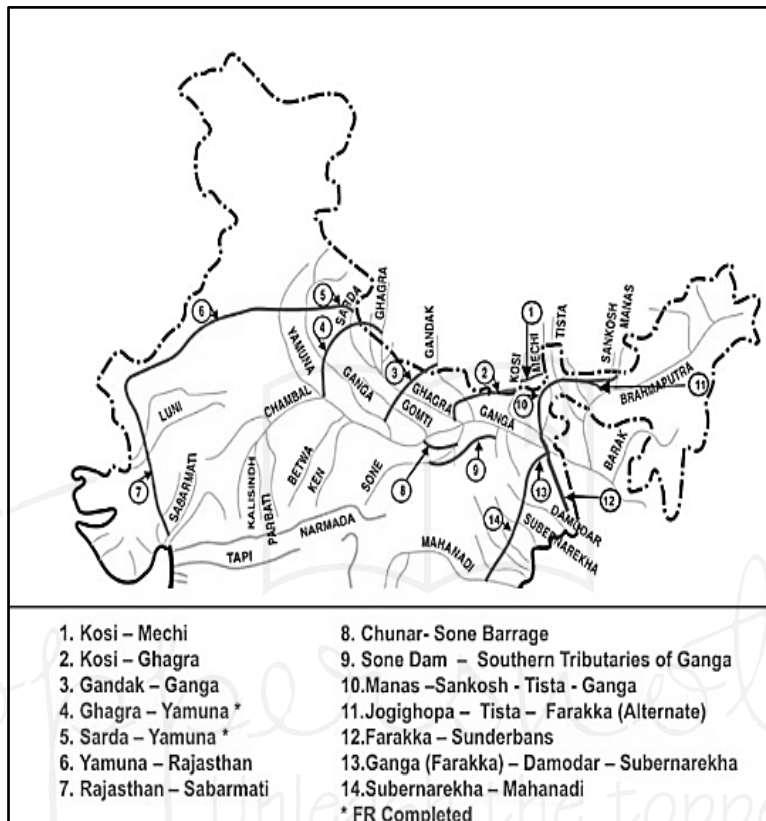
| Left Bank (North Bihar Rivers) | Right Bank (South Bihar Rivers) |
|---|---|
| <p>GHAGRA (largest tributary)</p> <ul style="list-style-type: none"> • Source-Tibetan Plateau near Lake Mansarovar in Nepal. • Length: 83 km in Bihar • Left bank tributaries: Gandak, Jharahi, Daha • Project: Sarda irrigation & Saryu nahar scheme. • Enters into Bihar near Guthani of Siwan district and joins Ganga at Revilganj (Chapra) in district Saran. <p>Cities /towns - Siwan, Saran(Chapra) and Sonepur.</p> | <p>FALGU</p> <ul style="list-style-type: none"> • Gaya is located on the bank of this river. • It finds its existence by combination of Niranjana and Mohana rivers. <p>Lord Vishnu's Temple Vishnupad Mandir is situated on the bank of Phalgu river also called Niranjana river.</p> |
| <p>GANDAK</p> <ul style="list-style-type: none"> • Source: lakes of Himalayan streams in Nepal. • Length: total length 630 km, 260 km in Bihar • It is one of the major left bank tributaries of the Ganga, known as the Narayani, especially in Nepal. • Enters into Bihar at the Indo-Nepal border Triveni (in Nepal) and Valmikinagar in Bagha subdivision of West Champaran. • Cities- West Champaran, East Champaran, Gopalganj, Saran, Muzaffarpur and Vaishali districts. • Joins the Ganges near Patna just down stream with one of river bank at near Kaunhara Ghat, Hajipur(Vaishali) | <p>PUNPUN</p> <ul style="list-style-type: none"> • Source - Chota Nagpur hills in Hariharganj block of Palamu district (Jharkhand) • Flows through: Chatra(Jharkhand), Aurangabad, Gaya and Patna districts of Bihar. • Confluence: Joins the Ganges at Fatuha, 25 km down stream of Patna.63rd B.P.S.C 2018 • The Punpun has four major right bank tributaries namely the Morhar, the Dardha, the Madar and the Batane. <p>Length: 235 km</p> |

| | |
|--|---|
| <p>& the another at near Hariharnath Mandir, Sonepur (Saran).</p> <ul style="list-style-type: none"> ● Tributaries: Bhawasa, Harha and kakra. ● Feeds water into triveni canal. (63rd B.P.S.C Pre -2018, 45th BPSC Pre 2002) ● Triveni canal irrigates 1 lakh hectare of land in west Champaran district. (60-62 BPSC pre -2017) <p>Saran canal emerges. (44th BPSC 2001)</p> | |
| <p>KOSI</p> <ul style="list-style-type: none"> ● Source: originated at an altitude of over 7000m in the Himalayas. In Nepal it emerges from the mountains with other tributaries and becomes the Koshi. ● Enters: Near Bhimnagar (Supaul) after flowing approx. 260 km joins the Ganges near Kursela, district Katihar. 65th B.P.S.C.2020 ● Cities: Supaul, Purnia, Katihar ● Shifting Course: In the past, the river flowed close to Purnea; today, it flows west of Saharsa. Saran canal emerges. (44th BPSC 2001) <p>Koshi has been the main responsible river for extreme flooding in Bihar. For this reason, the Koshi River is known as “The Sorrow of Bihar” as it has been causing huge damage to lives and property through flooding and very frequent changes in course.</p> | <p>SONE</p> <ul style="list-style-type: none"> ● Source: Maikala range of hills in MP near Amarkantak ● Length: 202 km in Bihar ● Tributaries: Rihand (Uttar Pradesh) and North Koel (Palamu District, Jharkhand). 65th B.P.S.C 2019 ● It also receives over flow of Bansagar Dam, Dist-Rewa, MP. After flowing through the states MP, UP & Jharkhand, ● Enters: to Bihar, near south of District-Kaimur. ● Flows through : Aurangabad, Dehri-on-sonne, Rohtas, Daudnagar(Jahanabad), Koilwer, Patna. ● Joins the Ganges in downstream of Chapra, nearbyDoriganj (Saran). |
| <p>THE MAHANANDA</p> <ul style="list-style-type: none"> ● Originates: Mohalidram hill of the Himalayas at Chimali at an altitude of 2060m and about 6.4 km north-east of Kurseong town in Darjeeling district of west Bengal <p>Flows through: Purnea & Katihar.</p> | <p>KIUL</p> <ul style="list-style-type: none"> ● Originates: Tisri Hill Range in Kharagdiha police station area of Giridih district (Jharkhand) ● Entry point: Munger district ● Flows through: Lakhisarai, Sheikhpura and Jamui districts. ● Right bank tributary: Barnar <p>Left bank tributary: Harohar</p> |
| <p>BUDHI GANDAK</p> <ul style="list-style-type: none"> ● Origin: Chautarwa Chaur near Bisambharpur, West Champaran. ● Cities: W. Champaran, E. Champaran, Muzaffarpur, Samastipur, Begusarai, Khagaria. <p>Tributaries: Ramrekha, Harbours, Kohra, Sirisia and Bagmati</p> | <p>AJAY</p> <ul style="list-style-type: none"> ● Originates: From the hills of the chakai block of Munger district. ● Tributaries: Darua, pathro, jayanti. <p>Flows through: Munger.</p> |
| <p>BAGMATI</p> <ul style="list-style-type: none"> ● Origin: Shivpuri range of hills in Nepal ● Entry:at Shorwatia village in Sitamarhi. ● Flows : Muzaffarpur, Darbhanga and Samastipur. <p>Joins Kosi River at Badlaghat.</p> | <p>KARAMNASA</p> <ul style="list-style-type: none"> ● Originates: Kaimur hills in Mirzapur ● Joins Ganga at Chausa. ● Tributaries: Durgavati, Chandraprabha, Karunuti, Nadi, Goriya, Khajuri. <p>Total length: 192 km. Up-92 km, Bihar-24 km, Up & Bihar-76 km.</p> |

KAMLA

- **Origin:** Mahabharta range of Hills in Nepal near Sindhuliagarhi
 - **Entry:** At Jayanagar town of Madhubani district
- Tributaries:** Dhauri, Soni, Balan and Trisula.

Interlinking of Rivers



The National Water Development Agency (NWDA) has proposed 30 major river link canals throughout the country to transfer water from surplus basin to water deficit basin.

Inter Linking of Rivers refers transfer of water from water surplus river to water deficit river through human interventions on natural systems

Surplus water in some rivers can be diverted to deficit rivers by creating a network of canals to interconnect the rivers.

Link Canals related to Bihar

1. Kosi-Mechi Link Canal

- **Length:** 112.55 km
- **Location:** "Terai" area in Nepal.
- **Start:** left side of Chatra barrage
- **Drains:** Mechi river
- **Crossing Rivers:** Three small rivers Bakra, Ratuwa and Kankai.

- **Capacity:** 1407.80 cubic meter per second (cumec) and discharge rate will be 97.64 cumec.

- **Irrigation area:** 4.74 lakh hectares of land.

- The canal would also provide navigational facility from Chatra to Ganga via Mechi and Mahananda rivers.

2. Kosi-Ghaghara Link Canal

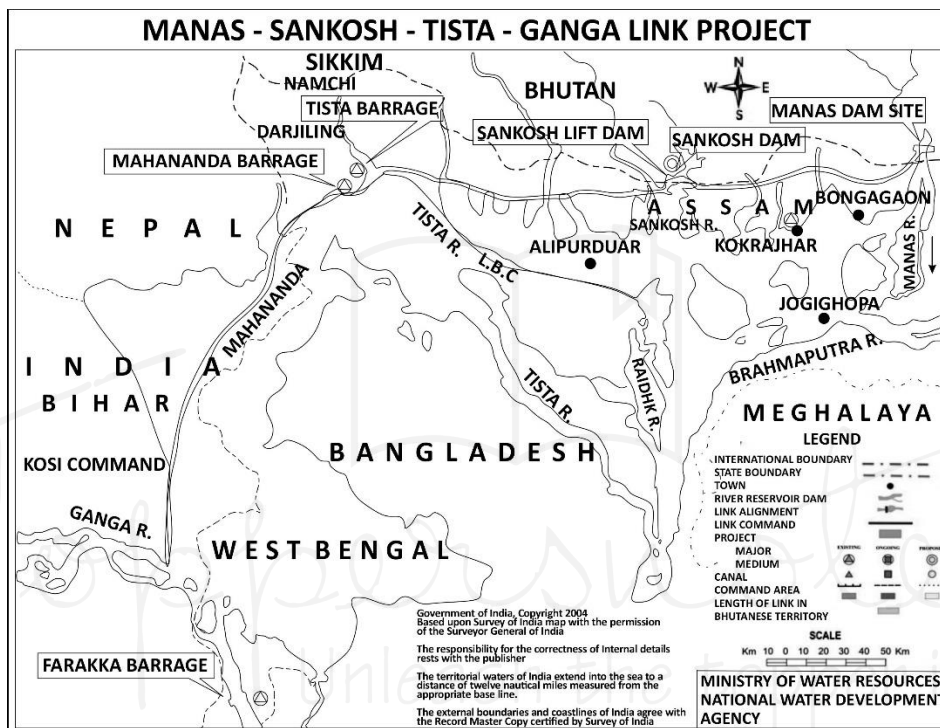
- **Length:** 428.76 km.
 - **Start:** right side of the Chatra barrage
 - **Drains:** Gaura river, a tributary of Ghaghara river, in Uttar Pradesh.
 - **Crossing Rivers:** Tiljuga, Khanro, Bagmati and Lalbakkeya rivers in Nepal and Gandak river in Bihar.
- 3. Sone Dam-Southern tributaries of Ganga Link Cana**
- **Length:** 339 km long canal
 - **Start:** right side of the proposed dam across Saurkhand.

- Two hydel projects of 3.5 MW and a river near Kadwan in Jharkhand 1.5 MW capacities would be finalized near the junction of Sakri river.
- **Benefitted districts:** Patna, Nalanda, Gaya, Jehanabad, Munger, Bhagalpur, Nawada, Jamui and Aurangabad of Bihar and Palamu district of Jharkhand.

4. Chunar-Sone Barrage Link Canal

- **Length:** 149.10 km.
- **Start:** right side of Ganga river near Chunar Tehsil of Mirzapur district in UP
- **Fall:** Sone river near Indrapuri barrage in Rohtas district.
- **Benefitted districts:** provide irrigation in 66,793 hectares of new area in Mirzapur, Varanasi and Gazipur districts of UP and Bhabhua, Rohtas, Buxar and Bhojpur districts of Bihar.

5. Brahmaputra - Ganga (Manas- Sankosh- Teesta- Ganga Link Canal



- **Length:** 457 km long link canal and a dam on river Manas and a dam and a barrage on river Sankosh in Bhutan.
 - There would be 7 numbers of falls on the canal, out of which 4 nos. of falls are located in Bihar.
 - A total hydro power to the tune of 718 MW will be generated on these falls, out of which 393 MW will be generated on falls located in Bihar.
 - **Irrigation area:** 6.53 lakh ha. out of which 2.64 lakh ha. area in Bihar.
- #### 6. Gandak-Ganga Canal
- **Length:** The 639 km long canal
 - **Start:** right side of the proposed dam across Gandak river in Nepal
 - **Drains:** Ganga river near Mustafabad in Raebareilly district of Uttar Pradesh.

- This canal **would not cross through Bihar** but it would make a big impact on the State by taming the flood waters of Gandak.
- There will be **no irrigation facility in Bihar** from this canal.

Multipurpose River Valley Project

Do you know ?

- Kosi River is also known as **Saptakoshi** because of the **seven rivers which join together in east-central Nepal** to form this river.
- **Main rivers forming Kosi system are:** the Sun Kosi, the Indravati River, the Bhote Koshi, the Dudh Kosi, the Arun River, Barun River, and Tamur River