

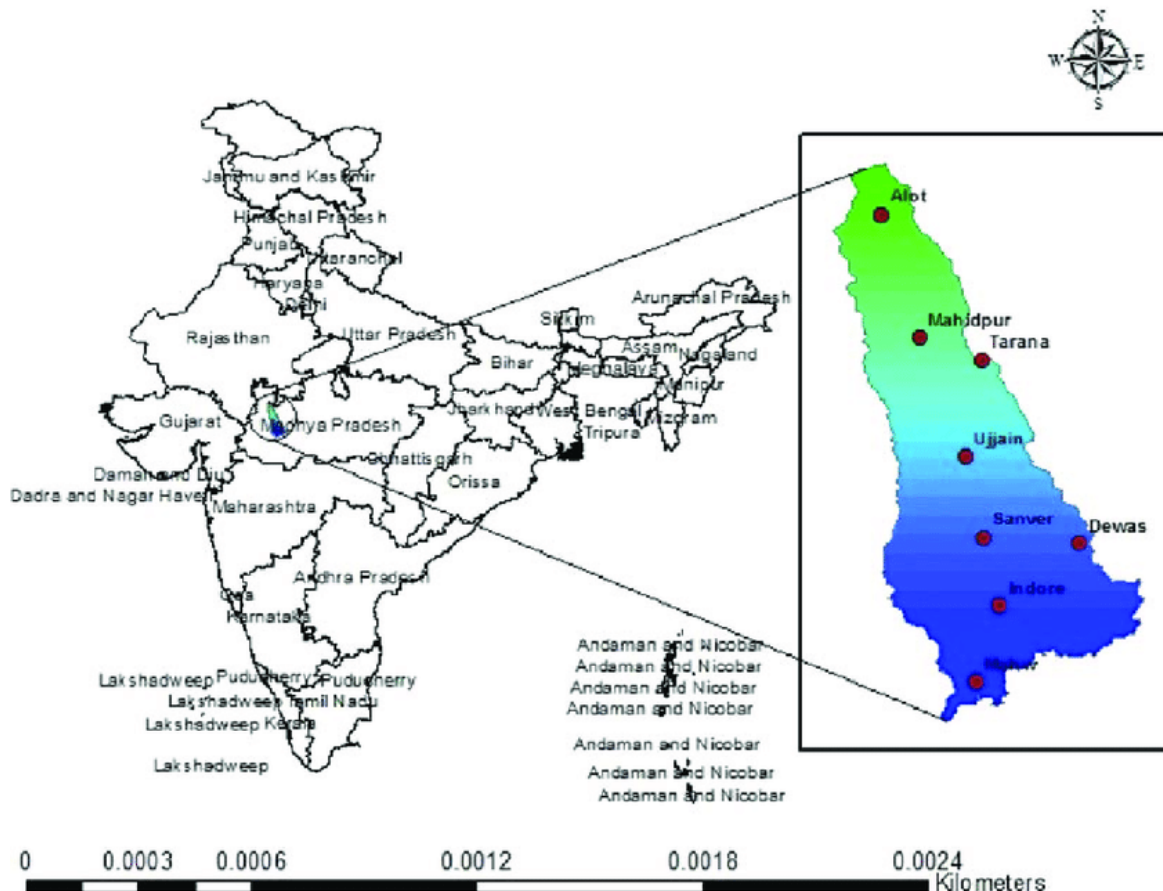


Shipra (Khipra) River

Recently, the [Comptroller and Auditor General of India \(CAG\)](#) conducted a **performance audit** (2016-17 to 2020-21) on the degradation of the **Shipra River**.

Shipra River:

- **Origin:** The Shipra (Kshipra), a **tributary of the Chambal River** in Madhya Pradesh, flows across the Malwa Plateau.
 - It **originates in the Vindhya Range** from a hill called Kakri-Tekdi, which is in the north of Dhar and situated near Ujjain.
 - **Major Tributaries:** Khan and Gambhir.
- **Cultural Significance:**
 - **Ujjain** is a sacred city on a river's east bank. It hosts the **Sinhastha fair (Kumbh Mela) every 12 years** and **yearly celebrations** for the river goddess Kshipra.
 - According to Hindu texts, the Shipra River originates from **Varaha**, an incarnation of Lord Vishnu. Also, **Krishna**, another avatar of Vishnu, studied at Sage Sandipani's ashram by the river.
 - It is also mentioned in Buddhist and Jain scriptures.



[Read more...](#)

Patents (Amendment) Rules, 2024

Source: [Lexology](#)

Why in News?

Recently, the Ministry of Commerce and Industry has notified the **Patents Amendment Rules, 2024** making significant changes to Indian patent practice and procedure.

What are the Key Changes Introduced Under Patents (Amendment) Rules, 2024?

- **Reduced timeline for filing a Request for Examination (RFE):** The timeline for filing the RFE is now reduced from 48 months to 31 months from the priority date.
 - The **reduced timeline for filing a Request for Examination (RFE) will accelerate the patent examination process.**
- **Simplified Submission of Form 3:** Applicants can simply file a single updated Form 3 after receiving the **First Examination Report (FER)**.
 - The Patent office issues an examination report to the applicant which is generally known as FER.
- **Introduction of 'Certificate of Inventorship':** To recognise inventors' contributions to patented inventions.
 - As the Indian patent certificate does not identify the inventors, this provision will allow inventors to be identified for their inventions.
- **Frequency of filing statements:** The frequency of filing working patents was reduced from once in a financial year to once in every three financial years.
- **Amendments in Pre-grant and Post-grant Opposition Procedures:** The time frame for submission of recommendations by an Opposition Board and the response time for applicants have been adjusted.
 - A divisional application can be filed in respect of an invention disclosed in the provisional or complete application or a further divisional application.
 - This amendment is in alignment with the recent decision of the Delhi High Court in **Syngenta Limited v. Controller of Patents and Designs Case, 2023**.
 - In this the court clarified that **divisional applications may be filed in respect of parent applications** where the complete or provisional specification (and not necessarily the claims) of the parent application disclose a plurality of inventions.

What is a Patent?

- **About:**
 - A Patent is a **statutory right for an invention granted for a limited period to the patentee** by the Government, in exchange of **full disclosure of his invention** for excluding others, from making, using, selling, importing the patented product or process for producing that product for those purposes without his consent.
 - The patent system in India is governed by the **Patents Act, 1970** which was amended in 2003 and 2005.
 - The Patent Rules are regularly amended in consonance with the changing **environment, the most recent being [Patents \(Amendment\) Rules, 2024](#).**
- **Term of a Patent:**
 - The term of every patent granted is 20 years from the date of filing of the application.
 - However, for applications filed under the national phase of the **Patent Cooperation Treaty (PCT)**, the accorded term will be 20 years from the international filing date.
 - PCT is an international treaty with more than 150 contracting states, making it

possible to seek **patent protection for an invention simultaneously in each of a large number of countries** by filing an international patent application.

- Such an application may be filed by anyone who is a national or resident of a PCT contracting State, and generally be filed with the national patent office of the contracting State with the International Bureau of [World Intellectual Property Organisation \(WIPO\)](#) in Geneva.

INTELLECTUAL PROPERTY RIGHTS (IPRs)

IP refers to intangible assets owned/legally protected by an individual/company from outside use or implementation without consent.



NEED FOR IPR

- ↳ Encourages Innovation
- ↳ Economic growth
- ↳ Safeguard rights of creators
- ↳ Enhances ease of doing business



RELATED CONVENTIONS/TREATIES (INDIA SIGNATORY TO ALL)

- ↳ **WIPO Administered (first recognised IPR under):**
 - ↳ Paris Convention for the Protection of Industrial Property 1883 (**Patents, Industrial Designs**)
 - ↳ Berne Convention for the Protection of Literary and Artistic Works 1886 (**Copyrights**)
- ↳ **WTO - TRIPS Agreement:**
 - ↳ Ensures adequate standard of protection
 - ↳ Argues for incentives for technology transfer to developing countries
- ↳ **Budapest Treaty 1977:**
 - ↳ International recognition of the deposit of micro-organisms for the purposes of patent procedure
- ↳ **Marrakesh VIP Treaty 2016:**
 - ↳ Facilitate access to published works by visually impaired persons and persons with print disabilities
- ↳ IPR also outlined in **Article 27** (Universal Declaration of Human Rights)



INDIA AND IPRS - INITIATIVES

- ↳ **National IPR Policy 2016:**
 - ↳ **Motto:** "Creative India; Innovative India"
 - ↳ Compliant with TRIPS Agreement
 - ↳ Brings all IPRs to single platform
 - ↳ **Nodal Dept - Department of Industrial Policy & Promotion (Ministry of Commerce)**
- ↳ **National (IP) Awareness Mission (NIPAM)**
- ↳ **Kalam Program for Intellectual Property Literacy and Awareness Campaign (KAPILA)**

World Intellectual Property Day: 26th April

Intellectual Property	Protection	Law in India	Duration
Copyright	Expression of Ideas	Copyright Act 1957	Variable
Patent	Inventions- New Processes, Machines, etc.	Indian Patent Act 1970	20 years Generally
Trademarks	Sign to distinguish business goods or services	Trade Marks Act 1999	Can last Indefinitely
Trade Secrets	Confidential Business Information	Protected without Registration	Unlimited time
Geographical Indication (GI)	Sign used on specific geographical origin and possess qualities due to site of origin	Geographical Indications of Goods (R & P) Act, 1999	10 years (Renewable)
Industrial Design	Ornamental or aesthetic aspect of an article	Design Act, 2000	10 years



UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims:

Q With reference to the 'National Intellectual Property Rights Policy', consider the following statements:

1. It reiterates India's commitment to the Doha Development Agenda and the TRIPS Agreement.
2. Department of Industrial Policy and Promotion is the nodal agency for regulating intellectual property rights in India.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (c)

Q How does the National Biodiversity Authority (NBA) help in protecting Indian agriculture?

1. NBA checks the biopiracy and protects the indigenous and traditional genetic resources.
2. NBA directly monitors and supervises the scientific research on genetic modification of crop plants.
3. Application for Intellectual Property Rights related to genetic/biological resources cannot be made without the approval of NBA

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (c)

Mains:

Q. In a globalized world, Intellectual Property Rights assume significance and are a source of litigation. Broadly distinguish between the terms—Copyrights, Patents and Trade Secrets. **(2014)**

Integrated River Basin Management

For Prelims: [Indus Waters Treaty](#), [Ganga](#), [Brahmaputra](#), [Yamuna](#)

For Mains: Effective river planning, Necessity of multilateral treaties for effective management of Rivers, Indus Waters Treaty

[Source: IE](#)

Why in News?

A recent report authored by the Kathmandu-based International Centre for Integrated Mountain Development (ICIMOD) and the Australian Water Partnership has emphasized the **need for multilateral treaties for effective integrated river basin management of the Indus, Ganga, and Brahmaputra rivers**.

What are the Key Highlights of the Report?

- **Integrated River Basin Management:**
 - The report emphasizes the importance of **integrated river basin management**, which involves a basin-wide approach to river planning, backed by quality data sharing on water availability, biodiversity, and pollution among all stakeholders.
- **Need for Multilateral Treaties:**
 - Despite **existing bilateral treaties and agreements on water data sharing**, there is a **notable absence of multilateral agreements** for river management in the region, posing a challenge to effective governance.
 - It emphasizes the necessity for establishing multilateral treaties to manage the Indus, Ganga, and Brahmaputra rivers effectively.
- **Dependence on Critical Rivers:**
 - Millions of people in India, Tibet (China), Pakistan, Afghanistan, Nepal, and Bhutan rely on the Indus, Ganga, and Brahmaputra rivers for **food and water security**, making comprehensive management strategies imperative.
 - All three basins are part of the larger **Indus-Ganga-Brahmaputra (IGB) Plain**, a vast alluvial plain that spans across parts of India, Pakistan, Bangladesh, and Nepal.
 - **Ganga River Basin:**
 - 600 million Indians, 29 million Nepalese, and millions in Bangladesh live in this basin area.
 - No agreement involving Nepal, India, and Bangladesh.
 - **Indus River Basin:**
 - Lifeline for 268 million people living in its basin.
 - **Brahmaputra River Basin:**
 - Approximately 114 million people depend on it for water, electricity, food, agriculture, and fishing.
- **Recommendations:**
 - Recognising and **leveraging the knowledge of local communities** for effective crisis management.
 - Empowering local communities with **resources and technology** to enhance their resilience.
 - Addressing **data gaps related to water availability, biodiversity, and pollution** in the river basins for better management and early warning systems.
 - Adopting a holistic '**whole basin**' **research** approach that facilitates data-sharing, strategic planning, understanding climate change impacts, and ensuring reliable water supply.
 - Promoting '**hydro-solidarity**' and **climate diplomacy** among researchers from different countries to build trust and foster dialogue on transboundary water issues.
 - '**Hydro-solidarity**' is about promoting cooperation and solidarity among nations in **managing shared water resources**. It involves recognising the **interdependence of countries regarding water resources** and the need for collective action to address water-related challenges.
 - This includes implementing fair water-sharing agreements, promoting collaborative governance, investing in water infrastructure, and addressing the water-energy-food nexus.
 - Climate diplomacy plays a crucial role in **addressing water stress** caused by [climate change](#), and integrating water diplomacy with climate diplomacy can help tackle the interconnected challenges of water scarcity and climate change.

What are the Key Facts About the Ganga, Indus and Brahmaputra River Basin?

▪ Ganga River Basin:

◦ Source and Headwaters:

- The Ganga originates as **Bhagirathi from Gangotri Glacier, Uttarakhand** at an elevation of 3,892 m.
- Many small streams comprise the headwaters of Ganga. The important among these are **Alaknanda, Dhauliganga, Pindar, Mandakini and Bhilangana.**
 - At Devprayag, where **Alaknanda joins Bhagirathi**, the river acquires the name **Ganga**. It traverses 2525 km before flowing into the Bay of Bengal.

◦ Course and Major Tributaries

- Flows through the states of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, and West Bengal in India, before entering Bangladesh.
- Nearly 80% of the Ganges river basin is in India, the rest is in Nepal, Tibet (China) and Bangladesh.
- Major tributaries include the [Yamuna](#), **Gomti, Ghagra, Gandak, and Kosi rivers.**
- Known for its fertile alluvial plains, which have supported agriculture and human settlements for centuries.

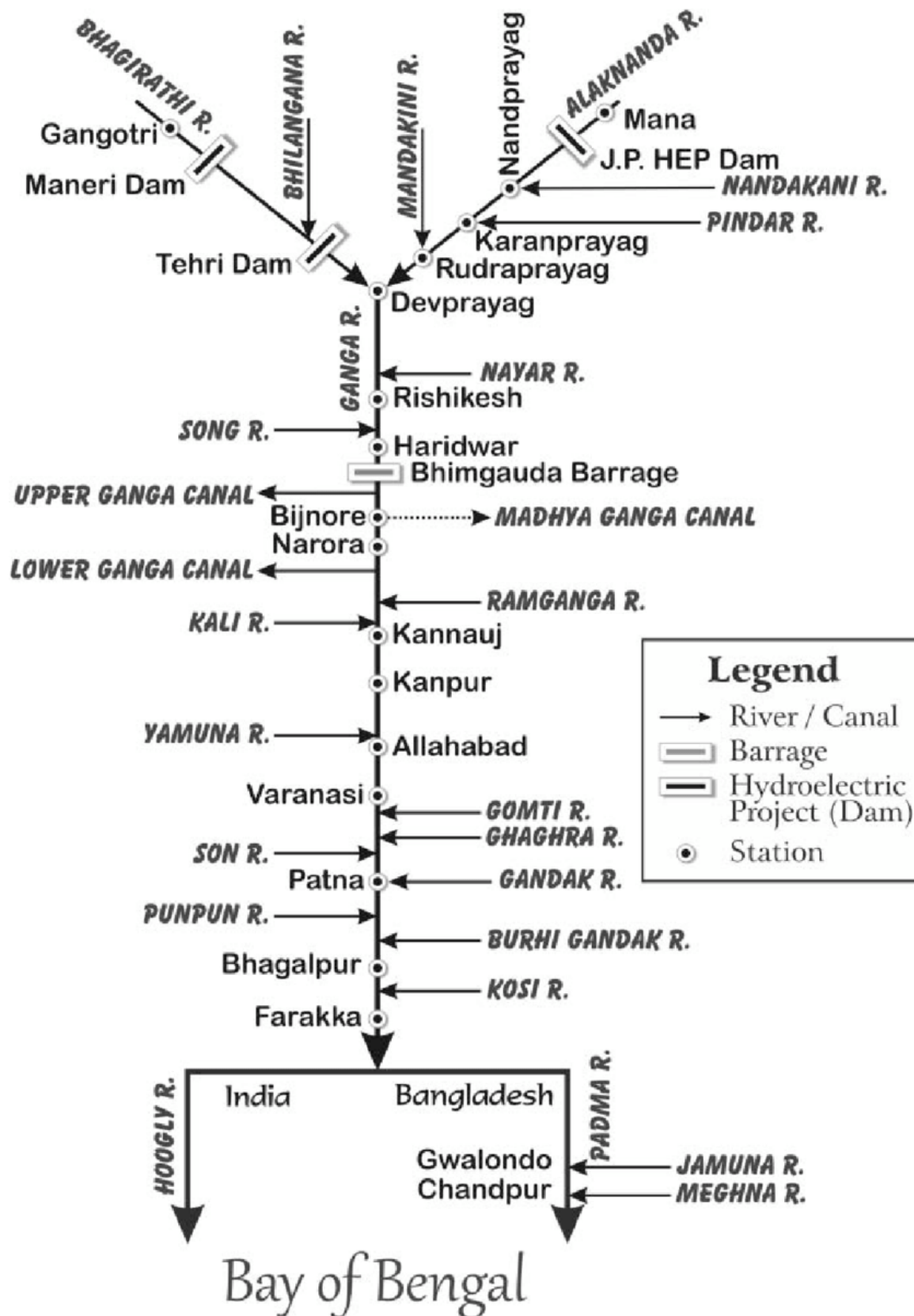
◦ Delta and Outflow

- After a journey of around 2,510 kilometres, the Ganga River merges with the **Brahmaputra River in Bangladesh, forming the Padma River.**
 - The Padma River then joins the Meghna River and flows into the **Bay of Bengal** through the **Meghna Estuary.**



Flow Chart of the Ganga River Basin

(Not To Scale)



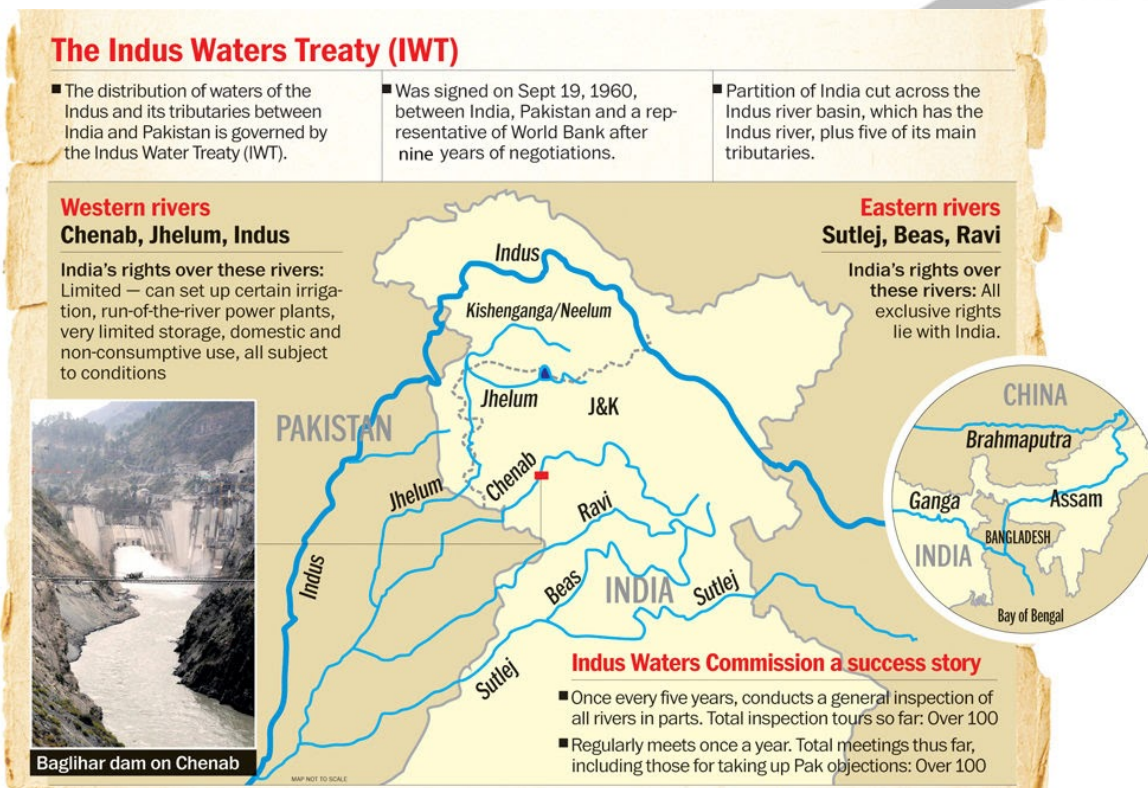
Indus River Basin:

Source:

- The Indus (Tibetan-Sengge Chu, 'Lion River'), a major river in South Asia, originates in **Tibet near Mansarovar Lake in the Trans-Himalaya**.
- The river flows through **Tibet, India and Pakistan** and about 200 million people

live in the area of its drainage basin.

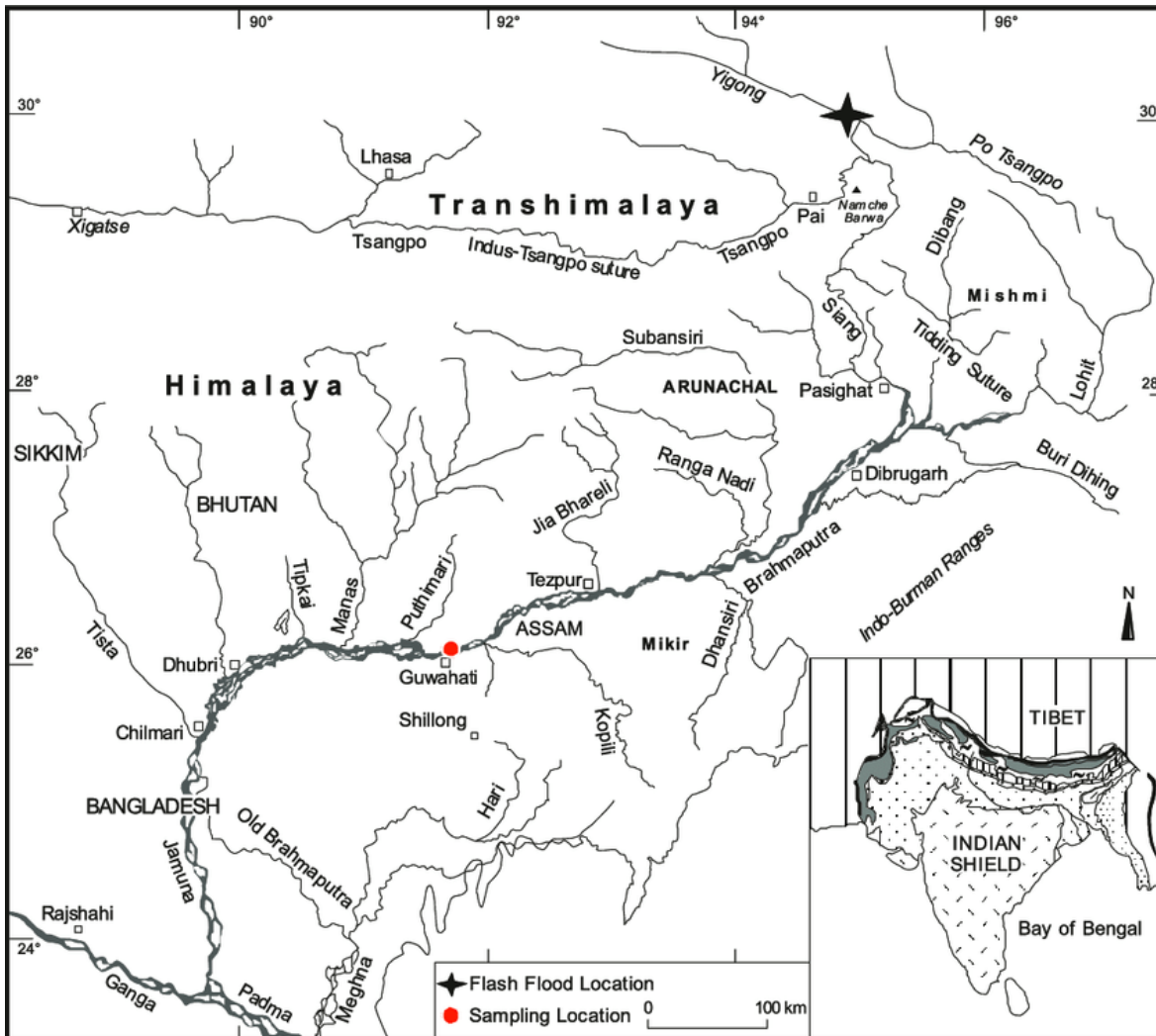
- The [Indus Waters Treaty](#) is a treaty between India and Pakistan that was signed in 1960, to define the rights and responsibilities of each country regarding the use of the **Indus River system's waters**. The treaty was brokered by the [World Bank](#).
- **Course and Major Tributaries:**
 - It enters **India through Ladakh** and flows through Jammu and Kashmir before reaching **Pakistan's Gilgit-Baltistan region**.
 - The major left-bank tributaries of the Indus River are the Zaskar, Suru, Soan, Jhelum, Chenab, Ravi, Beas, Satluj, and Panjnad rivers. The major right-bank tributaries are Shyok, Gilgit, Hunza, Swat, Kunnar, Kurram, Gomal, and Kabul rivers.
 - The Indus River and its tributaries are vital for agriculture and water supply in the region, particularly in Pakistan, where it serves as the lifeline for the country's economy.
- **Delta and Outflow:**
 - The Indus River empties into the **Arabian Sea** near the city of Karachi in southern Pakistan.
 - Forms a vast delta known as the **Indus Delta**.
 - The delta is home to numerous creeks, marshes, and mangrove forests.



■ Brahmaputra River Basin:

- **Source:**
 - It originates under the name of **Siang or Dihang**, from the **Chemayungdung glacier of the Kailash range** near the Mansarovar Lake, the Brahmaputra ranks fifth in the world in terms of average discharge.
 - The basin covers an area of around 580,000 square kilometers spanning parts of Tibet (China), India, Bhutan, and Bangladesh.
 - The Brahmaputra River and its tributaries are important for agriculture, [hydropower generation](#), and transportation in the region.
- **Course and Major Tributaries:**
 - Known as the **Yarlung Tsangpo in Tibet**, flows eastward through the Himalayas and enters the Indian state of Arunachal Pradesh.
 - Continues its journey through the states of Assam and West Bengal in India, before entering Bangladesh.

- Major tributaries include the Subansiri, Kameng, Manas, and Dhansiri rivers in India, and the [Teesta River](#) in Bangladesh.
- **Delta and Outflow:**
 - The Brahmaputra River joins the Ganga River in Bangladesh, forming the **Padma River**.
 - The **Padma River then merges with the Meghna River** and flows into the Bay of Bengal through the **Meghna Estuary**.



UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims:

Q1. With reference to the Indus river system, of the following four rivers, three of them pour into one of them which joins the Indus directly. Among the following, which one is such a river that joins the Indus direct? (2021)

- (a) Chenab
- (b) Jhelum
- (c) Ravi
- (d) Sutlej

Ans: (d)

Q2. Consider the following pairs (2019)

	Glacier	River
1	Bandarpunch	Yamuna
2	Bara Shigri	Chenab
3	Milam	Mandakini
4	Siachen	Nubra
5	Zemu	Manas

Which of the pairs given above are correctly matched?

(a) 1, 2 and 4

(b) 1, 3 and 4

(c) 2 and 5

(d) 3 and 5

Ans: (a)

Mains:

Q1. Present an account of the Indus Water Treaty and examine its ecological, economic and political implications in the context of changing bilateral relations. **(2016)**

Q2. Discuss the Namami Gange and National Mission for Clean Ganga (NMCG) programmes and causes of mixed results from the previous schemes. What quantum leaps can help preserve the river Ganga better than incremental inputs? **(2015)**

Banning Cotton Candy

For Prelims: Banning Cotton Candy, Rhodamine B, [Food Safety and Standards Authority of India \(FSSAI\)](#), Food Safety & Standards Act, 2006.

For Mains: Banning Cotton Candy, Food and Nutrition insecurity.

[Source: TOI](#)

Why in News?

Recently, Himachal Pradesh has instituted a one-year ban on the production, sale and storage of Cotton Candy or Candy floss after the presence of **Rhodamine B**, a potentially hazardous colouring agent.

- The ban is on the heels of states like Karnataka, Tamil Nadu and Goa, which have implemented

[similar restrictions on harmful colouring agents.](#)

- Consumption of snacks containing these artificial colours may pose long-term health risks, including [Cancer](#).

What is Cotton Candy?

- Cotton candy, also known as **candy floss or fairy floss** in some regions, is a **type of spun sugar confectionery** that is typically served at carnivals, fairs, and amusement parks.
- It is made by heating and liquefying sugar and then spinning it out through tiny holes where it re-solidifies in long strands.
- These strands are gathered onto a **cone or stick, forming a fluffy, cotton-like texture.**

What is Rhodamine B?

- **About:**
 - **Rhodamine B** is a colouring agent commonly used in textile, paper, and leather industries. The colourant is **low-cost and is sometimes used to give vibrant hues** to popular street food items such as gobi manchurian and cotton candy.
 - The dye is not fit for consumption and may lead to acute toxicity. Exposure to the chemical may also damage the **eye and cause irritation in the respiratory tract.**
 - While the [World Health Organisation](#), which maintains a list of cancer-causing agents, says it cannot be classified as carcinogenic to humans, there are **some studies on rats that have shown carcinogenic effects.**
- **Usage in Food Products:**
 - It is not commonly added to food products, Rhodamine B is usually reported from small roadside vendors in small cities.
 - This is because of a **lack of understanding about dyes** that are permissible in food items. Small vendors are **not aware that this dye can be harmful as its effects might not always be felt immediately.**
 - It is usually “illegally” **added to preparations such as gobi manchurian, potato wedges, butter chicken, pomegranate juice, ice creams produced on a small scale, or cotton candies.**
- **Legality:**
 - [Food Safety and Standards Authority of India \(FSSAI\)](#) has specifically banned **Rhodamine B** from being used in food products.
 - Any use of this chemical in the preparation, processing, and distribution of food is punishable **under the Food Safety & Standards Act, 2006.**

What Food Colours are Allowed by the Food Safety Act, 2006?

- The [FSSAI](#) allows the use of very few natural and synthetic colours in food items. They are,
 - **The Natural Food Colours:**
 - **Carotene and Carotenoids (yellow, orange):** These are natural pigments found in many fruits and vegetables, such as carrots, pumpkins, and tomatoes. They are responsible for the yellow, orange, and red colors in these foods.
 - **Chlorophyll (green):** Chlorophyll is the pigment responsible for the green colour in plants. It is commonly used as a natural food colouring agent.
 - **Riboflavin (yellow):** Riboflavin, also known as vitamin B2, is a yellow-coloured compound found in various foods. It is sometimes used as a food colouring agent.
 - **Caramel:** Caramel is a natural food colouring agent derived from the heating of sugar. It can range in colour from pale yellow to deep brown, depending on the degree of caramelization.
 - **Annatto (Orange-Red):** Annatto is a natural food colouring derived from the seeds of the achiote tree. It imparts a vibrant orange-red colour to foods and is commonly used in cheese, butter, and other dairy products.
 - **Saffron:** Saffron is a spice derived from the **flower of the Crocus sativus plant.** It is known for its intense yellow colour and is one of the most expensive spices in the world.

- **Curcumin (Yellow, from Turmeric):** Curcumin is the main active compound found in turmeric. It is responsible for the yellow colour of this spice and is used as a natural food colouring agent.
- **The Synthetic Colours:**
 - **Ponceau 4R:** A synthetic red colour commonly used in various food and beverage products.
 - **Carmoisine:** Another synthetic red colour often used in food colouring.
 - **Erythrosine:** A synthetic red colour commonly used in food colouring, especially in sweets and candies.
 - **Tartrazine and Sunset Yellow FCF:** Synthetic yellow colours widely used in various food products.
 - **Indigo Carmine and Brilliant Blue FCF:** Synthetic blue colours used in food colouring.
 - **Fast Green FCF:** A synthetic green colour used in food products.
- Even permissible food colourings, however, are not allowed in all food items. Some food items that can **use these colours include ice creams, biscuits, cakes**, confectioneries, fruit syrups and crushes, custard powder, jelly crystals, and carbonated or noncarbonated beverages.

What is the Food Safety and Standards Authority of India?

▪ About:

- FSSAI is an autonomous statutory body established under the Food Safety and Standards Act, of 2006.
 - The Act of 2006, consolidates various laws related to food, such as the Prevention of Food Adulteration Act, 1954, the Fruit Products Order, 1955, the Meat Food Products Order, 1973, and other acts that were previously handled by different ministries and departments.
 - The **Act also aims to establish a single reference point for all matters relating to food safety** and standards, by moving from multi-level, multi-departmental control to a single line of command.
- FSSAI is responsible for protecting and promoting public health by regulating and supervising food safety and quality in India, operating under the Ministry of Health & Family Welfare.
- FSSAI has a headquarters in New Delhi and regional offices in eight zones across the country.
- The Chairperson and Chief Executive Officer of FSSAI, appointed by central government. The Chairperson is in the rank of Secretary to the Government of India.

▪ Functions and Powers:

- Framing of regulations and standards for food products and additives.
- Granting of licences and registration to food businesses.
- Enforcement of food safety laws and regulations.
- Monitoring and surveillance of food safety and quality.
- Conducting risk assessment and scientific research on food safety issues.
- Providing training and awareness on food safety and hygiene.
- Promoting food fortification and organic food.
- Coordinating with other agencies and stakeholders on food safety matters.

▪ Events and Campaigns:

- [World Food Safety Day](#).
- [Eat Right India](#).
 - [Eat Right Station](#).
 - [Eat Right Mela](#).
- [State Food Safety Index](#).
- [RUCO \(Repurpose Used Cooking Oil\)](#).
- [Food Safety Mitra](#).
- [100 Food Streets](#).

Prelims:

Q. Consider the following statements: (2018)

1. The Food Safety and Standards Act, 2006 replaced the Prevention of Food Adulteration Act, 1954.
2. The Food Safety and Standards Authority of India (FSSAI) is under the charge of Director General of Health Services in the Union Ministry of Health and Family Welfare.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (a)

Mains:

Q.1 Elaborate the policy taken by the Government of India to meet the challenges of the food processing sector. **(2021)**

Health Effects of Covid-19 Related Immunisation Disruptions

For Prelims: [Covid-19 pandemic](#), [Measles](#), [Rubella](#), [HPV \(Human Papillomavirus\)](#), [Hepatitis B](#), [Diphtheria](#), [Tetanus](#), and [Pertussis \(DTP\) vaccine](#).

For Mains: Health effects of Covid-19 Related Immunization Disruptions, Government Policies & Interventions.

[Source: DTE](#)

Why in News?

Recently, a new paper has been published in the journal **The Lancet Global Health** titled- ***Estimating the Health Effects of Covid-19-Related Immunization Disruptions in 112 Countries During 2020-30: A Modelling Study***, which highlights that **Global immunization declined during the Covid-19 pandemic**, increasing disease burden and outbreak risk.

What are the Key Highlights of the Report?

▪ **Global Immunisation Decline:**

- The Covid-19 pandemic led to a decline in global immunisation coverage, which increased **disease burden and outbreak risks** across various countries.
- It is estimated that disruptions to [Measles](#), [Rubella](#), [HPV \(Human Papillomavirus\)](#), [Hepatitis B](#), meningitis A, and **yellow fever vaccination** could lead to approximately **49,119 additional deaths during the calendar years 2020-2030**, with measles being the main contributor to this increase in mortality.
 - For the years 2020-2030, disruptions in vaccination coverage across all **14**

pathogens could result in a 2.66% reduction in the long-term effect, translating to a decrease in the number of deaths **averted from 37,378,194 to 36,410,559.**

▪ **Importance of Catch-Up Vaccines:**

- The importance of **catch-up vaccines** is emphasised, particularly **for diseases like measles and yellow fever**, which experienced an immediate increase in burden post-pandemic.
- Catch-up activities were found to be **effective in averting excess deaths**, with the potential to **prevent approximately 79% of excess deaths** related to measles, rubella, HPV, hepatitis B, and yellow fever.

▪ **Impact on DTP Vaccine Coverage:**

- The pandemic impacted **coverage for the [Diphtheria, Tetanus, and Pertussis \(DTP\) vaccines](#)**, resulting in an additional 6 million children missing out on vaccination in 2021 globally.

▪ **Resurgence of Measles Cases:**

- There has been a resurgence of measles cases reported in several countries, including those where measles was previously considered eradicated, such as the **United Kingdom and the United States.**
 - In 2021, nearly 61 million measles vaccine doses were postponed or missed due to Covid-19-related delays in immunisation campaigns in 18 countries.
 - Furthermore, in 2022, there was an increase in **measles cases and deaths globally compared to 2021 levels**, with millions of children missing their vaccine doses, particularly in countries like **Nigeria, Pakistan, and India.**

▪ **Recommendations:**

- **Effectiveness of Catch-Up Activities:** The study suggested that implementing catch-up vaccination activities could potentially avert 78.9% of excess deaths between calendar years 2023 and 2030.
 - This means that proactive catch-up efforts have the potential to **significantly mitigate the adverse impacts** of vaccine-coverage disruptions.
- **Importance of Timing and Targeting of Catch-Up Activities:** It is important for timely implementation of **catch-up vaccination activities**, tailored to specific cohorts and regions most affected by disruptions.
 - This targeted approach can help improve vaccine coverage and mitigate the adverse effects of under-immunization.
- **Significance of Continued Immunisation Efforts:** Continued importance of sustained immunization efforts, particularly for vaccines like HPV is important, which play a crucial role in preventing cervical cancer.
 - This underscores the necessity of ongoing vaccination campaigns even amidst disruptions to ensure long-term public health benefits.

What are the Major Initiatives Related to Immunisation?

▪ **Global:**

- **[Immunisation Agenda 2030 \(IA2030\)](#):** It sets an ambitious, overarching global vision and strategy for vaccines and immunisation for the decade 2021–2030.
 - By the end of the decade, IA2030 aims to:
 - Reduce by 50% the number of children receiving zero vaccine doses
 - Achieve 500 introductions of new or under-utilised vaccines in low- and middle-income countries
 - Achieve 90% coverage for essential childhood vaccines
- **[World Immunisation Week](#):** It is celebrated every year in the last week of April.
- **[Big Catch-Up Initiative](#):** It was launched by the **WHO, UNICEF, Bill & Melinda Gates Foundation** along with **[Immunization Agenda 2030](#)** and many other global and national health partners, a targeted global effort **to boost vaccination among children following declines driven by the Covid-19 pandemic.**

▪ **Indian:**

- **Universal Immunization Programme (UIP):**
 - The program provides free immunization against 12 vaccine-preventable diseases.
 - **Nationally Against 9 Diseases:** Diphtheria, Pertussis, Tetanus, Polio, Measles,

Rubella, severe form of Childhood Tuberculosis, Hepatitis B and Meningitis & Pneumonia caused by Haemophilus influenza type B

- **Sub-nationally Against 3 Diseases:** Rotavirus diarrhoea, Pneumococcal Pneumonia and Japanese Encephalitis
- Two major milestones of the UIP have been the [eradication of polio](#) in 2014 and the **elimination of maternal and neonatal tetanus in 2015.**
- **Mission Indradhanush:**
 - [Mission Indradhanush \(MI\)](#) was launched by the Ministry of Health and Family Welfare (MOHFW) in 2014 **to vaccinate all unvaccinated and partially vaccinated children under UIP.**
 - It is being implemented in several phases.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims:

Q1. Consider the following statements:

1. Adenoviruses have single-stranded DNA genomes whereas retroviruses have double-stranded DNA genomes.
2. Common cold is sometimes caused by an adenovirus whereas AIDS is caused by a retrovirus.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (b)

Mains:

Q. Critically examine the role of WHO in providing global health security during the Covid-19 pandemic. **(2020)**