News Analysis (08 Feb, 2021)

Uttarakhand Flash Flood

Why in News

Recently, a **glacial break** in the **Tapovan-Reni area of Chamoli District of Uttarakhand** led to massive **Flash Flood** in **Dhauli Ganga** and **Alaknanda Rivers,** damaging houses and the nearby **Rishiganga power project.**

In **June 2013,** flash floods in Uttarakhand wiped out settlements and took lives.

Key Points

- **Cause of Flash Flood in Uttarakhand:**
  It occurred in river Rishi Ganga due to the falling of a portion of **Nanda Devi glacier** in the river which **exponentially increased the volume of water.**
    Rishiganga meets Dhauli Ganga near Raini. So Dhauli Ganga also got flooded.
- **Major Power Projects Affected:**
  - **Rishi Ganga Power Project:**
    It is a privately owned 130MW project.
  - **Tapovan Vishnugad Hydropower Project on the Dhauliganga:**
    It was a 520 MW run-of-river **hydroelectric project** being constructed on **Dhauliganga River.**
  - Several **other projects on the Alaknanda and Bhagirathi river basins** in northwestern Uttarakhand have also been impacted by the flood.

- **Flash Floods:**
  - **About:**
    - These are **sudden surges in water levels** generally during or following an **intense spell of rain.**
    - These are **highly localised** events of **short duration** with a very high peak and usually have less than six hours between the occurrence of the rainfall and peak flood.
    - The flood situation **worsens in the presence of choked drainage lines or encroachments** obstructing the natural flow of water.
  - **Causes:**
    - It may be caused by heavy rain associated with a severe **thunderstorm, hurricane, tropical storm, or meltwater from ice or snow flowing over ice sheets or snowfields.**
    - Flash Floods can also occur due to **Dam or Levee Breaks, and/or Mudslides (Debris Flow).**
    - In areas on or near **volcanoes**, flash floods have also occurred after eruptions, when glaciers have been melted by the intense heat.
    - The intensity of the rainfall, the location and distribution of the rainfall, the land use and topography, vegetation types and growth/density, soil type, and soil water- content all determine just how quickly the Flash Flooding may occur, and influence where it may occur.

Glaciers

- **About:**
  - Glaciers are a bulk of ice moving under its weight. It forms in areas where the amassing of snow goes beyond its ablation over many years.
  - They are generally seen in the snow-fields.
  - This largest freshwater basin covers around 10% of the land surface of the Earth.
  - According to the topography and the location of the glacier, it can be categorized as **Mountain Glacier (Alpine Glaciers) or Continental Glacier (Ice Sheets).**
  - The Continental Glacier moves outward in all directions whereas the Mountain Glacier moves from a higher to a lower altitude.

- **Glaciers and Floods:**
  - **Glacial Lakes:**
    Retreating glaciers, like several in the **Himalayas**, usually result in the formation of lakes at their tips, called **proglacial lakes,** often bound only by sediments and boulders.
  - **Flood:**
    If the **boundaries of these lakes are breached, it can lead to large amounts of water rushing down to nearby streams** and rivers, gathering momentum on the way by picking up sediments, rocks and other material, and **resulting in flooding downstream.**
- **Impact of Climate Change:**
  - Climate change has driven erratic weather patterns like increased snowfall and rainfall, warmer winters has led to the melting of a lot of snow.
  - According to the latest assessment reports of the UN Intergovernmental Panel on Climate Change, glacier retreat and permafrost thaw are projected to decrease the stability of mountain slopes and increase the number and area of glacier lakes.

Dhauliganga

- **Origination:**
  It originates from **Vasudhara Tal,** perhaps the **largest glacial lake** in Uttarakhand.
- **About:**
  - Dhauliganga is one of the **important tributaries of Alaknanda,** the other being the **Nandakini, Pindar, Mandakini and Bhagirathi.**
    Dhauliganga is joined by the **Rishiganga river at Raini.**
  - **It merges with the Alaknanda at Vishnuprayag.**
    - There it loses its identity and the **Alaknanda flows southwest through Chamoli, Maithana, Nandaprayag, Karnaprayag** until it meets the Mandakini river, coming from the north at Rudraprayag.
    - After subsuming Mandakini, the Alaknanda carries on past Srinagar, before **joining the Ganga at Devprayag.**
  - **Alaknanda then disappears and the mighty Ganga** carries on its journey, first flowing south then west through important pilgrimage centres such as Rishikesh and finally descending into the Indo-Gangetic plains at Haridwar.

Nanda Devi National Park

- **Location:**
  It is situated around the peak of Nanda Devi (7816 m) in the state of Uttarakhand in northern India.
- **About:**
  The park encompasses the **Nanda Devi Sanctuary, a glacial basin** surrounded by a ring of peaks, and drained by the **Rishi Ganga through the Rishi Ganga Gorge.**
- **Established:**
  - The Park was established as Sanjay Gandhi National Park by Notification in 1982 but was later renamed Nanda Devi National Park.
  - It was inscribed a **World Heritage Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1988.**
- **Flora:**
  Some 312 floral species that include 17 rare species have been found here. Fir, birch, rhododendron, and juniper are the main flora.
- **Fauna:**
  Himalayan black bear, Snow leopard , Himalayan Musk Deer etc.

Source:IE

Economic Impact of Judicial Decisions

Why in News

Recently, the **NITI Aayog** has asked research organisation **'Consumer Unity and Trust Society (CUTS) International'** to conduct a study on the **"economic impact" of various judgments delivered by courts and tribunals** and the **'judicial activism'** of such courts and tribunals.

> **Judicial Activism:** It implies the **assertive role played by the judiciary** to force the other two organs of the government (legislature and executive) to discharge their constitutional duties. It is **also known as "judicial dynamism".** It is the **antithesis of "judicial restraint",** which means the self-control exercised by the judiciary.

Key Points

- **Conducting Organization:**
  The study is to be undertaken by the Jaipur-headquartered **CUTS (Consumer Unity and Trust Society)** Centre for Competition, Investment and Economic Regulation, that also has an international presence.
    It is a **registered, recognised, non-profit, non-partisan, non-government organisation (NGO)** pursuing social justice and economic equity both within and across borders.
- **Objective:**
  - The objective of the study aims a **"narrative building for sensitising the judiciary on the economic impact of their decisions".**
  - It is to do an objective **cost-benefit analysis of the economic impact of the decisions.**
- **Projects to be Studied:**
  The Study intends to examine **five major projects that have been "impacted" by judicial decisions of the Supreme Court (SC)** or the **National Green Tribunal (NGT).**
    - Projects to be analysed include the construction of an **airport in Mopa, Goa;** cessation of **iron ore mining in Goa,** and the shutting down of the **Sterlite copper plant in Thoothukudi, Tamil Nadu.**
    - The others are decisions by the NGT involving **sand mining, and construction activities in the National Capital Region.**
- **Process:**
  It plans to do this by **interviewing people who have been affected** by the closure of the projects, environmental campaigners, experts and assessing the business impact of closure.

- **Significance:**
    - The findings will be used as a **training input for judges** of commercial courts, NGT, High Courts and SC.
    - It would contribute to public discourse among policymakers for promoting an **"economically responsible approach by judiciary"** in its decisions.
    - The study is also a **part of the larger umbrella project** undertaken by NITI Aayog under which it wants to establish a **judicial performance index,** which would measure the performance of judges at district courts and subordinate levels.
- **Previous Study:**
    - In 2017, the same CUTS International had also conducted an assessment study on the economic impact of the SC's decision to **impose a ban on the presence of liquor shops within 500 m of any highway.**
    - The study showed that **cases which involve substantial social and economic dimensions need to be studied in detail** to assess whether they are implementable in the first place and whether the loss to the economy outweighs the gains envisaged.
    - This could be done **if Courts set up expert committees** to study these aspects which can also engage economists to analyse the cost/benefits before a judgment is pronounced.

        The Supreme Court had established such expert group committees for cases in the past like the **Supreme Court Committee on Road Safety** under the Chairmanship of Justice K.S. Radhakrishnan in 2014 and **Justice Lodha Committee set up in 2015** for reforms within the Board of Control for Cricket in India (BCCI), amongst others.

Source:IE

Registered Unrecognised Political Parties Increased: ADR

Why in News

According to a report by **Association for Democratic Reforms (ADR),** the number of **registered unrecognised political parties** has increased two-fold from 2010 to 2019.

> **ADR** is an Indian **non-governmental organization** established in 1999 situated in New Delhi.

Key Points

- **Registered Unrecognised Political Parties:**
  - **Meaning:**
    - Either **newly registered parties** or those **which have not secured enough percentage of votes in the assembly or general elections** to become a state party, or those **which have never contested elections** since being registered are considered **unrecognised parties.**
    - Such parties **don't enjoy all the benefits extended to the recognised parties.**

      Recognised Political Party:
      - A **recognised political party** shall **either be a National party or a State party** if it meets certain laid down conditions.
      - **To become a recognised political party** either at the state or national level, a party **has to secure a certain minimum percentage of polled valid votes or certain number of seats** in the state legislative assembly or the Lok Sabha during the last election.
      - The **recognition granted by the Commission to the parties determines their right to certain privileges** like allocation of the party symbols, provision of time for political broadcasts on the state-owned television and radio stations and access to electoral rolls.
  - **Election Commission's Guidelines:**
    - The **Election Commission of India** issued guidelines on **'Transparency and Accountability in party funds and election expenditure – submission of reports by unrecognised political parties'** which were applicable to all political parties w.e.f 1st October, 2014.
    - **As per these guidelines:**
      - All **unrecognised parties are required to submit their requisite reports** in the office of the respective state **Chief Election Officers (CEOs).**
      - Scanned copies of **annual audited accounts, contribution reports and statements of election expenditure shall be uploaded on the websites of CEOs** of the respective states, within three days of receipt of the same for viewing by the public.

- **Findings:**
  - **Increased Number:**
    - There are **2,360 political parties registered** with the **Election Commission of India** and **97.50% of them are unrecognised.**
    - From **1,112 registered unrecognised parties in 2010,** the number has increased to **2,301 in 2019.**
  - **Donation to these Parties:**

    The **contribution reports of only 78 or 3.39% of the total 2,301 registered unrecognised parties are available** in the public domain for Financial Year (FY) 2018-19.
- **Recommendations of ADR:**
  - **255 parties were delisted in 2016** from the list of registered unrecognised parties as they were no longer in existence or functioning.

    This exercise should continue so as to **weed out all political parties which do not contest in any election for more than 5 years** and also as a means to strengthen the registration process.
  - Regulation of registration of political parties is crucial to **avoid money laundering, corrupt electoral practices and abuse of money power.**

    Thus, the ECI should impose strict norms for the registration of an association of persons as a political party apart from **taking the stringent step of de-listing those parties** which fail to adhere to the rules.
  - **IT scrutiny of unrecognised parties should be taken up,** especially of those which do not contest in elections but declare receipt of voluntary contributions.

Source: TH

Clean Fuel Hydrogen

Why in News

Recently, researchers at the **Indian Institute of Technology, Delhi (IIT-D)** have come up with a way to **generate clean fuel hydrogen from water at a low-cost.**

- It is a significant step towards efforts across the globe that are being made to look for cleaner and greener energy sources.
- Hydrogen gas is a viable choice as **a renewable substitute for fossil fuels,** and can help **mitigate emissions to reduce pollution.**

Key Points

About:

- The researchers at IIT-D have successfully split water by a process known as **Sulphur-Iodine (SI) thermochemical hydrogen cycle (SI Cycle)** to **generate low-cost,** clean hydrogen fuel for industrial consumption.
- Generally in **SI Cycle, the separation of Hydrogen from oxygen requires a high amount of heat** (generally from non-renewable sources such as coal, oil and natural gas). This makes the large-scale production of hydrogen gas economically non viable and non environment friendly.
- The main achievement has been **designing a suitable catalyst** for the energy intensive, corrosive step of sulphuric acid conversion to sulphur-dioxide and oxygen.

Sulfur-Iodine Cycle

- **Process:**
  - The sulfur–iodine cycle **(SI cycle)** is a three-step **thermochemical cycle** used to produce hydrogen. In this cycle, all the chemicals are recycled. The SI process requires an efficient source of heat.
  - Heat enters the cycle in high-temperature endothermic chemical reactions in the initial process and heat exits the cycle in the low-temperature exothermic reaction in the final stage of obtaining hydrogen gas.
- **Three-Step Thermochemical Cycle:**
  - **Step 1:** Iodide (I_2) is reacted with Sulphur dioxide (SO_2) to produce Hydriodic acid (HI) and Sulphuric acid (H_2SO_4).

    $$\mathbf{I_2 + SO_2 + 2\ H_2O \rightarrow 2\ HI + H_2SO_4}$$
  - **Step 2:** The water, SO_2 and residual H_2SO_4 is separated from the oxygen byproduct by condensation so as to obtain Hydriodic acid (HI).

    $$\mathbf{2\ H_2SO_4 \rightarrow 2\ SO_2 + 2\ H_2O + O_2}$$
  - **Step 3:** It is the Hydriodic acid (HI) from which Hydrogen gas (H_2) is obtained.

    $$\mathbf{2\ HI \rightarrow I_2 + H_2}$$
  - The difference between the heat entering and leaving the cycle exits the cycle in the form of the heat of combustion of the hydrogen produced.
- Major **challenges** of the sulfur–iodine cycle are to **reduce the surplus of water** and iodine and find separation **processes that consume less energy** than distillation.
- Traditionally development of the SI cycle has been pursued by several countries for hydrogen production with the **Generation IV nuclear reactors.**

- **Significance of the Discovery:**
  - **Enhancing Hydrogen Fuel Cell Technology:**
    Enabling availability of of low cost hydrogen through this discovery will enhance and improve the application of **Hydrogen fuel cell technology** which offers the advantages of a clean and reliable alternative energy source to applications such as – electric vehicles, primary and backup power for a variety of commercial, industrial, and residential buildings; and more futuristic-sounding applications like air taxis.
      A hydrogen fuel cell is an electrochemical power generator that combines hydrogen and oxygen to produce electricity, with water and heat as by-products.
  - **Help Adhering Emission Targets:**
    It could help India to adhere to its commitment in the **Paris Climate Agreement** and its **Intended Nationally Determined Contribution (INDC) Targets** and ensure that its mobility in the future is with zero emissions.
  - **Complements FAME India Scheme:**
    It will complement the implementation of the **FAME India Scheme** launched with the objective to support hybrid/electric vehicles market development and manufacturing ecosystem.
- **Advantages of Hydrogen as Fuel:**
  - **Environment Friendly:**
    - The advantage of using hydrogen as an energy carrier is that when it combines with oxygen **the only byproducts are water and heat.**
    - No greenhouse gasses or other particulates are produced by the use of hydrogen fuel cells.
  - **Non Toxic:**
    Hydrogen is a non-toxic substance that is rare for a fuel source. It is environmentally friendly and does not cause any harm or destruction to human health.
  - **Highly Efficient:**
    Hydrogen is an efficient energy type since it has the ability to convey a lot of energy for every pound of fuel compared to diesel or gas.
  - **Ideal Spaceship Fuel:**
    Hydrogen energy's efficiency and power make it an ideal fuel source for spaceships. Its power is so high that it's able to quickly rocket spaceships to exploration missions.
- **Disadvantages of Hydrogen as fuel**
  - Compared to gas, hydrogen lacks smell, which makes any **leak detection almost impossible.**
  - Hydrogen is a highly flammable and volatile substance, its potential dangers make its **transportation and storage very challenging.**

Source:TH

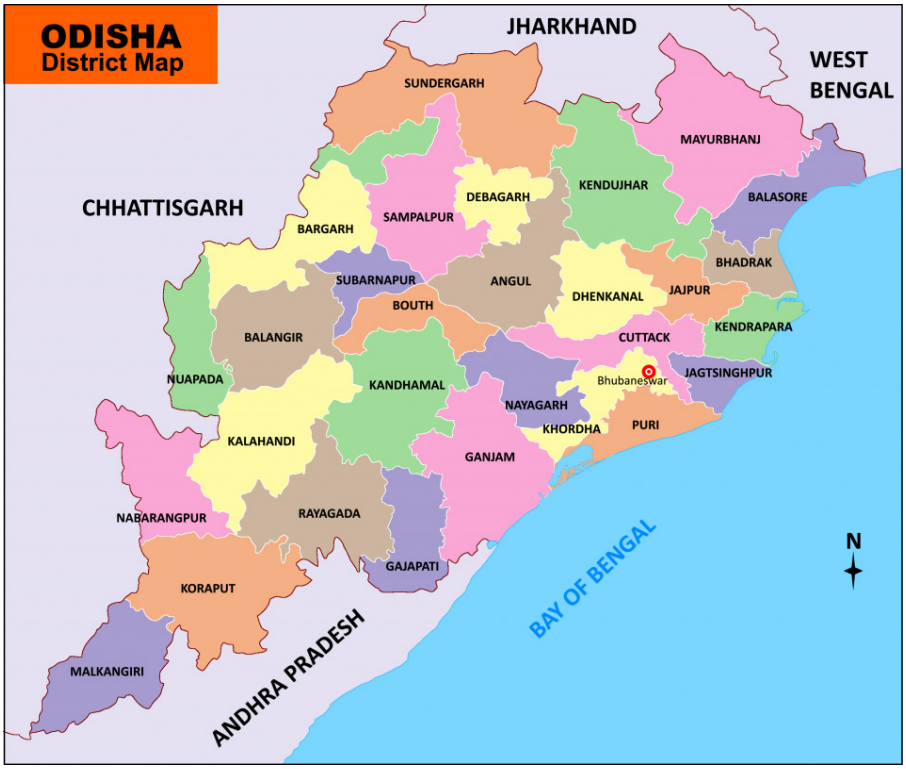
Odisha's Border Disputes

Why In News

Recently, a **border dispute between Odisha and Andhra Pradesh** once again resurfaced when Andhra Pradesh announced panchayat polls in three villages of **Kotia panchayat** in Koraput district of Odisha.

Key Points

- **Border Disputes of Odisha:**



  - Odisha was **carved out of the Bengal-Bihar-Odisha province** on 1st April, 1936, but the inter-state border disputes continue even today.
  - Odisha continues to have **unresolved border disputes with four neighbouring States** in its 8 out of 30 districts.
  - 14 of the 30 districts **share borders with Andhra Pradesh, West Bengal, Chhattisgarh and Jharkhand.** However, the **disputes over Kotia villages in Koraput district bordering Andhra Pradesh** is the **only major border conflict.**

- **About the Kotia Dispute:**
  - Odisha and Andhra Pradesh are **locked in a territorial dispute over Kotia gram panchayat since 1960.** Disputes pertain over **21 villages** in Kotia gram panchayat.
  - Residents of Kotia panchayat **receive benefits from both Pottangi block in Koraput and Salur in Vizianagaram district of Andhra Pradesh.** They depend on both the blocks for their day to day activities.
- **Water Dispute with Andhra Pradesh:**
  In 2006, Odisha sent a complaint to the Central Government under Section 3 of the **Inter-State River Water Disputes (ISRWD) Act, 1956** regarding its water disputes with Andhra Pradesh pertaining to **Inter-State River Vamsadhara.**
- **Disputes with Other States:**
  - **West Bengal:**
    - Odisha and West Bengal have disputes over 27 plots in Balasore District and some areas in Mayurbhanj district of Odisha.
    - **Mayurbhanj district** is known for its **iron ore reserves** and **Chhau dance** (a tribal dance in which dancers wear colorful masks).
  - **Jharkhand:**
    The border dispute between Odisha and Jharkhand arises due to change in course of river **Baitarani.**
    - The **Baitarani river** originates from the hill ranges of Keonjhar district of Odisha.
    - It is **an east flowing river** of peninsular India, flowing eastward and joining the Bay of Bengal.
    - Major portion of its catchment lies in the state of Odisha and a small patch of the upper reach falls in Jharkhand.
  - **Chhattisgarh:**
    - With Chhattisgarh, Odisha has disputes relating to villages in Nabarangpur and Jharsuguda district.
    - The Central Government constituted **Mahanadi Water Disputes Tribunal** in 2018.

Way Forward

Inter state dialogues, deliberations in **Inter State councils** and **Tribunals** and sticking the spirit of **Cooperative federalism** should be adopted to resolve such disputes.

Source:TH

Assam's Jerenga Pothar and Dhekiajuli Town

Why in News

The Prime Minister visited two significant historical places in Assam.

- The first was **Sivasagar's Jerenga Pothar,** where 17th-century **Ahom Princess Joymoti** sacrificed her life.
- Second was **Dhekiajuli town,** associated with the **Quit India Movement** of 1942.

Key Points

- **Jerenga Pothar:**
  - **Jerenga Pothar,** an open field in **Sivasagar** town, is popularly connected to the valour of **17th century Ahom princess Joymoti.**
    - Formerly known as **Rangpur, Sivasagar** was the seat of the powerful **Ahom dynasty**, who ruled Assam for six centuries (1228-1826).
    - **Chaolumg Sukapha** founded the Ahom kingdom.
  - From 1671 to 1681, the **Ahom kingdom** was undergoing a period of turmoil, it was at this time that **Prince Godapani** (Joymoti's husband) escaped to the **Naga Hills** before enemies could capture him.
  - But his enemies captured his wife **Joymoti,** hoping she would tell them about his whereabouts, however, despite being tortured for days, tied to a thorny plant, in an open field, **Joymoti refused** to divulge any information.
  - She died, sacrificing her life for her husband, who ultimately became the king, ushering in an era of stability and peace in Assam.

    The place Joymoti was tortured to death was **Jerenga Pothar.**
  - Significance of the Place:
    - While the Jerenga Pothar itself is not a protected archaeological site, **its vicinity includes a number of protected sites,** including the **Na Pukhuri tank** to its east and the **Pohu Garh,** a natural zoo built during the Ahom era, to its west.
    - Close by is the large **Joysagar tank,** built by Ahom king Swargadeo Rudra Singha in 1697, and the Vishnu Dol temple.
    - In 2017, the field was **used for the centenary celebrations** of the apex and influential literary body, the **Asam Sahitya Sabha.**

- **Dhekiajuli Town:**
  - **Dhekiajuli** was home to possibly the youngest martyr of the Indian freedom struggle.
  - On **20th September, 1942,** as part of the **Quit India Movement**, processions of freedom fighters marched to various police stations across several towns in Assam.
  - These squads, which were known as **'Mrityu Bahini',** or death squads, had wide participation - including **women and children -** and set out to unfurl the tricolour atop **police stations,** seen as **symbols of colonial power.**
  - The British administration came down heavily on them. In **Dhekiajuli,** at least 15 people were shot dead, three of them women, including the 12-year-old **Tileswari Barua.**
  - **Tileswari** is considered as one of the **youngest martyrs** of India's freedom struggle.
  - **20th September** has for long been observed as **Martyrs' Day in Dhekiajuli** town.

Source: IE
