

DAILY CURRENT AFFAIRS

Time: 45 min Date: 23-11-2023

Table of Content

Bihar Cabinet Passes Resolution Demanding Special Category Status	1
ASEAN-India Millet Festival 2023	3
Maritime Piracy	4
Atmospheric Waves Experiment (AWE)	7
Uttarakhand Tunnel Collapse	8
Facts In News	10
AGNI Initiative	10
Investor Risk Reduction Access Platform	10
Tantalum	11
Amyloidosis	12
Ghol Fish	12
National Disaster Response Force (NDRF)	13
Gambusia Fish	13
Sturgeon	14

Bihar Cabinet Passes Resolution Demanding Special Category Status

Syllabus: GS2/Indian Polity

In News

- The **Bihar cabinet** passed the resolution **seeking special category status** to the State by the Union Government.
 - Previously the state government had formally requested the Union government in 2017 for granting the special category status.

What is the Special Category Status

- A Special Category Status (SCS) is a classification given by the Union government to assist in the development of those states that face geographical and socio-economic disadvantages.
- Need: The intention behind these provisions is to safeguard the interest and
 aspirations of certain backward regions or to protect cultural and economic
 interests of the tribal people or to deal with the disturbed law and order in some
 parts.
- The National Development Council, composed of the prime minister, union ministers, chief ministers and members of the planning commission granted the status.
- **Historical Background:** It was introduced in **1969** when the **fifth Finance Commission** sought to provide certain disadvantaged states with **preferential treatment**.
 - It was named Gadgil Formula after the name of then Deputy
 Chairman of the Planning Commission, Dr Gadgil Mukherjee.
 - Initially, three states; Assam, Nagaland and Jammu & Kashmir were granted special status. From 1974-1979 Himachal Pradesh, Manipur, Meghalaya, Sikkim and Tripura were added under the category. In 1990, Arunachal Pradesh and Mizoram and in 2001 Uttarakhand were given special category status.
 - On the recommendations of the **14th Finance Commission** Gadgil formula-based **grants were discontinued.**
- Current States Demanding the Status: Andhra Pradesh, Bihar, Goa, Odisha, Rajasthan.

Criteria for Special Category Status:

- Hilly and difficult terrain;
- Low population density or sizeable share of tribal population;
- Strategic location along borders with neighbouring countries;
- Economic and infrastructural backwardness;
- Non-viable nature of state finances.

Benefits States Confer with Special Category Status:

- Central Assistance: The central government bears 90 percent of the state expenditure on all centrally-sponsored schemes.
 - o Preferential treatment in getting central funds.
 - \circ 30 percent of the Centre's gross budget also goes to special category states.
- Concession on excise duty to attract industries to the state.
- **Debt Relief:** These states can avail the benefit of debt-swapping and debt relief schemes.
- **Tax Exemption:** These states are exempted from customs duty, corporate tax, income tax and other taxes to attract investment.

• If they have **unspent money** in a financial year; it **does not lapse** and gets carried forward for the next financial year.

<u>Difference between Special Category Status and Special Status:</u>

- The constitution provides special status through an Act that has to be passed by 2/3rds majority in both the houses of Parliament whereas the special category status is granted by the National Development Council, which is an administrative body of the government.
- Special status empowers legislative and political rights while special category status deals only with economic, administrative and financial aspects.

Why was Gadgil Formula Discontinued?

- Recommendations of the 14th Finance Commission: It submitted its report in 2015 and recommended a significant shift in the approach to the devolution of funds to states.
- **Holistic Approach to Devolution:** The 14th Finance Commission emphasized a more **holistic and formula-based approach** for devolving funds to states, moving away from the earlier practice of designating certain states as "special" and providing them with preferential treatment.
- **Uniform Treatment for States:** The shift in policy aimed to treat all states uniformly, acknowledging that developmental challenges exist in various parts of the country.
- **Empowerment of States:** The change in approach was aligned with the principle of empowering states to make decisions based on their unique needs and priorities.
 - States were given more flexibility in utilizing funds, and the focus shifted to improving overall governance and efficiency.

Source: News on Air

ASEAN-India Millet Festival 2023

Syllabus: GS2/IR, GS3/Agriculture

News

• India has launched a Millets Festival in Indonesia to raise awareness for millets.

- **The exhibition aims** to foster collaboration between ASEAN countries, celebrate cultural and culinary diversity and promote sustainable millet practices for a healthier future.
- It is also a step towards implementation of the **ASEAN-India Joint Leaders Statement on Strengthening Food Security and Nutrition in Response to Crises** adopted at the 20th ASEAN-India Summit in Jakarta, Indonesia in 2023.

What are millets?

- Millets are a group of small grained cereal food crops popularly known as Nutri-cereals.
- **Varieties:** These include Jowar, bajra, ragi/ mandua, the minor millets kangani/ kakun, cheena, kodo, sawa/ sanwa/ jhangora, and kutki and the two pseudo millets, buckwheat (kuttu) and amaranth (chaulai).

Condition for Millets (Shree Anna) Cultivation

- **Climate:** The Millets are grown in tropical as well as subtropical up to an altitude of 2,100 m. A mean temperature range of 26-29°c during the growth is best for proper development and good crop yield.
- **Soil:** Millet has wide adaptability to different soil from very poor to very fertile and can tolerate a certain degree of alkalinity. The best soils are alluvial, loamy and sandy soil with good drainage

Benefits of Millets

- **Eco-friendly crops:** Millets can grow on arid lands with minimal inputs and are resilient to changes in climate.
- **Highly nutritious:** Millets contain 7-12% protein, 2-5% fat, 65-75% carbohydrates and 15-20% dietary fiber.
- **Health Benefits:** Millets are gluten free and non- allergenic. Millet consumption decreases triglycerides and C- reactive protein, thereby preventing cardiovascular disease.
- **Reduce import dependence:** They are an ideal solution for countries to increase self-sufficiency and reduce reliance on imported cereal grains.

Steps taken by India to promote millet production

- International Year of Millets: India spearheaded the UN General Assembly Resolution for declaring the year 2023 as the 'International Year of Millets'.
- **Agri-Infrastructure Fund:** Government is popularizing Agri-Infrastructure Fund Scheme to invite farmers/FPOs/Entrepreneurs to avail the benefit of interest subvention on loans up to 2 crores for setting up primary processing units in millets.
- **Higher Minimum Support Prices (MSP):** To encourage farmers to take up millet cultivation, higher MSP to Jowar, Bajra and Ragi Has been announced.
- **Production Linked Incentive Scheme:** The Ministry of Food Processing Industries (MoFPI) has approved the PLI Scheme for Food Processing Industry for Millet-based products for implementation during 2022-23 to 2026-27.

Source: PIB

Maritime Piracy

Syllabus: GS3/Economy

In News

• The **Yemen rebel group of Houthis** seized an **Israel-linked ship** bound for India.

Houthis Rebel Group

- The Houthis are a **rebel group** locked in a **civil war** with the **Yemeni government** for almost a decade.
- The group is named after the Houthi tribe. The Houthis are Zaydi Shias backed by Iran, while the Yemen government has the support of Iran's biggest rival Saudi Arabia and the West.

Sea Piracy

- Sea piracy involves **criminal acts committed on the high seas**, including armed robbery, hijacking, or any violent act for private gain.
- Pirates typically target commercial vessels, fishing boats, and, in some cases, even cruise ships.

Challenges Associated with Sea Piracy

- **Economic Impact:** Piracy disrupts maritime trade routes, leading to increased costs for shipping companies and potentially impacting the global economy.
- **Human Cost:** The safety and well-being of crew members are significant concerns.
- **Legal Challenges:** Prosecuting pirates can be challenging due to the vast and often international nature of maritime crimes. Establishing jurisdiction and coordinating legal actions among multiple nations can be complex.
- **Vast and Remote Areas:** Piracy often occurs in remote and expansive maritime areas, making it difficult for naval and law enforcement authorities to patrol and respond quickly to incidents.
- **Use of Technology:** Pirates have become increasingly sophisticated, using technology to track vessels, communicate, and plan attacks. This requires continuous adaptation of anti-piracy measures to counter evolving tactics.
- **State Fragility:** Pirates often operate in regions with weak or unstable governments, where law enforcement and naval capabilities may be limited. This contributes to an environment conducive to piracy.

Importance of Red Sea Trade Route

- The Red Sea, stretching from **Egypt's Suez Canal to the narrow Bab el-Mandeb Strait** separating the Arabian Peninsula from Africa, remains a key trade route for global shipping and energy supplies.
- **Linking East and West:** The Red Sea serves as a bridge between the East and West, providing a shorter and more direct route for maritime trade between Europe, Africa, the Middle East, and Asia.

- **Strategic Importance:** The Suez Canal, which connects the Red Sea to the Mediterranean, is one of the world's most important artificial waterways, facilitating global trade and reducing shipping times and costs.
- **Trade in Goods and Resources:** The region is a significant source of oil and natural gas, and the Red Sea remains an important route for the transportation of energy resources.
- **Economic Impact:** The trade routes through the Red Sea support the economies of countries along its shores by providing employment, stimulating economic activity, and fostering international relations.
- **Political Significance:** The control of key chokepoints, such as the Bab el Mandeb and the Suez Canal, has implications for global trade and security.
 - Political stability and cooperation among the countries bordering the Red Sea are crucial for ensuring the smooth flow of goods.

International Conventions on Sea Piracy

- United Nations Convention on the Law of the Sea (UNCLOS): It was adopted in 1982. It defines the rights and responsibilities of nations concerning the use of the seas.
 - It specifically addresses the issue of piracy, providing a definition of piracy and outlining the rights and obligations of states in suppressing piracy.
- United Nations Security Council Resolutions: A number of United Nations Security Council resolutions have been adopted over the years to facilitate international cooperation in dealing with acts of piracy in that area.
- Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA Convention): Adopted in 1988, it criminalizes specific offenses related to the safety of maritime navigation and establishes a framework for cooperation among states in investigating and prosecuting these offenses.
- International Maritime Organization (IMO) Conventions and Guidelines: It includes measures to prevent and respond to acts of piracy and armed robbery against ships.
- The International Convention Against the Taking of Hostages, 1979: It aims to develop international cooperation between States in devising and adopting effective measures for the prevention, prosecution and punishment of all acts of taking hostages as manifestations of international terrorism.
- The United Nations Convention on Transnational Organized Crime,
 2000: The main purpose is to promote cooperation to prevent and combat transnational organized crime more effectively.

India's Maritime Anti-Piracy Act 2022

- It will provide for an effective legal instrument to combat maritime piracy.
- Stringent punishment to those convicted of such crimes.

• The issue of death penalty as an "exceptional case" and the quantum of punishments envisaged are in line with the gravity of offences.

Source: TH

<u>Atmospheric Waves Experiment (AWE)</u>

Syllabus: GS3/Science and Technology

News

• National Aeronautics and Space Administration (NASA) is set to launch the Atmospheric Waves Experiment to study interactions between terrestrial and space weather.

What is Space Weather?

- It describes the variations in the space environment between the sun and Earth. It is created by activity on the Sun's surface.
- Space Weather has a direct impact on vital installations on Earth, like satellite-based communication, radio communication, and Space-based aircraft orbits or stations affecting the smooth operations of the navigation and Global Positioning Systems (GPS) and power grids.
- NASA's Atmospheric Waves Experiment (AWE) will study atmospheric gravity waves to understand the flow of energy through Earth's upper atmosphere and space.

What is a gravity wave?

- In the atmosphere, there are a wide variety of waves, traveling both horizontally and vertically. Atmospheric Gravity Waves (AGW) are one such kind of vertical wave. They are mostly generated when there is an extreme weather event or a sudden disturbance leading to a vertical displacement of stable air.
- A stable atmosphere plays an important role in the generation of gravity waves, that is, when the atmosphere is stable, the temperature difference between the rising air and the atmosphere produces a force that pushes this air to its original position. The air will continuously rise and sink, thus creating a wave-like pattern.

What is the Atmospheric Waves Experiment (AWE)?

- AWE is planned under NASA's Heliophysics Explorers Program to study the links between how waves in the lower layers of the atmosphere impact the upper atmosphere, and thus, Space weather.
- It will be launched and mounted on the exterior of the Earth-orbiting International Space Station (ISS). From the vantage point, it will look down at the Earth and record the colorful light bands, commonly known as airglow.

• AWE will measure the air glow at mesopause (about 85 to 87 km above the Earth's surface), where the atmospheric temperatures dip to minus 100 degrees Celsius.

Functioning of AWE

- AWE will perform focused mapping of the colorful air glows in the Earth's atmosphere.
- An Advanced Mesospheric Temperature Mapper (ATMT) onboard the AWE, will scan or map the mesopause.
- Using the four identical telescopes comprising an imaging radiometer, the brightness of light at specific wavelengths will be obtained.
- The information can then be converted into a temperature map, which could reveal the airglow movement and ultimately, give clues on their role in the upper atmosphere and Space weather.

Source: IE

Uttarakhand Tunnel Collapse

Syllabus:GS3/Disaster Management

News

• The under-construction Silkyara-Barkot tunnel in Uttarakhand collapsed.

Background

- The 4.531 km long bi-Directional tunnel is on the Yamunotri National Highway in Uttarkashi district. It is part of the Char Dham all-weather accessibility project.
- The aim of the construction of this tunnel is to provide all weather connectivity to Yamunotri, one of the dham on Chardham Yatra, encouraging regional socio-economic development, trade and tourism within the country.

Possible causes of Failure

- **A loose patch of rock:** The patch might have consisted of fractured or fragile rock, that is, rock with a lot of joints that may have made it weak.
- **Seepage of water:** through a loose patch. Water erodes loose rock particles over time, creating a void on the top of the tunnel, which can't be seen.

Tunnels excavation Methods

- There are essentially two ways: the drill and blast method (DBM), and by using tunnel-boring machines (TBMs).
- **DBM** involves drilling holes into the rock and loading them with explosives. When the explosives are detonated, the rock breaks apart.
- **TBMs** bore the rock from the front (using a rotating head) while supporting the excavating tunnel behind the machine by installing precast concrete segments.

Difference between DBM and TBM

- Building a tunnel with a TBM is more expensive than DBM, but much safer.
- A TBM can't be used to drill through very tall mountains. It could lead to rock burst when a part of the rock suddenly falls due to high stress. TBMs are ideal when the rock cover is up to 400 metres tall.
- Underground tunnels for the Delhi Metro were dug using a TBM at shallow depth. On the other hand, in places like Himalays, including Jammu & Kashmir and Uttarakhand, DBM is usually used.

Tunnel construction in Himalayan region

- The Himalayas are **young fold mountains** (they were formed between 40 million and 50 million years ago) and they are still growing due to the collision between the **Indian tectonic plate and the Eurasian tectonic plate.**
- There are some patches where the rock is too fragile for a tunnel. But at other places, the rock is very good.
- Tunnels do not destroy the ecology of the mountain or hill. Tunnel-building technology is around 200 years old and, if executed properly, tunnels aren't dangerous.

Key aspect of building a tunnel

- Investigation of the rock through which a tunnel is proposed to be made, by sending seismic refraction waves through the rock to check which patches are fragile or solid.
- **Extraction of a core sample** for petrographic analysis (microscopic examination to determine the mineral content, grain size, texture and other features).
- **Monitor the spot** to check the behavior of the rock at various places. It is done by instruments such as stress meters and deformations meters.
- **The supports** provided to the tunnel need to be tested for adequacy.
- An independent specialist geologist visits to check for probable failures. They will also determine the rock's stand-up time the duration for which a rock can remain stable without any support. Support is given to the rock within its stand-up time.

Char Dham project

- The Char Dham project is a two-lane highway project currently under construction in the state of Uttarakhand by the **Border Road Organisation.**
- It will widen **900 km** of highways connecting the pilgrimage sites **(Kedarnath, Badrinath, Yamunothri & Gangothri)** and the **Tanakpur-Pithoragarh stretch of National Highway** (NH) 125, a part of the Kailash Mansarovar Yatra route.

Sources: IE

Facts In News

AGNI Initiative

Syllabus: GS2/ Government policies & Interventions Context

 The Central Council for Research in Ayurveda Sciences (CCRAS) under the Ministry of Ayush launched the Ayurveda Gyan Naipunya Initiative (AGNI).

Objectives of AGNI

- **Platform for Ayurveda Practitioners:** AGNI provides a platform for Ayurveda practitioners to report innovative practices and experiences in various disease conditions.
- **Promoting Evidence-Based Practice:** Aims to promote the culture of evidence-based practice among Ayurveda practitioners.
- **Database Creation:** To document successful therapeutic regimens for various disease conditions, involving single drugs, formulations, and procedures.
- **Capacity Building:** Training in research methods and good clinical practices for interested practitioners.
- **Research and Mainstreaming:** Undertake research for mainstreaming pragmatic practices through scientific validation and evidence-based appraisal.

Source: PIB

Investor Risk Reduction Access Platform

Syllabus: GS3/Indian Economy

In News

• Recently, **Securities and Exchange Board of India (SEBI)** has launched the safety net for investors and traders.

- It has been jointly developed by all the stock exchanges **Bombay Stock Exchange**, **National Stock Exchange and Metropolitan Stock Exchange of India** etc.
- It is a platform that will serve as **investors' "safety net"** in the event that a trading member or stock broker registered with SEBI encounters technological difficulties.
- Its purpose is to mitigate risks for market participants, primarily by facilitating
 the cancellation of pending orders, rather than for initiating new positions or
 orders.
- The platform is accessible to trading members who support internet-based trading and wireless technology for their investors, but it is **not accessible** for algo trading and institutional clients.

• Investors will have access to the IRRA platform through a new mobile application and web URL for **Internet-based trading (IBT)**.

What is Futures & Options (F&O)

- It is a type of **financial derivatives** trading that involves contracts based on the future prices of underlying assets, such as stocks, commodities, currencies, or indices.
- The **two primary types** of derivative contracts in F&O trading are **futures contracts and options contracts**.
- **Futures contracts** obligate the buyer to purchase and the seller to sell a specific quantity of an underlying asset at a predetermined price and date in the future.
- **Options contracts** provide the buyer with the right (but not the obligation) to buy (call option) or sell (put option) an underlying asset at a predetermined price (strike price) on or before a specified expiration date.
- F&O trading allows traders to control a more significant amount of the underlying asset with a relatively small amount of capital, which amplifies both potential gains and losses.

Securities and Exchange Board of India (SEBI)

- It is a **statutory** authority that governs and supervises the securities and financial markets.
- It **regulates** various segments of the financial market, including stock exchanges, mutual funds, securities intermediaries, and credit rating agencies.
- It **formulates policies, rules, and regulations** to ensure the fair and transparent functioning of these entities.
- SEBI **mandates** the registration and regulation of market intermediaries, such as brokers, sub-brokers, merchant bankers, and portfolio managers.
- It **mandates disclosures** related to financial results, corporate governance, and insider trading to maintain transparency in the markets.

Source: IE

Tantalum

Syllabus: GS3/Science and Technology

News

• A team of researchers from the Indian Institute of Technology (IIT), Ropar has found the presence of tantalum, a rare metal, in the Sutlej river sand in Punjab.

What is tantalum?

- **Tantalum** is a rare metal with the **atomic number 73**.
- **Properties:** The metal is gray, hard and heavy, and ductile. It also possesses high corrosion resistance. The metal has a high melting point, exceeded only by tungsten and rhenium.
- It is almost immune to chemical attack at temperatures below 150°C, and is attacked only by hydrofluoric acid, acidic solutions containing the fluoride ion, and free sulfur trioxide.

What are the uses of tantalum?

- **Electronic sector:** The capacitors made from tantalum are capable of storing more electricity in smaller sizes without much leakage than any other type of capacitor. This makes them ideal for use in portable electronic devices such as smartphones, laptops, and digital cameras.
- **Substitute for platinum:** As tantalum has a high melting point, it is frequently used as a substitute for platinum, which is more expensive. The rare metal is used to make components for chemical plants, nuclear power plants, airplanes and missiles.
- **Medical Equipment:** Tantalum does not react with bodily fluids and is used to make surgical equipment and implants, like artificial joints.
- **High-speed machine tools:** A composite consisting of **tantalum carbide (TaC) and graphite** is one of the hardest materials known and is used on the cutting edges of high-speed machine tools.

Source: IE

Amyloidosis

Syllabus: GS3/ Science & Technology Context

• Scientists fabricate 2D protein monolayer that can help to study diseases like **Amyloidosis**.

About

- Amyloidosis is a **rare disease** that occurs when a protein called amyloid builds up in organs.
- **Affects:** Amyloid buildup can affect the working of organs like heart, kidneys, liver, spleen, nervous system and digestive tract.
- There is not currently a cure for the disease.

Source: PIB

Ghol Fish

Syllabus:GS3/Environment, Species in News

News

• The Ghol fish (Black Spotted Croaker) was declared the state fish of Gujarat during the Global Fisheries Conference India, 2023.

- Scientific name: Protonibea diacanthus
- **Distribution:** The fish is usually found in the Indo-Pacific region that stretches from the Persian Gulf to the Pacific Ocean.

• IUCN Status: Near Threatened

Why was Ghol chosen?

- The Gujarat government chose the Ghol because of its economic value and its uniqueness.
- The other factor was to conserve it and prevent it from over-exploitation.

Commercial importance

- The meat of the fish is exported as frozen fillet to European and Middle-Eastern countries.
- **Its air bladder** which is cut open from the stomach and dried is mainly exported to China, Hong Kong and other Asian countries where it is in high demand for its **medicinal values**.

Source: IE

National Disaster Response Force (NDRF)

Syllabus: GS3/ Disaster Management

Context

• NDRF entered the Uttarkashi Tunnel to save the 41 trapped workers.

About

- **Establishment:** NDRF was formed in 2006 under the Disaster Management Act.
- **Mandate:**It is tasked with responding to natural and man-made disasters, including floods, cyclones, earthquakes, and industrial accidents.
- Chairman: Prime Minister.
- Structure and Organization:
 - **Battalions:** NDRF consists of specialized battalions strategically stationed across the country. At present, NDRF has a strength of 16 Battalions with each Battalion consisting of 1149 personnel.
 - **Specialized Teams:** Each battalion is equipped with specialized teams for various types of disasters.
 - **Quick Response Teams**: NDRF maintains Quick Response Teams for rapid deployment during emergencies with these teams on standby 24x7 to ensure immediate response.(Proactive Availability)
- **Inter-Agency Coordination:** It collaborates with various agencies at the national and international levels.
- **Advisory Role:** NDRF provides expert advice to state and central governments on disaster management strategies.

Source: Mint

Gambusia Fish

Syllabus: GS3/ Conservation, Species in News In News

A new study has revealed that two species of mosquitofish, Gambusia affinis
and Gambusia holbrooki, have invaded various ecosystems across India.

Gambusia fish

- **About:** Gambusia is native to the waters of the southeastern United States.
 - It is a freshwater fish.
 - A single full-grown fish eats about 100 to 300 mosquito larvae per day.
- **Characteristics:** Gambusia stands out as some of the most widely dispersed freshwater fish, aided by their robust adaptability and high tolerance for fluctuating environmental conditions.

Significance

- Gambusia has been a part of **mosquito-control strategies** for over a century in various parts of the world, including India.
- It has been part of various malaria control strategies in India since 1928.

Challenge

- They are notorious for their **detrimental ecological impact**, including displacing and preying on native fauna, leading to the extinction of native fish, amphibians, and various freshwater communities.
- In India, some reports have indicated a decline in **Microhyla tadpoles** following the introduction of Gambusia.
- For these reasons, the World Health Organisation stopped recommending Gambusia as a mosquito control agent in 1982.



Source: DTE

Sturgeon

Syllabus: GS₃/ Species In News

In News

• Illegal sale of sturgeon is rampant in the lower Danube region, according to a report released by the World Wildlife Fund (WWF).

- **Poaching incidents** were recorded in Romania, Bulgaria and Ukraine despite a **complete ban** on fishing and trading of wild sturgeon species.
- **Distribution:** Sturgeons are found mostly in the **freshwater bodies** of North America and along its eastern coast. They are also found in the rivers and inland seas of southern Russia and Ukraine.

- **Significance:** Sturgeons have existed since the time of dinosaurs, for about 200 million years.
 - They are called 'living fossils' because their appearance has altered very little over the years.
 - Sturgeon eggs are often considered an extravagant delicacy and are popularly known as caviar.
- **Threats:** Sturgeons are also caught for their flesh, which may be sold fresh, pickled, or smoked. The inner lining of the sturgeon's swim bladder is used to make a type of gelatin.
- IUCN Status: Critically Endangered
 - Since 1998, international trade in all species of sturgeons has been regulated under CITES.

Source: DTE