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MINISTRY OF SCIENCE AND TECHNOLOGY



MK Yadav Sir

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THE HINDU

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SIPRI REPORT

(Syllabus: GS Paper 3 – Security)

China has 500 nuclear warheads, says SIPRI

The Hindu Bureau
NEW DELHI

India's nuclear arsenal reached 172 warheads this year, slightly surpassing Pakistan which has 170.

China, on the other hand, has triple that number, with 500 warheads, some of which are believed to be on high operational alert for the first time, according to the Swedish think tank Stockholm International Peace Research Institute (SIPRI).

SIPRI also noted that India is strengthening the undersea leg of its nuclear triad as well as developing long-range missiles.

"India's third SSBN [a nuclear-powered submarine carrying ballistic missiles armed with nuclear weapons] was reportedly launched in November 2021, and a fourth is under-construction for possible launch in 2024. These submarines are believed to be significantly larger than the first two, with satellite imagery indicating that they are approximately 20 metres longer," according to the SIPRI yearbook. On the second SSBN, *Arighat*, it noted that it was launched in November 2017 and underwent advanced sea trials in 2021-22, but that it's commissioning into the Indian Navy has been delayed and is now expected in 2024.

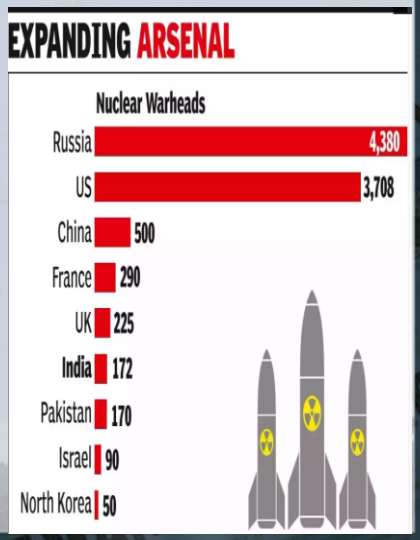
Context: India's nuclear arsenal has grown to 172 warheads this year, edging past Pakistan's 170 warheads. Meanwhile, China maintains a significantly larger stockpile with 500 warheads, including some on high operational alert for the first time, reports SIPRI.

Stockholm International Peace Research Institute (SIPRI)

- **About:** It is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- **Established in:** 1966
- **Vision**: SIPRI envisions a world where sources of insecurity are recognized, conflicts are pre-empted or resolved, and peace is enduring.
- **Provision of Data and Analysis**: SIPRI provides data, analysis, and recommendations sourced from open channels, offering valuable insights into global security trends.
- **Target Audience**: SIPRI's research serves policymakers, researchers, media, and the general public, contributing to informed decision-making and public discourse.

Key findings of Report

- **Launch of Third SSBN:** India's third SSBN, currently known as S4, was reportedly launched in November 2021. It represents a significant advancement in India's naval nuclear capabilities.
- **SSBN Arighat:** It was launched in November 2017 and completed advanced sea trials during 2021-22, showcasing its readiness for operational deployment.
- **Strategic Deterrence Assurance**: India maintains confidence in its strategic deterrence capabilities, bolstered by advancements such as the Agni-5 ballistic missile.
- **Global Pursuit of Capability:** SIPRI notes that India, Pakistan, and North Korea are actively pursuing the capability to deploy multiple warheads on ballistic missiles, aligning with major nuclear powers like the US, UK, Russia, France, and China who already possess this capability.



INDIAN EXPRESS

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Great Nicobar Project
(Syllabus GS Paper 3 – Infrastructure)

Strategic imperative and environment concern in Great Nicobar project

NIKHIL GHANEKAR
NEW DELHI, JUNE 18

THE CONGRESS party has described the proposed Rs 72,000-crore infra upgrade at the Great Nicobar Island as a "grave threat" to the island's indigenous inhabitants and fragile ecosystem, and demanded "immediate suspension of all clearances" and a "thorough, impartial review of the proposed project, including by the Parliamentary committees concerned".

Great Nicobar is the southernmost and largest of the Nicobar Islands, a sparsely inhabited 910-sq-km patch of mainly tropical rainforest in southeastern Bay of Bengal. Indira Point on the island, India's southernmost point, is only 90 nautical miles (less than 170 km) from Sabang at the northern tip of Sumatra, the largest island of the Indonesian archipelago.

EXPLAINED POLICY

Great Nicobar has two national parks, a biosphere reserve, small populations of the Shompen and Nicobarese tribal peoples, and a few thousand non-tribal settlers.

The Andaman and Nicobar Islands are a cluster of 836 islands, split into two groups — the Andaman Islands to the north and the Nicobar Islands to the south — by the 150-km wide Ten Degree Channel.

So why does India want to develop Great Nicobar, and why has the proposed three-phase, 30-year project faced sustained criticism from conservationists, wildlife biologists, and some local tribal councils?

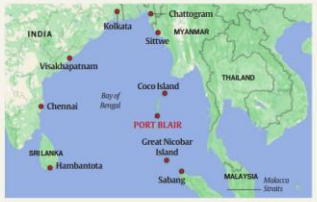
The infra project

The mega infrastructure project — which is being implemented by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) — is proposed to include an International Container Transshipment Terminal (ICTT), a greenfield international airport with a peak hour capacity to handle 4,000 passengers, a township, and a gas and solar based power plant spread across 16,610 hectares.

The project for the "holistic development" of Great Nicobar Island was implemented after a report by NITI Aayog. A pre-feasibility report flagged the opportunity to leverage the strategic location of the island, which is roughly equidistant from Colombo in Sri Lanka to the southwest and Port Klang (Malaysia) and Singapore to the southeast.

It is close to the Malacca Strait, the main waterway that connects the Indian Ocean to the Pacific, and the ICTT is expected to "allow Great Nicobar to participate in the regional and global maritime economy by becoming a major player in cargo transshipment". A proposed "greenfield city" will tap into both the maritime and tourism potential of the island.

The site for the proposed ICTT and power plant is Galathea Bay on the southeastern corner of Great Nicobar Island, where there is no human habitation. The project was granted in-principle forest clearance and environmental clearance in October 2022. A detailed project report (DPR) has been prepared, and the union government is likely to invite bids for the initial phase of construction of the terminal in the coming months.



Strategic importance

The Bay of Bengal and Indian Ocean region are of vital strategic and security interest to India as the Chinese People's Liberation Army Navy seeks to expand its footprint across the region. India is wary of a build-up of Chinese maritime forces at the Indo-Pacific choke points of especially Malacca, Sunda, and Lombok. China's attempts to expand its footprint in the region includes building a military facility at Coco Islands (Myanmar) lying just 55 km to the north of the Andaman & Nicobar Islands.

In April this year, *The Indian Express* reported that a major military infrastructure upgrade was underway at the Andaman & Nicobar Islands, including revamping airfields and jetties and building additional logistics and storage facilities, a base for military personnel, and a robust surveillance infrastructure. The upgrade is aimed at facilitating the deployment of additional military forces, larger and more warships, aircraft, missile batteries, and troops.

Close surveillance of the entire area around the archipelago, and the building up of a strong military deterrence at Great Nicobar is crucial for India's national security.

Environmental concerns

The proposed infra upgrade has been opposed on grounds of the threat it poses to the ecology of the islands. The opposition — by wildlife conservation researchers, anthropologists, scholars, and civil society apart from the Congress — has focused on the potentially devastating impact on the Shompen, a particularly vulnerable tribal group (PVTG) of hunter-gatherers with an estimated population of a few hundred individuals who live in a tribal reserve on the island.

It has been alleged that the project violates the rights of the tribal population, and will impact the island's ecology with the felling of nearly a million trees. It is feared that the port project will destroy coral reefs with spinoff effects on the local marine ecosystem, and pose a threat to the terrestrial Nicobar Megapode bird and leatherback turtles who nest in the Galathea Bay area.

The Congress statement, issued by senior leader and former Environment Minister Jairam Ramesh, has also pointed out that the proposed port is in a seismically volatile zone that saw permanent subsidence of about 15 ft during the 2004 tsunami. The statement has accused the local administration of not consulting the Tribal Council of Great and Little Nicobar Islands adequately as per legal requirements. In November 2022, the tribal council revoked a no-objection certificate it had issued for diversion of about 160 sq km of forest land, saying they had not been given full information.

In April 2023, the Kolkata Bench of the National Green Tribunal (NGT) declined to interfere with the environmental and forest clearance granted to the project. The Tribunal, however, ordered that a high-power committee should be constituted to look into the clearances. An appeal against the NGT's order was dismissed in 2023.

Context: The opposition has criticized the proposed Rs 72,000-crore infrastructure upgrade at Great Nicobar Island, calling it a serious threat to the island's indigenous population and fragile ecosystem.

Great Nicobar

- **Location and Size:** It is the southernmost and largest of the Nicobar Islands, spanning 910 square kilometers. It lies in the southeastern Bay of Bengal.
- **Geographical Significance:** Indira Point, located on Great Nicobar, marks India's southernmost point and is remarkably close to Sabang in Sumatra, Indonesia, at a distance of only 90 nautical miles (less than 170 km).
- **Andaman and Nicobar Islands**: It form a group of 836 islands, divided into the Andaman Islands to the north and the Nicobar Islands to the south by the Ten Degree Channel, which span 150 km.

Great Nicobar Project

- **About:** The GNI project is a significant endeavor slated for the southern Andaman and Nicobar Islands.
  - It encompasses diverse elements such as an international container trans-shipment terminal, an airport, township development, and a substantial power plant spanning 16,610 hectares.
- **Project Components**: The project entails a trans-shipment port at Galathea Bay, valued at ₹35,000 crore.
  - Additionally, it includes the establishment of a dual-use military-civilian international airport, a power plant, and a township.
- **Implemented by**: Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO).
- **Participation in Global Maritime Economy**: According to the NITI Aayog report, the proposed port will enable Great Nicobar to participate in the regional and global maritime economy by becoming a major player in cargo transshipment.
- **Environmental Concerns**:
  - Loss of tree cover, alongside resulting runoff and sedimentation in the ocean, could detrimentally affect local flora, fauna, and coral reefs.
  - The project's development also poses a threat to the island's mangrove ecosystems, further exacerbating environmental concerns.

ECONOMIC TIMES

Page 3

NATIONAL TESTING AGENCY (NTA)

(Syllabus: GS Paper 2 – Education)

Spare None, Not Even For 0.001% Negligence: SC to Govt

No opinion should be formed on allegations till a proper response is filed: Govt; the case will come up for resumed hearing on July 8

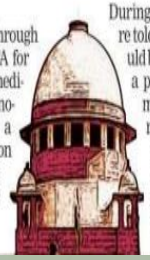
Our Political Bureau

New Delhi: The Supreme Court Tuesday told the central government and the National Testing Agency (NTA) that any individual found involved in the alleged paper leak in this year's National Eligibility-cum-Entrance Test (NEET) should not be spared.

A vacation bench comprising Justices Vikram Nath and SVN Bhatti verbally remarked that "even if there is 0.001% negligence on the part of anyone, it should be thoroughly dealt with".

The bench said it is expecting a timely action from the NTA and that the agency must ensure that all candidates are treated fairly. "If there is a mistake, say yes, this is a mistake, and this is the action we are going to take. At least that inspires confidence in your performance," the court said.

Children study hard to get through the test conducted by the NTA for admission to undergraduate medical programmes, the bench noted, while saying: "Imagine a person who has played fraud on the system becomes a doctor; he is more deleterious to the society."



During the resumed hearing, the Centre told the court that no opinion should be formed on the allegations till a proper response is filed in the matter. The case will come up for resumed hearing on July 8.

At the last hearing, the Supreme Court issued notice on a plea seeking a CBI probe into alleged instances of paper leak and malpractices in the conduct of the examination held on May 5.

The bench had directed the NTA to respond within two weeks. It had also verbally observed that it was mindful of the fact that the issue at hand involved the future of 24 lakh students.

The Centre had, last Thursday, informed the Supreme Court that it decided to scrap the scorecards of 1,563 candidates who were given grace marks for a wrong question in the test. These candidates will be given the opportunity to take a re-test. If any of them chose not to take the re-test, then their earlier score, without the grace marks, will be counted, it said.

This means that the candidates, who got less than the allotted time to write the NEET-UG 2024 test, will have the option to retake the exam or forgo the grace mark.

Context: The Supreme Court instructed the central government and the **National Testing Agency (NTA)** to ensure that anyone involved in the alleged paper leak of this year's National Eligibility-cum-Entrance Test (NEET) faces strict consequences.

National Testing Agency (NTA)

- **About**: The NTA is an independent, autonomous, and self-sustained premier testing organization established under the Societies Registration Act (1860).
- **Nodal Agency**: Ministry of Education (MoE), Government of India (GOI).
- **Formation**: 2017.
- **Headquarters:** New Delhi.
- **Composition:** Chairperson, a secretary and 8 or more officials representing different national level institutes.
- **Objective**: To conduct efficient, transparent, and international standard tests to assess the competency of candidates for admissions to premier higher education institutions.
- **Mission**: To improve equity and quality in education by administering research-based valid, reliable, efficient, transparent, fair, and international-level assessments.
- **Functions:**
    - Identify partner institutions with adequate infrastructure to facilitate online examinations without disrupting their academic routines.
    - Create a question bank for all subjects using modern techniques.
    - Establish a robust R&D culture and a pool of experts in various aspects of testing.
    - Assist colleges and universities in testing, providing training and advisory services, and offer quality testing services to academic institutions in India.

SAME SEX MARRIAGE

(Syllabus: GS Paper 1 – Social Issues)

Thailand allows same-sex marriages



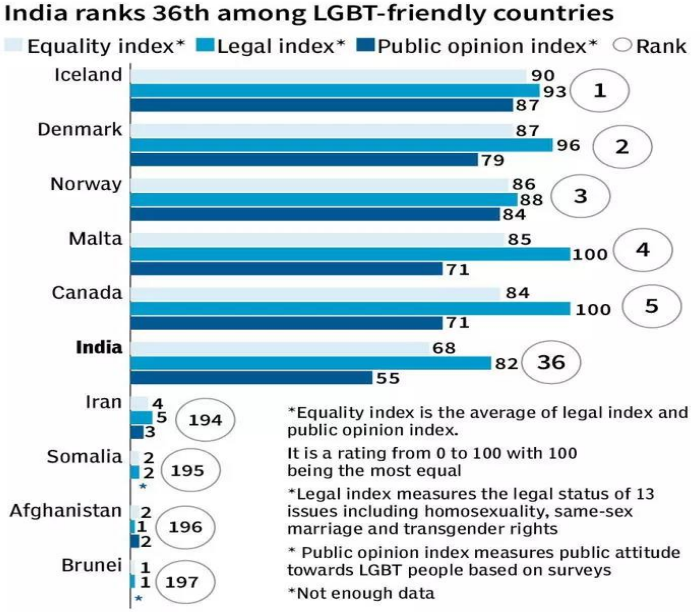
Thailand is the third Asian place, after Taiwan and Nepal, to allow same-sex marriage. AFP

Thailand's Senate voted overwhelmingly on Tuesday to approve a bill that would legalize same-sex marriage, clearing the last legislative hurdle for the country to become the first in Southeast Asia to enact such a law.

Thailand has a reputation for acceptance and inclusivity but has struggled for decades to pass a marriage equality law. Thai society largely holds conservative values, and members of the LGBTQ+ community say they face discrimination in everyday life.

The government and state agencies are also historically conservative, and advocates for gender equality have had a hard time pushing lawmakers and civil servants to accept change.

Thailand will become the third place in Asia, after Taiwan and Nepal, to allow same-sex marriage. The marriage equality bill, which grants full legal, financial and medical rights for marriage partners of any gender, sailed through the House of Representatives right before the previous parliamentary session concluded in April with the approval of 400 of the 415 members who were present. AP



Context: Thailand's Senate overwhelmingly approved a bill legalizing same-sex marriage, marking a historic step towards becoming Southeast Asia's first country to enact such legislation.

Same Sex Marriage

- **Definition**: Marriage between two men or two women is the practice known as same-sex marriage.
- **Global Regulation:** In most countries worldwide, laws, religious beliefs, and customs have regulated same-sex marriage.
- **International Recognition:** Over 30 countries legally perform and recognize marriages between same-sex couples as of 2022.
- **Recent Legalization**: Mexico is the most recent country to legalize same-sex marriage.
- **Indian Legal Framework**: The right to marry is not expressly recognized either as a fundamental or constitutional right under the Indian Constitution.
- **In India**: No legal recognition of same-sex marriages and no constitutional or fundamental right to civil unions.
  - **Right to marry**: No fundamental right to marry under the Constitution.
  - **Right to adopt:** Queer couples do not have the right to adopt.
- **Global**: 35 Countries.
  - The latest being Andorra (in February 2023) and Nepal (in June 2023). The Netherlands was the first country to legalise same-sex marriages in 2001.

BUSINESS STANDARD

Page 2

GEMINI

(Syllabus: GS Paper 3 – Sci and Tech)

Google launches Gemini with support for 9 Indian languages

ASHUTOSH MISHRA
New Delhi, 18 June

Google on Tuesday launched its Gemini app in India with support for nine Indian languages and English, giving users an artificial intelligence (AI) tool to answer queries by typing, talking, or uploading an image.

The app and Gemini Advanced, which gives users access to Google's most capable AI models, will help people access information and complete tasks in their preferred language, said the technology giant in a blog post. The Gemini app will be available in nine Indian languages such as Hindi, Bengali, Gujarati, Kannada, Malayalam, Marathi, Tamil, Telugu, and Urdu. "Exciting news! Today we're launching the Gemini mobile app in India, available in English and nine Indian languages. We're also adding these local languages to Gemini Advanced, plus other new features, and launching Gemini in Google Messages in English," said Sundar Pichai, chief executive officer of Google, on X (formerly Twitter).

The company also announced new features such as data analysis and file uploads for Gemini Advanced

The company announced new features, such as data analysis and file uploads, for Gemini Advanced, a paid AI chatbot. "...Gemini Advanced boasts the longest context of any widely available consumer chatbot worldwide," said the company.

Context: Google has launched its Gemini app in India, offering support for nine Indian languages and English, providing users with an AI-powered tool for answering queries via typing, voice, or image uploads.

Google Gemini

- **About**: It is a new multimodal AI model capable of comprehending and processing various formats simultaneously, such as text, code, audio, image, and video.
- **Built:** Gemini was built from the ground up to be multimodal, which means it can operate across and combine different types of information, including text, audio, image, code, and video.
- **It can recognise images, speak in real-time**, and even solve physics with remarkable ingenuity.
- **Gemini 1.0 comprises 3 Models**: Ultra, Pro, and Nano.
    - **Gemini Ultra:** It is Google's most powerful LLM ever and is aimed at enterprise applications that will run it for "highly complex tasks.
    - **Gemini Pro**: It is the most general-purposed of the three and has already been plugged into Bard for prompts that require advanced reasoning, planning, and understanding.
    - **Gemini Nano:** It described as the most efficient model for on-device tasks, has been baked into the Pixel 8 Pro to process tasks like information summarisation and Smart Reply.
- **Tensor Processing Units**: Gemini 1.0 on its AI-optimised infrastructure using its in-house designed Tensor Processing Units (TPUs) v4 and v5e.
- **Hindi Languages Available:** Hindi, Bengali, Gujarati, Kannada, Malayalam, Marathi, Tamil, Telugu, and Urdu.
- **Significance:** It will help people access information and complete tasks in their preferred language.

INDIAN EXPRESS

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ANGEL TAX

(Syllabus: GS Paper 3 – Economy)

Industry seeks removal of 'Angel Tax'; to greatly aid capital formation, says CII

RAVI DUTTA MISHRA
NEW DELHI, JUNE 18

AMID A sharp decline in funding for startups and consequent job losses, Indian Inc has sought the removal of Angel Tax that has been a subject of heated debate between the industry and the government ever since the scope of the controversial tax was expanded in the Finance Bill 2023.

The Confederation of Indian Industry (CII) in its Union Budget recommendation on Tuesday suggested the removal of Section 56(2)(viib) of the Income-tax Act colloquially known as the 'angel Tax' stating that the step "would greatly aid capital formation in the country".

Angel Tax was first introduced in 2012 to deter the generation and use of unaccounted money through the subscription of shares of a closely held company at a value that is higher than the fair market value of the firm's shares.

The industry has argued that the government is wrong in citing the difference between valuations and actual performance as a sign of money laundering, adding that investors fund startup based on their future potential. Taxes levied on the difference between issue price of unlisted securities and its fair market value (FMV) has hurt funding, it said. The changes in the Angel Tax provisions came at a time when an estimated 100 Indian startups laid off over 15,000 employees in 2023, as funding winter that began in 2022 persisted. Moreover, Indian startups witnessed over 60 per cent decline in funding in terms of value in 2023.

The Finance Act, 2023, had amended Section 56(2)(viib) of the Income-tax Act. The provision stated that when an unlisted company, such as a start-up, receives equity investment from a resident for issue of shares that exceeds the face value of such shares, it will be counted as income for the start-up and be subject to income tax under the head 'Income from other sources' for the relevant financial year.

With the latest amendment, the government had proposed to also include foreign investors in the ambit, meaning that when a start-up raises funding from a foreign investor, that too will now be counted as income and be taxable.

The Department for Promotion of Industry and Internal Trade (DPIIT)-recognised startups were excluded from the Angel Tax levy.

However, after pushback from the industry and reports of decline in funding, the Finance Ministry exempted investors from 21 countries including the US, UK and France from the levy of Angel Tax for non-resident investment in unlisted Indian start-ups.

But the list excluded investment from countries like Singapore, Netherlands and Mauritius – which have traditionally been key geographies for start-ups to raise money.

EXPLAINED

What is Angel Tax?

ANGEL TAX – which is income tax at the rate of 30.6 per cent – is levied when an unlisted company issues shares to an investor at a price higher than its fair market value. Earlier, it was imposed only on investments made by a resident investor. However the Finance Act 2023 proposed to extend Angel Tax even to non-resident investors from April 1, 2024.

Context: Amid a downturn in startup funding and resultant job losses, Indian Inc has urged for the repeal of Angel Tax.

Angel Tax

- **About:** An income tax levied, when an unlisted company issues shares to an investor at a price higher than its fair market value.
- **Under:** Under Section 56(2)(viib) of the Indian Income Tax Act.
- **Tax rate**: The effective rate of the angel tax is 30.6%.
- **Aim:** To curb the practice of issuing shares at a premium much higher than their fair value, which could potentially involve money laundering or tax evasion.
- **Applicability**: Angel Tax was applicable to startups and unlisted companies that raised capital through the issue of shares.
    - If the issue price of the shares exceeded the fair market value, the excess amount was treated as income and taxed according.
- **Exemptions**: The entity should be a DPIIT recognized Startup; Aggregate amount of paid up share capital and share premium of the Startup after the proposed issue of share, if any, does not exceed INR 25 Crore.
- **DPIIT Recognition**:
    - Startups seeking exemption from Angel Tax were required to be recognized by the DPIIT.
    - The criteria for recognition included innovation, scalability, and the potential to generate employment.
- **Eligibility Criteria for Startup:**
    - Turnover should be less than INR 100 Crores in any of the previous financial years.
    - An entity shall be considered as a startup up to 10 years from the date of its incorporation.

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FOREST FIRE

(Syllabus: GS Paper 3 – Disaster Management)

How can Himachal Pradesh fight against forest fires?

What does the State need to do in order to democratise forest management and curtail raging forest fires?

Tikender Singh Panwar

The story so far:

Himachal Pradesh (H.P.) is witnessing widespread forest fires across the region. According to the Himachal Pradesh Forest department, there have been a total of 1,684 forest fires since April 15. These fires have damaged a total of 17,471 hectares of forest land, resulting in significant loss to wildlife. From 2001 to 2023, H.P. has lost 957 hectares of tree cover from fires and 4.37 thousand hectares from all other drivers of loss.

How do forest fires start in the State?

Fires in the Himalayas occur during the pre-monsoon summer period of moisture stress, due to the resultant depletion of snowmelt water. The moisture conditions of the pre-monsoon season, characterised by rainstorms, play a critical role in determining the nature of forest fires. The less moisture there is, the greater the impact of the fires. Human activities such as unattended campfires, discarded cigarettes etc., are also some of the common causes for forest fires.

These fires are also a major source of pollutants, including black carbon, which significantly contribute to glacier melt in the Himalayas and negatively influences the regional climate. The primary causes of these forest fires are faulty forestry practices, and treating forests from a utilitarian perspective, excluding people's participation.

Have the Himalayan forests undergone a transformation?

The Himalayan forests have been systematically transformed over the last two centuries. A crucial watershed moment in Indian forestry began with the construction of railways in the 1850s. Lord Dalhousie's understanding about railway construction was that the railways were to be constructed not just to market British goods but also to serve as an outlet for British capital seeking profitable avenues. Unfortunately, the profitability of Himalayan forests continue to be a driving force. From 1853 to 1910, the construction of around 80,000 kms of railway track led to an assault on forests and the extinction of the customary rights of the people. Between 1869 and 1885, 6.5 million sleepers were made of Deodar, and the area for Chir pines was expanded for timber and resin. Total trees from which resin was tapped between 1910 and 1920 increased from 2,60,000 to 21,35,000. Resin was used for commercial and industrial applications, and its extraction continues to be a major source of production from pine forests. Verrier Elwin, an Oxford scholar and renegade priest, wrote in the early 20th century that State-managed forestry led to the gradual replacement of the Banj oak, a source of fuel, fodder, and leaf manure, with the Chir pine, which was more valued commercially as a source of timber and resin. Ecologically, Banj forests absorb a high content of rainwater, leading to better moisture retention and water springs in the mountains.

Context: Himachal Pradesh is currently experiencing widespread forest fires, with the Himachal Pradesh Forest Department reporting a total of 1,684 fires since April 15.

Forest fire in India

- **Forest fire season:** November to June is considered to be forest fire season in India, with hundreds of thousands of small and large fires burning every year.
- **Worst fire months:** April-May are usually the worst fire months across the country.
- **According to India State of Forest Report (ISFR):** More than 36% of India's forest cover was prone to frequent fires. About 4% of the forest cover was 'extremely prone' to fire, and another 6% was 'very highly' fire prone.
- **Most prone region:** Severe fires occur in dry deciduous forests, with forests in Northeast India, Odisha, Maharashtra, Jharkhand, Chhattisgarh, and Uttarakhand being the most vulnerable.
    - Recent incidents of forest fires have been reported from Mizoram, Manipur, Assam, Meghalaya, and Maharashtra.

Forest fire

- **About:** An unclosed and freely spreading combustion that consumes the natural fuels.
    - When a fire burns out of control it is known as Wild Fire.
- **Types of Forest Fires**
    - **Surface Fire**: Spreads along the ground, burning surface litter like leaves and twigs.
    - **Underground Fire**: Consumes organic matter beneath the surface, spreading slowly and often undetected, also known as muck fires.
    - **Ground Fire:** Burns subsurface organic fuels such as duff layers and roots, often more damaging than surface fires.
    - **Crown Fire**: Burns the crowns of trees and shrubs, often fueled by surface fires, especially dangerous in coniferous forests.
    - **Firestorms:** Rapidly spreading intense fires, creating fiery twisters with temperatures reaching around 2,000 degrees Fahrenheit.

Government Initiatives

- **National Action Plan for Forest Fires (NAPFF)**: It was launched in 2018 to reduce forest fires by informing, enabling, and empowering forest fringe communities and incentivizing their collaboration with state forest departments.
- **Forest Fire Prevention and Management Scheme (FPM):** It is the sole government-sponsored program dedicated to assisting states in managing forest fires.

TIMES OF INDIA

June 18

FILOBOLETUS MANIPULARIS

(Syllabus: GS Paper 3 – Env and Eco)

Rare and possibly toxic mushroom species discovered in Kerala

Context: Recently, scientists discovered the Filoboletus Manipularis, a rare bioluminescent mushroom emitting a bright green glow at night in Western Ghats region in Kerala.



Filoboletus Manipularis

- **About**: It belongs to the Mycenaceae Family of Fungi and is notable for its bioluminescent capabilities.
- **Structures**: This species emits greenish light primarily from its stipe (stem) and pileus (cap), making it visible in dark environments, such as the forest at night.
- **Habitat and Ecosystem:** The forests of the Western Ghats provide optimal conditions for bioluminescent fungi like Filoboletus Manipularis due to high humidity and low light levels.
- **Ecological Role:** These fungi are secondary saprophytes in the forest ecosystem, crucial for breaking down plant litter and contributing to nutrient cycling.
- **Biochemical Process in Filoboletus Manipularis**
    - Bioluminescence in Filoboletus Manipularis is mediated by a chemical reaction involving luciferin and luciferase, facilitated by oxygen.
    - This bioluminescent trait likely evolved to attract insects for spore dispersal, similar to other bioluminescent organisms such as fireflies and certain marine species.

Bioluminescence

- **About**: It is the production and emission of light by a living organism.
- Bioluminescent creatures are found throughout marine habitats, from the ocean surface to the deep seafloor.

INDIAN EXPRESS

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PRO-TEM SPEAKER

(Syllabus: GS Paper 2 – Polity)

PRO TEM SPEAKER

A senior Lok Sabha MP who is temporarily appointed Speaker and administers oath to new Members

EXPRESS NEWS SERVICE
NEW DELHI, JUNE 18

THE 18TH LOK SABHA will hold its first session between June 24 and July 3, during which the new Speaker will be elected. Prime Minister Narendra Modi will move the motion for the election of the Speaker in the Lok Sabha on June 26. Congress leader K Suresh, an eight-term MP, is expected to be appointed *pro tem* Speaker.

Who is a *pro tem* Speaker?

As the Presiding Officer of Lok Sabha, the Speaker has to fulfil certain duties and is elected by a simple majority vote in the Lower House. Until the Speaker is elected, the *pro tem* Speaker is appointed to administer some important duties. '*Pro tem*' means 'for the time being' or 'temporarily'.

The Constitution does not mention the post, but the official 'Handbook on the Working of Ministry of Parliamentary Affairs' mentions the appointment and swearing in of Speaker *pro tem*.

How is the *pro tem* Speaker chosen?

The handbook states that when the Speaker's post is vacant before a new Lok Sabha meets, "the duties of the Speaker are to be performed by a Member of the House appointed for this purpose by the President as Speaker *pro tem*".

Normally, the seniormost MP is appointed as the Speaker *pro tem*. Three other MPs, the next in terms of seniority, are appointed to assist the Speaker *pro tem*.

As soon as the new government is formed, the Legislative I Section of the Legislative Department of the government prepares a list of the seniormost Lok Sabha members. It is then submitted to the Minister for Parliamentary Affairs or the Prime Minister for identifying an MP as Speaker *pro tem* and another three members for oath-taking.

How are oaths administered?

After the Prime Minister's approval, the Ministry gets the consent of these MPs. The Minister then submits a note to the President, seeking approval for their appointments. The date and time for the ceremony are also decided.

Once the President approves, the Ministry informs the appointed members. Finally, the President administers the oath to the Speaker *pro tem* at Rashtrapati Bhavan. The other three members appointed by the President are administered the oath by the Speaker *pro tem* in the Lok Sabha.

The Speaker *pro tem* then administers the oath or affirmation to the newly elected MPs with the help of the other three members. Since the session of the Lok Sabha starts at 11 am, the time generally fixed for swearing in of the Speaker *pro tem* is on the morning of the same day at 9.30 am, subject to the convenience of the President.

Context: The 18th Lok Sabha is set to commence its inaugural session, with anticipation surrounding the election of the new Speaker amidst the NDA coalition's recent electoral success. In the interim, a pro-tem Speaker will oversee the swearing-in of newly elected Members of Parliament.

Pro-Tem Speaker

- **Definition:** It is a temporary presiding officer of the Lok Sabha, appointed to carry out specific duties until the regular Speaker is elected.
- **Meaning**: The term 'pro-tem' is derived from Latin, meaning 'for the time being' or 'temporarily'.
- **Constitutional Mention:** The Constitution **does not explicitly mention** the post of pro-tem Speaker.
- **Appointment by**: When the Speaker's post is vacant before a new Lok Sabha is formed, the President appoints a Member of the House as Speaker pro tem, as per the handbook.
    - Until the election of the new Speaker, a pro-tem Speaker is appointed to perform essential duties temporarily.
- **Election of the New Speaker**: In the new Lok Sabha, the Speaker is elected by a simple majority vote among the members.
- **Role and Duties**: As the Presiding Officer of the Lok Sabha, the Speaker is responsible for overseeing the day-to-day proceedings and maintaining order within the house.
    - **Primary Duty**: The pro-tem Speaker's main responsibility is to administer oaths to the newly elected Members of Parliament (MPs), as mandated by Article 99 of the Constitution.
- **Article 94**: It states that the Speaker remains in office until immediately before the first meeting of the new House of the People after a dissolution.

GLOBAL ENVIRONMENT FACILITY
(Syllabus: GS Paper 3 – Env and Eco)

Amount of $736.4 million to be disbursed at 67th council meet of Global Environment Facility at Washington

Context: Recently, at the Global Environment Facility (GEF) council meeting in Washington, DC, an amount of $736.4 million was allocated towards environment protection. This funding aims to bolster global efforts in safeguarding the environment.

Global Environment Facility (GEF)

- **About**: It was established on the eve of the 1992 Rio Earth Summit of UNFCCC to address critical environmental challenges worldwide.
- **Focus Areas**: GEF is dedicated to combating biodiversity loss, climate change, pollution, and the degradation of land and ocean health through its family of funds.
- **Supported Conventions**: GEF provides financial assistance to support the objectives of five major international environmental conventions:
  - Minamata Convention on Mercury
  - Stockholm Convention on Persistent Organic Pollutants (POPs)
  - United Nations Convention on Biological Diversity (UNCBD)
  - United Nations Convention to Combat Desertification (UNCCD)
  - United Nations Framework Convention on Climate Change (UNFCCC)
- **Membership:** GEF comprises 184 member countries, including India, demonstrating its global reach and impact.
- **Governance:** The governing council, composed of 32 members appointed by GEF member countries, oversees its operations and strategic direction.
- **Headquarters:** Washington, D.C., coordinating activities and supporting initiatives globally.
- **Funding Mechanism**: The GEF Trust Fund provides financial resources to developing countries and economies in transition, facilitating their participation in international environmental agreements and conventions.
- **GEF Council**: It serves as the principal governing body of the GEF, consisting of 32 members appointed by constituencies from member countries (14 from developed nations, 16 from developing nations, and two from economies in transition).
  - India, along with Bangladesh, Sri Lanka, Bhutan, Nepal, and Maldives, has established a permanent Constituency in the GEF's Executive Council.

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