19th June, 2024

1. West Bengal Train Accident
Recent events of importance

- **Why in News:**
  - **The recent collision near Siliguri in West Bengal,** which resulted in nine fatalities and over 40 injuries, **underscores the chronic problems plaguing this essential transport system.**
  - Despite its significance in a densely populated and developing country, **Indian Railways has seen seven major accidents since 1995, claiming over 1,600 lives.**
  - **Indian Railways, a critical lifeline for millions, is grappling with severe systemic issues** that threaten its viability and safety and **these tragedies highlight the urgent need for a comprehensive overhaul of the railway system.**

Railways backs out of human error claim; toll climbs to 10

Senior official acknowledges that automatic signalling system was not working; Kavach was absent; Commissioner of Railway Safety will begin probe into the cause of the accident today

Shiv Sahay Singh
KOLKATA

The death toll in the accident involving Kanchanjunga Express and a goods train in Darjeeling district of West Bengal rose to 10 on Tuesday, with a six-year-old child dying of injuries at the North Bengal Medical College and Hospital.

The Commissioner of Railway Safety (CRS) will begin an inquiry into the cause of the accident on Wednesday, even as the Railways seemed to walk back its initial claim that human error caused the accident, acknowledging that the automatic signalling system was not working on the route.

The Kavach train protection system is yet to be installed for the region's rail network.

Tragic incident: The wreckage of the Kanchanjunga Express passenger train at Rangapani in West Bengal on Tuesday. AFP

The deceased include three Railway employees – the driver of the goods train initially blamed for the accident, the guard of the Kanchanjunga Express, and a Railway Mail Service employee travelling in the parcel van of the express – and seven passengers.

Railway services were restored through the down line at the accident site from 7.30 a.m. on Tuesday, with the first passenger train passing through at 10.42 a.m. Operations on the up line had been restored at 5.40 p.m. on Monday. Three trains were diverted and two were cancelled on Tuesday due to the accident.

The survivors from the Kanchanjunga Express – which had left Agartala station at 8.25 a.m. on Sunday – reached Sealdah station in Kolkata on Tuesday morning, with many passengers in a state of trauma and shock from the ordeal.

Having visited the accident site on Tuesday, Chief Commissioner of Railway Safety Janak Kumar Garg said an inquiry will be made to ascertain the reasons for the accident.

"The automatic signal was not working and so the drivers had to follow certain procedures. The first driver had to follow those procedures and similarly, the driver after that. Now we have to investigate what mistakes were made," he said.

CONTINUED ON » PAGE 12

- **An Analysis of Declining Performance, Market Share and Other Systematic Issues of Indian Railways**
  - **Stagnation in Freight and Passenger Volumes**
    - **Since 2010-12, the total volume of both freight and passenger** traffic has either **stagnated or declined.**
    - This **stagnation is particularly stark when compared to the growth rates of road and air transport,** which have seen annual increases of 6-12%.
    - **Between 2014-15 and 2019-20, passenger traffic decreased from 995 billion pass-km to 914 billion pass-km.**
    - During the same period, freight traffic remained between 682 and 739 billion net tonne-km.
    - **These figures highlight a failure to attract new business** and retain existing customers, **undermining the railways' role as a major transport provider.**
  - **Loss of Competitiveness to Road and Air Transport**
    - **The stagnation in railway traffic volumes stands in sharp contrast** to the dynamic growth seen in road and air transport.
    - The **road transport sector has benefited from significant investments** in highway infrastructure, leading to improved connectivity and reduced travel times.
    - Similarly, **the aviation sector has expanded rapidly**, with new airports, increased flight frequencies, and competitive pricing making air travel more accessible to the masses.
    - **As a result, both passengers and freight shippers are increasingly opting for road and air transport over rail,** which they perceive as more reliable, faster, and often more cost-effective.
    - **The shift to road and air transport is also a reflection of broader economic and demographic changes.**
    - As **incomes rise and urbanisation accelerates, there is greater demand for faster and more convenient travel options.**
    - **Indian Railways has struggled to keep pace** with these changing preferences, **resulting in a significant loss of market share.**
  - **Failure to Meet Modernisation and Efficiency Targets**
    - **Indian Railways' inability to modernise and improve efficiency has further exacerbated** its declining performance.
    - **Despite numerous announcements** and plans to increase train speeds and improve safety, **tangible progress has been minimal.**
    - **The average speed of mail and express trains has remained stagnant at 50-51 kmph, far below the ambitious target of 75 kmph** set under various initiatives like Mission Raftar.
    - This failure to increase speeds not only affects passenger satisfaction but also impacts the efficiency of freight operations.
  - **Major Punctuality Issues**
    - The **railways have struggled with chronic punctuality issues**, with trains frequently running late.
    - This **lack of reliability is a major deterrent for both passengers and freight shippers** who require timely delivery of goods.

- The **Comptroller and Auditor General (CAG) of India's report on speed and punctuality highlights these deficiencies**, noting that there has been no significant improvement in train speeds or punctuality over the past several years.

- **Highlights of CAG Report on Indian Railways and Other Administrative Failures**
  - **Inconsistent Policies and Lack of Strategic Direction**
    - Over the past two decades, **the Railway Board, the highest administrative body of Indian Railways, has been characterised by abrupt changes in policies** and a lack of coherent strategic direction.
    - This **inconsistency has led to a fragmented approach** to modernisation and improvement efforts.
    - **Frequent leadership changes and shifting priorities have prevented the implementation of long-term plans** that are essential for sustainable development.
    - For instance, **initiatives to increase train speeds and enhance safety have been announced multiple times but have failed** to materialise effectively.
    - **The Mission Raftar project**, aimed at increasing the average speed of trains to 75 kmph, **has been reintroduced in various forms since 2005.**
  - **Inefficiencies in Operational Management**
    - **Operational inefficiencies further exacerbate the administrative failures** within Indian Railways.
    - **The punctuality of trains remains a major issue**, with delays being a common occurrence.
    - This lack of reliability undermines public confidence and reduces the attractiveness of rail travel compared to road and air alternatives.
    - **The inability to adhere to schedules disrupts both passenger and freight services,** leading to economic losses and inconvenience.
    - **Despite acquiring advanced technology** to build faster coaches and locomotives, **Indian Railways has failed to operationalise these capabilities effectively.**
    - The **continued reliance on outdated infrastructure and practices hampers efforts to improve overall efficiency** and service quality.
  - **Persistent Safety Issues**
    - The **high incidence of accidents, including derailments and collisions, highlights serious flaws in safety management** and infrastructure maintenance.
    - The **recent collision near Siliguri and the tragic multiple train collision in Balasore are stark reminders of the ongoing safety issues.**
    - **The CAG's report on accidents reveals that while there has been some reduction in the number of accidents due to the manning of unmanned railroad crossings**, the rate of derailments and collisions remains high.
    - **These accidents are often caused by asset failures** such as signal malfunctions and rail fractures.
    - **The Balasore collision, for instance, was attributed to a signal failure**, illustrating the severe consequences of inadequate maintenance and monitoring.

- **Required Reforms to Revitalise Indian Railways**
  - **Prioritising Safety**
    - **Improving safety should be the foremost priority** and this involves significant investment in track upgrades, modern signalling systems, and robust maintenance protocols.
    - **Regular safety audits, adherence to international safety standards, and continuous training for railway staff are essential** components of a comprehensive safety strategy.
  - **Enhancing Efficiency and Reliability**
    - **Increasing the average speed of trains, improving punctuality, and reducing delays are critical** for enhancing the efficiency and reliability of the rail network.
    - This **can be achieved through targeted investments in infrastructure upgrades**, such as replacing outdated tracks and enhancing station facilities.
    - **Implementing advanced traffic management systems can also optimise train operations** and reduce bottlenecks.
  - **Innovation and Modernisation**
    - While high-profile projects like bullet trains and semi-high-speed services have their place, **innovation should extend to the entire network.**
    - **Introducing more efficient locomotives, adopting green technologies, and leveraging data analytics for predictive maintenance can drive modernisation** across the rail system.
    - These **efforts should be integrated with a broader strategy** to improve the core network's performance.

- **Conclusion**
  - **The current state of Indian Railways reflects the consequences of misplaced priorities** and the urgent need for comprehensive reforms.
  - **By focusing on safety, efficiency, and modernisation, Indian Railways can reverse its decline and reclaim its position** as a vital component of India's transportation infrastructure.
  - This **requires a strategic shift away from high-profile, costly projects towards targeted investments** in core infrastructure and operations.

2. The high cost of a global economic decoupling
GS 3 (Economy)

- **Why in News:** U.S. President Joe Biden's announcement in May to impose new tariffs on Chinese imports has reignited fears of economic decoupling between major global economies, influencing policymakers in Europe and highlighting geopolitical tensions.

The high cost of a global economic decoupling

The announcement by United States President Joe Biden, in May, to slap a fresh round of tariffs on a range of Chinese imports, has refuelled fears of a new phase of decoupling in the world economy. Siding with Washington, policymakers in Europe are also deliberating having a 'united front' to counter China's pursuit of coercive economic practices.

While this may define the trajectory of China-U.S. relations, it is not clear what the long-term costs are going to be. With China, the West's trade risk calculations have increasingly become a function of national security. Contesting the liberal premise, the new political rhetoric in Washington assumes that since economic interdependence does not benefit China and the U.S. equally, it is likely that Beijing will weaponise vulnerabilities to its ends. In fact, the Biden administration's decision to resume a tariff war with China, reveals how political, and not economic, considerations become key in deciding what goods would receive tariff increases.

The story in the tariffs

The latest tariff on Chinese electric vehicles (EV) is a case in point. Given that the U.S. imports few EVs from China, the decision reinforces Mr. Biden's pro-union stance and his support for the ongoing efforts of the United Auto Workers (UAW) to scale up EV manufacturing domestically. Conceived as a pre-emptive measure, the quadrupling of tariffs from 25% also explains the fear that the American auto union has vis-à-vis the fast-growing Chinese car and battery industry and its ability to outcompete traditional domestic automakers in no time.

The new tariffs on medical devices, on the other hand, are a straightforward way to grow independent of China. For a decade now, China has been the primary source of medical equipment to the U.S., with imports nearing $640 million in 2023.

Many American health-care businesses have their manufacturing and research laboratories in China, and they have been ramping up their investments owing to China's growing health-care needs for the elderly and demand for quality health-care services. However, the deepening mistrust between the leaders of China and the U.S. creates pressure on the private sector and is likely to increase the burden of health-care costs on domestic patients in both countries. What protectionist enthusiasts often forget is that the costs of protection are borne through higher prices paid by consumers.

The long-term effects

While continuity with the Trump-era tariffs seems to be the obvious answer to deal with an aggressive China, the world economic situation is at odds with the geopolitical realities. The vicious cycle of tit-for-tat tariffs further exacerbates the dangers arising out of protectionism, encouraging other countries to follow suit. Moreover, the new import restrictions on Chinese clean energy products would delay the green transition targets and the expansion of renewables worldwide. As China faces slowing growth and rising household debts, many western multinationals dependent on China's vast consumer market will see a dip in their earnings.

For resource-rich countries such as Australia and Brazil, a slowing Chinese economy would not only hurt their exports in various commodities but also create downward pressures on iron-ore prices. For these economies that are heavily dependent on China for their exports, diversifying into other markets is never an easy task.

Similarly, the European Union's approach to de-risking trade in critical raw minerals with China may entail a greater risk of Beijing tightening its iron grip on the supply chain. As the scramble to control the value chain of rare earths intensifies, one cannot rule out the possibility of a mineral-rich grouping, led by China, trying to dictate the terms of green trade in the years to come.

Southeast Asia has also not been immune to the effects of protectionism and great power competition. While the region is said to benefit from production and investment shifting from China, the dependence on Beijing for technology and investment continues to run high. And the region's prospects of replacing China as the major supplier of components and manufactured goods could dim if Washington imposes stricter rules of origin and eschew access to goods from third countries that use components either made in China or by Chinese firms located in these countries.

With a burgeoning consumer market, India remains next in line in expecting to benefit from the decoupling dynamics. But, one is not sure of the extent of gains in terms of global market share and the time this transition would take. The reason is that India's manufacturing continues to be in a catching-up phase despite several initiatives by the government. New Delhi faces tough competition in low-end manufacturing from its South and South-East Asian neighbours, and its deep economic entanglements with China remain.

A potential crisis

One, therefore, sees no end in sight if this cycle of escalation continues. More than its real significance, global investors would deeply feel the psychological effects of decoupling. What makes this strategy worse is its deliberate distancing from the World Trade Organization (WTO). Once a flag bearer of WTO rules, Washington continues to block the appointment of judges to the WTO Appellate Body, rendering the adjudicatory process paralysed. While a direct collision between the two is unlikely, the intensifying geopolitical rivalry along with the fragmentation of the global economy puts the future of the liberal international order at a high risk. And, it would benefit neither the U.S., China or the rest of the world.

Priyanka Pandit
Assistant Professor, Department of International Relations and Governance Studies, School of Humanities and Social Sciences (SHSS), Shiv Nadar University, Delhi-NCR

Intensifying geopolitical rivalry and a fragmentation of the global economy are threatening the liberal international order

- **Political Over Economic Considerations**
  - **National Security Focus**: The West's trade risk calculations with China are increasingly driven by national security concerns.
  - **Biden's Tariff Strategy**: The new tariffs, especially on Chinese electric vehicles, are politically motivated to support domestic industries and unions.
  - **Medical Device Tariffs**: Increased tariffs on Chinese medical devices aim to reduce dependence on China but could raise healthcare costs in the U.S.
- **Global Economic Impact**
  - **Protectionism Consequences**: The cycle of tit-for-tat tariffs exacerbates global protectionism, harming international trade.
  - **Green Transition Delays**: Import restrictions on Chinese clean energy products could hinder global renewable energy goals.
  - **Multinational Challenges**: Western companies dependent on China's consumer market face potential earnings declines due to China's economic slowdown.
- **Regional Effects**
  - **Resource-Rich Countries**: Countries like Australia and Brazil may suffer from reduced Chinese demand, impacting their exports and commodity prices.
  - **EU De-Risking**: The EU's efforts to de-risk trade with China in raw minerals could backfire, giving China more control over supply chains.
  - **Southeast Asia and India**: Southeast Asia and India may struggle to replace China as a manufacturing hub due to high dependency on Chinese technology and investment.

3. Forest Fire and Management
GS 3 (Environment)

- **Why in News:** Himachal Pradesh (H.P.) is currently grappling with a severe spate of forest fires, with 1,684 incidents reported, affecting 17,471 hectares of forest land. These fires pose significant threats to wildlife and contribute to environmental degradation in the region.
- **Causes of Forest Fires**
  - Forest fires in Himachal Pradesh primarily occur during the pre-monsoon summer, exacerbated by moisture stress after snowmelt depletion.
  - **Human activities** such as unattended campfires and discarded cigarettes also contribute to the outbreak of fires.
  - **Faulty forestry practices** and a utilitarian approach to forest management further exacerbate the problem.
- **Impact on Environment and Climate**
  - Forest fires in the Himalayas
    - release pollutants like black carbon
    - Accelerates glacier melt

- negatively impacts regional climate patterns
- Historical transformations in Himalayan forests, driven by commercial interests, have reduced ecological resilience, making them more susceptible to fires.

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 1980 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.

Currently, more than 17.8% of the total 37,033 square kilometers of forest area is covered with Chir pine trees in H.P. Chir forests are very vulnerable to forest fires.

What needs to be done?

Democratisation of forests is essential to ensure that people and communities who have lived in and around forests are made part of the forest management process. The rights of the local community have been periodically curtailed, and as a result, when forest fires start, first responders are nowhere to be found.

The traditional forest rights of Himalayan dwellers included the right to extract wood for fuel, timber, fodder, and other activities. H.P. is under Schedule V of the Indian Constitution, which requires community assent for development activities in the region. However, for large projects like hydro power generation, road widening, and four-lane highways, forests are being diverted with ease.

What the Himalayan States now need is to build mixed forestry and remove pine trees; ensure that both scientific and community knowledge converge and forest management is conducted in a participatory manner; implement check dams and other methods to revive water springs; create environmental services at the village level; and articulate their case with the ongoing 16th Finance Commission, seeking help apart from disaster mitigation funds.

Author is former Deputy Mayor, Shimla, and Member, Kerala Urban Commission.

THE GIST

According to the Himachal Pradesh Forest department, there have been a total of 1,684 forest fires in the State since April 15.

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The traditional forest rights of Himalayan dwellers included the right to extract wood for fuel, timber, fodder, and other activities.

- **Historical Transformation of Himalayan Forests**
  - Over the past two centuries, Himalayan forests have undergone significant transformations due to colonial-era forestry policies focused on commercial exploitation.
  - The shift from Banj oak to commercially valuable Chir pine has altered forest ecosystems, affecting water retention and local livelihoods dependent on forest resources
- **Challenges and Recommendations**
  - **Challenges:**
    - Lack of community participation in forest management despite constitutional provisions.
    - Curtailment of traditional forest rights, hindering local communities' ability to respond effectively to forest fires.
    - Easy forest diversion for large-scale development projects like hydroelectricity and road infrastructure.
  - **Recommendations:**
    - Democratize forest management to involve local communities in decision-making processes.
    - Restore traditional forest rights to enable effective forest protection and management.
    - Implement mixed forestry approaches, reducing monoculture of vulnerable Chir pine.
    - Integrate scientific knowledge with traditional practices for sustainable forest management.
    - Establish local environmental services and infrastructure like check dams to revive water springs and mitigate fire risks.

4. Scientists from India, China, U.K. Develop Catalyst to Produce Cheaper Biodiesel GS 3 (Science and Tech)

- **Why in the News:** A team of scientists from Assam and Odisha in India, China, and the U.K. has developed a **water-repellent catalyst that can cut the cost of producing biodiesel** substantially from the current levels.

Scientists from India, China, U.K. develop catalyst to produce cheaper biodiesel

Rahul Karmakar
GUWAHATI

A team of scientists from Assam and Odisha in India, China, and the U.K. has developed a water-repellent catalyst that can cut the cost of producing "environmentally benign" biodiesel substantially from the current levels.

The process of arriving at the "spherical superhydrophobic activated carbon catalyst" to withstand water byproduct during the production of biodiesel – pursued as a substitute for diesel, an exhaustible fossil fuel – has been published in the latest issue of the peer-reviewed *Advanced Functional Materials*, a high-impact journal of the international materials science community.

The authors of the study are Arpita Das, Kangkana Saikia, and Samuel Lalthazuala Rokhum of the Department of Chemistry, National Institute of Technology (NIT), Silchar; Chandrakanta Guchhait and Bimalendu Adhikari of NIT, Rourkela, Odisha; Da Shi of the University of Cambridge in the United Kingdom; and Hu Li of the Guizhou University in China.

Dr. Samuel Lalthazuala Rokhum, centre, one of the authors of the study, with his researchers. SPECIAL ARRANGEMENT

Superhydrophobic catalysts, imitating the anti-wetting or water-repulsing properties of natural surfaces such as lotus leaves, are deemed crucial for their ability to prevent the poisoning of active sites by water, produced *in situ* or as a by-product.

"Our novel superhydrophobic catalyst can be a game-changer in the field of biodiesel production. It stands out because of unmatched robustness; it can withstand the water by-product during biodiesel production," Dr. Rokhum told *The Hindu*.

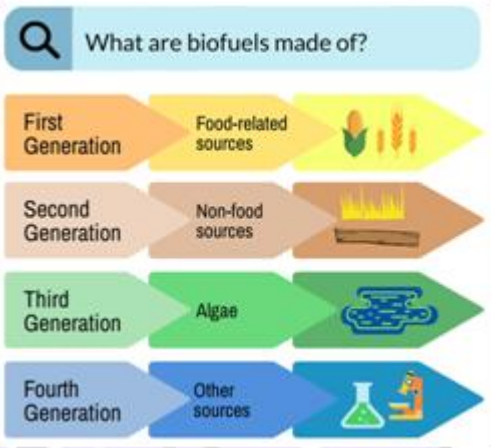
"This means the catalyst remains highly effective and can be reused multiple times, making the catalytic process more efficient and cost-effective," he said.

He further said the catalyst, derived from biomass (cellulose), is ecologically benign, abundant, and highly affordable. "This breakthrough has the potential to significantly reduce the cost of biodiesel production, making sustainable energy more accessible," he added.

At present, the cost of biodiesel in India is about ₹100 or $1.2 per litre. Using the superhydrophobic activated carbon catalyst can bring down the cost to about 37 cents per litre. A litre of less fuel-efficient diesel costs at least ₹87 in India. "Biodiesel is a key player in the quest for sustainable energy. Our innovative catalyst could pave the way for broader adoption and a greener future because it makes the production process more efficient, cost-effective, and environment friendly," Dr. Rokhum, among the world's top five scientists in the field of biodiesel, said.

- **About Biofuel:**
  - Biofuel is a **fuel that is produced over a short time span from biomass, rather than by the very slow natural processes involved in the formation of fossil fuels, such as oil.**
  - Since biomass can be used as a fuel directly (e.g., wood logs), some people use the words biomass and biofuel interchangeably.
  - However, the **word biofuel is usually reserved for liquid or gaseous fuels**, used for transportation.
  - Most of biofuel consumption occurs as a blend with refined petroleum products such as gasoline, diesel fuel, heating oil, and kerosene-type jet fuel.
    - However, some biofuels do not require blending with their petroleum counterparts and are referred to as drop-in biofuels.
  - The most common biofuels now are:
    - **Bioalcohols** such as ethanol, propanol, and butanol (a substitute for petrol/gasoline);
    - **Biodiesel** (a substitute for diesel);
    - **Bio-oils** (substitutes for kerosene).

- **Generations of Biofuel:**
  - Biofuels are also divided into four categories depending on their origin and production technologies.
  - **First Generation**:
    - **1G** biofuels are produced from **consumable food items** containing starch (rice and wheat) and sugar (beets and sugarcane) for bioalcohols, or vegetable oils for biodiesel.
    - However, the yields of 1G biofuels are low and can have negative impacts on food security.



  - **Second Generation:**
    - **2G** biofuels are mainly obtained from **non-food feedstocks** such as forest/industry/agricultural wastes and waste or used vegetable oils.
  - **Third Generation:**
    - **3G** biofuels, known as 'algae fuel', are **derived from algae** in the form of both, biodiesel and bioalcohols.
    - Although the yield of 3G biofuels is approximately 10 times higher than 2G biofuels, producing adequate algal biomass and scaling up extraction techniques are as yet unresolved challenges.
  - **Fourth Generation:**
    - Like the third generation, **4G** biofuels are **made using non-arable land**.
    - However, unlike the third, they do not need the destruction of biomass.
    - This class of biofuels includes electro fuels and photo-biological solar fuels.
- **India's Biofuel Policy:**
  - In 2021-22, the **Central government amended the Biofuel Policy (2018) to set a target of country-wide blending rates of 20% ethanol and 5% biodiesel by 2025**.
  - According to the Roadmap for ethanol blending in India 2020-2025 report from NITI Aayog, India will need to increase ethanol production capacity from the expected 3.3 billion liters (in 2020–2021) to at least 10.2 billion liters (5.5 billion liters from sugarcane and 4.7 billion liters from grains) by 2025.
  - Supported by these policies, **ethanol for blending in gasoline production and demand nearly tripled between 2018 and 2023 and now stands at near 12%** (7% on an energy basis).
  - **Sugar cane provides most ethanol production** with the remainder from food grains such as maize and surplus rice stocks determined by the Food Corporation of India.
- **Catalyst to Produce Cheaper Biofuel:**
  - A collaborative team of scientists from India, China, and the U.K. has developed a water-repellent catalyst that significantly reduces the cost of producing biodiesel.
  - This innovative "**spherical superhydrophobic activated carbon catalyst**" is designed to withstand water byproducts generated during biodiesel production, mimicking the natural water-repelling properties of surfaces like lotus leaves.
  - Currently, biodiesel production costs about ₹100 per liter in India, but the new catalyst could reduce this significantly.

5. Pro-tem Speaker
GS 2 (Legislature)

- **Why in News:** Recently, K Suresh from the Congress party has been appointed as the pro-tem Speaker in the Lok Sabha. This appointment holds significance as it precedes the formal election of the Speaker of the House.
- **What is a Speaker pro-tem?**
  - **Temporary Position: T**he Speaker pro-tem is appointed temporarily.
  - **Appointment:** Appointed by the President of India, the pro-tem Speaker is traditionally the most senior member of the House.
  - **Duties**: The pro-tem Speaker has several crucial responsibilities, including:
    - Presiding over the first sitting of the Lok Sabha.
    - Conducting the floor test to ascertain the government's majority.
    - Overseeing the vote to elect the Speaker and Deputy Speaker.
    - Administering the oath of office to newly elected MPs: **It is the pro-tem Speaker's primary duty.**
      - Under **Article 99 of the Constitution**, "Every Member of the House shall, before taking his seat, make and subscribe before the President or some person appointed in that behalf by him, an oath or affirmation according to the form set out for the purpose in the Third Schedule of the Constitution."
    - **Duration:** The pro-tem Speaker's tenure concludes once the new Speaker of the House is elected.
    - The Constitution does not mention the post.

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.

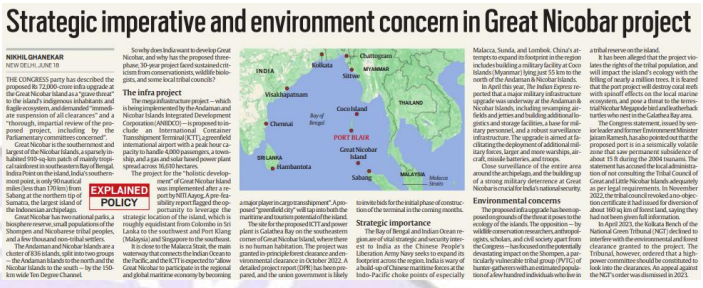
The Speaker *pro tem* then administers the oath or affirmation to the newly elected MPs with the help of the other three members. Since the session of the Lok Sabha starts at 11 am, the time generally fixed for swearing in of the Speaker *pro tem* is on the morning of the same day at 9.30 am, subject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

- **The Role of the Speaker**
  - The Speaker of the Lok Sabha holds a pivotal position in the functioning of the House, overseeing its proceedings and upholding parliamentary rules and decorum.
  - The Speaker of the House is decided by a **simple majority.**
  - **Election:** Elected by the members of the Lok Sabha, the Speaker serves as the custodian of the House.
  - **Article 94 of the Indian Constitution** states: "Whenever the House of the People is dissolved, the Speaker shall not vacate his office until immediately before the first meeting of the House of the People after the dissolution."
  - **Responsibilities:**
  - **Maintaining Order:** Ensuring discipline during debates and discussions, with the authority to suspend proceedings if needed.
  - **Decision Making**: Making rulings on parliamentary procedures and disputes.
  - **Critical Powers:** Holds significant powers, including adjudicating on issues like disqualification of MPs and deciding on no-confidence motions.
  - **Impact on Government Stability**: The Speaker's decisions are crucial in matters of proving majority and interpreting laws like the anti-defection law.

6. Great Nicobar Project
GS 2 (Governance)

- **Why in News:** The Indian government has proposed a significant infrastructure upgrade on **Great Nicobar Island**, encompassing an **International Container Transshipment Terminal (ICTT),** a **greenfield international airport**, a township, and a power plant. This initiative is part of a broader plan for the holistic development of the island, aimed at leveraging its strategic location in the **Bay of Bengal.**
- **About the project**
  - **Project title:** 'Holistic Development of Great Nicobar Island at Andaman and Nicobar Islands'
  - **Cost:** Rs 72,000 crore

- **Implemented by:** Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO).
- The project has four components –
  - an International Transhipment Port (ITP)
  - Greenfield International Airport
  - a power plant
  - a new township that could constitute a Special Economic Zone
- These four interlinked projects form the core of the new city and the holistic master plan.



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.

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.

EXPLAINED POLICY

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 infrastructure 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.

- **Significance of the project:**
  - Great Nicobar Island holds strategic significance due to its proximity to major international maritime routes, including the **Malacca Strait**.
  - The ICTT is expected to enhance India's participation in the **global maritime economy and bolster regional connectivity.**
  - Additionally, the region's military upgrade aims to strengthen India's defense posture in response to geopolitical developments, particularly concerning Chinese naval activities in the Indo-Pacific.
- **Environmental Concerns and Opposition**
  - The proposed project has faced opposition from conservationists, wildlife experts, and local tribal councils, citing concerns over its environmental impact.
  - Critics argue that the development could lead to **deforestation, threaten marine ecosystems, and endanger vulnerable species** like the **Nicobar Megapode and leatherback turtles**.
  - There are also apprehensions about the potential disruption to the indigenous **Shompen tribe's habitat and traditional way of life.**
- **Steps were taken to mitigate the Losses:**
  - **Building Coral population**: Proposed mitigation measures to compensate for these damages include coral translocation and reef restoration in **Galathea Bay.**
  - **Compensatory Afforestation**: Authorities plan to balance the loss of 12-20 hectares of mangroves here by 're-densifying' existing mangrove patches and planting mangroves in non-forest areas.
  - **Declaring Protected areas**: Mitigation measures also include intent to declare new protected areas, as well as the drawing up of monitoring and action plans to study threatened wildlife

MCQ Current Affairs
19th June, 2024

1. Ghodbunder Fort, recently seen in the news, lies in which one of the following states?

a) West Bengal
b) Rajasthan
c) Odisha
d) Maharashtra

2. Which among the following best describes "Ophichthus Suryai", recently seen in the news?

a) An invasive alien species of flowering plant
b) A unique type of coral found in the Bay of Bengal
c) A newly discovered species of snake eel
d) A rare species of bird found in the Western Ghats

3. Consider the following statements with reference to the Nalanda University:

A. It was founded by King Harshavardhan in the early 5th century AD.
B. It was a monastic establishment and used to teach all the major philosophies of Buddhism.
Which of the statements given above is/are correct?
a) A only
b) B only
c) A and B
d) Neither of two

4. Consider the following statements with reference to the Sahitya Akademi Yuva Puraskar:

A. It is presented annually to best literary creations by the young writers of age 35 or below.
B. It is the only Akademi award open for nominations by publishers and self-nominations by writers.
Which of the statements given above is/are correct?
a) A only
b) B only
c) A and B
d) Neither of two

5. With reference to Lok Adalat, consider the following statements:

A. It has been given statutory status under the Legal Services Authorities Act, 1987.
B. It can make awards/decisions which are deemed to be a decree of a civil court and are final and binding on all the parties concerned.
C. It possesses jurisdiction over a diverse array of cases, including civil disputes, criminal cases (compoundable offences) and family matters.
How many of the statements given above are correct?
a) One only
b) Two only
c) All three
d) None

Answers Current Affairs
19th June, 2024

1. d
2. c
3. b
4. c
5. c