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LANDSLIDE VULNERABILITY IN INDIA

Context

 Heavy rain caused by the cyclone Remal triggered landslides in several places in Meghalaya, Mizoram, Assam, and Nagaland.

What is Landslide?

- Landslides are a geological phenomenon that involves the sudden and rapid movement of a mass of rock, soil, or debris down a slope under the influence of gravity.
- Landslides, usually, occur in areas having characteristics like Steep terrain such as hilly or mountainous areas, Presence of joints and fissures or areas where surface runoff is directed or land is heavily saturated with water.

Landslide vulnerability in India

- According to the Geological Survey of India (GSI) about 0.42 million square km of India's landmass, or about 13% of its area, spread over 15 states and four Union Territories, is prone to landslides.
- About 0.18 million square km, or 42% of this vulnerable area is in the Northeastern region, where the terrain is mostly hilly.
 - This area is also prone to earthquakes, which too, are a major trigger for landslides.

Causes of Landslides

- Natural Causes:
 - Heavy Rainfall: Heavy rainfall is one of the most common triggers of landslides. It increases pore water pressure as well as the weight of soil by making it saturated.
 - Erosion: Clay and vegetation present within the soil or rock act as cohesive elements and help bind particles together. By removing these cohesive elements, erosion makes an area more prone to landslides.
 - **Earthquakes:** Intense ground shaking due to earthquakes causes instability in rocks and soils, thus triggering landslides.
 - Volcanic Eruptions: Ash and debris deposited by volcanic eruptions overload slopes while the accompanied seismic activity causes instability.

• Anthropogenic Causes

 Deforestation: By holding soils as well as obstructing the flow of falling debris, vegetation

- cover plays an important role in preventing landslides in any area. Deforestation takes away this preventive cover and increases vulnerability to landslides.
- Encroachment in Vulnerable Terrains:
 Of late, humans have been encroaching in landslide-prone areas such as hilly terrains.
 This has led to increased construction activities in these areas and increased chances of landslides.
- Uncontrolled Excavation: Unauthorized or poorly planned excavation activities, such as mining, quarrying, etc destabilize slopes and increase the chances of landslides.
- Climate Change: Climate change caused by various anthropogenic activities has led to abrupt alterations in precipitation patterns and increased frequency of extreme weather events.

Measures taken in India

- The Disaster Management Act, of 2005 provides a comprehensive legal and institutional framework for the management of various disasters including landslides.
- The National Landslide Risk Management Strategy (2019) covers all aspects of landslide disaster risk reduction and management, such as hazard mapping, monitoring, and early warning systems.
- The National Disaster Management Authority (NDMA) has issued Guidelines on Landslide Hazard Management (2009) that outline the steps that should be taken to reduce the risk of landslides.
- The National Institute of Disaster Management (NIDM) has been providing capacity building and other support to various national and state-level disaster management authorities.
- Early Warning system: Efforts have been made towards better prediction of weather.
 E.g. Ensemble Prediction System. This will help predict disasters like landslides.

Way Ahead

Every mountainous area has a carrying capacity.
 However development is essential, and one cannot stop the creation of infrastructure. Hence sustainability has to be factored in, so that the load does not exceed the carrying capacity.



 The National Disaster Management Authority (NDMA) has been working with GSI and other agencies to mitigate and manage the risks from landslides.

Source: IE

IMD'S FORECAST FOR EL NIÑO-SOUTHERN OSCILLATION (ENSO)

In News

 India Meteorological Department (IMD) said that El Nino Southern Oscillation (ENSO) neutral conditions would emerge in June and during July – September, ENSO would transition into La Nina.

Key Points

 South peninsular and central India is expected to receive 'above' normal rainfall, northwest India would receive normal rainfall whereas east and northeast India is expected to receive below average rainfall during the June – September period.

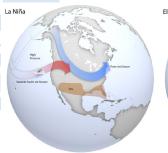
About El Niño-Southern Oscillation (ENSO)

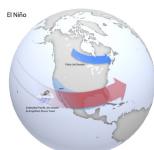
- It is a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean.
- In periods ranging from about three to seven years, the surface waters across a large swath of the tropical Pacific Ocean warm or cool by anywhere from 1°C to 3°C, compared to normal.
- This oscillating warming and cooling pattern, referred to as the ENSO cycle, directly affects rainfall distribution in the tropics and can have a strong influence on weather across different parts of the world.
- ENSO is one of the most important climate phenomena on Earth due to its ability to change the global atmospheric circulation, which in turn, influences temperature and precipitation across the globe.

ENSO phases and Impacts

- El Niño: A warming of the ocean surface, or above-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean.
 - Over Indonesia, rainfall tends to become reduced while rainfall increases over the central and eastern tropical Pacific Ocean.
 - The low-level surface winds, which normally blow from east to west along the equator

- ("easterly winds"), instead weaken or, in some cases, start blowing the other direction (from west to east or "westerly winds").
- In general, the warmer the ocean temperature anomalies, the stronger the El Niño (and viceversa).
- La Niña: A cooling of the ocean surface, or below-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean.
 - Over Indonesia, rainfall tends to increase while rainfall decreases over the central and eastern tropical Pacific Ocean.
 - The normal easterly winds along the equator become even stronger. In general, the cooler the ocean temperature anomalies, the stronger the La Niña (and vice-versa).
- **Neutral**: Neither El Niño or La Niña. Often tropical Pacific SSTs are generally close to average.
 - However, there are some instances when the ocean can look like it is in an El Niño or La Niña state, but the atmosphere is not playing along (or vice versa).





Repercussions for India

- The El Nino Southern Oscillation (ENSO) has had a greater impact on northern parts of India, lesser impact on the central parts and relatively constant impact on the southern parts of the country in recent decades
- The warming phase known as the El Nino is generally known to suppress monsoon rainfall while the cooling phase known as the La Nina generally enhances monsoon rainfall.
 - Even though there are multiple other factors, like the monsoon low pressure systems and depression, which affect the monsoon rainfall, La Nina is one of the major factors.
 - In a La Nina year, one could expect above normal rainfall.

Source: IE

WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO) TREATY

Context

 After 25 years of negotiations, the World Intellectual Property Organization (WIPO) Treaty, associated with the genetic resources and traditional knowledge was concluded in Geneva.

What are Genetic Resources and associated Traditional Knowledge?

- Genetic resources (GRs) are present in things like medicinal plants, agricultural crops, and animal breeds.
 - While genetic resources themselves cannot be directly protected as intellectual property, inventions developed using them can, most often through a patent.
- Associated Traditional Knowledge: Some genetic resources are also associated with traditional knowledge through their use and conservation by Indigenous Peoples as well as local communities, often over generations.
 - This knowledge is sometimes used in scientific research and, as such, may contribute to the development of a protected invention.

About the treaty

- The treaty will establish in international law a new disclosure requirement for patent applicants whose inventions are based on genetic resources and associated traditional knowledge.
- The treaty after entering into force will require contracting parties to put In place mandatory disclosure obligations for patent applicants to disclose the country of origin or source of the genetic resources when the claimed invention is based on genetic resources or associated traditional knowledge.
- This will offer added protection to Indian Genetic Resources and Traditional Knowledge, which while currently protected in India are prone to misappropriation in countries, which do not have disclosure of obligations.

Significance

- This is the first WIPO treaty to address the interface between intellectual property, genetic resources and traditional knowledge
- It is also the first WIPO treaty to include provisions specifically for indigenous peoples and local communities.

Way Ahead

- The treaty on intellectual property, genetic resources and associated traditional knowledge at the World Intellectual Property Organization (WIPO) is a "significant win" for India and the global South ,comprising mainly low-income and developing countries.
- It paves the way for bridging conflicting paradigms within the Intellectual Property (IP) system.

World Intellectual Property Organization (WIPO)

- It is a self-funding agency of the United Nations, that serves the world's innovators and creators, ensuring that their ideas travel safely to the market and improve lives everywhere.
- Members: The organization has 193 member states including both developing and developed nations like India, Italy, Israel, Austria, Bhutan, Brazil, China, Cuba, Egypt, Pakistan, the U.S. and the U.K.
- **Headquarters:** Geneva, Switzerland

Source: TH

NEOLITHIC DISCOVERIES IN MAUXI VILLAGE

Context

 Mauxi (Mhaus) village in the Sattari taluka of Goa has emerged as a hotbed of neolithic discoveries.

About

- The 11th edition of the Cultural and Heritage Walk, also known as Parikrama, organised inside the Ravalnath Temple.
 - The Lord Shiva is a form of the universal god worshipped by Hindus. He is also called Shivnath Ravalnath in **Konkani** as a mark of reverence.
- The Archaeological Survey of India (ASI) has confirmed that the Ancient rock carvings that were found etched into the meta basalt rock along the dry riverbed of the Zarme river some two decades ago belong to the neolithic period.
 - The carvings were initially discovered by local residents some 20 years ago and tell a lot about the early inhabitants of the region.



Archaeological Survey of India (ASI)

- ASI is the premier organization for the archaeological research and protection of the cultural heritage of the nation under the Ministry of Culture.
- Maintenance of ancient monuments and archaeological sites and remains of national importance is the prime concern of the ASI.
- It regulates all archaeological activities in the country as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958. It also regulates the Antiquities and Art Treasure Act, 1972.

Major Findings

- The carvings are of animals such as zebus, bulls, and antelopes, alongside footprints and cupules.
- The circular cavities on the rock surface signifies the community involvement in discovering historical artifacts.
- Some 20 rock etchings, showcasing the use of the bruising technique, have been identified in this region, with tools from the same period found on the riverbed. This validates the site's historical significance.
- Another worth-mentioning feature is a rock done with cupules, revered outside the Puravati Temple.
 - Initially interpreted as representing a star constellation with 27 cupules, further research revealed 31 cupules, which made people curious about their significance but the exact purpose of these remains unknown.

Significance

- The ASI have confirmed its Neolithic origins, as this period signifies an important period when humans started domesticating cattle.
- A carving at Mauxi depicting a trident—a symbol associated with the Iron Age—suggests the site's enduring significance through various historical epochs.
- The presence of the **Dhawad community**, early settlers, and ironsmiths adds another layer to the historical narrative, although eventually displaced by new settlers.

The Stone Age

- The Stone Age is a prehistoric period characterized by the use of stone tools. It's typically divided into three major periods: the Paleolithic, Mesolithic, and Neolithic, based on technological advancements, cultural developments, and changes in human societies.
 - Paleolithic Age: Also known as the Old Stone Age, this period began around 2.6 million years ago with the earliest known stone tool usage by hominids such as Homo habilis. It lasted until around 10,000 BCE. During this time, humans were primarily hunter-gatherers, relying on stone tools for tasks such as hunting, butchering, and processing food.
 - Mesolithic Age: This transitional period occurred roughly between 10,000 BCE and 5,000 BCE, depending on the region. It was characterized by the development of more specialized tools, as well as adaptations to changing environments and the domestication of certain plants and animals.
 - Neolithic Age: The New Stone Age began around 12,000 years ago and ended in various parts of the world between 4500 BCE and 2000 BCE. It is distinguished by the widespread adoption of agriculture and the domestication of animals, leading to settled communities, the development of pottery, weaving, and more complex social structures.
 - The transition to agriculture revolutionized human societies, allowing for the rise of civilizations.

Source: TOI

CONTESTING POLLS AND VOTING RIGHTS FROM PRISON

Context

• Delhi Chief Minister has received interim bail from the Supreme Court to join his party's campaign for the ongoing Lok Sabha elections until June 1, the last phase of the polls.

Background

In 1975, the Supreme Court in the case of Indira
 Gandhi v Raj Narain recognised that free and

fair elections are a part of the 'basic structure' of the Constitution of India.

- However the Supreme Court has held that the rights to elect and be elected do not enjoy the same status.
- In 2006, in the case of Kuldip Nayar v. Union
 of India the supreme court held that the right to
 vote (or the right to elect) is "pure and simple, a
 statutory right".
 - This means that voting is not a fundamental right and can be repealed.
- The same was held for the right to be elected by the Bench, ruling that laws enacted by Parliament could regulate both these statutory rights.

Bar Against Contesting Elections

- Section 8 of the Representation of People Act, 1951 (RP Act) is titled "Disqualification on conviction for certain offenses".
- No one is barred from contesting elections unless convicted. Even for convicted politicians, the disqualification is not more than 6 years post the expiry of the jail term.
- This disqualification only kicks in once a person has been convicted and does not apply if they have only been charged with criminal offenses.
- Exceptions to Disqualification: The Election Commission of India (ECI) is empowered under Section 11 of the RP Act to "remove" or "reduce" the period of disqualification.
- In 2019 the Supreme Court held that once a conviction is stayed "the disqualification which operates as a consequence of the conviction cannot take or remain in effect".

Bar Against the Right to vote

- Article 326 of the Constitution of India provides voting right in elections to the Parliament or the assembly based on adult suffrage.
- Section 62 of the RP Act provides a series of restrictions on the right to vote.
 - Its **sub-clause (5)** which states in broad terms "No person shall vote at any election if he is confined in a prison, whether under a sentence of imprisonment or transportation or otherwise, or is in the lawful custody of the police".
- With an exception provided for those in preventive detention, this provision effectively bars every individual who had criminal charges

framed against them from casting their vote unless they have been released on bail or have been acquitted.

Anukul Chandra Pradhan, Advocate, Supreme Court v. Union of India, 1997

- The Supreme Court in this case rejected a challenge to Section 62(5) of RPA on four grounds that;
 - The **right to vote was a statutory right** and could be subject to statutory limitations.
 - There is a "resource crunch" as infrastructure would have to be provided and police would have to be deployed.
 - A person in prison because of their conduct "cannot claim equal freedom of movement, speech and expression".
 - Restrictions on prisoners' right to vote are reasonable as it is connected to keeping "persons with criminal background away from the election scene".

Source: IE

NEWS IN SHORT

ZIG: ZIMBABWE'S GOLD BACKED CURRENCY

Context

Recently, Zimbabwe has introduced the ZiG
(Zimbabwe Gold), a gold-backed currency amid
its monetary crisis marked by hyperinflation and
currency collapses.

ZiG: A Brief Overview

- Background: The ZiG is Zimbabwe's sixth national currency in the last 15 years.
- It follows the spectacular collapse of the Zimbabwe dollar in 2009 due to hyperinflation, which reached a staggering 5 billion per cent the world's worst currency crash.
- Gold-Backed: Unlike its predecessors, the ZiG stands out as a currency backed by physical gold reserves.
 - It ensures that **its value** is supported by the **actual gold held by the government**.
- **Denominations:** ZiG notes and coins are available in various denominations: 1ZiG, 2ZiG, 5ZiG, 10ZiG, 20ZiG, 50ZiG, 100ZiG, and 200ZiG.



Why Backed By Gold?

- The gold backing aims to provide stability and prevent currency devaluation.
- By linking the ZiG to a tangible asset, Zimbabwe hopes to restore public confidence in its monetary system.

Challenges and Skepticism

- Public Mistrust: Zimbabweans remain skeptical due to past currency failures. People are still clamoring for U.S. dollars, which have been widely accepted as an alternative currency.
- Black Market Fluctuations: While the ZiG has held its value on the official market, it has tumbled on the black market.
 - Exchange rates there can reach up to 17 ZiGs per U.S. dollar.

Source: TH

SOVEREIGN BONDS

Context

 Recently, the Reserve Bank of India (RBI) has announced its plan to buy back government bonds worth Rs 40,000 crore in its upcoming auction.

Bond

- It is a debt instrument in which an investor loans money to an entity (typically corporate or government) which borrows the funds for a defined period of time at a variable or fixed interest rate.
- It is used by companies, municipalities, states and sovereign governments to raise money to finance a variety of projects and activities.

Government Security (G-Sec)

- It is a tradable instrument issued by the **Central Government or the State Governments**.
- It acknowledges the Government's debt obligation.
 - Short Term: Treasury Bills, with original maturities of less than one year;
 - Long Term: Government Bonds or Dated securities with original maturity of one year or more.

- In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs).
- G-Secs carry practically no risk of default and, hence, are called risk-free gilt-edged instruments.

Sovereign Bonds

- It is a **debt security** issued by a national government **to raise capital**. Governments use these bonds for various purposes:
 - Financing Operations: Sovereign bonds help fund government operations, infrastructure projects, and public services.
 - Debt Management: They allow governments to refinance existing debt or pay down old obligations.
 - Interest Payments: Governments use the proceeds to pay interest on current debt.
 - Currency Denomination: Sovereign bonds can be denominated in either the government's domestic currency or a foreign currency.

Key Features

- Risk Profile: The yield on sovereign bonds depends on the issuer's risk profile.
 - Countries perceived as higher risk may offer higher yields.
- Credit Ratings: Rating agencies assess sovereign bonds based on economic stability, exchange rates, outstanding debts, and political stability.
 - These ratings guide investors in evaluating risks
- **Denomination:** Some developing countries issue bonds in foreign currencies due to currency risk.
 - For instance, Indonesia might issue bonds denominated in Japanese yen.
- Investment Limits: Sovereign bonds have minimum and maximum investment limits.
 - These vary based on the investor type (individuals, trusts, etc.) and are subject to government notifications.
- Interest Payment: Sovereign bonds provide periodic interest payments, with the option to

exit after a specified period (usually 5 years) on interest payment dates.

- Issue Price: The price is determined based on the average closing price of gold for the preceding week.
 - Online subscribers paying through digital modes receive a discount.

Source: BS

EUCALYPTUS

Context

 Recently, the Kerala government allowed the Kerala Forest Development Corporation (KFDC) to plant eucalyptus trees for financial sustenance in 2024-2025.

About Eucalyptus

- It is a genus of flowering trees and shrubs.
- The 'eucalypts' comprise three related genera within the Myrtaceae family; Eucalyptus,
 Corymbia and Angophora, which collectively include more than 800 species.
 - Almost all eucalypts are endemic to Australia.
- Eucalyptus plantations have a rotation age of nine years, while Acacia Auriculiformis trees mature in 18 years.

Importance of Eucalyptus

- Wood Availability and Livelihood Generation: Eucalyptus is a major source of wood for the Indian pulp and paper industry.
 - Approximately 70% of these plantations consist of eucalyptus.
- Carbon Sequestration: Eucalyptus plantations contribute to carbon sequestration, with a CO2 mitigation potential of 369.2 mg/ha in a 6-year-old plantation.
 - Additionally, soil carbon storage has increased in agri-silviculture systems compared to traditional rice-wheat cropping.

Environmental Concerns

- Invasive Species: Kerala's eco-restoration policy aims to address the proliferation of invasive species that disrupt the natural ecosystem. Eucalyptus, being non-native, can alter local habitats.
- Human-Wildlife Conflict: Depletion of natural forests forces wild animals to venture into human-

occupied areas in search of food, leading to conflicts. Eucalyptus plantations may exacerbate this issue.

Source: TH

INDIA OFFERS \$1-MILLION AID TO PAPUA NEW GUINEA

In News

- The Government of India has granted \$1 million as immediate assistance for Papua New Guinea, which has been hit by a devastating flood and landslide that has so far killed 2,000 people.
- India had earlier supported Papua New Guinea in 2018 when the country was rocked by an earthquake and subsequently in 2019 and 2023 when volcanic eruptions hit the country.

India and Papua New Guinea

- Diplomatic relations between India and the Independent State of Papua New Guinea (PNG) were established when the latter got independence from Australia in 1975.
- PNG appointed its first defence adviser to India for taking forward defence cooperation
- PNG has been cooperative in issues taken up by India at various international fora including UN, Commonwealth, etc

ECONOMIC & COMMERCIAL RELATIONS

 Bilateral trade figures between India & PNG for the last few years are as follows: Value: US\$ million (Source: Dept of Commerce, GOI)

Year	2018-19	2019-20	2020-21	2021-22	2022-23
Export from India to PNG	49.72	56.02	56.17	69.95	85.84
Import into India from PNG	88.97	55.70	125.85	357.58	643.36
Total Bilateral Trade	138.69	111.72	182.02	427.53	729.20





- Papua New Guinea is an island country that lies in the south-western Pacific.
- It includes the eastern half of New Guinea and many small offshore islands. Its neighbours include Indonesia to the west, Australia to the south and Solomon Islands to the south-east.
- It is mainly mountainous but has low-lying plains in southern New Guinea. The country has several active volcanoes.

Source: TH

2023 MILITARY GENDER ADVOCATE OF YEAR AWARD

Context

 Indian Army Major Radhika Sen has been selected to receive the 2023 Military Gender Advocate of the Year Award.

About

- The United Nations "Military Gender Advocate of the Year Award" was created in 2016.
- The award recognises the efforts of a military peacekeeper in promoting the principles of the 2000 Security Council resolution, that calls for protecting women and girls from conflict-related sexual violence and sets gender-related responsibilities for the UN.

Past recipients

- With 124 women military peacekeepers currently deployed, India is the eleventh largest contributor of women peacekeepers to the UN.
- Major Sen is the second Indian peacekeeper to receive this award, following Major Suman Gawani, a co-recipient in 2019.

International Day of UN Peacekeepers

- The United Nations General Assembly, in its resolution 57/129, designated 29 May as the International Day of United Nations Peacekeepers.
- This is the date when in 1948 the first UN peacekeeping mission named the "United Nations Truce Supervision Organization", began operations in Palestine.

Source: AIR

MICROCEPHALY

Context

 Researchers from China confirmed the pivotal role of a gene called SASS6 in microcephaly pathogenesis.

About

- Microcephaly is a condition in which a baby's head is much smaller than normal.
- Most children with microcephaly also have a small brain, poor motor function, poor speech, and abnormal facial features, and are intellectually disabled.
- The roots of the condition lie in the peak phase of brain development in the embryo — when the cells that eventually become neurons fail to divide normally.

Source: TH

NEW INITIATIVES OF RBI FOR ENHANCING PUBLIC ACCESS TO BANK

In News

 The Reserve Bank of India has launched three major initiatives – the PRAVAAH portal, the Retail Direct Mobile App and a FinTech Repository

More in news

 The RBI has also launched a related repository called the EmTech Repository meant for RBIregulated entities (banks and NBFCs).

About initiatives

- The PRAVAAH (Platform for Regulatory Application, Validation, and Authorisation) portal: It is a secure and centralized web-based platform for individuals and entities to apply online for various regulatory approvals from the RBI.
 - The portal streamlines the process of seeking authorizations, licenses, or regulatory approvals by providing a single point of contact for applicants. It is expected to improve the efficiency of the RBI's regulatory approval and clearance processes.
- Retail Direct Mobile App: It offers retail investors easy access to the Retail Direct platform and facilitates transactions in government securities (G-Secs).

- The app enables retail investors to open Retail Direct Gilt accounts with the RBI, participate in primary auctions for G-Secs, and buy and sell G-Secs in the secondary market.
- The app is available for download on the Play Store for Android users and the App Store for iOS users.
- The Fintech Repository: It is a comprehensive database containing information on the Indian fintech sector.
 - The repository aims to provide a better understanding of the sector from a regulatory perspective and facilitate the design of appropriate policy approaches. It includes

- information on Indian fintech companies, their products and services, and the regulatory framework applicable to them.
- The EmTech Repository: It contains information on the adoption of emerging technologies such as artificial intelligence (AI), machine learning (ML), cloud computing, distributed ledger technology (DLT), and quantum computing by these entities.

Purpose:

 These initiatives are aimed at enhancing public access to the central bank and facilitating regulatory approvals and transactions.

Source: TH



