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Violence in South Africa

Why in News

Recently, **Riots and looting in South Africa** have left more than 70 people dead, hurt thousands of businesses and damaged major infrastructure.

It is the **worst civil unrest since the end of white minority rule in 1994.**



Key Points

- **Reason for Recent Violence:**

- Protests began over calls for **release of former president Jacob Zuma, who served the country from 2009-18** and is facing corruption charges.
 - Former Cabinet ministers, high-ranking government officials and executives of state-owned enterprises have **implicated Jacob Zuma in corruption.**
 - Many feel that **his successor as president, Cyril Ramaphosa, has failed to provide decisive leadership** - either to calm anger over Zuma's imprisonment or to reassure South Africans that they will be safe.
- While the violence may have been spurred on by the **imprisonment of Jacob Zuma**, it's being **fanned by underlying problems in the country amid a raging pandemic and failing economy.**
 - In 2020, the country had witnessed its sharpest decline in annual **Gross Domestic Product** since 1946.
 - **Unemployment** stood at a record high of 32.6% in the first three months of 2021.

- **Government's Response:**

- The government has **condemned the violence** and has stated that there is no justification for the violence. A lot of **criminals or opportunistic individuals are trying to enrich themselves during this period.**
- It has **deployed its army to support the South African police**, however, the rioting and looting haven't stopped.

India- South Africa Relations

- **Background:**

- India's links with the struggle for freedom and justice in South Africa date back to the period during which **Mahatma Gandhi started his Satyagraha** movement in South Africa over a century ago.
- India was at the forefront of the international community in its **support to the anti-apartheid movement**; it was the **first country to sever trade relations with the apartheid Government (in 1946)** and subsequently **imposed a complete -- diplomatic, commercial, cultural and sports -embargo** on South Africa.
- After a gap of four decades, India re-established trade and business ties in 1993, after South Africa ended its institutionalised **racial segregation (apartheid)**.
In November 1993, **diplomatic and consular relations were restored.**

- **Political Relations:**

- After South Africa achieved democracy in 1994, it was the **Red Fort Declaration on Strategic Partnership** between India and South Africa, signed in March 1997 which set the parameters for a rekindled relationship.
- The Strategic Partnership between the two countries was again reaffirmed in the **Tshwane Declaration (October 2006)**.

Both these declarations have been instrumental mechanisms that have contributed in the past to both South Africa and India for achieving their respective national objectives.

- India and South Africa have a **long history of working together by coordinating their views and efforts** in institutions of global governance/multilateral fora, in order to achieve greater autonomy and ensure that the agenda of 'South' is prioritised.

For Example: BRICS (Brazil, Russia, India, China and South Africa), IBSA (India, Brazil, and South Africa), **G20**, **Indian Ocean Rim Association (IORA)** and **World Trade Organisation (WTO)**.

- **Economic:**

- India is **South Africa's fifth-largest export destination**, and **fourth-largest import origin** and is the **second-largest trading partner in Asia**.

Both countries are working to boost trade volumes in the coming years.

Bilateral trade between India and South Africa **currently stands at USD 10 billion**.

- In **2016** both the countries agreed to collaborate in the defence sector, especially in terms of the opportunities available for South African private sector under **'Make in India' initiative**, energy sector, agro-processing, human resource development, and infrastructure development.

- **Science & Technology:**

The Department of Science and Technology of both countries have collaborated, especially in the **Square Kilometer Array (SKA)** project.

- **Culture:**

- With the help of the **Indian Council for Cultural Relations (ICCR)**, an intensive programme of cultural exchanges is organised throughout South Africa including scholarships for South African nationals.
- The 9th **World Hindi Conference** was held in September 2012 at Johannesburg.

- **Indian Community:**

- The **major part of the Indian origin community came to South Africa from 1860 onwards** as farm labour to serve as field hands and mill operatives in the sugar and other agricultural plantations.
- South Africa is **home to the highest number of Indian Diaspora in the African continent**, with a total strength of 1,218,000 thereby constituting **3% of South Africa's total population**.

Since 2003 onwards, India has celebrated **Pravasi Bhartiya Divas (PBD)** each year on 9th January (the day Mahatma Gandhi returned from South Africa to India).

Way Forward

- India-South Africa **partnership is progressive and forward looking**. Their rich culture and people-to-people contacts lends character and quality to India-South Africa ties.
- It is natural that South Africa needs other partners in Asia just as India is engaged in forging other partnerships in Africa. However, **both India and South Africa will need to keep in mind constantly that their own bilateral relationship deserves priority** and has immense potential that is yet to be realized.

Source: IE

Adjournment Motion

Why in News

Recently, the Shiromani Akali Dal (Political Party) has decided to move an **Adjournment Motion** in the Lok Sabha against the government on the **three controversial farm laws**.

Motions and resolutions are **procedural devices** to raise a discussion in the House on a matter of general public interest.

Key Points

- Adjournment motion is **introduced only in the Lok Sabha to draw the attention of the House to a definite matter of urgent public importance**.
It **involves an element of censure** against the government, therefore Rajya Sabha is not permitted to make use of this device.
- It is regarded as an **extraordinary device** as it interrupts the normal business of the House. It **needs the support of 50 members** to be admitted.
- The **discussion** on this motion **should last for not less than two hours and thirty minutes**.

- However, the right to move a motion for an adjournment of the business of the House is subject to the **following restrictions**. i.e. it should:
 - Raise a **matter** which is definite, factual, urgent and of public importance.
 - Not cover more than one matter.
 - Be **restricted to a specific matter** of recent occurrence.
 - Not raise a **question of privilege**.
 - Not **revive discussion** on a matter that has been discussed in the same session.
 - Not deal with any matter that is **under adjudication of court**.
 - Not raise any question that **can be raised on a distinct motion**.

Types of Motions in Indian Parliament

Privilege Motion

- It is **moved by a member when he feels that a minister has committed a breach of privilege of the House** or one or more of its members by withholding facts of a case or by giving wrong or distorted facts. Its purpose is **to censure the concerned minister**.
 - It **can be moved in Rajya Sabha as well as Lok Sabha**.
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Censure Motion

- It **should state the reasons** for its adoption in the Lok Sabha. It **can be moved against an individual minister or a group of ministers** or the entire council of ministers.
 - It is moved **to censure the council of ministers** for specific policies and actions. It **can be moved only in Lok Sabha**.
-

Call-Attention Motion

- It is introduced in the Parliament by a member to **call the attention of a minister to a matter of urgent public importance**, and to seek an authoritative statement from him on that matter.
 - It **can be moved in Rajya Sabha as well as Lok Sabha**.
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Adjournment Motion

- It is introduced in the Lok Sabha **to draw the attention of the House to a definite matter of urgent public importance**. It **involves an element of censure against the government**.
 - It **can be moved only in Lok Sabha**.
-

No-Day-Yet-Named Motion

- It is a motion that has been admitted by the Speaker but **no date has been fixed for its discussion**.
 - It **can be moved in Rajya Sabha as well as Lok Sabha**.
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No Confidence Motion

- **Article 75 of the Constitution** says that the council of ministers shall be collectively responsible to the Lok Sabha. In other words, **the Lok Sabha can remove the ministry from office by passing a no-confidence motion. The motion needs the support of 50 members to be admitted.**
- It can be moved only in Lok Sabha.

Motion of Thanks

- The first session after each general election and the first session of every fiscal year is addressed by the president. This **address of the president is discussed in both the Houses of Parliament on a motion called the 'Motion of Thanks'.**
- This motion **must be passed in the House.** Otherwise, it **amounts to the defeat of the government.**

Cut Motions

- A cut motion is a **special power vested in members of the Lok Sabha to oppose a demand being discussed for specific allocation by the government** in the Finance Bill as part of the Demand for Grants.
- If the motion is adopted, **it amounts to a no-confidence vote**, and if the government fails to jot up numbers in the lower House, it is obliged to resign according to the norms of the House.
- A motion may be moved to reduce the amount of a demand in any of the following ways:
 - **Policy Cut Motion:** It is moved so that the amount of the demand be reduced to Re.1 (**represents disapproval of the policy underlying the demand**).
 - **Economy Cut Motions:** It is moved so that the amount of the demand will be reduced by a **specified amount**.
 - **Token Cut Motions:** It is moved so that the amount of the demand is reduced by Rs.100 (**expresses a specific grievance**).
- It can be moved only in Lok Sabha.

Source: TH

Draft Drone Rules, 2021

Why in News

The **Ministry of Civil Aviation** has unveiled the **Draft Drone Rules, 2021** based on “**trust, self-certification and non-intrusive monitoring**”.

The new rules would replace the existing **Unmanned Aircraft System (UAS) Rules, notified in March, 2021.**

Key Points

- **Aim:**

To create a “**digital sky platform**” as a business-friendly single-window online system for procuring various approvals.

There will be minimal human interface on the digital sky platform and most permissions will be self-generated.

- **Provisions:**

- **Approvals:** Abolish the need for various approvals, including certificate of conformance, certificate of maintenance, import clearance, acceptance of existing drones, operator permit, authorisation of R&D organisation and student remote pilot licence.

Fee reduced to nominal levels. No linkage with the size of the drone.

- **Digital Sky Platform:** The government will be developing a digital sky platform that will have an interactive airspace map dividing the country into **green, yellow, and red zones**.

It will provide a **secure and a scalable platform** that supports drone technology frameworks, such as NPNT (no permission, no take-off), designed to enable flight permission digitally and manage unmanned aircraft operations and traffic efficiently.

- **Reduced Airport Perimeter:** The draft rules reduced the airport perimeter from 45 km to 12 km.

The rules state that **no flight permissions would be required to fly** upto 400 feet in green zones and upto 200 feet in the area between 8 and 12 km from the airport perimeter.

- **Pilot License: No pilot licence would be needed for micro drones** for non-commercial use, nano drones and for R&D organisations.

There would be **no restriction on drone operations by foreign-owned companies** registered in India.

- **Drone Corridor:** The Ministry will also facilitate development of drone corridors for cargo deliveries and a drone promotion council will be set up to facilitate a business-friendly regulatory regime.

- **Safety Features:** The draft rule also provides for safety features such as real-time tracking beacon, and geo-fencing, which are expected to be notified in future and a six-month lead time will be provided for compliance.

- **Increased Coverage of Drones:** The coverage has been **increased from 300 kg to 500 kg and will cover drone taxis**, while the Issuance of Certificate of Airworthiness has been delegated to Quality Council of India and certification entities authorized by it.

- **Analysis:**
 - The decision to liberalize the drone policy even after the recent **drone incidents in Jammu** showcases the government's bold approach to **promote the use of the drone and focus on the development of counter-drone technology** to address the threat posed by rogue drones.
 - The current draft is a welcome move and will go a long way in **facilitating investments** in drone technology in India.
- **Rules for Drone Regulations in India:**
 - **Unmanned Aircraft System (UAS) Rules, 2020.**
 - **National Counter Rogue Drones Guidelines 2019.**

Drone

- Drone is a layman terminology for **Unmanned Aircraft (UA)**. There are three subsets of Unmanned Aircraft- Remotely Piloted Aircraft, Autonomous Aircraft and Model Aircraft.
 - **Remotely Piloted Aircraft** consists of remote pilot station(s), the required command and control links and any other components, as specified in the type design.
- Remotely piloted aircraft have been **divided into five categories based on their weight** (existing rules)-
 - Nano : Less than or equal to 250 grams.
 - Micro : From 250 grams to 2kg.
 - Small : From 2 kg to 25kg.
 - Medium : From 25kg to 150kg.
 - Large : Greater than 150kg.

Source: IE

World Youth Skill Day

Why in News

Every year, 15th July is observed as the **World Youth Skills Day**.

It was designated by the **United Nations General Assembly (UNGA)** in 2014.

Key Points

- **About:**
 - **Aim:**
 - To equip young people around the world with **essential skills for employment, work, and entrepreneurship.**
 - To achieve the **Incheon Declaration: Education 2030**, “which devotes considerable attention to technical and vocational skills development, specifically regarding access to affordable quality **technical and vocational education and training (TVET) institutions.**”
 - This vision is fully captured by **Sustainable Development Goal-4**, which aims to “**Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**”.
 - To eliminate **gender disparity.**
 - **Theme for 2021:**
 - ‘Reimagining Youth Skills Post-Pandemic’.
- **State of Youth Employment and Schools during Covid-19:**
 - According to the estimates of **UNESCO**, schools were **shut down for over 30 weeks** in **50% of the countries** between **March 2020 and May 2021.**
 - **Respondents to a survey of the TVET**, which was jointly collected by **UNESCO, the ILO and the World Bank**, revealed that **distance learning was the most common way of imparting skills.**
 - Youth employment fell **8.7% last year**, compared with **3.7% for adults.**
- **Announcement by India:**
 - The **Prime Minister** announced the **75 newly sanctioned Jan Shikshan Sansthan (JSSs)** and also launched a portal made specifically for **JSS.**
 - JSSs aim to provide vocational training to non-literates, neo-literates as well as school dropouts in rural areas**, by identifying skills that might be relevant to the market of that region.
 - Curriculum was launched of **57 new courses aligned with industry demand.**

Steps taken by India for Skilling Youth

- **Industrial Training Centres (ITIs):** Conceptualized in the year 1950, aims to expand and modernize the existing Long-Term Training ecosystem in India.
- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):** Launched in 2015, it aims to provide free skill training avenues to youths of India.
 - Pradhan Mantri Kaushal Vikas Yojana 3.0:** It is launched 2021 in a bid to empower India’s youth with employable skills by making over 300 skill courses available to them.
- **Recognition of Prior Learning:** It was launched in 2015 to **recognize the prior skills acquired by individuals.** It is one of the key components of **PMKVY.**
 - Under this an individual with a certain set of skills or with prior learning experience is assessed and certified under RPL with grade according to the **National Skills Qualification Framework (NSQF).**

- **National Career Service Project**: Launched in 2015 to offer **free online career skills training through its National Career Service (NCS) project** for job-seekers registered with it.
- **Skill Management and Accreditation of Training Centres (SMART)**: It provides a **single window IT application** that focuses on the accreditation, grading, Affiliation and Continuous monitoring of the Training Centres (TC) in the skill ecosystem.
- **Skills Acquisition and Knowledge Awareness for Livelihood (SANKALP)**: Its focus is on **district-level skilling ecosystem** through convergence and coordination. It is a **Centrally Sponsored Scheme** which is collaborated with the World Bank.
- **Skills Strengthening for Industrial Value Enhancement**: STRIVE scheme is a **World Bank assisted-Government of India project** with the objective of improving the relevance and efficiency of skills training provided through ITIs and apprenticeships.
- **Pradhan Mantri YUVA Yojana (Yuva Udyamita Vikas Abhiyan)**: Launched in the year 2016, it aims at creating an enabling ecosystem for Entrepreneurship development through Entrepreneurship education and training; Advocacy and easy access to entrepreneurship support network and Promoting social enterprises for inclusive growth.
- **Young, Upcoming and Versatile Authors' (YUVA) scheme**, a mentorship programme to train young authors.
- **Kaushalacharya Awards**: Launched to recognize the contribution made by skill trainers and to motivate more trainers to join the Skill India Mission.
- **Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)**: The scheme is to **provide industry apprenticeship opportunities** to the general graduates exiting in April 2019 through the **National Apprenticeship Promotion Scheme (NAPS)**.
- **Atmanirbhar Skilled Employee Employer Mapping (ASEEM)**: Launched in 2020, it is a portal to help skilled people find sustainable livelihood opportunities.

Special Initiatives for Tribal Community

- **'Going Online As Leaders' -GOAL** are helping tribal population with areas like art and culture, handicraft, textiles and digital literacy among tribal areas leading to entrepreneurship development among the tribal population.
- Similarly, **Van Dhan Yojna** is effectively connecting the tribal society with new opportunities.

Source: PIB

India's Textile Sector

Why in News

Recently, the Union Minister of Textiles held an in-depth **review of initiatives undertaken by the Ministry of Textiles** for giving a boost to the textiles sector.

Key Points

- **About:**
 - Textiles & garments industry is **labour intensive sector** that employs 45 mn people in India is **second only to the agriculture sector in terms of employment.**
 - India's textiles sector is **one of the oldest industries in the Indian economy,** and is a storehouse and carrier of traditional skills, heritage and culture.
 - It can be divided into **two segments-**
 - The **unorganised sector** is small scale and uses traditional tools and methods. It consists of **handloom, handicrafts and sericulture** (production of silk).
 - The **organised sector** uses modern machinery and techniques and consists of the **spinning, apparel and garments segment.**
- **Significance of the Textiles Sector:**
 - It contributes **2.3%** to Indian **Gross Domestic Product**, **7%** of Industrial Output, **12% to the export earnings of India** and employs more than **21% of total employment.**
 - India is the **6th largest producer** of **Technical Textiles** with **6% Global Share, largest producer of cotton & jute** in the world.
 - Technical textiles are **functional fabrics** that have applications across various industries including automobiles, civil engineering and construction, agriculture, healthcare, industrial safety, personal protection etc.
 - India is also the **second largest producer of silk** in the world and 95% of the world's hand woven fabric comes from India.

- **Challenges of the Textiles Sector:**

- **Highly fragmented:** The Indian textile industry is highly fragmented and is being **dominated by the unorganized sector** and small and medium industries.
- **Outdated Technology:** The Indian textile industry has its **limitations of access to the latest technology** (especially in small-scale industries) and failures to meet global standards in the highly competitive market.
- **Tax Structure Issues:** The tax structure **GST (Goods and Service Tax)** makes the garments expensive and uncompetitive in domestic as well as international markets. Another threat is rising labour wages and workers' salaries.
- **Stagnant Exports:** The export from the sector has been stagnating and remained at the **USD 40-billion level for the last six years.**
- **Lack of Scale:** The apparel units in India have an **average size of 100 machines which is very less in comparison with Bangladesh**, which has on an average of at least 500 machines per factory.
- **Lack of Foreign Investment:** Due to challenges given above the foreign investors are not very enthusiastic about investing in the textile sector which is also one of the areas of concern.

Though the sector has witnessed a spurt in investment during the last five years, the industry attracted **Foreign Direct Investment (FDI)** of only **USD 3.41 billion from April 2000 to December 2019.**

- **Major Initiatives:**

- **Amended Technology Upgradation Fund Scheme (ATUFS)**: In 2015, the government approved "Amended Technology Upgradation Fund Scheme (ATUFS)" for technology upgradation of the textiles industry.
- **Scheme for Integrated Textile Parks (SITP)**: To assist small and medium entrepreneurs in the textile industry to clusterize investments in textile parks by providing financial support for world class infrastructure in the parks.
- **SAMARTH (Scheme For Capacity Building In Textile Sector)**: To address the shortage of skilled workers, the government launched the **Scheme for Capacity Building in Textile Sector (SCBTS)** and named it **SAMARTH Scheme**.
- **North East Region Textile Promotion Scheme (NERTPS)**: This is a scheme for promoting textiles industry in the NER by providing infrastructure, capacity building and marketing support to all segments of the textile industry.
- **Power-Text India**: It comprises new research and development in power loom textiles, new markets, branding, subsidies and welfare schemes for the workers.
- **Silk Samagra Scheme**: It focuses on improving the quality and productivity of domestic silk thereby reducing the country's dependence on imported silk.
- **Jute ICARE**: This pilot project launched in 2015 is aimed at addressing the difficulties faced by the jute cultivators by providing them certified seeds at subsidized rates, and by popularizing several newly developed retting technologies under water limiting conditions.
- **National Technical Textile Mission**: It aims to position the country as a global leader in technical textiles and increase the use of technical textiles in the domestic market. It aims to take the domestic market size to USD 40 billion to USD 50 billion by 2024.

Way Forward

- The Textile sector has great potential and it should be realised by **using innovations, latest technology and facilitations**.
- India can make the sector organised by setting up **mega apparel parks and common infrastructure for the textile industry**. Focus should be on the modernisation of obsolete machinery and technology.
- India **needs a comprehensive blueprint for the textile sector**. Once that is drawn up, the country needs to move into mission mode to achieve it.

Source: PIB

Neurological Disorders in India

Why in News

A recent study published in the 'Lancet Global Health' is the **first comprehensive analysis of India's neurological diseases burden from 1990 to 2019.**

- The study is a **part of the Global Burden of Disease Study 2019**, which was published by the **India State-Level Disease Burden Initiative**.
- India State-Level Disease Burden Initiative is a **joint initiative of Indian Council of Medical Research (ICMR)** along with other public health institutions.

Neurological Disorders

- **Meaning:** Neurological disorders are **diseases of the central and peripheral nervous system**. In other words, the brain, spinal cord, cranial nerves, peripheral nerves, nerve roots, autonomic nervous system, neuromuscular junction, and muscles.
- **Non-Communicable Neurological Disorders:** Stroke, Headache disorders, **Epilepsy**, Cerebral palsy, **Alzheimer's disease and other dementias**, Brain and central nervous system cancer, **Parkinson's disease**, **Multiple sclerosis**, Motor neuron diseases, and other neurological disorders.
- **Communicable Neurological Disorders:** **Encephalitis**, **Meningitis**, Tetanus.
- **Injury-related Neurological Disorders:** Traumatic brain injuries, Spinal cord injuries.

Key Points

- **Data Analysis:**
 - Neurological disorders contribute **10% of the total disease burden** in India.
 - There is a **growing burden of non-communicable neurological disorders in the country**, which is **mainly attributable to the ageing of the population**.
 - The **contribution of non-communicable neurological disorders to total DALYs (disability adjusted life-years) in India doubled** from 4% in 1990 to 8.2% in 2019, and the **contribution of injury-related neurological disorders increased from 0.2% to 0.6%**.

DALY, a time-based measure that combines years of life lost due to premature mortality and years of life lost due to time lived in states of less than full health, or years of healthy life lost due to disability.
 - While **communicable diseases contributed to the majority of total neurological disorders burden in children younger than five years**, non-communicable neurological disorders were the highest contributor in all other age groups.
 - While the **burden of infectious neurological disorders has fallen in India**, this burden is higher in less developed states.

- **Leading Neurological Diseases:**

- **Stroke, headache disorders, and epilepsy** are the leading contributors to neurological disorders burden in India.
- **Among non-communicable neurological disorders**, stroke is the third leading cause of death in India, and **dementias** are the fastest growing neurological disorder.
- **Headache is the commonest neurological disorder** affecting 1 in 3 Indians, and is often neglected in terms of public health priority.

Migraine affects females more than males, greatly affecting adults in the working age population.

- **Factors Attributing to Neurological Diseases:**

Among the known risk factors for neurological disorders, **burden, high blood pressure, air pollution, dietary risks, high fasting plasma glucose, and high body-mass index** are the leading contributors.

Way Forward

- **Planning of Neurology Services in Each State:** The study has called for increased awareness, early identification, cost-effective treatment and rehabilitation among other efforts to reduce the burden of neurological disorders in each state.
- **Headache, as a Public Health Issue:** Headaches, especially migraine, need to be recognised as a public health problem and included under the **National Non-Communicable Diseases programme**.
- **Strengthening Neurology Workforce:** There is a need to address the shortage of trained neurology workforce, and strengthen early detection and cost-effective management of neurological disorders in the country.
- **Promoting Safe Births:** Policies and practices focusing on safe births, preventing head injury and stroke would help in averting a substantial proportion of epilepsy

Source: DTE

Amazon Forests: No Longer Carbon Sinks

Why in News

According to a recent study, **Amazon Forests have started emitting Carbon dioxide (CO₂) instead of absorbing it.**

Growing trees and plants have taken up about a quarter of all fossil fuel emissions since 1960, with the Amazon playing a major role as the **largest tropical forest.**

Key Points

- **Findings:**
 - A **significant amount of deforestation (over the course of 40 years) in eastern and southeastern Brazil** has turned the forest into a source of CO₂ that has the ability to warm the planet.
 - It might have also **affected a long-term decrease in rainfall and increase in temperatures** during the dry season.
 - Not only the Amazon rainforests, **some forests in Southeast Asia have also turned into carbon sources** in the last few years as a result of **formation of plantations and fires**.
 - **Forest fires have doubled since 2013**. One reason that they happen is when farmers burn their land to clear it for the next crop.
 - **Most of the emissions are caused by fires**.
 - A **part of the Amazon emitting carbon even without fires** was particularly worrying. This was most likely the **result of each year's deforestation and fires making adjacent forests more susceptible** the next year.
- **Reasons for Deforestation:**
 - State policies that encourage economic development, such as railway and road expansion projects **have led to "unintentional deforestation"** in the **Amazon and Central America**.
 - Deforestation started **in the 1970s and 1980s** when large-scale **forest conversion for cattle ranching and soy cultivation began**.

Amazon Rainforests

- These are **large tropical rainforests** occupying the drainage basin of the **Amazon River** and its tributaries in **northern South America**.
 - Tropical forests are **closed-canopy forests** growing within 28 degrees north or south of the equator.
 - They are **very wet places**, receiving **more than 200 cm rainfall per year**, either seasonally or throughout the year.
 - Temperatures are uniformly high - **between 20°C and 35°C**.
 - Such forests are found in Asia, Australia, Africa, South America, Central America, Mexico and on many of the Pacific Islands.
- The Amazon rainforests **cover about 80% of the Amazon basin and they are home to nearly a fifth of the world's land species** and is also **home to about 30 million people** including hundreds of indigenous groups and several isolated tribes.
 - The Amazon basin is huge with an area covering over **6 million square kilometres**, it is **nearly twice the size of India**.
 - The **basin produces about 20% of the world's flow of freshwater** into the oceans.
- Comprising about **40% of Brazil's total area**, it is bounded by the **Guiana Highlands to the north**, the **Andes Mountains to the west**, the **Brazilian central plateau to the south**, and the Atlantic Ocean to the east.



Way Forward

If the ability of tropical forests to act as carbon sinks is to be maintained, **fossil fuel emissions need to be reduced and temperature increases need to be limited** as well.

Source: IE

Landslide and Flash Floods

Why in News

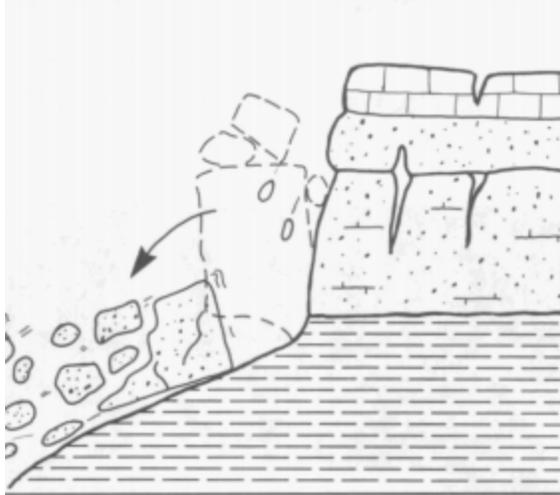
Recently, heavy rains caused **flash floods** and **landslides** in many parts of Himachal Pradesh.

Key Points

- **Landslide:**

- **About:**

- A landslide is defined as the **movement of a mass of rock, debris, or earth down a slope.**
 - They are a **type of mass wasting**, which denotes any downward movement of soil and rock under the direct influence of gravity.
 - The term landslide encompasses **five modes of slope movement: falls, topples, slides, spreads, and flows.**



- **Causes:**

- Slope movement occurs **when forces acting downward** (mainly due to gravity) exceed the strength of the earth materials that **compose the slope.**
 - Landslides are caused due to three major factors: **geology, morphology, and human activity.**
 - **Geology** refers to characteristics of the material. The earth or rock might be weak or fractured, or different layers may have **different strengths and stiffness.**
 - **Morphology refers to the structure** of the land. For example, slopes that lose their vegetation to fire or drought are more vulnerable to landslides.

Vegetation holds soil in place, and without the root systems of trees, bushes, and other plants, the land is more likely to slide away.
 - **Human activity** which includes agriculture and construction increases the risk of a landslide.

- **Landslide-Prone Areas:**

The entire Himalayan tract, hills/mountains in sub-Himalayan terrains of North-east India, Western Ghats, the Nilgiris in Tamil Nadu Konkan areas are landslide-prone.

- **Mitigation:**
 - **Restriction on the construction and other developmental activities** such as roads and dams in the areas prone to landslides.
 - **Limiting agriculture to valleys** and areas with moderate slopes.
 - **Control on the development of large settlements** in the high vulnerability zones.
 - **Promoting large-scale afforestation programmes** and construction of bunds to reduce the flow of water.
 - **Terrace farming** should be encouraged in the northeastern hill states where Jhumming (Slash and Burn/Shifting Cultivation) is still prevalent.
- **Step Taken:**

The **Geological Survey of India (GSI)** has done a **national landslide susceptibility mapping** for 85% of the entire 4,20,000 square km landslide-prone area in the country. The **areas have been divided into different zones according to the propensity of the disaster.**

Improvement in early warning systems, monitoring and susceptibility zoning can reduce the damage caused by landslides.

- **Flash Floods:**

- **About:**

- These are **sudden surges in water** levels generally during or following an intense spell of rain.
- These are **highly localised events of short duration** with a very high peak and usually **have less than six hours** between the occurrence of the rainfall and peak flood.
- The **flood situation worsens** in the presence of **choked drainage lines** or encroachments obstructing the natural flow of water.

- **Causes:**

- It may be caused by **heavy rain associated with a severe thunderstorm**, hurricane, tropical storm, or meltwater from ice or snow flowing over ice sheets or snowfields.
- Flash Floods can also occur **due to Dam or Levee Breaks, and/or Mudslides (Debris Flow)**.
- In areas on or near **volcanoes**, flash floods have also occurred after eruptions, when glaciers have been melted by the intense heat.
- The intensity of the rainfall, the location and distribution of the rainfall, the land use and topography, vegetation types and growth/density, soil type, and soil water- content all determine just how quickly the Flash Flooding may occur, and influence where it may occur.

- **Mitigation:**

- Instead of valleys, people should live in areas on slopes with firm ground for safety reasons.
- In areas where ground fissures have developed, appropriate steps should be taken to check the infiltration of rainwater and surface water.
- Banning "indiscriminate" and "unscientific" construction works.

Source: TH

Emerging Market for Renewables

Why in News

According to a recent report, **fossil fuel electricity generation has peaked worldwide as emerging markets seize the opportunities of low-cost renewables.**

The Report was **published by** India's Council on Energy, Environment and Water (CEEW) and the financial think tank Carbon Tracker (both are not-for-profit organisations).

Key Points

- **Findings:**
 - **Emerging Market are Key to Global energy Transition:**
 - **Emerging markets** are key to the global energy transition, **accounting for 88% of all expected growth in electricity** demand from 2019-2040.
 - Overall, **82% of current emerging market electricity demand** and **86% of expected demand growth** comes from countries that **import coal and gas**, and they have powerful incentives to **switch to solar and wind**.
 - With the right policies in place, **technology and cost barriers to change can be crossed**.
 - The **transition is different in emerging markets** because they **have electricity demand growth from a lower base** as well as the **need to provide access to hundreds of millions of people**.
 - In developed markets, **demand for fossil fuels for electricity generation has fallen by 20%** since it peaked in 2007.
 - **Four Key Groups of Emerging Markets:**
 - **China, which is nearly half the electricity demand**, and 39% of the expected growth.
 - Other **importers of coal and gas** such as **India or Vietnam**, which are a third of the demand and nearly half the growth.
 - Coal and gas exporters such as **Russia or Indonesia**, which are 16% of demand but only around 10% of the growth.
 - **Resistance to the energy transition** is likely to be more entrenched in coal and gas exporting countries.
 - **'Fragile' states** such as **Nigeria or Iraq** which are **3% of demand and around the same share of growth**.
 - **India has set an Example:**
 - India, which **accounts for 9% of emerging market electricity demand and 20% of expected demand growth**, illustrates the speed and scale of change.
 - From **less than 20GW of solar in 2010**, it has grown to **96GW of solar, wind biomass and small hydro in May 2021**.
 - Including large hydropower, **renewables now provide 142GW or 37% of the country's power capacity**, and it has a target of 450GW by 2030.
 - **Demand for fossil fuel generation reached a plateau in 2018**, and fell in 2019 and 2020.
 - While **fossil fuel demand might again increase** in the near-term to meet latent electricity demand, India has demonstrated how a double leapfrog - connecting nearly all households to electricity and its renewable energy rollout - can be driven with policy priorities and market design.

- **Suggestions:**
 - **A supportive policy environment** is the key to driving growth in renewables.
 - If countries **liberalise markets and introduce competitive auctions**, they can **cut costs and attract international finance** as capital markets turn their backs on fossil fuels.
 - Auctions have helped India** drive the cost of solar down to one of the world's lowest levels.
 - **Developed countries can speed up the transition to renewables in emerging markets** by providing policy support, technology expertise and by using development finance to reduce the cost of capital.

Indian Initiatives for Renewable Energy

- **Hydrogen Energy Mission:** The **Union Budget for 2021-22** has announced a **National Hydrogen Energy Mission (NHM)** that will draw up a **road map for using hydrogen as an energy source**.
 - The initiative has the potential of **transforming transportation**.
- **Jawaharlal Nehru National Solar Mission (JNNSM):**
 - It was launched in **2009** with a target for **Grid Connected Solar Projects of 20,000 MW by 2022**.
 - The sector has **witnessed rapid development** with installed solar capacity increasing rapidly from 18 MW to about 3800 MW during 2010-15.
- **International Solar Alliance:**
 - It was launched by the **Prime Minister of India and the President of France** on **30th November 2015 in Paris, France** on the side-lines of the **Conference of the Parties (COP-21)**, with 121 solar resource rich countries lying fully or partially between the tropic of Cancer and tropic of Capricorn as prospective members.
- **PM- KUSUM:**
 - KUSUM stands for **Kisan Urja Suraksha evam Utthaan Mahabhiyan**.
 - It's objective is to **provide financial and water security** to farmers through harnessing solar energy capacities of 25,750 MW by 2022.
- **National Wind-Solar Hybrid Policy:**
 - The **main objective of the policy** is to provide a framework for promotion of **large grid connected wind-solar photovoltaic (PV) hybrid systems** for optimal and efficient utilization of wind and solar resources, transmission infrastructure and land.
 - The wind-solar PV hybrid systems will help in reducing the variability in renewable power generation and achieving better grid stability.
- **Rooftop Solar Scheme:**
 - Its objective is to **generate solar power** by installing **solar panels on the roof of the houses**.
 - The **Ministry of New and Renewable Energy** is the **implementing agency** of the **Grid-connected Rooftop Solar Scheme (Phase II)**.

Source: IE
