



Daily Current Affairs



To The Point by Dhananjay Gautam

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1 Launch of Global Family Farming Forum at FAO's World Food Forum

Context: At the Food and Agriculture Organization's World Food Forum (WFF), the Global Family Farming Forum (GFFF) was launched, celebrating the vital role of family farmers in creating sustainable agri-food systems and addressing the impacts of the climate crisis. The event also marked the halfway point of the United Nations Decade of Family Farming 2019-2028 (UNDF).



Key Highlights:

- **United Nations Decade of Family Farming (UNDF):**

- Declared by the **United Nations General Assembly**, the UNDF serves as a framework for countries to develop public policies and investments that support family farming.

About Family Farming:

- **Definition:** Family farming refers to agricultural, forestry, fisheries, pastoral, and aquaculture production managed and operated by families, primarily relying on family labor from both women and men.

Significance of Family Farming:

1. Food Security:

- With over **550 million farms** globally, family farming is the backbone of food production, contributing to **70-80%** of the world's food in value terms.

2. Nutritional Diversity:

- Family farms in low- and middle-income countries grow a variety of nutritious foods, supporting crop biodiversity.

3. Sustainable Stewardship:

- Family farmers utilize traditional farming methods and minimal external inputs to maintain soil health and enhance climate resilience naturally.



Challenges Faced by Family Farming:

- **Financial Barriers:** Limited access to financial resources.
- **Limited Assistance:** Challenges in accessing support services.
- **Genetics and Knowledge Gaps:** Insufficient access to agricultural knowledge and genetic resources.
- **Fragmentation of Land:** Small, fragmented plots can reduce efficiency.
- **Market Access Difficulties:** Challenges in reaching markets and obtaining fair prices.
- **Climate Threats:** Vulnerability to climate change impacts.
- **Lack of Generational Succession Support:** Difficulties in transferring knowledge and resources to the next generation.

Related News:

- Alongside the GFFF, the **FAO** and the **Global Framework on Water Scarcity in Agriculture (WASAG)** adopted the **Rome Declaration on Water Scarcity in Agriculture**.
- **WASAG Initiative:**
 - Launched at the **United Nations Climate Conference** in Marrakesh in **2016**, WASAG aims to support countries in addressing water scarcity challenges.

Objectives of WASAG:

- Mobilize greater political support regarding policies, legal frameworks, institutional frameworks, access to financing, and responsible water governance.

Conclusion: The launch of the GFFF at the WFF highlights the crucial role of family farming in food security and sustainability, as well as the need for ongoing support and investment in this sector to address the myriad challenges faced by family farmers worldwide. The related discussions on water scarcity further emphasize the interconnectedness of agricultural practices and environmental sustainability.

2 India Chem 2024: 13th Edition Organized by DCPC and FICCI in

Context: The 13th Edition of “India Chem 2024” was organized by the **Department of Chemicals & Petrochemicals** in collaboration with **FICCI** in Mumbai. This event is one of the largest composite gatherings for the chemical and petrochemical industry in the Asia-Pacific region, featuring both an **International Conference** and an **Exhibition**.

Overview of India’s Chemical and Petrochemical Industry:

1. Market Segments:

- **Bulk Chemicals:** These are produced in large quantities but have lower market value. They include both **alkali** and **organic/inorganic chemicals**, serving primarily as inputs for downstream industries.
- **Petrochemicals:** Known as **petroleum distillates**, these chemicals are derived from the refining of petroleum and natural gas. This category encompasses **polymers, synthetic fibers, performance plastics**, and more.
- **Specialty Chemicals:** These chemicals are characterized by high value and low production volume. Examples include **surfactants, textile chemicals, paints and coatings, dyes, and agrochemicals**.

2. Economic Significance:

- The chemical and petrochemical industry contributes over **9%** to India’s manufacturing gross value added and accounts for about **7%** of total exports.
- Currently valued at approximately **\$178 billion**, the industry is projected to surpass **\$300 billion** by **2028** and is on track to reach **\$1 trillion** by **2040**.

Initiatives to Promote the Industry:

1. Foreign Direct Investment (FDI):

- The government has allowed **100% FDI** in manufacturing through the automatic route, which has attracted significant investments amounting to **\$12.48 billion** over the past decade.

2. Petroleum, Chemical and Petrochemical Investment Regions (PCPIRs):

- These regions are designed to be hubs with high-class infrastructure, creating a competitive environment conducive to the establishment of new firms in the sector.

3. Plastic Parks:

- The initiative aims to enhance investment, production, and exports within the plastics sector, fostering growth and innovation.

Conclusion: The **India Chem 2024** event serves as a platform to highlight the significant role of the chemical and petrochemical industry in India's economy and its growth potential. With supportive initiatives and investments, the sector is poised for substantial development, contributing to both domestic and global markets.



3 Environmental Risks of Rocket and Satellite Launches

Context: The rapid growth in space activities, with a significant rise in rocket launches and the number of satellites in orbit, has raised serious environmental concerns. Over the past 15 years, the number of rockets launched annually has tripled, and the satellites in orbit have increased tenfold, causing a notable increase in **space debris** re-entry. The burning of this debris as it re-enters the atmosphere results in toxic emissions, while the emissions from rocket launches also pose severe threats to the environment.



Key Environmental Impacts of Rocket and Satellite Launches:

1. Atmospheric Impact:

- **Alumina (Al₂O₃) and Soot:** Rocket engines release alumina and black carbon (soot) into the atmosphere. These particles absorb and trap Earth's long-wave radiation, causing **stratospheric warming**, which accelerates **ozone depletion** by speeding up chemical reactions.
- **Ozone Depletion:** Compounds like **chlorine**, **alumina**, and **nitrogen oxides** in rocket plumes contribute directly to the depletion of the ozone layer, increasing the vulnerability of the planet to harmful ultraviolet (UV) radiation. Notably, the **Montreal Protocol**, which protects the ozone layer, does not currently address rocket emissions.
- **Carbon Dioxide (CO₂):** Rocket launches produce significant carbon emissions, with estimates ranging from **50 to 75 tonnes of CO₂ per passenger**, far surpassing emissions from airplanes, which range between 1 and 3 tonnes of CO₂ per passenger.
- **Upper Atmospheric Pollution:** Approximately **two-thirds of rocket propellant exhaust** is released into the **stratosphere** (12–50 km) and **mesosphere** (50–85 km), where these pollutants can persist for **2-3 years**, affecting global atmospheric circulation and contributing to warming.
- **Water Vapor Emissions:** Even so-called **green rockets**, such as those using **liquid hydrogen** as propellant, release **water vapor**, which acts as a greenhouse gas in the upper atmosphere, further contributing to warming at high altitudes.

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- **Metallic Ash:** The release of metallic ash into the atmosphere could disrupt **Earth's magnetic field**, potentially allowing more harmful cosmic radiation to reach the planet's surface.

2. Space Debris Re-entry:

- The re-entry of **space debris** has doubled over the last decade, and as it burns up in the atmosphere, it releases harmful **metal oxides** and other pollutants, further contributing to environmental degradation.

Measures to Control Pollution from Rocket Launches:

1. Horizontal Launches of Small Satellites:

- Launching small satellites from under the wings of aircraft like **Boeing 747s** is a more fuel-efficient option, using about **1/20th of the fuel** compared to traditional ground-launched, heavy-lift rockets.

2. Trajectory Control for Re-entry:

- Developing new technologies to ensure space debris burns up at **lower altitudes** (12-18 miles) can help metal oxides settle back to Earth more quickly, reducing the long-term environmental impact.

3. Alternative Fuels and Design Improvements:

- **Bio-propane** and other alternative fuels can be used to reduce the toxic emissions from rockets. Additionally, developing **reusable launch systems** can significantly minimize waste and reduce the overall environmental footprint of space missions.

Conclusion: The surge in rocket launches and satellite deployment is increasingly contributing to climate change and ozone depletion. Addressing these environmental impacts requires adopting **cleaner fuels**, improving **launch technology**, and pushing for international regulations that include rocket emissions in climate agreements like the **Montreal Protocol**. This shift towards sustainability in space activities is essential to mitigating the growing environmental threat posed by the space industry.

4 MHA Advisory on Section 479 BNSS for Undertrial Prisoner Relief

Context: The Ministry of Home Affairs (MHA) has issued an advisory to all states and union territories regarding the implementation of **Section 479** of the **Bharatiya Nagarik Suraksha Sanhita (BNSS)**, focusing on the rights and relief of undertrial prisoners. This advisory is in response to the **Supreme Court of India's recent order** addressing the prolonged detention of undertrial prisoners and aims to ensure compliance with newly introduced legal provisions under the BNSS.



Key Points of the Advisory:

- **Scope of Section 479:** The advisory clarifies that **Section 479** of the BNSS, which came into effect on **1st July 2024**, applies to all undertrial prisoners, regardless of when their case was registered. This expands the scope of relief to all undertrial detainees, addressing the issue of long-term imprisonment without trial.

Bail Provisions Under BNSS:

1. **Regular Cases:** Undertrials are eligible for release if they have been detained for a period equivalent to **half of the maximum specified imprisonment** for the offense they are charged with.
2. **First-Time Offenders:** First-time undertrial offenders can be released if they have been in detention for **one-third** of the maximum specified imprisonment. However, this provision excludes offenses punishable by death or life imprisonment.

Undertrial Prisoners in India:

- According to the **National Crime Records Bureau (NCRB)**, India's prisons are heavily overpopulated, with an occupancy rate of **131.4%**. Around **75%** of prisoners in Indian jails are undertrials, highlighting the gravity of the issue.
- An undertrial prisoner refers to someone who is detained in prison while their case is being tried in court.



Reasons for the High Number of Undertrial Prisoners:

- **Indiscriminate arrests** by the police.
- **Ignorance of legal rights** among the accused.
- **Delays in trials**, leading to extended detention.
- **Reluctance of courts to grant bail.**
- **Inability to provide surety** due to financial constraints.

Measures Taken to Alleviate Hardships for Undertrials:

1. **Support to Poor Prisoners Scheme:** Provides relief to undertrials who are financially incapable of paying fines or securing bail bonds.
2. **E-Prisons Portal:** Enables quick access to data on inmates, helping in identifying eligible undertrials for bail.
3. **Model Prison Manual 2016:** Offers detailed guidelines on the facilities and treatment of undertrial prisoners.
4. **Legal Aid: State Legal Services Authorities** have set up **Legal Service Clinics** in jails to provide **free legal assistance** to undertrials.

Conclusion: The advisory underscores the importance of ensuring that the legal provisions under **Section 479 of BNSS** are effectively implemented to address the issue of prolonged detention of undertrial prisoners. It highlights the need for states and UTs to take swift action to prevent the violation of basic human rights, promote fair trials, and alleviate overcrowding in prisons.

5 8 years of Regional Connectivity Scheme (RCS) – UDAN (Ude Desh Ka Aam Nagrik)

Context: The **Regional Connectivity Scheme (RCS) – UDAN (Ude Desh Ka Aam Nagrik)** has completed **8 years**, marking significant achievements in enhancing air travel accessibility across India. Recently, Prime Minister **Narendra Modi** inaugurated the **Saharanpur, Rewa, and Ambikapur airports** in Uttar Pradesh as part of the celebrations under this scheme.

**Key Features of the RCS-UDAN Scheme:**

- **Nodal Ministry:** Ministry of Civil Aviation
- **Genesis:** Launched in **2016** as a vital component of the **National Civil Aviation Policy (NCAP)**.
- **First Flight:** The inaugural RCS-UDAN flight connected **Shimla to Delhi** in **2017**.
- **Type:** Central Sector Scheme
- **Purpose:** To enhance infrastructure and connectivity, particularly in remote and underserved regions of India, making air travel affordable for the general populace.

Benefits of the Scheme:

1. **Subsidised Seats for Passengers:** The travel fee is capped (initially set at **₹2,500** per passenger) to ensure affordability.
2. **Support to Airlines:** The government compensates airlines through **Viability Gap Funding (VGF)** for losses incurred due to low fares.
3. **Regional Connectivity Fund (RCF):** This fund supports the scheme's self-financing mechanism by levying fees on certain domestic flights to fund the VGF.
4. **Market-Driven Model:** Airlines evaluate demand on specific routes and submit proposals during bidding rounds to optimize service delivery.
5. **Recent Changes:** Currently, the **5th phase** of the scheme is ongoing, which has reduced the distance gap for flights to **600 km** and enhanced VGF.

Implementing Agency:

- The **Airports Authority of India (AAI)** oversees the execution of the scheme.

Key Achievements:

- **Demand for Aircraft:** The scheme has spurred an increasing demand for new aircraft of all sizes due to enhanced connectivity.

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- **Promoting Tourism:** UDAN 3.0 introduced tourism routes, successfully connecting destinations like **Khajuraho** (Madhya Pradesh), **Deoghar** (Jharkhand), **Amritsar** (Punjab), and **Agatti Island** (Lakshadweep).
- **Boosting Air Connectivity:** RCS-UDAN has connected **34 states/UTs**, facilitating air travel from places like **Mundra** (Gujarat) to **Tezu** (Arunachal Pradesh) and from **Kullu** (Himachal Pradesh) to **Salem** (Tamil Nadu).
- **Operationalized Aerodromes:** A total of **86 aerodromes** have been made operational under the UDAN scheme.

Airports Authority of India (AAI)

The Airports Authority of India (AAI) was established on April 1, 1995, through an Act of Parliament. This formation was the result of the merger between the erstwhile National Airports Authority and the International Airports Authority of India, creating a unified organization responsible for managing and developing civil aviation infrastructure across India.

Key Functions of AAI

1. As an Airport Developer

- **Airport Management:** Design, develop, operate, and maintain both international and domestic airports, as well as civil enclaves throughout India.
- **Operational Area Expansion:** Enhance the operational areas of airports, including runways, aprons, and taxiways, to support increased air traffic.
- **Passenger Terminals:** Construct, modify, and manage passenger terminals and other airport facilities to improve passenger experience and operational efficiency.
- **Cargo Management:** Develop and manage cargo terminals through its subsidiary, AAI Cargo Logistics and Allied Services Company Limited, ensuring efficient cargo handling and logistics.
- **Passenger Facilities:** Provide essential passenger facilities and information systems to ensure a seamless travel experience.

2. As an Air Navigation Service Provider

- **Airspace Management:** Control and manage Indian airspace that extends beyond the country's territorial limits, in accordance with the standards set by the International Civil Aviation Organization (ICAO).
- **Safety and Efficiency:** Ensure the safety and efficiency of all flights operating within Indian airspace.

Conclusion: The RCS-UDAN scheme has played a crucial role in transforming the aviation landscape in India by enhancing connectivity, promoting tourism, and making air travel accessible to a larger segment of the population. The ongoing efforts under this initiative are expected to further bolster the growth of the aviation sector in the country.

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6 Moonlight Programme

Context: The **Moonlight Programme** is a significant initiative launched by the **European Space Agency (ESA)** aimed at establishing lunar communications and navigation services.

Overview:

- **Launch:** The programme was unveiled at the **International Astronautical Congress**.
- **Purpose:** To create a dedicated satellite constellation for telecommunications and navigation on the Moon, supporting various lunar missions.



Key Features of the Moonlight Programme:

1. Satellite Constellation:

- The programme plans to deploy a constellation of about **five lunar satellites**:
 - **One satellite** for high data rate communications.
 - **Four satellites** dedicated to navigation.
- This will facilitate **accurate autonomous landings, high-speed communication, and surface mobility** on the Moon.

2. Communication Range:

- The satellites will enable data transfer over a distance of approximately **250,000 miles (400,000 kilometres)** between the Earth and the Moon.

3. Focus Area:

- The primary focus will be on providing coverage at the **Moon's South Pole**, which is crucial for many missions due to its unique lighting conditions and the potential presence of **water ice** in permanently shadowed craters.

4. Initial Steps:

- The first step in the programme will involve the launch of the **Lunar Pathfinder**, a communications relay satellite developed by **Surrey Satellite Technology LTD**, scheduled for **2026**.
- Initial services are expected to begin by the end of **2028**, with a fully operational system anticipated by **2030**.

5. Collaboration:

- ESA is collaborating with **NASA** and the **Japanese space agency JAXA** on a framework known as **LunaNet**, which aims to standardize communication and navigation services for the Moon.

Importance of Telecommunications:

- **Telecommunications** (or telecom) refers to the exchange of information over significant distances and encompasses various sectors. It involves:
 - **Transmitters and receivers** to facilitate communication.
 - Transmission mediums including **fiber optics, electromagnetic fields, light, and cables**.

Conclusion: The Moonlight Programme represents a crucial step towards establishing a comprehensive communication and navigation infrastructure on the Moon, supporting future exploration and utilization efforts, particularly in the promising region of the Moon's South Pole.

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7 Smart Insulin (NNC2215)

Context: Recent advancements in diabetes management have led to the development of a novel insulin called NNC2215 by scientists from Denmark, the UK, Czechia, and the University of Bristol. This smart insulin automatically adjusts its activity in response to changing blood glucose levels.

Key Features of NNC2215

- **Structure:** NNC2215 consists of two main components:
 - **Ring-Shaped Structure:** Central to its function.
 - **Glucoside Molecule:** This molecule resembles glucose in shape.

**Mechanism of Action**

- **Low Blood Sugar Levels:** When glucose levels are low, the glucoside binds to the ring structure, keeping the insulin inactive and preventing further drops in blood sugar.
- **Rising Blood Sugar Levels:** As glucose levels increase, glucose molecules replace the glucoside, causing a conformational change in the insulin that activates it. This activation allows the insulin to help lower blood glucose levels to safer ranges.

Efficacy

- Research shows that NNC2215 is as effective as human insulin in lowering blood glucose levels in animal models (rats and pigs).

Understanding Diabetes

Diabetes is a chronic condition characterized by the body's inability to produce or effectively use insulin, a hormone crucial for regulating blood glucose levels.

Types of Diabetes

1. **Type 1 Diabetes:**
 - Often begins in childhood.
 - Occurs when the pancreas produces little to no insulin.
2. **Type 2 Diabetes:**
 - Results from the body's ineffective use of insulin.
 - More common in adults and linked to lifestyle factors.
3. **Gestational Diabetes (GDM):**
 - High blood glucose during pregnancy.
 - Can lead to complications for both mother and child.

Glycaemic Index (GI):

The **Glycaemic Index** is a system that ranks carbohydrate-containing foods based on their impact on blood glucose levels after consumption.

- **High GI Foods:** These cause a rapid increase in blood sugar levels.
- **Low GI Foods:** These result in a slower, more gradual increase in blood glucose.

Conclusion: The development of smart insulin NNC2215 marks a significant advancement in diabetes treatment, potentially improving the management of blood glucose levels for individuals with diabetes. Understanding the types of diabetes and the concept of the glycaemic index is crucial for effective dietary management and overall health.

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8 What is Vitiligo?

Context: Vitiligo is a chronic skin disorder characterized by the loss of pigmentation, resulting in white patches on the skin. This condition often carries social stigma and misconceptions, particularly in India, where it is the subject of stereotypes and ignorance.



About Vitiligo:

- **Cause:** Vitiligo occurs when melanocytes, the cells responsible for producing melanin (the pigment that gives skin its colour), are destroyed or malfunction.
- **Symptoms:** The condition leads to depigmented patches that can appear anywhere on the body, including:
 - Skin
 - Hair
 - Lining of the mouth
- **Etiology:** While the exact cause of vitiligo is not fully understood, several factors may contribute, including:
 - **Autoimmune Response:** The immune system mistakenly attacks melanocytes.
 - **Genetic Predisposition:** Family history may play a role.
 - **Environmental Factors:** Possible triggers include oxidative stress, physical trauma, severe sunburn, or exposure to certain chemicals.
- **Age of Onset:** Vitiligo can develop at any age, but it is most commonly seen before the age of 30.
- **Prevalence:** The disease affects between 0.5% and 2% of the global population, with estimates suggesting that up to 100 million people worldwide live with the condition. It affects both men and women equally.

Treatment Options

Currently, there is no permanent cure for vitiligo; however, various treatments can help manage symptoms and restore skin pigmentation:

- **Topical Corticosteroids:** These can help reduce inflammation and slow depigmentation.
- **Calcineurin Inhibitors:** These medications may help stimulate melanocyte activity.
- **Phototherapy:** This treatment involves exposing the skin to ultraviolet (UV) light to encourage repigmentation.

What is Melanin?

Melanin is a natural substance in the body that contributes to pigmentation in hair, eyes, and skin. The level of melanin produced can influence:

- **Skin Color:** More melanin leads to darker skin tones.
- **Eye Color:** Melanin affects the hue of the eyes.
- **Hair Color:** The amount of melanin determines the darkness or lightness of hair.

Factors Influencing Melanin Production:

- **Genetics:** Hereditary traits determine melanin levels.
- **Sun Exposure:** Ancestral exposure to sunlight can influence melanin production, as the body may adapt to protect against UV radiation.

Conclusion: Vitiligo is a complex skin condition that can impact individuals physically and psychologically. Raising awareness and understanding of the condition is essential to dispel myths and reduce stigma, allowing those affected to seek support and appropriate treatment.

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9 What is Kala Azar?

Context: India could be at the threshold of eliminating Kala-azar as a public health problem, with the country having managed to keep the number of cases under one in 10,000 as per the WHO parameters for elimination certification for two consecutive years now.

Key Features of Kala Azar:



- Kala Azar, also known as visceral leishmaniasis, is a serious parasitic disease caused by the protozoan parasite *Leishmania donovani*, which is transmitted through the bite of infected female sandflies. It is considered the second deadliest parasitic disease after malaria in India.
- **Symptoms:** The disease is characterized by:
 - Irregular bouts of fever
 - Significant weight loss
 - Enlargement of the spleen and liver (splenomegaly and hepatomegaly)
 - Anemia
- **Global Distribution:** While most cases occur in Brazil, East Africa, and India, it remains a significant public health concern in the Indian subcontinent.
- **Complications:**
 - **Post Kala-Azar Dermal Leishmaniasis (PKDL):** A recognized complication that causes scaly skin patches and nodular lesions in individuals who have seemingly been cured of Kala Azar, sometimes up to two years after the initial infection.
 - **Leishmania-HIV Co-infection:** Individuals living with HIV and infected with leishmaniasis face higher risks of developing severe forms of the disease, along with increased relapse and mortality rates.
- **Treatment:**
 - Kala Azar is treatable and curable, requiring an immunocompetent system. The treatment generally involves an intravenous (IV) drip of medication that takes about two hours.

Types of Leishmaniasis

1. **Visceral Leishmaniasis (VL):** This form, which includes Kala Azar, is fatal in over 95% of untreated cases and involves systemic symptoms as described above.
2. **Cutaneous Leishmaniasis (CL):** The most common form, characterized by skin lesions, primarily ulcers on exposed body parts. It can cause life-long scars and social stigma.
3. **Mucocutaneous Leishmaniasis:** This form leads to partial or total destruction of mucous membranes of the nose, mouth, and throat.



India's Progress Towards Elimination

- **Current Status:** India is on the verge of achieving a significant milestone by seeking certification from the World Health Organization (WHO) for eliminating Kala Azar as a public health problem. The country has maintained the required elimination criteria of less than one case per 10,000 people for two consecutive years.
- **Historical Goals:** India's National Health Policy initially aimed to eliminate Kala Azar by 2010. This target has been revised several times, with the latest goal set for 2020. The WHO also set a global target to eliminate Kala Azar by 2020, which has now been extended to 2030 due to delays.
- **Certification Criteria:** A disease is declared eliminated when a country proves that local transmission has been interrupted for a specific time period and implements preventive measures to avoid a resurgence. For certification, India must maintain a rate of fewer than one case per 10,000 people at the sub-district level for another year.

Vulnerable Regions:

The highest number of Kala Azar cases in India is reported from:

- **Bihar:** Accounts for approximately 70% of the country's cases, driven by factors like poor sanitation and climate conditions conducive to sandfly breeding.
- Other affected states include **Jharkhand, West Bengal**, and parts of **Uttar Pradesh**.

India's ongoing efforts to eliminate Kala Azar highlight the importance of public health initiatives, awareness, and sustainable practices to combat vector-borne diseases effectively.

Key Fact About Kala-Azar (Visceral Leishmaniasis)

- **Origin of the Name:** The term "kala-azar" derives from the Hindi word "kala," meaning "black," and the Persian word "azar," meaning "disease." This nomenclature reflects the characteristic grayish or blackish discoloration of the skin that can occur during infection.
- **Discovery:** The disease was first identified in West Bengal, India, in the late 19th century.
- **Spread:** Following its initial discovery, kala-azar spread to the northern regions of Bengal and Assam.
- **Endemic Areas:** Kala-azar is endemic in rural areas of tropical regions, notably in Asia, East Africa, and Brazil. It poses significant public health challenges in countries such as India, Bangladesh, Nepal, and Sudan..

10 Convention on Biological Diversity (CBD)

Context: The Convention on Biological Diversity (CBD) is a landmark international treaty aimed at conserving biological diversity, promoting its sustainable use, and ensuring fair and equitable sharing of benefits arising from the utilization of genetic resources. The 16th Conference of the Parties (COP16) to the CBD is set to begin in Cali, Colombia.



Key Features of the CBD:

- **Establishment:** The CBD was opened for signing at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992.
- **Membership:** It currently has 196 contracting parties, making it one of the most comprehensive binding international agreements in the field of nature conservation.

Objectives of the CBD:

The CBD has three overarching objectives:

1. **Conservation of Biological Diversity:** This includes the preservation of genetic diversity, species diversity, and habitat diversity.
2. **Sustainable Use of Biological Diversity:** Ensuring that biodiversity is used in a way that meets the needs of current generations without compromising the ability of future generations to meet their own needs.
3. **Fair and Equitable Sharing of Benefits:** This focuses on sharing the benefits arising from the utilization of genetic resources fairly and equitably among stakeholders, particularly indigenous communities and local populations.

Scope of the CBD:

The CBD covers biodiversity at all levels, including:

- **Ecosystems:** The complex networks of living organisms and their physical environments.
- **Species:** The variety of life forms on Earth.
- **Genetic Resources:** The genetic material of plants, animals, and microorganisms.

Governance and Implementation

- **Conference of the Parties (COP):** The governing body of the CBD, which consists of representatives from all ratifying countries. The COP meets every two years to review progress, set priorities, and develop work plans.
- **Secretariat:** Based in Montreal, Canada, the Secretariat facilitates the implementation of the CBD.

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Related Protocols:

To support the objectives of the CBD, two internationally binding agreements have been adopted:

1. **Cartagena Protocol:** Adopted in 2000 and entered into force in 2003, this protocol regulates the transboundary movement of living modified organisms (LMOs) and aims to ensure the safe handling, transport, and use of these organisms.
2. **Nagoya Protocol:** Adopted in 2010, this protocol establishes a legally binding framework for access to genetic resources and the fair and equitable sharing of benefits derived from their utilization.

What is the Montreal Protocol?

Overview

The Montreal Protocol on Substances that Deplete the Ozone Layer is a significant multilateral environmental agreement that regulates the production and consumption of nearly 100 man-made chemicals known as ozone-depleting substances (ODS).

Key Features of the Montreal Protocol:

- **Adoption Date:** The Protocol was adopted on 16 September 1987.
- **Objective:** Its primary goal is to protect the stratospheric ozone layer, which serves as Earth's protective shield against harmful levels of ultraviolet radiation from the sun.

Significance:

- The Montreal Protocol is considered one of the most successful environmental treaties in history, having achieved universal ratification by all 197 countries, including all UN member states.
- It has significantly reduced the emissions of ODS, contributing to the recovery of the ozone layer and reducing the incidence of skin cancer and other harmful effects associated with increased UV radiation.

Both the CBD and the Montreal Protocol are essential for global efforts to protect the environment, conserve biodiversity, and promote sustainable practices worldwide.