

Asian Development Bank launches 'Building Adaptation and Resilience in the Hindu Kush Himalayas (HKH) Initiative'

- The initiative will help equip **Bhutan and Nepal** with essential information and enable them to invest in **effective climate adaptation** and facilitate:
 - ⊕ understanding of risks,
 - ⊕ enabling **decision-making** on disaster risk reduction,
 - ⊕ **adaptation measures**, and
 - ⊕ **risk transfer solutions**, including insurance.
- **As per ADB**, HKH region is **warming faster than the global average** and 75% of glaciers in Bhutan and Nepal could melt by end of century, if global temperature rises 3°C.
 - ⊕ Economic losses in HKH from disaster totalled **\$45 billion from 1985 to 2014**, more than any other mountainous region in the world.
- HKH extend from the **Hindu Kush valleys in Afghanistan** to hill and mountain systems of **Myanmar**.
 - ⊕ It is home to **largest ice reserves outside of the polar regions**, feeds **10 major rivers** including the Ganga and sustain the **livelihoods of billions of people**.
- **Initiatives to protect HKH**
 - ⊕ ICIMOD (International Centre for Integrated Mountain Development) an **intergovernmental institution** working towards climate resilient HKH.
 - ⊕ **Hindu Kush Himalayan Monitoring and Assessment Programme (HIMAP)** coordinated by ICIMOD.
 - ⊕ **National Mission on Sustaining the Himalayan Ecosystem**, launched by India as part of the National Action Plan on Climate Change.

Asian Development Bank (ADB)


Manila, Philippines

Genesis: Established in 1966.

Objectives: Envisions a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty in the region.

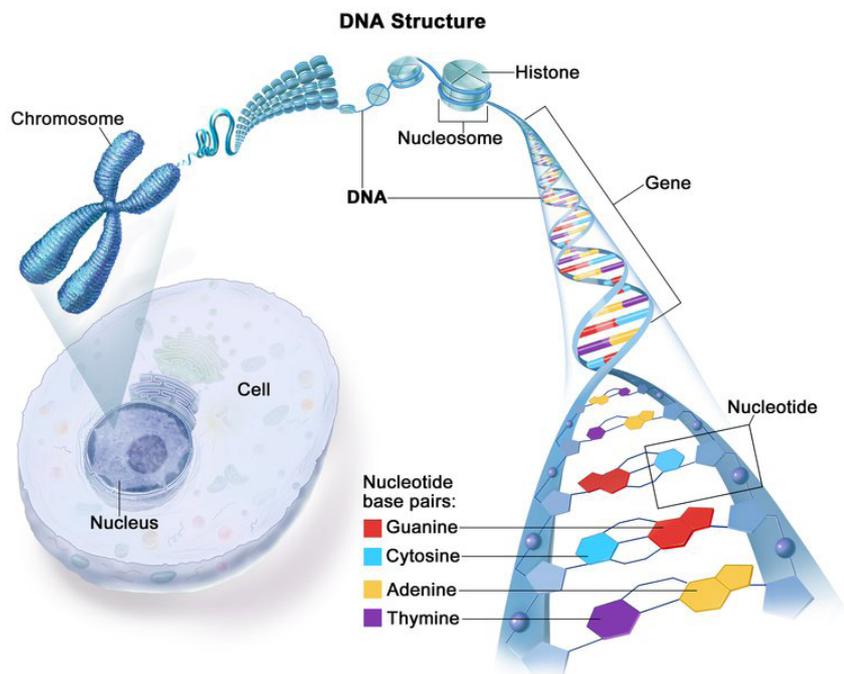
Role: Assists its members, and partners, by providing loans, technical assistance, grants, etc.

Members: 68 members India is a member ✓

Five largest shareholders: Japan and US (each with 15.6% of total shares), China (6.4%), India (6.3%), and Australia (5.8%).

UK Biobank opens World's biggest set of human genome sequences to scientists

- The UK Biobank has shared **complete genome sequences from its 500,000 British volunteers** which could be accessed by scientist for research.
- **About Genome and its sequencing:**
 - ⊕ The genome is the **entire set of DNA instructions** found in a cell.
 - ⊕ In humans, it **comprises 23 pairs of chromosomes** (thread-like structures of DNA) in cells' nucleus and a **small chromosome in cells' mitochondria**.
 - ◆ Deoxyribonucleic acid (DNA) is the molecule that **carries genetic information** for the development and functioning of an organism.
 - ◆ **DNA contains unique chemical codes** determined by the order of **Adenine (A), Cytosine (C), Guanine (G) and Thymine (T)** (the four nucleotide bases present in DNA)
 - ⊕ Genome sequencing refers to **figuring out the order of DNA nucleotides in a genome** (i.e., the order of **As, Cs, Gs, and Ts**).
- **Key initiatives for Human Genome sequencing**
 - ⊕ **Human Genome Project**, launched in 1990 (completed in 2003), covered about 92% of the total human genome sequence.
 - ⊕ In **2022**, Telomere to Telomere (T2T) consortium **sequenced the entire human genome (100%)**.
 - ⊕ **Genome India Project (GIP) and IndiGen programme** are launched by India.



Empowered local governance key for forest restoration and management, finds study

- New study shows that **empowering local communities through formalized Community Forest Management (CFM)** leads to effective management and restoration of forests.
- **CFM** is a practice in which **indigenous people and local communities manage forests** in harmony with nature.
 - ⊕ After Odisha in 2016, Chhattisgarh became the second state to acknowledge Community Forest Resource (CFR) rights within Kanger Ghati National Park in 2022.
 - ⊕ **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006** (also known as Forest Rights Act) provide for **recognition of right to "protect, regenerate or conserve or manage" CFR**.
- **Significance of CFM**
 - ⊕ **Encourages participation by rural people**, whose livelihood depends mainly on forest resources.
 - ⊕ **Strengthens collective rights** of local communities through participation in decision making and **equitable benefit sharing**.
 - ⊕ **Prevents deforestation** and forest degradation (e.g. Chipko movement), **contributes to climate stability and justice** to forest dwelling communities.
 - ⊕ Ensures **food security, proper land tenure and sustainable livelihoods**.
- **Challenges associated with CFM:** Lack of technical and administrative capacity; Non- clear demarcation of boundaries; Unsustainable use such as commercial fuelwood headloading etc.

India surpassed Montreal protocol targets, says report by MOEFCC and UNDP

- According to the report India **exceeded the 35% HCFC** (Hydrochlorofluorocarbons) **phase-out goal**, achieving a 44% reduction from the **2020 baseline** and has also **eliminated HCFC 141b**.
 - ⊕ HCFCs are employed as **refrigerants** in production of new equipment.
 - ⊕ **HCFC 141b**, is used as a **blowing agent** in production of rigid polyurethane foam.
- India will also phase out use of **HCFCs in new equipment manufacturing completely by December 2024** ahead of the Montreal Protocol schedule (2030).
- **Montreal Protocol (1987)**
 - ⊕ It is a **global environmental treaty to eliminate the production and use of Ozone Depleting Substances (ODS)**.
 - ⊕ It was implemented under the **Vienna Convention (adopted in 1985)**.
 - ⊕ In 2016, **Kigali Amendment to Montreal Protocol** was adopted to phase down production and consumption of **Hydrofluorocarbons (HFCs)**.
 - ◆ HFCs are a **non-ODS alternative to CFCs and HCFCs**, but their global warming potential is **thousands of times** that of carbon dioxide.
- **India's initiative to address ozone depletion:**
 - ⊕ **Ratification to Vienna convention and Montreal protocol.**
 - ⊕ **Three-stage HCFC phase-out Management Plan.**
 - ⊕ **India cooling Action Plan (ICAP)** to provide access to sustainable cooling.
 - ⊕ **Ozone Cell** in MoEFCC.

➤ About Ozone and ODS

- ⊕ **Stratospheric ozone (good Ozone) are found at 10-40 KM** above Earth's surface, and protects Earth from **UV radiation of Sun**.
 - ◆ ODS are **human-made chemicals** containing **chlorine and bromine like Chlorofluorocarbons (CFCs), HCFC, tetrachloride, etc.**
 - ◆ ODS after reaching stratosphere undergo catalytic reactions that depletes stratospheric ozone.
- ⊕ **Ozone formed in Troposphere are harmful** and is called '**bad ozone**'.

India's space regulator Indian National Space Promotion and Authorization Centre (IN-SPACe) launched Seed Fund Scheme (SFS)

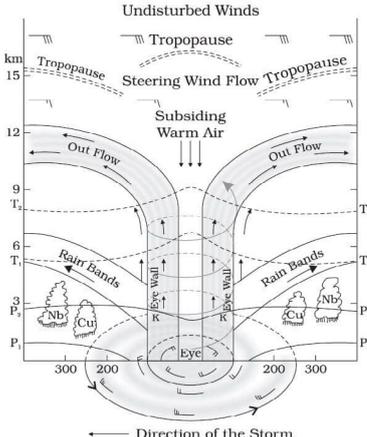
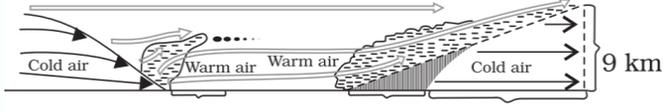
- SFS support **start-ups** (in collaboration with **National Remote Sensing Centre, ISRO**) operating in **areas of Urban Development and Disaster Management** using space technology.
 - ⊕ **Start-ups in urban development focus on** urban planning, telecom, navigation, broadband, water management etc.
 - ⊕ Similarly, **disaster management offers opportunities for start-ups in Geographical Information System**, early warning and monitoring systems, climate change monitoring etc.
- SFS has **provision of providing financial assistance of up to 1 crore** in addition to mentorship support, training and networking opportunities.
- **Objectives of SFS**
 - ⊕ **Facilitate new and innovative technologies development** in space sector.
 - ⊕ Provide **opportunities for private players to leverage space technology for societal benefits**.
- **IN-SPACe is an independent nodal agency under Department of Space to stimulate private investment and innovation** in space industry.
 - ⊕ It acts as an **interface between ISRO and Non-Governmental Entities**.
- **Other Initiatives for private sector participation in space**
 - ⊕ **SpaceTech Innovation Network (SpIN)**, public-private collaboration for **start-ups and small and medium-enterprises** in space industry.
 - ⊕ **Indian Space Policy, 2023** opens up spacetech sector for enhanced private participation.
 - ⊕ **Indian Space Association (ISpA)**.

➤ About Indian space startup sector

- ⊕ **Increased funding** from Rs 28 million in 2020 to **Rs 112 million in 2022** due to rising demand for cost-effective satellite manufacturing, reduced launch costs etc.
- ⊕ As per SpaceTech Analytics, **India is sixth-largest player in the industry internationally** having 3.6% of world's space-tech companies (as of 2021).

India Meteorological Department (IMD) forecasts a cyclonic storm named Cyclone Michaung

- As per IMD, Cyclone Michaung has intensified into a **Severe Cyclonic Storm** (maximum average surface wind speed in range of 89 to 117 kmph), and would make landfall in coastal districts of Tamilnadu and Andhra Pradesh.
 - Name 'Michaung' was proposed by Myanmar which signifies resilience and fortitude.
- IMD issues **colour-coded alerts** for upcoming weather events and their severity.
 - Green** (No advisory); **Yellow** (Be aware); **Orange** (Prepare); **Red** (Take action).
- Cyclone is a **large-scale system of air** that rotates around **centre of a low-pressure area**. National Disaster Management Authority **classifies cyclone into**

Tropical cyclones	Extra-tropical cyclones
<ul style="list-style-type: none"> Develop in regions between Tropics of Capricorn and Cancer. Move from east to west. Conditions for their formation: Large sea surface with temperature higher than 27°C; Presence of Coriolis force, etc. Originate only over the seas and on reaching land they dissipate. Known as hurricanes (Caribbean Sea, Gulf of Mexico) and typhoons (western North Pacific). 	<ul style="list-style-type: none"> Also known as mid-latitude cyclones they occur outside tropics. Move from west to east. They are low pressure systems associated with cold fronts, warm fronts, and occluded fronts. <ul style="list-style-type: none"> Front is a boundary between two air masses of different temperatures. Can originate over land and sea. 

Also in News

International Social Security Association (ISSA)

- Employees' State Insurance Corporation (ESIC) bags "ISSA Vision Zero 2023" Award at 23rd World Congress on Safety and Health at Work in Sydney, Australia.
- About ISSA**
 - Headquartered at Geneva, Switzerland, it was founded in 1927 under auspices of **International Labour Organization**.
 - It is the **world's leading international organization for social security institutions**, government departments and agencies.
 - It aims to **promote dynamic social security** as the social dimension in a globalizing world by supporting excellence in social security administration.
 - India is a member.

Mitochondrial DNA (mt DNA)

- Scientists used **mt DNA** to trace the origins of mummified baboons in **Ancient Egypt**.
- Mt DNA** is a circular chromosome found in a cellular organelle called **Mitochondria**
 - Mitochondria are the site of the **cell's energy production** and other metabolic functions (hence also known as the powerhouse of the cell).
 - They are found in the **cytoplasm of cells**.
- Offsprings receive mitochondria** and, consequently, **mitochondrial DNA from their mother**.
- Nuclear DNA** is found in the cell nucleus and inherited equally from both parents.

Accredited Compensatory Afforestation (ACA)

- Ministry of Coal has proposed 579 hectares of **reclaimed land under ACA program**.
- ACA, introduced under **Forest (Conservation) Rules, 2022**, is a system of **proactive afforestation** to obtain approval for **non-forestry use of forest land**.
- Under ACA **people and government entities can raise vegetation** on fallow land and **sell it** to project developers who need to meet CA targets.
 - Before this, Forest Department undertook **compensatory afforestation (CA) only after approval of diversion of forest land** for non-forestry use.
 - CA is mandatory under **Forest (Conservation) Act, 1980** for non-forestry use of forestland.

Africa Green Industrialisation Initiative (AGII)

- African leaders launched AGII at 28th Conference of Parties (COP28).
- AGII aims to **accelerate green growth of industries in Africa and attract finance and investment opportunities**.
 - It, incorporates elements of Sustainable Development Goals and Paris Agreement, **discourages use of fossil fuel and its production which causes global warming**.
 - It marks a concrete **step toward realization of Nairobi Declaration**, activating private sector-led scaling-up of green industrial clusters.



Sammakka Sarakka Central Tribal University (CTU)

- Central Universities (Amendment) Bill, 2023 was introduced in Lok Sabha to establish a Sammakka Sarakka CTU in Telangana.
 - ⊖ CTU will promote advanced knowledge by providing instructional and research facilities in tribal art, culture, customs and advancement in technology to tribal population of India.
- Sammakka and Saralamma (or Sarakka), a mother-daughter duo, fought against levy of taxes on tribal people during drought conditions by the then Kakatiya rulers in 12th century.
 - ⊖ Sammakka Saralamma Jathara (State Festival of Telangana) is largest tribal religious congregation in country, held every two years (biennially), in Telangana.



Mount Marapi

- Volcanic eruption in Indonesia occurred at Mount Marapi (island of Sumatra) and not at Mount Merapi (island of Java) as reported earlier.
- Marapi's eruptions happen suddenly and are hard to predict.
 - ⊖ Marapi's eruptions are not triggered by deep magma movements that cause detectable tremors on seismic monitors.
 - ⊖ Instead, the source is shallow and close to the peak.
- Indonesia is situated on the Pacific "Ring of Fire", where the collision of tectonic plates causes frequent quakes and major volcanic activity.



Aarogya Maitri Aid Cube

- World's first portable hospital 'Aarogya Maitri Aid Cube' was unveiled in Gurugram (Haryana).
- It is a modular trauma management and aid system designed for rapid deployment in Mass Casualty Incidents, whether in times of peace or war.
 - ⊖ It is made up of 72 detachable mini-cubes. Each being a specialized station for emergency response and humanitarian efforts.
 - ⊖ These cubes are light and portable, and can be rapidly deployed anywhere, from airdrops to ground transportation.
 - ⊖ It can treat 200 patients.
 - ⊖ It is designed indigenously under Project 'BHISHM (Bharat Health Initiative for Sahyog, Hita and Maitri)'.



Hornbill Festival

- 24th edition of Hornbill Festival began at Naga Heritage Village 'Kisama' of Nagaland.
 - ⊖ US, Germany and Columbia are Country Partners and Assam is Partner state for this year's edition.
- Since 2000, the festival is organised annually in first week of December by Government of Nagaland.
- It aims to encourage inter-tribal interaction and promote cultural heritage of Nagaland.
- It is named after the hornbill (a tropical bird) which is displayed in folklore in most of the state's tribes.
- It is also called the 'Festival of Festivals'.

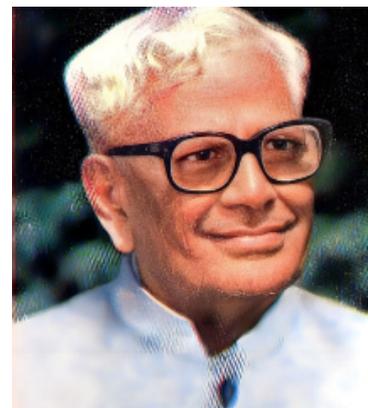


Personality in news



Shri. Ramasamy Venkataraman (1910-2009)

- Birth anniversary of 8th President of India Shri Venkataraman was observed.
- He was born at Rajamadam, Tamil Nadu.
- Contributions
 - ⊖ He was an active participant in the Quit India Movement of 1942 and was detained for two years for his activities.
 - ⊖ In 1944, he established many labour unions for the welfare of the labour force.
 - ⊖ He was a member of the Constituent Assembly.
 - ⊖ In 1952, he was elected to the first Parliament.
 - ⊖ Also, served as Vice President of India.
- Ethical Values: Integrity, compassion, tolerance, etc.



AHMEDABAD



BHOPAL



CHANDIGARH



DELHI



JAIPUR



JODHPUR



GUWAHATI



HYDERABAD



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI



SIKAR