

Prelim Bits 16-12-2023 | UPSC Daily Current Affairs

Developing countries contribution towards climate finance

Developing countries contribute more climate-related finance than many countries in the Global North.

- Based on the initiative of *Overseas Development Institute (ODI)*, the analysis by Carbon Brief highlights that many developing countries voluntarily provide finance to others for climate action.
- Some developing countries, including India, China and Brazil, contribute more climate-related finance through multilateral development banks than many countries in the Global North.
- However, their contributions largely remain unrecognized, as they do not report this provision.

China, India, Brazil, and Russia are among the top 20 global climate finance providers.

- While China has contributed \$1,236 million, India has provided \$765 million in solidarity with other developing countries for climate finance via multilateral development banks.

Under the UNFCCC, the responsibility to provide climate finance lies with Annex II countries, high-income nations that were Organisation for Economic Cooperation and Development (OECD) members when the U.N. convention was signed in 1992.

- Developed nations like the E.U., the U.S., Canada, Australia, and New Zealand are obligated to provide a minimum of \$100 billion in annual climate finance to developing countries by 2020, extending to 2025.
- However, the developed nations of global north have failed to fulfil this commitment.
- Developing countries do not have a similar responsibility but are encouraged to contribute voluntary climate finance under the Paris Agreement.
- Countries are negotiating a new climate finance target post-2022 to replace the \$100 billion goal, and developed nations are making efforts to expand the list of contributors.

References

1. [The Hindu - India, China providing more climate finance](#)

2. [Abplive - India, China, and Brazil contributing more to climate finance](#)
3. [ODI - About Odi](#)

Wisent (European wood bison)

Ukraine war could wreck efforts to save and rewild Europe's great wild bovid.

- The wisent once roamed across Europe at the end of the last ice age was almost wiped out by 1927 from Europe.
- Conservation efforts in its last remaining strongholds, including *Ukraine and Russia*, have raised hopes of a revival.
- **Threats** - Rapid environmental change and hunting by humans.
- *Hunting* caused range loss in the north and east of the wisent's distribution, while *land use change* was responsible for losses in the west and south.
- At present, the Russian invasion of Ukraine is threatening the hopes of this species revival.
- **Ecosystem Engineer** - The European bison is a priority species for conservation because it serves an important role as an ecosystem engineer, restoring grassland habitat.
- **Conservation status** - It was recently moved from Vulnerable to Near Threatened in the IUCN Red list of threatened species.

Currently there are approximately 7,300 free-ranging European bison.

Reference

[Down To Earth | Wisent](#)

Sun Goddess Particle

High-energy 'sun goddess' particle 'from nowhere' collides into Earth.

Amaterasu

- It is one of the most powerful cosmic rays slamming into Earth and has been named Amaterasu after the Japanese sun goddess.
- These ultra-high energy particle passes atmosphere smoothly without any deflection by magnetic fields.
- **Spotted by** - Telescope Array observatory in Utah, a collaboration of the United States, Japan, Korea, Russia, and Belgium to observe cosmic rays.
- **Energy** - It exceeds 240 exa-electron volts (EeV), millions of times more powerful than the particles produced by the Large Hadron Collider, which is the most powerful accelerator ever built.
- It is 2nd only to the 'Oh-My-God' particle, another high-energy cosmic ray at 320 EeV

that was detected in 1991.

- Amaterasu have emerged from the Local Void, an empty area of space bordering the Milky Way galaxy.

Oh My God Particle

- The Oh-My-God particle detected over Utah in 1991 was probably a proton traveling at 0.999 (and add another 20 x 9s after that) of the speed of light.
- Its kinetic energy was estimated at 3×10^{20} electron volts (eV) and it would have had the collision energy of 7.5×10^{14} eV when it hit an atmospheric particle.
- This is still about 50 times the collision energy we expect the Large Hadron Collider (LHC) will be able to generate at full power.

God Particle

- It is also known as Higgs Boson Particles.
- The Higgs boson is the fundamental particle associated with the Higgs field, a field that gives mass to other fundamental particles such as electrons and quarks.
- **Mass** - The Higgs boson has a mass of 125 billion electron volts— meaning it is 130 times more massive than a proton.
- **Charge** - The Higgs boson is also charge less.
- **Zero spin**- Higgs boson, has an intrinsic angular momentum, or spin, of 0.
- The Higgs Boson is the only elementary particle with no spin.

Cosmic Rays

- Cosmic rays are sub-atomic particles, being mainly protons (hydrogen nuclei) and occasionally helium or heavier atomic nuclei and very occasionally electrons.
- Cosmic ray particles are very energetic as a result of them having a substantial velocity and hence a substantial momentum.

References

1. [WION | God Particle, Oh My God Particle, Sun Goddess Particle](#)
2. [The Indian Express | Sun goddess particle collides into Earth](#)

Tax Inspectors without Borders (TIWB)

Tax Inspectors without Borders (TIWB) programme launched in partnership with India.

- TIWB is a capacity-building programme, helping countries in building tax audit capacity.
- TIWB is a joint initiative of the Organisation for Economic Co-operation and Development (**OECD**) and the United Nations Development Programme (**UNDP**).
- TIWB Programmes complement the efforts of the international community to strengthen co-operation on tax matters and contribute to the domestic resource mobilisation efforts of developing countries.

- It deploys qualified experts in developing countries and help build tax capacity in the areas of audit, criminal tax investigations and the effective use of automatically exchanged information.
- TIWB launched a programme in Saint Lucia in which India has been chosen as the Partner Administration and will provide Tax Experts for this programme.
- The focus of the programme will be on effective use of automatic exchange of information under the Common Reporting Standard (CRS) framework.

This programme is the 7th TIWB programme, which India has supported by providing Tax Experts.

References

1. [PIB | TIWB Programme](#)
2. [TIWB | About TIWB](#)

Bodhicitta

Dalai Lama arrives at Siliguri's Sed-Gyued Monastery to deliver teachings on bodhicitta to his devotees.

Mahayana

- One of the two major traditions of Buddhism, now practiced in a variety of forms especially in China, Tibet, Japan, and Korea.
- It emerged around the 1st century CE.
- It is typically concerned with other-oriented spiritual practice as embodied in the ideal of the bodhisattva.
- In Mahayana practice, compassion is both a practice and a result.
- Compassion is used to transform emotional reactivity into attention, and that attention in turn is used to awaken to the nature of mind, emptiness.
- However, then that same emptiness becomes the basis for a different kind of compassion.

Bodhicitta

- This interweaving of emptiness and compassion is expressed in the Sanskrit word Bodhicitta, for which an accepted and widely used English translation is awakening mind.
- Compassion is the stepping-stone into bodhicitta (awakening mind), the central theme of Mahayana.
- Many people regard bodhicitta as simply a form of altruism.
- This form of compassion seeks to alleviate suffering and pain as much as possible and takes expression in society as kindness, care, and justice.
- Bodhicitta permeates every aspect of Mahayana teaching and practice.

In the Mahayana tradition, the major form of Buddhism in Tibet, China, Korea, and Japan, it was thought that anyone who made the aspiration to awakening (bodhicitta).

Bodhisattva

- Bodhisattva, in Buddhism, one who seeks awakening (Bodhi), hence, an individual on the path to becoming a Buddha.
- In Theravada, the major form of Buddhism in Sri Lanka, the term bodhisattva was used primarily to refer to the Buddha Shakyamuni (as Gautama Siddhartha is known) in his former lives.
- The stories of his lives, the Jatakas, portray the efforts of the bodhisattva to cultivate the qualities, including morality, self-sacrifice, and wisdom, which will define him as a Buddha.

Sed-Gyued Monastery

- It is located in Siliguri, West Bengal.
- It is the main seat of the Sed-Gyued lineage or whispered lineage.
- Whispered lineage is a secret teaching transmitted only to the closest disciple through direct communication with their root teacher or meditational deity.
- The purpose of Sed-Gyued Monastery is to preserve and promote the unique tantric study, practice, experiences and culture of this lineage, as well as the subsequent lineage holders and Sed-Gyued masters.

References

[The Hindu | Dalai Lama arrives at Siliguri's Sed-Gyued Monastery](#)

Other Important News

Chandrayaan 4

- Chandrayaan-4 is a ***lunar sample-return mission*** planned by the ***Indian Space Research Organisation (ISRO)***.
- It will be the 4th mission in the Chandrayaan program.
- The mission is expected to launch in 4 years.

Bharatiya Antariksh Station

- Bharatiya Antariksh Station, ***1st module of India's planned space station*** will be launched by 2028.
- It will be operated by ***Indian Space Research Organisation (ISRO)***.

Kashi Tamil Sangamam 2.0

- The 2nd edition of the Kasi Tamil Sangam will be happened at Kasi, delegates from Tamil Nadu were set to participate.
- The programme aims to revive the bonds between ***Varanasi and Tamil Nadu*** through cultural exchange and knowledge sharing.
- The ***Union Ministry of Education, IIT Madras, and Banaras Hindu University*** will be involved in the programme.
- Participants have been divided into 7 groups, each named after a 'sacred' Rivers such as Ganga, Yamuna, Saraswati, Sindhu, Narmada, Godavari and Cauvery.

Naya Savera Scheme

- The Naya Savera scheme, also known as the ***Free Coaching and Allied scheme***, was a program that provided special coaching to students from 6 minority communities.
- **6 minority communities** - Sikh, Jain, Muslim, Christian, Buddhist and Parsi.

Flying Wing Technology Demonstrator

- Defence Research and Development Organisation (DRDO) has successfully carried out a flight trial of Autonomous Flying Wing Technology Demonstrator recently.
- Flying Wing Technology Demonstrator is an indigenous ***high-speed flying-wing Unmanned Aerial Vehicle (UAV)***.

Joynagar moa

- Makers of Joynagar moa arm themselves with barcodes, QR code recently.
- Jaynagarer Moa is a ***seasonal Bengali sweetmeat delicacy*** made from date palm jaggery and Kanakchur khoi.
- Jaynagarer Moa is only available during winter (November to January) season in Bengal.
- It received the ***Geographical Indication (GI)*** tag in 2015.

Electron rocket

- Rocket Lab launched its Electron rocket from its launch site on the Mahia Peninsula, New Zealand recently.
- The Electron is a two-stage, partially reusable rocket designed to launch small satellites into low Earth orbit.
- It is the world's most frequently launched small rocket.

Krutrim

- Krutrim Si Designs, the artificial intelligence (AI) venture of Ola co-founder recently unveiled Krutrim.
- Krutrim is India's own AI' model & a family of Large Language Models, including Krutrim base and Krutrim Pro.
- Krutrim has joined the increasingly-competitive AI race dominated by players such as Google, Microsoft and OpenAI.

Hydrogen cyanide in Enceladus

- Scientists have found evidence of a key ingredient for life and a powerful source of energy that could fuel it on ***Saturn's icy moon Enceladus***.
- They analysed data from NASA's Cassini mission and found confirmation that ***hydrogen cyanide***, a key life molecule, exists on the icy moon.

Yak (*Bos grunniens*)

- A recent study found that the oldest record ever of a yak being domesticated by humans has been found in Bangga, a settlement in Tibetan Autonomous Region in China.
- Yaks are large, sturdy mammals native to ***Tibet and China***, but can also be found in Mongolia, Nepal, and Central Asia.
- **Habitat** - Alpine meadow, alpine steppe, and desert steppe & they are herbivorous in nature.
- **Types** - Domesticated Yak & Wild Yak.
- **Conservation - IUCN** - Domesticated yaks (*Bos grunniens*) are not listed as endangered but the wild subspecies of yak (*B. grunniens mutus*) are ***endangered***.

