

## 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  $3 \times 10^{20}$  electron volts (eV) and it would have had the collision energy of  $7.5 \times 10^{14}$  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 7<sup>th</sup> 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 4<sup>th</sup> mission in the Chandrayaan program.
- The mission is expected to launch in 4 years.

#### **Bharatiya Antariksh Station**

- Bharatiya Antariksh Station, ***1<sup>st</sup> 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 2<sup>nd</sup> 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***.

