

**GOVERNANCE****Foreign Contribution (Regulation) Amendment Bill, 2020.**

The Foreign Contribution (Regulation) Amendment Bill, 2020 was passed by the Parliament. The Bill amends the Foreign Contribution (Regulation) Act, 2010.

**Key Points****Provisions of the Bill:**

- Prohibition to accept foreign contribution: The Bill bars public servants from receiving foreign contributions.
- Public servant includes any person who is in service or pay of the government, or remunerated by the government for the performance of any public duty.
- The FCRA 2010 also bars certain persons to accept any foreign contribution. These include: election candidates, editor or publisher of a newspaper, judges, government servants, members of any legislature, and political parties, among others.
- Transfer of foreign contribution: The Bill prohibits the transfer of foreign contribution to any other person.
- The term 'person' under the Bill includes an individual, an association, or a registered company.
- The FCRA 2010 allows transfer of foreign contributions to persons registered to accept foreign contributions.

**Aadhaar for registration:** The Bill makes Aadhaar number mandatory for all office bearers, directors or key functionaries of a person receiving foreign contribution, as an identification document.

- In case of a foreigner, a copy of the passport or the Overseas Citizen of India card for identification is required.

**FCRA account:** The Bill states that foreign contribution must be received only in an account designated by the bank as FCRA account in such branches of the State Bank of India, New Delhi. No funds other than the foreign contribution should be received or deposited in this account.

- The person may open another FCRA account in any scheduled bank of their choice for keeping or utilising the received contribution.

**Restriction in utilisation of foreign contribution:** The Bill allows the government to restrict usage of unutilised foreign contribution. This may be done if, based on an inquiry the government believes that such person has contravened provisions of the FCRA.

**Reduction in use of foreign contribution for administrative purposes:** The Bill proposes that not more than 20% of the total foreign funds received could be defrayed for administrative expenses. In FCRA 2010 the limit was 50%.

**Surrender of certificate:** The Bill allows the central government to permit a person to surrender their registration certificate.

- The government may do so if, post an inquiry, it is satisfied that such person has not violated any provisions of the FCRA 2010, and the management of its foreign contribution has been vested in an authority prescribed by the government.

**Purpose for Amendment:**

- The annual inflow of foreign contribution has almost doubled between the years 2010 and 2019, but many recipients of foreign contribution have not utilised the same for the purpose for which they were registered or granted prior permission under the FCRA 2010.
- Recently, the Union Home Ministry has suspended licenses of the six (NGOs) who were alleged to have used foreign contributions for religious conversion.
- Many persons were not adhering to statutory compliances such as submission of annual returns and maintenance of proper accounts.
- Such a situation could have adversely affected the internal security of the country.
- The new Bill aims to enhance transparency and accountability in the receipt and utilisation of foreign contributions and facilitating the genuine non-governmental organisations or associations who are working for the welfare of society.

**Issues Involved**

- The Bill would impact the livelihoods of workers associated with the small Non-Governmental Organisations (NGOs) and lead to the killing of the entire social sector as caps on administrative expenses would make it impossible for even the bigger NGOs to perform.
- It will severely impact collaborative research in critical fields in India as organisations receiving foreign funds will no longer be able to transfer them to small NGOs working at the grassroots level.

- The government aims to control the NGOs which engage in dubious activities. However, by failing to recognise the diversity of NGOs, which include world-class organisations that are recognised globally, will crush their competitiveness and creativity.
- It is also incompatible with international law.
- The United Nations Human Rights Council resolution on protecting human rights defenders says that no law should criminalize or delegitimize activities in defence of human rights on account of the origin of funding.
- The Bill also fails to comply with India's international legal obligations and constitutional provisions to respect and protect the rights to freedom of association, expression, and freedom of assembly.
- The amendments also assume that NGOs that are receiving foreign funds are guilty unless proven otherwise.

**Foreign Contribution (Regulation) Act (FCRA), 2010**

- Foreign funding of persons in India is regulated under FCRA act and is implemented by the Ministry of Home Affairs.
- Individuals are permitted to accept foreign contributions without permission of MHA. However, the monetary limit for acceptance of such foreign contributions shall be less than Rs. 25,000.
- The Act ensures that the recipients of foreign contributions adhere to the stated purpose for which such contribution has been obtained.
- Under the Act, organisations are required to register themselves every five years.

**Way Forward**

- NGOs are helpful in implementing government schemes at the grassroots. They fill the gaps, where the government fails to do their jobs.
- The government must stick to the ancient Indian ethos of Vasudhaiva Kutumbakam as the framework for its global engagement and should not act with vendetta against the NGOs who criticize its working.
- Seamless sharing of ideas and resources across national boundaries is essential to the functioning of a global community, and should not be discouraged unless there is reason to believe the funds are being used to aid illegal activities.

**SCIENCE AND TECHNOLOGY****Data Sonification Project:NASA**

The National Aeronautics and Space Administration's (NASA) Chandra X-Ray Center (CXC) has unveiled a new 'sonification' project that transforms data from astronomical images into audio.

**Key Points****Data Sonification:**

- It refers to the use of sound values to represent real data.
- It is the auditory version of data visualisation.
- In NASA's Chandra (sonification) project, for instance, data is represented using a number of musical notes.
- The birth of a star, a cloud of dust or even a black hole can be 'heard' as a high- or low-pitched sound.

**Process of images into sound translation:**

- Telescopes in space collect digital data, in the form of ones and zeroes (binary), before converting them into images.
- The images are visual representations of light and radiation of different wavelengths in space, that can't be seen by the human eye.
- The Chandra project has created a celestial concert by translating the same data into sound. Pitch and volume are used to denote the brightness and position of a celestial object or phenomenon.
- Pitch is related to frequency of sound waves. Changing the number of vibrations per second changes the pitch.
- Volume, or loudness, is related to the strength, intensity, pressure, or power of the sound. Bigger/amplified vibrations result in bigger/louder sounds.
- The data has been collected by NASA's Chandra X-Ray Observatory, Hubble Space Telescope and Spitzer Space Telescope.
- Thus far, Project Chandra has released three examples - the Galactic Centre, Cassiopeia A, and Pillars of Creation Nebula.

**The Galactic Centre**

- It is the rotational centre of the Milky Way galaxy.
- It comprises a collection of celestial objects —
- Neutron and white dwarf stars,
- Clouds of dust and gas,
- A supermassive black hole called Sagittarius A\*(weighs four million times the mass of the sun).
- Cassiopeia A
- Located around 11,000 light years away from Earth in the northern Cassiopeia constellation.
- Cassiopeia A is a well-known remnant of a once-massive star that was destroyed by a supernova explosion around 325 years ago.

**The Pillars of Creation**

- The iconic Pillars of Creation is located in the centre of the Eagle Nebula (it is a constellation of stars), which is also known as Messier 16.

**Significance of Data Sonification:**

- The sonification project was led by the Chandra X-ray Center in collaboration with NASA's Universe of Learning Program (UoL), which aims to "incorporate NASA science content into the learning environment effectively and efficiently for learners of all ages".
- Over the years, NASA has been working towards making data about space accessible for a larger audience.
- Sonification projects like this allow audiences - including visually-impaired communities - to experience space through data.

**ENVIRONMENT AND DIVERSITY****Destruction of the Leuser Ecosystem**

Recently, an investigation by the global watchdog Rainforest Action Network (RAN) has shown that various food, cosmetics and finance companies have links with companies implicated in the destruction of the Leuser Ecosystem, a forest area on the island of Sumatra, Indonesia.

**Key Points**

- Leuser Ecosystem is among the most ancient and life-rich ecosystems ever documented by science and is a world-class hotspot of biodiversity and is widely acknowledged to be among the most important areas of intact rainforest left in all of Southeast Asia.
- The ecosystem has been designated a UNESCO World Heritage Site.

**Location and Topography:**

- The ecosystem stretches across the province of Aceh and North Sumatra, Indonesia.
- It spans 2.6 million hectares, almost three times the size of Yellowstone National Park, USA.
- Its diverse landscape includes lowland and montane rainforests and over 185,000 hectares of carbon-rich peatlands.
- Montane rainforests, also called cloud forests, are vegetation of tropical mountainous regions in which the rainfall is often heavy and persistent condensation occurs because of cooling of moisture-laden air currents deflected upward by the mountains.

**Significance:****Wildlife and Biodiversity:**

- It is among the most important forests left in Southeast Asia, particularly because it is the last place of sufficient size and quality to support viable populations of rare species like Sumatran tigers, orangutans, rhinos, elephants, clouded leopards and sun bears.
- 75% of the world's remaining population of the Sumatran orangutan is found in the ecosystem.

**For Humans:**

- The majority of Aceh's people, between 70-75%, live on the coastal plains of Sumatra, where many communities have established wet rice cultivation.
- The livelihoods and food supply for millions of people rely heavily on the natural services, particularly the water supplies, that the Leuser Ecosystem provides.

**Climate Change:**

- It plays an outsize role regulating the global climate by storing massive amounts of carbon in its peatlands and standing forests.
- Peatlands are wet, carbon-rich areas that have formed through thousands of years of undecomposed leaf litter and organic material accumulation.
- When these areas are drained and the peat is exposed to air, it begins to oxidize and releases large amounts of carbon dioxide emissions into the atmosphere.

**Threats:**

- Industrial development for palm oil, pulp and paper plantations and mining continues to threaten the entire ecosystem.
- The fires from this widespread destruction have caused major haze pollution from Singapore to Jakarta, resulting in huge economic losses and public health issues.
- Sumatra's unique species are dying out with their negligible populations left and few on the verge of extinction.

**Solutions:**

- There has been enormous progress made in raising international understanding of the importance of protecting the forests and in pressuring the major corporate players involved to accept responsibility and begin to take action.
- However, the forests are still falling and the ecosystem is still shrinking. Corporate policies and government regulations are only as good as their follow through.
- Strong local partners and international support are needed to reverse accelerating threats facing Leuser's core forests and wildlife habitats.
- Rigorous monitoring, enforcement, and delivering incentives that improve practices in the palm oil sector is key to stopping more efforts to cut down the region's remaining rainforests.

**Sumatran Orangutan**

- Scientific Name: Pongo abelii.
- These are almost exclusively arboreal which means they live among the trees of tropical rainforests.
- Habitat: Tropical and Subtropical Moist Broadleaf Forests.
- Historically, the Sumatran orangutan was distributed over the entire island of Sumatra and further south into Java. The species' range is now restricted to the north of the island with a majority in the provinces of North Sumatra and Aceh.

**Threats:**

- Habitat loss due to forest fire and conversion of forests to oil palm plantations and other agricultural developments.

**Conservation:**

- IUCN Red List: Critically Endangered.
- The World Wildlife Fund for Nature (WWF) works with TRAFFIC, the global wildlife trade monitoring network, to help governments enforce restrictions on the trade in live animals and orangutan products.

**Way Forward**

- A balance must now be found between rebuilding the economy and equitable development while protecting human rights and the ecosystem services that local communities rely on for their livelihoods.

**INDIAN ECONOMY****Non-Utilisation of Cesses and Levies**

- Recently, the Comptroller and Auditor General of India (CAG) told Parliament that the Centre has only transferred 60% of the proceeds from cess/levies in Fiscal Year 2018-19 to the relevant Reserve Funds and retained the balance in the Consolidated Fund of India (CFI).

**Key Points****➤ Non-utilisation of Funds:**

- The Centre had collected Rs. 2.75 lakh crore from 35 cesses/levies in FY19. However, it has only transferred Rs. 1.64 lakh crore and retained Rs. 1.1 lakh crore in the CFI.
- Rs. 40,000 crore of GST Compensation Cess was not credited to the related Reserve Fund.
- Rs. 10,157 crore of the Road and Infrastructure Cess collected was neither transferred to the related Reserve Fund nor utilised for the purpose for which the cess was collected.
- Rs. 2,123 crore of Universal Service levy and Rs. 79 crore collected as National Mineral Trust levy was not transferred to the relevant Reserve Funds.
- Social Welfare Surcharge on Customs amounting to Rs. 8,871 crore was levied but no dedicated fund for the same was envisaged.
- Non-creation/non operation of Reserve Funds makes it difficult to ensure that cesses and levies have been utilised for the specific purposes intended by the Parliament.

- In addition, Rs. 1,24,399 crore, representing the Cess on crude oil collected between 2010-20, had not been transferred to the Oil Industry Development Board (designated Reserve Fund) and was retained in CFI.

**Mechanism of Utilisation:**

- Cesses and levies collected are required to be first transferred to designated Reserve Funds and utilised for the specific purposes intended by Parliament.
- Funds collected through Central taxes along with cesses and other levies go to the CFI.
- Taxes and surcharges in CFI are parked in a divisible pool and 42% of the total is given to States as devolution.

**Consolidated Fund of India**

- It was constituted under Article 266 (1) of the Constitution of India.

**It is made up of:**

- All revenues received by the Centre by way of taxes (Income Tax, Central Excise, Customs and other receipts) and all non-tax revenues.
- All loans raised by the Centre by issue of Public notifications, treasury bills (internal debt) and from foreign governments and international institutions (external debt).
- All government expenditures are incurred from this fund (except exceptional items which are met from the Contingency Fund or the Public Account) and no amount can be withdrawn from the Fund without authorization from the Parliament.
- The CAG audits the fund and reports to the relevant legislatures on the management.

**Cess**

- Cess is a form of tax levied over and above the base tax liability of a taxpayer.
- Cess is resorted to only when there is a need to meet the particular expenditure for public welfare.
- Cess is not a permanent source of revenue for the government, and it is discontinued when the purpose of levying it is fulfilled.
- It can be levied on both indirect and direct taxes.

**Examples :**

- Swachh Bharat Cess: Introduced in 2015, a 0.5% Swachh Bharat cess was imposed to fund a national campaign for clearing the roads, streets and the infrastructure of India.
- Infrastructure Cess: Announced in Union Budget 2016, this cess was charged on the production of vehicles.

**Surcharge**

- A surcharge is an extra fee, charge, or tax that is added on to the cost of a good or service, beyond the initially quoted price.
- It is added to an existing tax and is not included in the stated price of the good or service.
- It is levied for extra services or to defray the cost of increased commodity pricing.

**IMPORTANT FACTS FOR PRELIM****PUSA Decomposer**

Recently, the scientists have developed a bio-decomposer technique called 'PUSA Decomposers' for converting crop stubble into compost.

Delhi and many other North Indian States are covered with smoke during winters due to stubble burning in the neighbouring States by the farmers.

**Key Points****PUSA Decomposers:**

- The decomposers are in the form of capsules made by extracting fungi strains that help the paddy straw to decompose at a much faster rate than usual.
- The fungi helps to produce the essential enzymes for the degradation process.

**Decomposer Mixture:**

- It involves making a liquid formulation using decomposer capsules and fermenting it over 8-10 days and then spraying the mixture on fields with crop stubble to ensure speedy bio-decomposition of the stubble.
- The farmers can prepare 25 litre of liquid mixture with 4 capsules, jaggery and chickpea flour. The mixture is sufficient to cover 1 hectare of land.

**Time to Decompose:**

- It takes around 20 days for the degradation process to be completed.

- Under usual circumstances, shredded and watered paddy straw, which is mixed with soil, takes at least 45 days to decompose.
- It does not give enough time for farmers to prepare fields for the wheat crop on time.

**Benefits:**

- The decomposer improves the fertility and productivity of the soil as the stubble works as manure and compost for the crops and lesser fertiliser consumption is required in the future.
- The soil loses its richness due to stubble burning and it also destroys the useful bacteria and fungi in the soil, apart from causing harm to the environment.
- It is an efficient and effective, cheaper, doable and practical technique to stop stubble burning.
- It is an eco-friendly and environmentally useful technology and will contribute to achieve Swachh Bharat Mission.

**DAILY ANSWER WRITING PRACTICE**

**Qns. What do you understand by the phenomenon of the inversion of temperature? Examine how does it impact the atmosphere and the weather. (150 words)**

**Ans.**

Temperature inversion is a reversal of the normal behavior of temperature in the troposphere. Under this meteorological phenomenon a layer of warm air lies over the cold air layer.

It is caused in static atmospheric conditions while some times, it occurs due to horizontal or vertical movement of air.

Temperature inversion is usually of short duration but quite common nonetheless

**Favourable conditions for temperature inversion**

- **Long winter nights:** Loss of heat by terrestrial radiation from the ground surface during night may exceed the amount of incoming solar radiation.
- **Cloudless and clear sky:** Loss of heat through terrestrial radiation proceeds more rapidly without any obstruction.
- **Dry air near the ground surface:** It limits the absorption of the radiated heat from the Earth's surface.
- **Slow movement of air:** It results in no transfer or mixing of heat in the lower layers of the atmosphere.
- **Snow covered ground surface:** It results in maximum loss of heat through reflection of incoming solar radiation.

**Effects on atmosphere and weather**

Temperature inversion determines the precipitation, forms of clouds, and also causes frost due to condensation of warm air due to its cooling.

- **Dust particles hanging in the air:** Due to inversion of temperature, air pollutants such as dust particles and smoke do not disperse on the surface.
- **Stops the movement of air:** It causes the stability of the atmosphere that stops the downward and upward movement of air.
- **Less rainfall:** Convection clouds can not move high upwards so there is less rainfall and no showers. So, it causes a problem for agricultural productivity.
- **Lower visibility:** Fog is formed due to the situation of warm air above and cold air below, and hence visibility is reduced which causes disturbance in transportation.
- **Thunderstorms and tornadoes:** Intense thunderstorms and tornadoes are also associated with inversion of temperature because of the intense energy that is released after an inversion blocks an area's normal convection patterns.
- Diurnal variations in temperature tend to be very small.

**Conclusion**

To conclude, temperature inversion might be a desirable phenomena when it comes to cooler air temperatures, and comfort after an extremely hot and oppressive day, the after-effects on air quality are certainly not desirable.

**DAILY QUIZ**

1. Which of the following statements about Dr. Har Gobind Khorana is/are correct?
  1. He was the first Indian-born Nobel Prize winner in Medicine
  2. The award was given for discovering that the order of nucleotides in DNA determines which amino acids are built.
  3. He is credited with making the first synthetic genes by cutting and pasting different bits of DNA together.Select the correct answer using the code given below:
  - a) 1 and 2
  - b) 2 and 3**
  - c) 1 and 3
  - d) All the above
2. Millimeter waves are broadcast at frequencies between:
  - a) 10 to 100 gigahertz
  - b) 20 to 200 gigahertz
  - c) 30 to 300 gigahertz**
  - d) 40 to 400 gigahertz
3. C.V. Raman, was the first Indian Scientist to receive a Nobel Price. He published his theory on the Raman Effect in 1928. Raman Effect is associated with which of the following?
  - a) Scattering of light**
  - b) Total internal reflection
  - c) Atomic structure
  - d) Semi-conductors
4. Consider the following statements regarding microwave ovens:
  1. Instead of generating heat that warms the food from outside, the microwaves penetrate food and create the heat within.
  2. Microwaves are electromagnetic waves that are created by a component called 'Megatron' in the oven.
  3. Microwaves are known to destroy the nutrients in the food.Which of the above statements is/are correct?
  - a) 1 and 2**
  - b) 2 and 3
  - c) 1 and 3
  - d) All of the above
5. Consider the following statements with respect to Dispersion of light:
  1. The sequence VIBGYOR is in the order of increasing frequency.
  2. The red light used in the traffic light is visible even in dense fog, because it has lowest frequency in the VIBGYOR colour spectrum.Which of the above statements is/are correct?
  - a) 1 only
  - b) 2 only**
  - c) Both 1 and 2
  - d) Neither 1 nor 2