

Eco-Sensitive Zone

❖ Context

- Recently, the **Supreme Court** indicated it may consider taking up **Kerala's review** of the Supreme Court's judgment to have a **one-km eco-sensitive zone** ringing protected forests, national parks and wildlife sanctuaries across the country.

Eco-Sensitive Zone area

WHAT IS ESZ AREA

Creates a buffer zone around protected areas

Places restriction on construction, industries



Restricts pollution, extraction of surface water

❖ Key Highlights

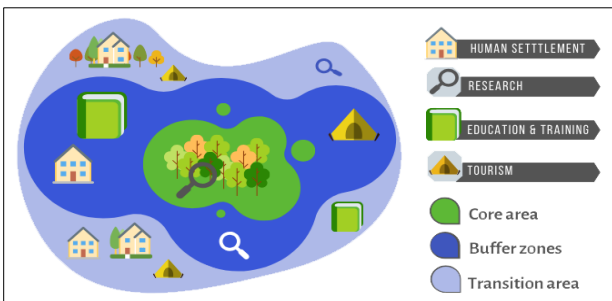
- The review by Kerala has argued that the **SC judgment would-**
 - Lead to **massive displacement of people** living in the vicinity of forest areas.
 - The judgment would **strip thousands of Scheduled Tribe families and forest dwellers** of their vested rights under the law.

❖ Supreme Court Directions

- In case any national park or protected forest already has a **buffer zone extending beyond one km**, that would prevail.
- Mining** within the national parks and wildlife sanctuaries shall **not be permitted**.
- The **Principal Chief Conservator of Forests and Home Secretaries of States** responsible for the compliance of the judgment.

❖ About Eco-Sensitive Zones (ESZ)

- As per the **National Wildlife Action Plan (2002-2016)**, land within 10 km of the boundaries of national parks and wildlife sanctuaries is to be **notified as eco-fragile zones or Eco-Sensitive Zones (ESZ)**.



- While the 10-km rule is implemented as a general principle, the **extent of its application can vary**.

- Areas beyond 10-km can also be notified by the Union government as ESZs, if they hold larger ecologically important "sensitive corridors."

- The **Environment (Protection) Act, 1986** does **not mention the word "Eco-Sensitive Zones"**.

❖ Significance of ESZ

- ESZs are created as "**shock absorbers**" for the protected areas.

Features of Eco-Sensitive Zones	Biologically and ecologically rich, valuable and unique
	Largely irreplaceable if destroyed
	High value to human societies
	Maintain the ecological stability of the area
	Conserve biological diversity

- They help **minimize the negative impact** on the "fragile ecosystems" by certain human activities taking place nearby.

- These zones would act as a **transition zone** from areas of high protection to those involving lesser protection.

- ESZs are **not meant to hamper the daily activities of people** living in the vicinity.

- They are meant to **guard the protected areas** and "refine the environment around them".

- Prohibited Activities** : Commercial mining, saw mills, commercial use of wood, etc.

- Regulated Activities** : Felling of trees etc.

- Permitted Activities** : Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, among others.

Barium in Exoplanets

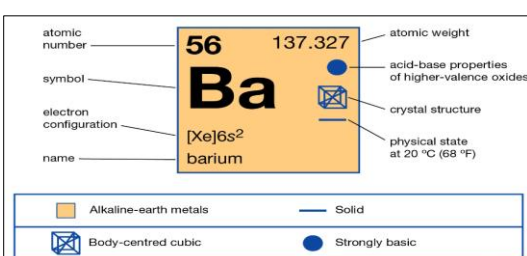
❖ Context

- Recently scientists have detected barium in the upper atmosphere of two giant exoplanets for the first time.
- These exoplanets are two ultra-hot Jupiters - **WASP-76b** and **WASP-121b** - which orbit their host stars WASP 76 and WASP 121.



❖ About Barium

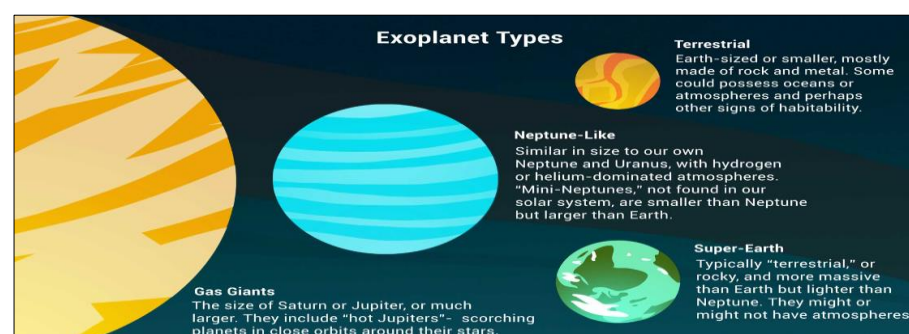
- Barium** is a chemical element with the symbol **Ba** and atomic number 56. Barium, two and half times heavier than iron, is the heaviest-ever detected element.



- The presence of heavy elements at high altitudes in the atmospheres of ultra-hot Jupiters indicates that some unique atmospheric dynamics are at play.

- This discovery of barium is surprising because heavy elements like barium are expected to quickly fall into the lower layers of the atmosphere, given these exoplanets have high gravity.

- Barium salts are used in fireworks to generate green lights.
- Significance:** The researchers hope that their study encourages more researchers to explain the presence of these elements in the upper layers of the atmosphere.



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Living Planet Report (LPR) 2022



❖ Context

- Recently, the LPR 2022 was released by World Wide Fund for Nature (WWF).

❖ Key Highlights of The Report

WHAT IS THE LIVING PLANET REPORT?

The Living Planet Report is produced every two years by WWF, with input from leading experts and other organisations. It is a health-check for the planet, showing how the natural world is doing, what threats it faces and what this means for us humans. The conclusions and recommendations in the LPR are based on an analysis of a great many measures of biodiversity, one of the biggest being the Living Planet Index.

- There has been a **69% decline** in the global wildlife population in the last **50 years**.
- The decline of vertebrate wildlife population is mainly **seen in tropical regions of the world**.
- **The Highest Decline :**
 - Latin America and the Caribbean region (94%) > Africa (66%) > Asia Pacific (55%).
- **Freshwater species** populations globally reduced by **83 per cent**.
- **Mangroves** continue to be lost to aquaculture, agriculture and coastal development at a rate of **0.13% per year**.
- **WWF identified six key threats to biodiversity** - Agriculture, Hunting, Logging, Pollution, Invasive species & Climate Change.

❖ About The Report

- This is a **biennial report**.
- It is a joint endeavor of the **WWF & Zoological Society of London**.
- The report gives **average of changes in population sizes** of different species of animals & not of the number of creatures lost.
- The report **analyzed almost 32,000 populations of 5,230 species**.

WHAT IS THE LIVING PLANET INDEX?

Experts all over the world have been measuring changes over time in the populations of thousands of animal species, from counting the number of wildebeest in the savannah, to trapping the movement of tapirs on cameras in the Amazon rainforest. Scientists bring these data together into a database and analyse it to come up with the Living Planet Index (LPI).

The LPI only uses data for species that have been monitored for at least 2 years and recorded from the 1970s onwards. Even so, the LPI is currently able to track what is happening for over 21,000 populations of mammals, birds, reptiles, amphibians and fish. The trends that scientists find in these data help them to draw conclusions about the health of the wider ecosystems.

❖ About WWF

- It is an **independent conservation organization** active in nearly 100 countries.
- **Founded in 1961**.
- **Headquartered** at Gland, Switzerland.
- **Aim :**
 - Conserving the world's biological diversity.
 - Ensuring that the use of renewable natural resources is sustainable.
 - Promoting the reduction of pollution and wasteful consumption.
- **Funding :** 65% of funding from individuals and bequests.
 - 17% from government sources (such as the World Bank, DFID, and USAID).
 - 8% from corporations in 2020.

Seabuckthorn

❖ Context

- Recently in Ladakh, India Post has released a special cover on Seabuckthorn as Leh product under One District, One Product theme for promotion.



❖ About Seabuckthorn

- Heaven's Fruit, the wonder berry from the Himalayas- wild seabuckthorn is known as nature's most balanced fruit.
- Sea buckthorn thrives in the harsh conditions and high altitudes of the Himalayas. Sea buckthorn is a very beautiful, golden & orange berry; the roots of sea buckthorn bushes go down 200 feet deep into the ground, in order to gather nutrition for survival in the harsh climate of the Himalayas.



- Seabuckthorn contains more than 190 biologically active compounds.
- Extensive research findings are being published regularly from various parts of the world such as USA, Russia, Germany and India and this is generating a great deal of awareness regarding the immense benefits of seabuckthorn.

❖ One District, One Product Scheme (ODOP)

- The scheme adopts the ODOP approach to reap the benefit of scale in terms of procurement of inputs, availing common services & marketing of products.
- ODOP for the scheme will provide the framework for value chain development and alignment of support infrastructure.
- There may be more than one cluster of ODOP products in one district.
- There may be a cluster of ODOP products consisting of more than one adjacent district in a State.
- The States would identify the food product for a district, keeping in perspective the focus of the scheme on perishables.
- A baseline study would be carried out by the State Government.
- The ODOP product could be a perishable Agri produce, cereal-based product, or a food product widely produced in a district and their allied sectors.

Paraliparsi Selti

❖ Context

- Recently a new Deep-Sea Snailfish Species has been discovered in Atacama Trench.



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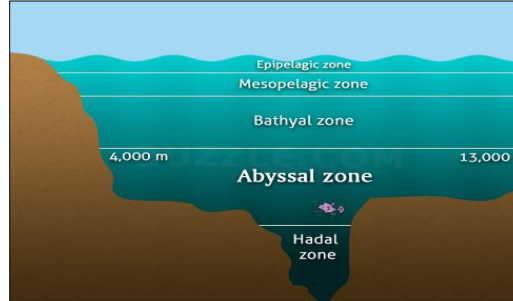


❖ Key Highlights

- It belongs to genus Paraliparis. Species of this genus is mainly found in Southern Ocean of the Antarctic and rarely found deeper than 2,000 meters.
- This is the first time that the Paraliparis genus was recorded in the hadal zone.
- The name Paraliparis selti means blue in the Kunza language of the indigenous people living in Atacama Desert.
- The new species has evolved from the cold-adapted species of the Southern Ocean.
- Its discovery opens new questions related to the connection between cold temperature and high pressure adaptation.
- It gives insights into how and when life went into the deep waters.

❖ Hadal Zone

- The **hadal zone**, also known as the **hadopelagic zone**, is the deepest region of the ocean, lying within oceanic trenches.
- The hadal zone ranges from around 6 to 11 km (3.7 to 6.8 mi; 20,000 to 36,000 ft) below sea level, and exists in long, narrow, topographic V-shaped depressions.
- The cumulative area occupied by the 46 individual hadal habitats worldwide is less than 0.25% of the world's seafloor, yet trenches account for over 40% of the ocean's depth range.
- Most hadal habitat is found in the Pacific Ocean.



Carbon Dating

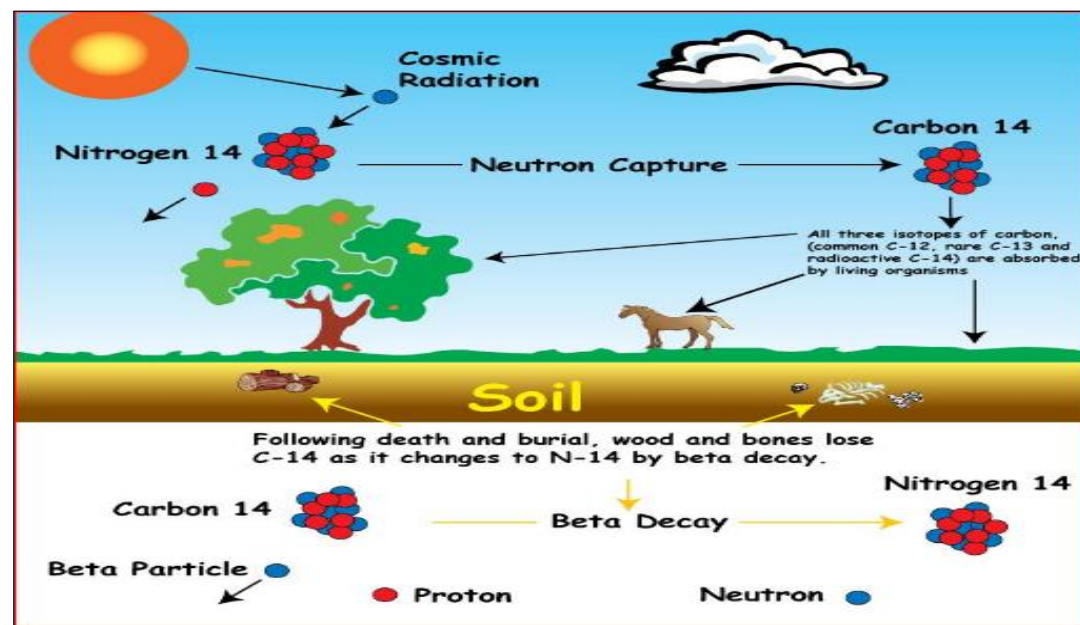
❖ Context

- A Varanasi district court recently rejected the plea for carbon dating of a "shivling" found within the premises of the Gyanvapi mosque.

❖ What is carbon dating?

- **Radiocarbon dating** (also referred to as **carbon dating** or **carbon-14 dating**) is a method for determining the age of an object containing organic material by using the properties of radiocarbon, a radioactive isotope of carbon.
- It is based on the fact that radiocarbon (^{14}C) is constantly being created in the Earth's atmosphere by the interaction of cosmic rays with atmospheric nitrogen.
- The resulting ^{14}C combines with atmospheric oxygen to form radioactive carbon dioxide, which is incorporated into plants by photosynthesis; animals then acquire ^{14}C by eating the plants.
- When the animal or plant dies, it stops exchanging carbon with its environment, and thereafter the amount of ^{14}C it contains begins to decrease as the ^{14}C undergoes radioactive decay.

- The older a sample is, the less ^{14}C there is to be detected, and because the half-life of ^{14}C (the period of time after which half of a given sample will have decayed) is about 5,730 years,
- **Limitations:** The oldest dates that can be reliably measured by this process date to approximately 50,000 years ago.



News in Between the Lines

Adderall



❖ Context

- Recently, The US Food and Drug Administration (FDA) announced a **shortage of Adderall medication**.

❖ About Adderall medication

- Adderall is the brand name for the formulation that **consists of a combination of dextroamphetamine and amphetamine**.
- It is an FDA-approved **drug for the treatment of ADHD and narcolepsy**, a sleep condition that causes daytime sleepiness.
- Adderall belongs to the class of drugs known as stimulants and **increases the levels of dopamine and norepinephrine in the brain**.
- For people diagnosed with ADHD, Adderall can **help improve focus, concentration**, impulse control and hyperactivity, because of its effects on the central nervous system.

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Parole



❖ Context

- Recently, Gurmeet Ram Rahim, the head of Dera Sacha Sauda, was released from Sunaria jail in Rohtak on a 40-day parole.

❖ About Parole

- Parole means the **release of a prisoner either temporarily for a special purpose or completely** before the expiry of a sentence, on the promise of good behavior.
- Parole is the **privilege given to the prisoners to return to the society** and socialize with families and friends.
- It **requires periodic reporting** to the authorities for a set period of time.
- It is granted to that person who has already served a portion of his or her sentence.

❖ About Furlough

- Furlough is given in cases of **long-term imprisonment**.
- A prisoner's sentence is **considered to be remitted** during his furlough time.
- It is to be **allowed on a regular basis** for no reason other than to allow the prisoner to maintain familial and social relationships and to counteract the negative consequences of long-term imprisonment.
- **The right to be released on furlough** is a substantial and **legal right** of the prisoner, and it **cannot be rejected if permitted by law**.

International Monetary and Financial Committee (IMFC)



❖ Context

- Recently, **Union Minister for Finance & Corporate Affairs** of India attended the Plenary Meeting of the International Monetary and Financial Committee (IMFC).

❖ About IMFC

- **Composition :**
 - The size and the composition of the IMFC **mirror that of its Executive Board**.
 - It has **24 members** who are central bank governors, ministers, or others of comparable rank.
 - They are usually **drawn from the governors of the Fund's 190 member countries**.
- The IMFC usually **meets twice a year**.
- The IMFC has **no formal decision-making powers**.
- **Function :**
 - The IMFC **advises and reports to the IMF Board of Governors** on the supervision and management of the international monetary and financial system.
 - It also **considers proposals by the Executive Board** to amend the Articles of Agreement and advises on any other matters that may be referred to it by the Board of Governors.

Kamikaze Drones



❖ Context

- Recently, Ukraine's capital region was struck by **Iranian-made kamikaze drones**.

❖ About Kamikaze Drones

- These are **small unmanned aircraft**.
- They are **packed with explosives** that can be flown directly at a tank or a group of troops that are destroyed when it hits the target and explodes.
- The **name comes from the World War 2** era's feared Japanese kamikaze pilots, who conducted suicide attacks by intentionally crashing their explosive filled aircraft into enemy targets.
- The modern drone versions have the **capability of surpassing traditional defenses** to strike their targets and are also **cheaper than their larger counterparts**.
- The small lethal drones are **difficult to detect on radar**, and through the use of facial recognition, can be programmed to hit targets without human intervention.

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