ENVIRONMENT

❖ **The Great Barrier Reef is 'in danger': Australia Pushes Back**

❖ **CONTEXT: Recently, a joint report by the International Union for Conservation of Nature (IUCN) and UNESCO's World Heritage Centre (WHC) expressed concern about the state of Australia's Great Barrier Reef (GBR), recommending that it "be inscribed on the List of World Heritage in Danger."**

➢ **What is the Great Barrier Reef?**

- **The Great Barrier Reef (GBR)** is the **world's largest coral reef system,** with over 2,900 individual reefs, 900 islands, and an area of approximately 344,400 square kilometers. It is located off the coast of Queensland, Australia.
- The GBR is an irreplaceable component of the global ecosystem, serving as both a biodiversity hotspot and a carbon sink.
- The GBR is an important contributor to the Australian economy, supporting over 64,000 jobs and generating billions of dollars in annual revenue.
- To protect it from exploitation, up to 99 percent of the property is located within the GBR Marine Park. It is managed as a "multiple use area," with a variety of commercial and tourism activities permitted.
- A zoning plan is the foundation of GBR management, determining what is permitted and where. Development and land use activities in coastal and water catchment areas adjacent to the property have a significant impact on the property and are managed by the Queensland Government.
- Aboriginal populations engage in traditional marine resource activities to provide traditional food, practice their living maritime culture, and educate younger generations about traditional and cultural rules and protocols. They are one of GBR's most important custodians.

➢ **What does the IUCN-WHC report say?**

- Despite Australia's ongoing and scientific efforts to manage the property, the GBR is currently being adversely and significantly impacted by climate change factors, affecting its resilience to sustain and regenerate itself.
- Many reefs have become sterile due to frequent bleaching events. Water quality degradation is a particular danger.
- According to the report, the property management currently lacks clear climate change goals.
- The implementation of existing conservation plans has fallen short, particularly in terms of water quality management and fishing activities.
- Inshore land-based activities, often outside the protected area, are particularly to blame for GBR's degraded water quality.
- Pollutants from agricultural and construction activities have been harmful, and other proposed developments along the Queensland coast are cause for concern.

➢ **Recommendations of the Report**

- The first step is to add the GBR to the List of World Heritage in Danger.
- Monitoring and evolving farming practices, increased commitments to reduce greenhouse gas emissions, addressing coastal land erosion, and adopting sustainable fishing practices are among the recommendations.

➢ **What does adding GBR to the List of World Heritage in Danger entail?**

- According to UNESCO, "the List of World Heritage in Danger is intended to inform the international community of conditions that threaten the very characteristics for which a property was inscribed on the World Heritage List, and to encourage corrective action."
- In accordance with the 1972 World Heritage Convention, inscribing a site on the List allows the WHC to provide immediate assistance from the World Heritage Fund to the endangered property while also garnering international support and attention to the site.
- While some countries welcome the additional support that comes with inclusion on this list, many have frequently protested and attempted to prevent this from happening, seeing it as a major embarrassment for the country.
- Furthermore, while it is difficult for UNESCO to enforce any of its recommendations, inclusion on the list does bring increased scrutiny to the site.
    - ✓ This is especially true when discussing ecological heritage sites, where conservation and economic development are frequently at odds.
    - ✓ Inclusion on such a list can have a tangible impact on all types of development projects, which can be politically significant for governments.

➢ **Australia's Reaction**

- While it is in Australia's economic and political interests to preserve the GBR, there are numerous other interests at play that muddy the waters. Australia's response must be viewed in this light.
- For example, if it adopted the panel's recommendation to phase out "gill net fishing," which indiscriminately harms marine life, it would have to make significant investments to compensate for fisheries that rely on such a method. It may also lose political support among Queensland fishermen, who form a voting bloc.
- When this issue arose in 2021, the Scott Morrison government rejected the possibility of adding the GBR to this list and vigorously lobbied UNESCO to prevent it.

PRELIMS

1. National Payments Corporation of India (NPCI)

❖ **CONTEXT: NPCI extends UPI market cap deadline by 2 years**

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- National Payments Corporation of India (NPCI), an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.
- Considering the utility nature of the objects of NPCI, it has been incorporated as a "Not for Profit" Company under the provisions of Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013), with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.

➢ **Objectives**

- To offer improved infrastructure for the entire banking industry to create a robust physical and digital payment and settlement system.
- To simplify, merge and incorporate various payment systems with varying standards of coverage into a single national standard uniform and business process for all retail money transactions.
- To design and promote an effective financing process or system that saves time and cost for individuals who make retail transactions on a daily basis.

➢ **Products and Services**

- National Financial Switch (NFS) - National Financial Switch (NFS) ATM network with 37 member banks and connecting 50,000 ATMs was taken to NPCI's authority from the Institute for Development and Research in Banking Technology (IDRBT) on 14 December 2009. After taking over, NFS ATM network has grown many folds.
- Unified Payments Interface (UPI) – UPI is a system that makes multiple bank accounts to be accessed from a single mobile application. Users can make instant money transfers through mobile devices round the clock, any day of the year. The technology also features peer-to-peer collect request service with a scheduling facility.
- Immediate Payment Service (IMPS) - Immediate Payment Service (IMPS) lets you transfer money in real-time around the clock, 365 days of the year. At the time of introducing IMPS, consumers only had the NEFT and RTGS facilities that were limited to the bank working hours. NPCI conducted a pilot study of the technology with banks such as SBI, BOI, UBI, and ICICI in August 2010. It was publicly launched on 22 November 2010.
- RuPay – RuPay is a new card payment system launched to satisfy RBI's vision to offer a domestic, open-loop, and the multilateral system. This made it easier for Indian banks and financial institutions to implement electronic payments. The term 'RuPay' is a combination of Rupee and Payment. NPCI also developed RuPay Contactless payments technology using open standards.
- *99# - USSD based mobile banking platform that makes banking services accessible to all the bank account holders on their mobile phones.
- National Automated Clearing House (NACH) – NACH is a web-based solution that facilitates interbank, high volume electronic transactions that are repetitive in nature. They are well suited for bulk transactions towards the distribution of dividends, interest, subsidies, salary, pension, and more.
- Aadhaar Enabled Payment System (AePS) - AePS is a bank-led model that allows online interoperable financial inclusion transaction at PoS of any bank using the Aadhaar authentication through the retail merchant. A customer must provide details such as bank identification, Aadhaar number, and fingerprint to complete such a transaction.
- e-KYC - Electronic way of conducting authentic & real time KYC of a customer using Aadhaar authentication.
- Cheque Truncation System - Electronic image of the cheque is transmitted to the drawee bank by the clearing house, along with relevant information.

2. PSLV C-54/EOS-06 Mission

❖ **CONTEXT: PM shares breathtaking images from recently launched EOS-06 satellite**

- The PLV-C54/EOS-06 Mission includes EOS-06 (Oceans-3), plus eight nanosatellites which are BhutanSat, 'Anand' from Pixxel, Thybolt two numbers from Dhurva Space andAstrocast-four numbers from Spaceflight USA.
- BhutanSat: ISRO Nano Satellite-2 for Bhutan (INS-2B) spacecraft is configured with INS-2 Bus. INS-2B will have two payloads namely NanoMx and APRS-Digipeater. NanoMx is a multispectral optical imaging payload developed by Space Applications Centre (SAC).
- Anand : The Anand Nano satellite is technology demonstrator to demonstrate the capabilities and commercial applications of miniaturized earth-observation camera for earth observation using a microsatellite in Low Earth Orbit.

✓ This is a three-axis stabilized satellite consisting of a satbus, accommodating all subsystems like telemetry, tele-command, Electrical Power system, Attitude Determination and Control System (ADCS), on-board computers etc.

- Astrocast : Astrocast, a 3U spacecraft is a technology demonstrator satellite for the Internet of Things (IoT) as the payload. There are 4 nos. of Astrocast Satellites in this mission. These spacecraft are housed within an ISISpaceQuadPack dispenser. The dispenser protects the satellite from contamination.
- Thybolt: The Thybolt is a 0.5U spacecraft bus that includes a communication payload to enable rapid technology demonstration and constellation development for multiple users.
- It also demonstrates Store-and-Forward functionality for authorized users in the amateur frequency band. The satellites shall be deployed by using Dhruva Space Orbital Deployer to perform the specific mission operations for a minimum lifetime of 1 year.

➢ **EOS-06 Satellite**

- The EOS-6 is a third-generation earth observation satellite in the Oceansat series of satellites.
- This is to provide continuity services for Oceansat-2 spacecraft with enhanced payload specifications as well as application areas.

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- The payloads are Ocean Colour Monitor (OCM-3), Sea Surface Temperature Monitor and Ku-Band Scatterometer (SCAT-3), and 'ARGOS' Mission.
- ARGOS is the global satellite-based data collection and location system of its kind dedicated to studying and preserving the environment.

➢ **What is EOS?**

- An EOS or Earth remote sensing satellite is a satellite used or designed for Earth observation (EO) from orbit.
- It includes spy satellites and similar ones intended for non-military uses such as environmental monitoring, meteorology, cartography, and others.
- The most common type is Earth-imaging satellites that take satellite images, analogous to aerial photographs.
- Some EOS may perform remote sensing without forming pictures, such as in GNSS radio occultation.

➢ **Different nomenclature**

- Two years ago, ISRO had moved to a new naming system for its earth observation satellites which till then had been named thematically, according to the purpose they were meant for.
- The Cartosat series of satellites were meant to provide data for land topography and mapping, while the Oceansat satellites were meant for observations overseas.
- Some INSAT-series, Resourcesat series, GISAT, Scatsat, and a few other earth observation satellites were named differently for the specific jobs they were assigned to do, or the different instruments that they.
- All these would now become part of the new EOS series of satellites.

3. <u>National Financial Reporting Authority</u>

❖ **CONTEXT: NFRA chairperson attended the conference on "Financial Reporting and Corporate Governance in the Corporate Sector.**

- NFRA was constituted as a statutory body in 2018 by the Government of India under Sub Section (1) of section 132 of the Companies Act, 2013.

➢ **Functions and Duties:**

- Recommend accounting and auditing policies and standards to be adopted by companies for approval by the Central Government;
- Monitor and enforce compliance with accounting standards and auditing standards;
- Oversee the quality of service of the professions associated with ensuring compliance with such standards and suggest measures for improvement in the quality of service;
- Perform such other functions and duties as may be necessary or incidental to the aforesaid functions and duties.
- Protect the public interest and the interests of investors, creditors and others associated

➢ **Jurisdiction of NFRA:**

- The jurisdiction of NFRA for investigation of Chartered Accountants and their firms would extend to listed companies and large unlisted public companies
- The NFRA is tasked to investigate audit of Listed Companies and Unlisted companies with net worth not less than Rs 500 crore or paid-up capital of not less than Rs 500 crore or annual turnover not less than Rs 1,000 crore as on March 31 of immediately preceding financial year, and companies having securities listed outside India.
- The Centre further has the power to refer the entities for investigation where public interest would be involved. The rest are regulated by ICAI.
- The inherent regulatory role of ICAI as provided for in the Chartered Accountants Act, 1949 shall continue in respect of its members in general and specifically with respect to audits pertaining to private limited companies, and public unlisted companies .

➢ **Significance:**

- India is now eligible to become a member of the International Forum of Independent Audit Regulators (IFIAR), due to an independent audit oversight body in the country.
- It will attract foreign/domestic investments and enhance economic growth.

4. <u>National Anti-Doping Agency (NADA)</u>

❖ **CONTEXT: National Anti-Doping Agency of India is developing App to assist athletes verify medicines**

- National Anti-Doping Agency (NADA) was set up as a registered society under the Societies Registration Act of 1860 on 24th November, 2005 with a mandate for Dope free sports in India.
- The primary objectives are to implement anti-doping rules as per WADA (World Anti-Doping Agency) code, regulate dope control programme, to promote education and research and creating awareness about doping and its ill effects.

➢ **Mandate:**

- Planning, coordinating, implementing, monitoring and advocating improvements in Doping Control,
- Cooperating with other relevant national organisations, agencies and other Anti-Doping Organisations etc.

❖ **WADA:**

- In November, 1999 the World Anti-Doping Agency (WADA) was set up under the International Olympic Committee.
- WADA is recognised by the UNESCO International Convention against Doping in Sport (2005).
- WADA's primary role is to develop, harmonise, and coordinate anti-doping regulations across all sports and countries.
- It does so by ensuring proper implementation of the World Anti-Doping Code (WADA Code) and its standards, conducting investigations into doping incidents, conducting research on doping, and educating sportspersons and related personnel on anti-doping regulations.

5. <u>Regenerative agriculture</u>

❖ **CONTEXT: Regenerative agriculture has recently received much attention from all stakeholders, including producers, policymakers, scientists and consumers. The importance of regenerative agriculture was also emphasised in the Intergovernmental Panel on Climate Change (IPCC) report on "Climate Change and Land."**

- Reducing the use of chemical fertilisers and pesticides, reducing tillage, integrating livestock and using cover crops are the common threads used to define regenerative agriculture.
- Regenerative agriculture adheres to the following principles:
  - ✓ Minimise soil distribution through conservation tillage
  - ✓ Diversify crops to replenish nutrients and disrupt pest and disease lifecycles
  - ✓ Retain soil cover using cover crops
  - ✓ Integrate livestock, which adds manure to the soil and serves as a source of carbon sinks.
- Permanent pastures can trap large amounts of carbon and water, reducing farm emissions and polluted runoff. Healthy soil protects land from floods and drought and provides crops with higher nutrient density.
- Overall, regenerative agriculture improves the ecosystem's health, beginning with soil fertility, through a holistic systems approach that includes the health of the animals, farmers and community. It builds resilience and mitigates the effects of extreme weather caused by a changing climate.

➢ **How regenerative agriculture is is different from other similar practices?**

- Sustainable agriculture ensures food production through resource efficiency, making farming economically viable and improving farmers' quality of life. However, the term 'sustainable' implies maintaining the status quo. Sustainable farming practices aim to use only the resources that are available.
- Another approach, agroecology farming, shares commonalities with sustainable agriculture. It is a holistic approach that enables interactions between plants, animals, humans and the environment. It brings equity to the food system by offering people a choice over both production and consumption.
- Conservation agriculture supports sustainable land management, environmental protection and climate change adaptation and mitigation.
- It is 20 to 50 per cent less labour-intensive and contributes to reducing greenhouse gas emissions through lower energy inputs and improved nutrient use efficiency. It also stabilises and protects soil from breaking down and releasing carbon into the atmosphere.
- Conservation agriculture is based on three principles — zero tillage, crop diversification and rotation. These preserve soil organic matter and moisture, which help suppress weeds, protect soil from the impact of extreme weather patterns and avoid compaction of the soil.
- It promotes nutrient cycling and improved plant nutrition and helps the prevention of pests and diseases.
- Regenerative agriculture can be practised under many names and is often also referred to as — agroecological farming, alternative agriculture, biodynamic agriculture, carbon farming, inclusive nature farming, conservation agriculture, green agriculture, organic regenerative agriculture and sustainable agriculture.
- However, regenerative agriculture is open, as there cannot be a one-size-fits-all approach to soil regeneration.
- It works on the premise that healthy soils are the foundation of regenerative agriculture, which in turn enables the symbiotic relationship between plants and soil microorganisms living in the soil.
- Plants, through photosynthesis, provide liquid carbon that feeds the soil microbes. And microbes provide plants with nutrients like potassium, iron, calcium, and others that help them grow and stay healthy, ultimately providing nutrient-rich food for animals and humans. Thus, it's imperative to support and upscale regenerative agriculture.

ANSWER WRITTING

Q. Millet production can be a solution in tackling prolonged problems of hunger and malnutrition. Explain this statement. Also discuss measures taken by government to promote millet production.

INTRO: Millet is a collective term referring to a number of small-seeded annual grasses that are cultivated as grain crops, primarily on marginal lands in dry areas in temperate, subtropical and tropical regions. Some of the common millets available in India are Ragi (Finger millet), Jowar (Sorghum), Sama (Little millet), Bajra (Pearl millet), and Variga (Proso millet). India is the largest producer of millet in the world. It Accounts for 20 % of global production and 80% of Asia's production.

➢ **Importance**

Hunger

- Millets are harder and drought-resistant crops. They can grow under non-irrigated conditions even in very low rainfall regimes.
- Millet production requires very short period to grow (70-100 days, as against 120-150 days for paddy/wheat).
- Millets are Photo-insensitive (do not require a specific photoperiod for flowering) & resilient to climate change. Millets can grow on poor soils with little or no external inputs.

Malnutrition

- Millets are Nutri-cereals that are highly nutritious and known to have high nutrient content which includes protein, essential fatty acids, dietary fibre, B-Vitamins and minerals such as calcium, iron, zinc, potassium and magnesium. For example, Ragi is known to have the highest calcium content among all the food grains.
- It can provide nutritional security and protect against nutritional deficiency, especially among children and women.
- Millets can also help in tackling health challenges such as obesity, diabetes and lifestyle problems as they are gluten-free and are high in dietary fibre and antioxidants.

Steps taken by government to promote millet production

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- Initiative for Nutritional Security through Intensive Millet Promotion (INSIMP) where Government announced an allocation of Rs. 300 crores in 2011-12 under Rastriya Krishi Vikas Yojana for promotion of millets as Nutri-cereals.
- The government has hiked the Minimum Support Price of Millets to incentivize farmers to produce millets. Further, to provide a steady market for the produce, the government has included millets in the public distribution system.
- Efforts are also being made to include the nutrient-rich smaller millets in the mid-day meal schemes in government and government-aided schools in Karnataka and Telangana.
- The Government of India's Millet Mission which comes under the National Food Security Mission (NFSM) was launched in October 2007.
- The government has introduced provision of seed kits and inputs to farmers, building value chains through Farmer Producer Organisations and supporting the marketability of millets.

The ongoing changes in climatic conditions, rising food insecurity and population and unhealthy environment has increased the importance of millets which is also being recognized by united nations general assembly by declaring year 2023 as international year of millets. There is a need to increase the yield of millets which can be done through application of biotechnology and research & development. This will not only solve nutrient deficiency and hunger issues but also sustain the development process by fulfilling the nutritional needs of rising population.

MCQs

1. Consider the following statements:
   1. National Payments Corporation of India (NPCI) helps in promoting the financial inclusion in the country.
   2. NPCI has launched RuPay, a card payment scheme

Which of the statements given above is/are correct?
   a) 1 only
   b) 2 only
   c) Both 1 and 2
   d) Neither 1 nor 2

2. Consider the following statements regarding World Anti-doping Agency (WADA):
   1. Its foundation was initiated by the International Olympics Committee.
   2. It is an intergovernmental body.

Which of the statements given above is/are correct?
   a) 1 only
   b) 2 only
   c) Both 1 and 2
   d) Neither 1 nor 2

3. Consider the following statements about National Anti-Doping Agency:
   1. It was set up as a registered society under the Societies Registration Act of 1860.
   2. The primary objectives are to implement anti-doping rules as per WADA (World Anti-Doping Agency) code, regulate dope control programmes, to promote education and research and create awareness about doping and its ill effects.

Which of the statements given above is/are correct?
   a) Only 1
   b) Only 2
   c) Both 1and 2
   d) Neither 1 nor 2

4. With reference to Indian satellites and their launchers consider the following statements:
   1. All the INSAT series of satellites and their launched abroad
   2. PSL Vs were used to launch IRS-series of satellites
   3. India used the indigenously built cryogenic engines for the first time for powering the third stage of GSLV

Which of the above statement/s is/are correct?
   a) 1 and 2 only
   b) 2 and 3 only
   c) 1 and 3 only
   d) 1,2,3

5. With reference to regenerative agriculture consider the following
   1. Regenerative agriculture is a way of farming that focuses on soil health.
   2. Regenerative farming methods include minimizing the ploughing of land.

   Which of the above statement/s is are not correct?
   a) 1 only
   b) 2 only

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c) Both 1 and 2
d) Neither 1 nor 2

6. With reference to the 'National Intellectual Property Rights Policy', consider the following statements:
   1. It reiterates India's commitment to the Doha Development Agenda and the TRIPS Agreement.
   2. Department of Industrial Policy and Promotion of the nodal agency for regulating intellectual property rights in India.

Which of the above statements is/are correct?
a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

7. With reference to National Financial Reporting Authority consider the following
   1. It is established as an independent regulator to oversee the auditing profession and accounting standards.
   2. National Financial Reporting Authority (NFRA) is chaired by the Cabinet Secretary.

Which of the above statement/s is/are correct?
a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

8. With reference Pradhan Mantri Gramin Awas Yojana (PMAY-G), consider the following statements:
   1. It aims to promote the affordability and accessibility of housing for all rural India people (except Chandigarh and Delhi).
   2. Union Ministry Of Rural Development is responsible for the implementation of this PMAY-G scheme.
   3. The cost of construction of house will be shared between the Central government and the state government in the plain areas in a ratio of 60:40.

Which of the above statements is/are correct?
a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) 1,2 and 3

9. Consider the following statements:
   1. Most of the world's coral reefs are in tropical waters.
   2. More than one-third of the world's coral reefs are located in the territories of Australia, Indonesia and Philippines.
   3. Coral reefs host far more number of animal phyla than those hosted by tropical rainforests.

Which of the statements given above is/are correct?
a) 1 and 2 only
b) 3 only
c) 1 and 3 only
d) 1, 2 and 3

10. With reference to coastal red sand dunes which was recently seen in news consider the following
    1. The coastal red sand dunes, popularly known as 'Erra Matti Dibbalu' in Tamil Nadu.
    2. These deposits are rare and have been reported only from three places in the tropical regions, that are in India such as Teri Sands in Tamil Nadu, Erra Matti Dibbalu in Visakhapatnam and one more site in kerala.

    Which of the above statement/s is/are not correct?
    a) 1 only
    b) 2 only
    c) Both 1 and 2
    d) Neither 1 nor 2

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