



CURRENT AFFAIRS



Argasia Education PVT. Ltd. (GST NO.-09AAPCAI478E1ZH)
Address: Basement C59 Noida, opposite to Priyagold Building gate, Sector 02,
Pocket I, Noida, Uttar Pradesh, 201301, CONTACT NO:-8448440231

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“INDIA-US COLLABORATION ON CRITICAL MINERALS UNDER ICET”

THIS ARTICLE COVERS “DAILY CURRENT AFFAIRS” AND THE TOPIC DETAILS OF “INDIA-US COLLABORATION ON CRITICAL MINERALS UNDER ICET”. THIS TOPIC IS RELEVANT TO THE “INTERNATIONAL RELATIONS” SECTION OF THE UPSC—CSE EXAM.

WHY IN THE NEWS?

India and the U.S. are actively pursuing a swift conclusion to a bilateral agreement aimed at enhancing collaboration on critical minerals. This initiative seeks to bolster supply chain partnerships for **graphite, gallium, and germanium**. The objectives include highlighting India’s crucial role in ensuring mineral security through joint investments in a lithium resource project in South America and a rare earth deposit in Africa. This effort aims to diversify critical mineral supply chains in a responsible and sustainable manner.

India has identified a roster of 30 essential minerals crucial for its development and is actively pursuing acquisitions of overseas mines alongside expanding domestic exploration efforts.

ABOUT ICET:

- The India-US Initiative on Critical and Emerging Technologies (iCET) is a strategic partnership between India and the United States to collaborate on critical and emerging technologies.
- **iCET** was launched by PM Narendra Modi and President Joe Biden in May 2022 in Tokyo.
- The initiative aims to engage in identified areas of collaboration in diverse domains of new and emerging technologies, including semiconductors, AI, quantum computing, defence innovation, space, and advanced telecommunications.
- The partnership has since expanded to include new areas like biotechnology, critical minerals and rare earth processing technologies, digital public infrastructure and digital connectivity, and advanced materials.
- The initiative is driven by the two countries’ National Security Advisers, Ajit Doval and Jake Sullivan, who regularly consult on bilateral, regional and global issues.

- The iCET partnership is seen as a key part of the broader India-US global strategic partnership, with both sides committed to deepening cooperation in critical and emerging technologies.

NEED FOR CRITICAL MINERALS:

- Minerals are vital to a nation's **manufacturing, infrastructure, and technological progress**. The clean energy ambitions of countries like India, aiming for net-zero emissions, hinge on securing critical minerals such as lithium (often referred to as white gold), cobalt, graphite, and rare earth elements (essential for wind turbines, solar panels, etc.).
- Additionally, these minerals are indispensable **for producing semiconductors** used in **smart electronics, defence and aerospace equipment, and telecommunications technologies**, among other applications.

TO ENSURE SUPPLY CHAIN RESILIENCE:

- The US, UK, and EU have taken steps to enhance supply chain resilience for critical minerals and reduce dependence on countries such as China for their availability.
- These efforts include the establishment of the Mineral Security Partnership (MSP), which India joined this year.
- China holds majority ownership of cobalt mines in the Democratic Republic of Congo accounts for 70% of global cobalt production.
- Additionally, China possesses the largest reserves of **rare earth elements (REEs)** globally and produces 65% of the world's REEs. Vietnam, Brazil, and Russia follow as other significant producers of REEs.

MINERALS (DEVELOPMENT AND REGULATION) ACT, 2023:

- The legislation now categorises six out of twelve atomic minerals (**lithium, beryllium, niobium, titanium, tantalum, and zirconium**) as "critical and strategic" minerals, excluding them from commercial mining and reserving them for government entities.
- Under this Act, activities previously prohibited under the Act, such as pitting, trenching, drilling, and sub-surface excavation for reconnaissance purposes, including mapping and surveys, are now permitted.
- The new exploration license aims to foster private enterprise reconnaissance-level and prospective stage exploration. Known as an **Exploration License (EL)**, it will be issued by state governments through competitive bidding, **valid for five years** with an option to extend by two years.
- The EL **will cover 29 minerals** listed in the Seventh Schedule of the amended Act, encompassing critical, strategic, and deep-seated minerals. Additionally, it outlines that exploration activities within a maximum area of 1,000 square kilometres can be conducted under a single exploration license.

ABOUT KABIL(KHANIJ BIDESH INDIA LTD):

- India has established Khanij Bidesh India Ltd. (KABIL), a joint venture involving equity from three Central Public Sector Enterprises: **National Aluminium Company Ltd(NALCO), Hindustan Copper Ltd, and Mineral Exploration and Consultancy Ltd.**
- The primary goal of KABIL is to secure vital mineral assets globally, ensuring a steady supply to the Indian market. Currently, KABIL is actively pursuing opportunities to acquire critical minerals, i.e. lithium and cobalt, in Australia, Argentina, and Chile.
- The Mines Ministry has joined a mineral security partnership initiated by the U.S. This partnership aims to bolster cooperation among member countries to safeguard the supply chain of critical minerals.
- This involves facilitating investments in identified mineral blocks in resource-rich nations. Collaboration initiatives include exploring joint ventures in technologies related to neodymium-iron-boron metals, alloys, and magnets and partnering with entities from the Department of Energy.

WAY FORWARD:

- **Onboarding Battery Manufacturers and Automakers:** Encourage manufacturers and automakers to invest more in mineral assets abroad and process them locally to ensure an uninterrupted supply of batteries and electric vehicles.
- **Joint Ventures and Local Ecosystem:** Encouraging joint ventures with foreign companies to develop a local ecosystem for refining and processing critical minerals.
- **Advance Market Commitments (AMCs):** **Introducing advance market commitments (AMCs) aims to stabilise** demand and provide essential guidance for interested stakeholders, thereby ensuring that the private sector possesses sufficient capabilities.
- **Critical Mineral Fund:** Creating a Critical Mineral Fund to support geological exploration and finance early-stage projects related to critical minerals.
- **Deep Ocean Mission:** Exploring the Deep Ocean Mission, which indicates vast resources of **Copper, Nickel, Cobalt, and Manganese**, to reduce India's reliance on imports.
- **Recycling of Critical Metals:** The recycling of critical metals will be pivotal in enhancing supply chain resilience and promoting sustainability.
- **National Institute of Centre of Excellence:** To identify more efficient ways for discovering next-generation critical mineral deposits.
- **Global Consortium:** Becoming part of a global consortium on critical minerals to secure a stable supply chain.

- **Private Sector Participation:** Allowing private sector participation in critical mineral exploration and mining.
- **Advanced Exploration Techniques:** Using advanced exploration techniques by the **Geological Survey of India (GSI)** to find new resources of critical and deep-seated minerals.
- **Global Collaborations:** Collaborating with countries like Australia and Japan through initiatives like the **Resilient Supply Chains Initiative (SCRI)** and the Quad countries' working group on critical materials and technologies.

PRELIMS BASED QUESTION:

Q. KABIL(Khanij Bidesh India Ltd) is joint venture of 3 PSUs comprise of:

1. NALCO
2. Hindustan Copper Ltd
3. SAIL

Which of the following option/s is/are correct?

1. 1, 2 Only
2. 2, 3 Only
3. 1, 3 Only
4. All of the above

Answer: A

MAINS BASED QUESTION:

Q. Discuss Mission Samudrayaan in the exploration of critical minerals. How can India ensure energy security by collaborating with other nations?

Vishal Yadav

CROCODILE CONSERVATION PROJECT IN INDIA VS WORLD CROCODILE DAY 2024

(This article is related to the ' Environment & Ecology, Biodiversity and Environmental Conservation and Environmental Pollution ' section of UPSC Civil Services Mains General Studies Paper – 3 and ' World Crocodile Day 2024, Crocodile Conservation Project in India, Biodiversity and Environmental Conservation ' section of UPSC Prelims Exam. It also includes suggestions from the PLUTUS IAS Team. This article is related to ' Crocodile Conservation Project in India vs World Crocodile Day 2024 ' under ' Daily Current Affairs '.)

WHY IN THE NEWS ?



- World Crocodile Day, also known as World Crocodile Day, is celebrated all over the world on 17 June every year.
- The main objective of celebrating World Crocodile Day is a global campaign to raise public awareness about the endangered crocodiles and alligators around the world and highlight their plight.
- According to the Annual Reptile Census 2023, a slight increase in the number of saltwater crocodiles has been recorded in the areas around Bhitarkanika National Park in India.
- Kendrapara district of Odisha is the only district in India where all three major species of crocodile are found.

WHAT IS THE CROCODILE CONSERVATION PROJECT ?



Project Crocodile Conservation:
Year Of Launch: 1975

- 7 – Critically Endangered
- 4 – Vulnerable
- 12 – Least Risk
- The Country's First Gharial Breeding Center Was Built In Nandankanan Zoological Park.
- Conservation Efforts: Initially The Crocodile Conservation Project Was Launched In Odisha's Satkosia Gorge Sanctuary.
- It Was Implemented With The Financial Aid Of The United Nations Development Fund And The Food And Agriculture Organization.

PLUTUS IAS UPSC/PCS

- The Crocodile Conservation Project was initiated by the United Nations and the Government of India soon after the passage of the Wildlife (Protection) Act, 1972 in India.

- Its main objectives are to protect natural habitats, boost crocodile numbers through captive breeding and address the low survival rates of newborns in the natural environment.
- Under this project, breeding centers have been established at 34 locations in India, with special attention to saltwater crocodiles or marine crocodiles (*Crocodylus porosus*), such as Bhitarkanika National Park in India.
- This project is important for the conservation and rehabilitation of crocodiles because under it our responsibility towards the protection of wildlife and the conservation of crocodiles is being promoted.

CURRENT NUMBER AND DISTRIBUTION OF CROCODILES IN INDIA :

- Crocodiles, which are considered to be an order of semi-aquatic reptiles/or a species of group of semi-aquatic reptiles, are currently becoming endangered around the world. There is a need for their conservation in India also. **Following are some important facts related to this -**

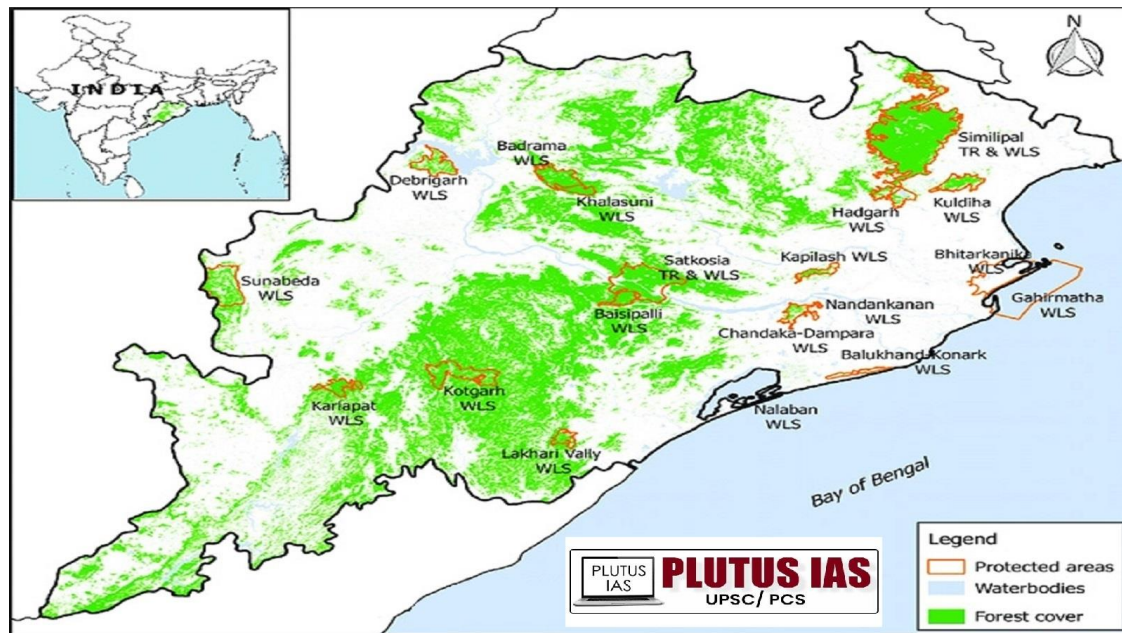
NUMBER OF CROCODILES IN BHITARKANIKA NATIONAL PARK :

- The number of saltwater crocodiles in Bhitarkanika National Park was 95 in 1975.
- According to the latest annual reptile census report (2023) in India, its number has now increased to 1,811.
- Three major species of crocodile in India are Crocodile or **Marsh Crocodile (*Crocodylus palustris*)** : These semi-aquatic reptiles are found in India.
- **Estuarine or saltwater crocodile (*Crocodylus porosus*)** : They are found or live in Indian salt water areas.
- **Gharial (*Gavialis gangeticus*)** : These are also found in India.

INCREASING HUMAN - CROCODILE CONFLICT :

- The increasing number of crocodiles has led to increased conflict between crocodiles and humans in Bhitarkanika National Park.
- Since 2014, there have been 50 deaths, prompting authorities to erect barricades on 120 river banks to prevent attacks.
- Despite all such protective measures, the conflict between humans and crocodiles continues and many measures are being adopted on the river banks for the protection of crocodiles.

KEY FACTS ABOUT BHITARKANIKA NATIONAL PARK :



Bhitarkanika National Park is an important and unique ecosystem. Following are some important points related to this ecosystem located in Orissa –

GEOGRAPHY AND WILDLIFE HABITAT :

- Bhitarkanika National Park is spread over an area of 672 km in Orissa.
- It is the second largest mangrove ecosystem in India after the Sundarbans.
- Its soil is rich in salts and is home to flora and species found in tropical and subtropical intertidal zones.
- There is also a breeding ground for salt water crocodiles.

GAHIRMATHA BEACH :

- Bhitarkanika National Park Gahirmatha beach is on the eastern border.
- The largest colony of Olive Ridley sea turtles is located here.

WILDLIFE SPECIES :

- Bhitarkanika National Park It is also home to eight species of kingfisher birds, a rare species.
- Bhitarkanika National Park has played an important role in Indian wildlife conservation.
- This is important for protecting wildlife habitat and their reproduction.

SOLUTIONS / WAY FORWARD IN CONSERVATION OF ENDANGERED CROCODILES AND GHARIALS UNDER CROCODILE CONSERVATION PROJECT IN INDIA :

- Crocodile conservation project in India was started in different states in 1975.
- Under this project the conservation program of gharial and salt water crocodile was implemented for the first time in Odisha.
- There is greater potential and need for cross-border cooperation in South Asia.
- Wherever there is cross border movement of animals from one country to another or from one state to another, there should be exchange of information between each other.
- Biodiversity conservation involves the conservation of various species and organisms essential to nature.
- The primary objectives of biodiversity conservation include preserving species diversity, ensuring the sustainable use of ecosystems, and promoting the sustainable use of individual species.
- Additionally, conservation of biological diversity plays an important role in maintaining the integrity of food chains and essential ecological richness.

Source – Indian Express and PIB.

PRACTICE QUESTIONS FOR PRELIMINARY EXAM :

Q.1. Consider the following statements regarding crocodile conservation project in India.

1. It is governed by the Wildlife (Protection) Act, 1972 in India..
2. The number of saltwater crocodiles in India was 95 in 1975.
3. All three major species of crocodile are found in Kendrapara district in India.
4. The gharial (*Gavialis gangeticus*) is not found in India.

Which of the above statement /statements is/are correct?

- A. Only 1, 2 and 3.
- B. Only 2, 3 and 4.
- C. None of these.
- D. All of the above.

Answer – A

PRACTICE QUESTIONS FOR MAIN EXAM :

Q.1. Underline the importance of crocodile conservation project in India and discuss the steps taken by the government for it. Evaluate the effectiveness of those measures in conserving India's rich biodiversity and ecosystem. (UPSC-2019 Word Limit - 250 Marks - 15)

Dr. Akhilesh Kumar Shrivastava

