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## UPSC Daily Current Affairs | Prelim Bits 06-06-2024

### Conservation Breeding Programme (CBP)

Recently, the Indira Gandhi Zoological Park (IGZP) has emerged at the forefront of wildlife conservation efforts in India.

- **CBP** - A science of conserving a species by preventing imminent population collapse in the wild due to a large number of eliminative pressures.
  - **For instance:** Habitat loss, habitat fragmentation, industrialization, poaching, illegal trade, climate change etc.
- **Aim** - To conserve the genetic diversity of the species and restock or reintroduce the species to re-establish self-sustaining population in its natural wild habitat.
- **Joint initiative of** - In-situ and ex-situ wildlife managers.
- The Chief Wild Life Wardens and protected area managers were asked to identify the species which need immediate intervention.
- **Role of Zoo** - To conserving a species through ex-situ CBP.
- **Zoo species** - They should be used for display, used as insurance for the use in future to complement and supplement the in-situ population when the species got extinct from wild.
- They can used as education tools for the public to spread the awareness for the conservation of these endangered species.

*Ex-situ' conservation is that the individuals of species are maintained in off exhibit under different selection pressure that those in natural conditions in a natural habitat till they are release in wild.*

- **Facilities** - It can be either an off displays Conservation Breeding centre (if appropriate land is available in the Zoo compound) or in the form of satellite facility will be created only in one (coordinating Zoo) to two Zoos of the region.

### Conservation Breeding Programme in IGZP

- **IGZP** - Indira Gandhi Zoological Park
- **Located in** - Visakhapatnam.
- It is recognized by the Central Zoo Authority (CZA) for CBP.

*IGZP is also the only zoo in India that is responsible for creating off-display conservation breeding centres (CBCs).*

- **Conservation of Striped hyenas** - It is one of the 3 hyena species in the world which are threatened by habitat loss, human-wildlife conflict, poaching, and illegal wildlife trade.
  - **IUCN Red list** - Near threatened
  - **Wildlife Protection Act, 1972:** Schedule I
- It involves protection, education and awareness programmes.
- They also established a protocol of hand rearing of hyena cubs before being released back into the enclosure.
- **Conservation of Asiatic wild dogs** - Once widespread across southern & eastern Asia, now scattered in localised areas of India and Thailand.
  - **Threats** - Habitat loss, declining prey base and disease.
  - **IUCN status** - Endangered
  - **Wildlife Protection Act, 1972** - Schedule II
  - **CITES** - Appendix II
- **Soft release** - A pack will be released in an invisible cage spread over a large area and after a behavioural study of the pack, it will be slowly released in the wild.
- **Significance** - It has given fillip to IGZP's animal-exchange programme with other zoos in India.
- **Other conserved species in IGZP** - Indian grey wolf, ring-tailed lemur, Indian bison, blue and gold macaw, jungle cat and eclectus parrot.

## Reference

1. [The Hindu| Success of Conservation Breeding Programme in IGZP](#)
2. [CZA| Conservation Breeding Programme \(CBP\)](#)

## Colombo Process

Recently, India has assumed the chair of the regional grouping Colombo Process for **2024-26**.

- **About** - It is a Regional Consultative Process of migrant worker origin countries from South and South East Asia.
- **Objectives** - To provide a forum for Asian countries of origin of temporary contractual workers
  - To share experiences, lessons learned and best practices on overseas contractual employment.
  - To discuss and propose practical solutions for overseas workers particularly the most vulnerable ones.
  - To optimize benefits from organized overseas employment, and enhance dialogue with countries of destination.
  - To review and monitor the implementation of ministerial recommendations and identify further steps for action.
- **12 Members** - China, Cambodia, India, Indonesia, Afghanistan, Bangladesh, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand, and Vietnam.

*India has become chair of regional grouping Colombo Process for the first time since its inception in 2003.*

- **Technical support and secretariat by** - The International Organization for Migration (IOM).

The **International Organization for Migration (IOM)**, established in 1951 is a United Nations organization working in the field of migration.

- **Administration** - They are coordinated through the permanent Missions of Member States at the UN in Geneva.
- Governed by - Ministerial Consultations (representation from member states).
- The *decision-making is by consensus* but it is *not binding* on the members.
- **3 themes** - Protection of and provision of services to temporary overseas contractual workers.
- Optimizing benefits of organized labour mobility.
- Capacity building, data collection and inter-state cooperation.

## References

1. [The Indian Express | India chairs Colombo Process](#)
2. [IMO| Colombo Process](#)

## World Environment Day

The 2024 World Environment Day was hosted in the West Asia region, marking the 2<sup>nd</sup> time in more than 50 years.

- It is the largest global platform for environmental public outreach and is celebrated by millions of people across the world.
- **Celebrated on** - **June 5<sup>th</sup>, annually.**
- **Started in** - **1973.**
- **Led by** - The *United Nations Environment Programme (UNEP).*

*UNEP is the leading global voice on the environment. It inspires, informs and enable nations and peoples to improve their quality of life without compromising that of future generations.*

- **World Environment Day 2024** - It is hosted *by Saudi Arabia.*
- **Focus on** - **Land restoration, desertification, and drought resilience.**
- Land restoration is a key pillar of the UN Decade on Ecosystem Restoration (2021-2030).
- **Aim** - To support accelerated progress on global commitments, which include *protecting 30% of land and sea* for nature and *restoring 30%* of the planet's degraded ecosystems.

*While countries have promised to restore 1 billion hectares of land by 2030, current trends suggest 1.5 billion hectares would need to be restored to meet the 2030 land degradation neutrality goals.*

- **Activities** - 6 new cities stretching from Africa to Latin America joined UNEP's *Generation Restoration Cities*, an initiative for catalysing a nature-based transformation in finance, jobs and cities.

**Generation Restoration project** (2023-25) of UNEP, aims to address selected political, technical, financial challenges to promote restoration at scale, particularly in urban areas.

### Environmental concerns

- **Current concerns** - Up to 40% of the world's land is already degraded, directly affecting 50% of humanity.
- An estimated 3.2 billion people worldwide are negatively impacted by *desertification*.
- By 2050, more than three-quarters of the world's population is expected to be affected by *droughts*.
- **Future challenges** - Exposure to *air pollution* is projected to increase by 50% within the next decade.
- *Plastic waste* entering aquatic ecosystems will nearly triple by 2040.

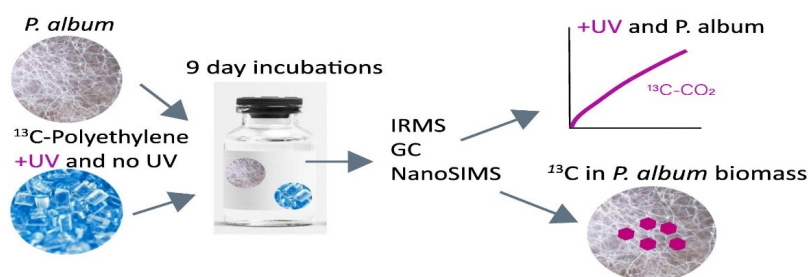
### Reference

[The United Nations | World Environment Day](#)

## Parengyodontium Album

A study identifies fungus that breaks down ocean plastic.

- **Taxonomy** - It is a *marine fungus*.
- **Growing Conditions** - It lives together with other marine microbes in thin layers on plastic litter in the ocean.
- **Degrade plastics** - It is capable of *mineralizing UV-treated polyethylene (PE)* into CO<sub>2</sub> and this PE-derived carbon is converted **into fungal biomass** that serves as its energy.
- It uses UV radiations from the sunlight to initiate the photo degradation of PE.



*Polyethylene is the most abundant of all plastics that have ended up in the ocean.*

- **Significance** - It will join the list of plastic-degrading marine fungi, which hitherto were only 4 species.
- Both bacteria and fungi are known to degrade plastic.

### Fungus

- **Taxonomy** - They are under the *Kingdom Fungi*.
- **Species** - It includes the *yeasts, rusts, smuts, mildews, molds, and mushrooms*.
  - Slime molds and oomycetes (water molds), that do not belong to kingdom Fungi but are often called fungi.
- **Habitat** - Many are free-living in soil or water while others form parasitic or symbiotic relationships with plants or animals.
- **Features** - They are eukaryotic organisms, whose cells contain membrane-bound organelles with a clearly defined nuclei.
- **Decomposers** - They decompose the living matter around them and then feed on it.

## Reference

[Physics Org| Marine Fungi degrade Plastic Polyethylene \(PE\)](#)

## Impacts of Herbicide-Tolerant Rice

*The Indian Council of Agricultural Research (ICAR's) herbicide-tolerant rice is not farmer-friendly and is a threat to national food security.*

- **Herbicide-tolerant crops** - They are the crops which have the inherent ability to *survive and reproduce after herbicide application* that would kill a normal population of the same species.
- **Need** - Weeds are a major biological constraint in rice production, causing losses ranging from 30-100 per cent.
  - **Herbicides** - They are chemical substances used to control undesired plants, also known as weeds.
- **Issue** - ICAR has *commercialised herbicide-tolerant (Ht) basmati rice* varieties and also promoted *direct application of herbicide 'Imazethapyr'* in direct seeded rice (DSR).

*Imazethapyr only kills certain types of broadleaf weeds (BLW). Globally, the herbicides is recommended for soybean and pulse crops, but not for rice crops due to the different weed flora.*

- **Impacts** - Ht rice will *not favour the genetic diversity* of Indian rice as it will monopolise in favour of specific varieties of seed.
- It will *raise the cultivation costs*.
- It may also lead to more *herbicide-resistant weeds* in the future, endangering rice production.
- **Eco-friendly weeding method** - *Advancing the date of sowing* to May 15-June 10 and *hand weeding* at 20 and 40 days after DSR sowing is more effective for weed control and higher seed yield.

### Direct Seeded Rice (DSR)

- It is a modern agricultural technique where rice seeds are sown directly into the field without the need for transplanting seedlings.
- **Advantages** - It *saves about 40% of groundwater irrigation and cultivation costs*, with savings in energy consumption (electricity, diesel, manpower, etc) *without any loss of seed yield* compared to water-guzzling transplanted rice.

## Reference



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