Environment & Ecology · GS - III

Examine the role of international cooperation, zoological institutions and collaborative breeding programmes in conserving endangered species. Discuss the challenges associated with ex-situ conservation in India.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 30/10/2026	GS - III	Environment & Ecology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Biodiversity conservation; ex-situ conservation; zoos and aquariums; captive breeding; genetic diversity; wildlife welfare; international collaboration

Model Answer

Introduction

The EARAZA 2026 conference hosted by Vantara in Jamnagar highlights the role of international cooperation in wildlife conservation. Zoological institutions can support endangered species recovery through scientific research, captive breeding and public awareness.

Role in Conservation

1. **Ex-situ Conservation:** Zoos provide controlled environments for the protection and breeding of threatened species outside their natural habitats.
2. **Collaborative Breeding:** Exchange of scientific expertise and genetic management can help maintain healthy captive populations and reduce inbreeding.
3. **Research and Veterinary Care:** Zoological institutions contribute to wildlife medicine, reproductive biology and species-specific conservation knowledge.

4. **International Cooperation:** Platforms such as EARAZA encourage institutional partnerships and knowledge-sharing across countries.

Challenges in India

Limited genetic diversity, inadequate natural habitat, disease risks, animal welfare concerns and difficulties in reintroduction can restrict the success of captive breeding programmes. Ex-situ efforts may also divert attention from protecting natural ecosystems if not integrated with in-situ conservation.

Way Forward

India should strengthen scientific monitoring, veterinary standards, transparent institutional regulation and habitat restoration. Captive breeding should be linked with carefully assessed reintroduction programmes wherever feasible.

Conclusion

Ex-situ conservation is a valuable complement to habitat protection. Its long-term success depends on scientific management, animal welfare and international cooperation.

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