

BIODIVERSITY AND ENVIRONMENT

STATE OF THE WORLD'S BIRDS REPORT

The State of the World's Birds, which is an annual review of environmental resources, has been released recently.

About

- State of the World's Birds is BirdLife International's flagship science publication, using birds to assess the condition of our ecosystems as a whole.
- The study draws from BirdLife International's latest assessment of all birds for the International Union for Conservation of Nature's data.
- The report was conducted by Manchester Metropolitan University which gives an overview of the changes in the knowledge of avian biodiversity and associated threats.

Important Findings

Declining trend:

- The population of 48% of the approximately 11000 surviving species of birds across the world is declining.
- Currently, 13.5% of species are threatened with global extinction.
- 798 species out of which are classified as vulnerable
- 460 species are classified as endangered
- 223 species are classified as critically endangered
- Around 73% of species were estimated to have fewer than 10,000 mature individuals.

Latitudinal variations:

- The proportion of highly threatened species was found more in tropical latitudes comprising 86.4 percent. While the number was 31.7 percent in case of temperate latitudes.
- Reason behind it is that most of the biodiversity hotspots are concentrated in the tropical region.
- Examples: Andes, southeast Brazil, eastern Himalayas, eastern Madagascar, and Southeast Asian islands.

India:

- The trend toward declining bird diversity is just as alarming in India, where recent annual trends have been calculated for 146 species.
- Of these, nearly 80% are declining in numbers, and almost 50% plummeting strongly.
- Just over 6% of the species studied show stable populations and 14% show increasing population trends.

Importance of Avian species in the ecosystem

- Avian species have significant contributions towards ecosystem services both directly and indirectly benefiting human beings.
- Multiple functional roles: The services include provisioning, regulating, cultural, and supporting services towards the ecosystem. Various functional roles:
 - Pollinators
 - Seed-dispersers
 - Ecosystem engineers
 - Scavengers
 - Predators
- **Sustainable agriculture:** They not only contribute to biodiversity but also support anthropogenic activities like sustainable agriculture through pollinations, preying on rodents and pests.
- **Pest management:** They help in pest control which helps humans in agriculture and keeps the biodiversity balanced.
- **Source of food:** They are an important source of food as well (meat, eggs).
- **Aesthetic value:** They have cultural and aesthetic value which contributes to the beauty of nature. Birdwatching is a global pastime practiced by millions of people. They are taken as pets too.
- Bird-feeding industry is valued at \$5-6 billion per year and growing by four per cent annually which provides a significant level of employment.

Threats to the avian species

- Growing human footprint: Increasing human population has led to degradation of the natural habitats of the birds for want of more urban living spaces thus leading to loss of biodiversity.

- Plantation disguised as afforestation: Though there has been an increase in the tree covers in many regions but the nature of the newly planted trees has been non-native therefore being detrimental to many bird habitats.
- Hunting and trapping: Many birds are hunted for their ornamental motifs like feathers, nails etc in addition to being hunted for food globally.
- Impact of invasive alien species and disease: It has been estimated that approximately 1000 alien bird species introduced accidentally or deliberately across the world over the centuries have affected the native species significantly.
- Infrastructure development in pursuit of human growth has led to fragmentation and destruction of birds' habitats across the globe.
- Agrochemical and pharmaceutical usage: millions of birds die every year because of pesticide ingestion. Example: Diclofenac has caused deaths of vultures in India.
- Global teleconnections: the rays from cell phone towers are damaging to the biological system of the birds, they also lead to thinning of the egg's shell.
- Climate change: The last century has seen many species getting extinct and many more getting into the list of 'critically endangered', this has been due to pronounced change in the climatic conditions because of anthropogenic activities.

Measures to control the avian biodiversity loss

- Restoring natural habitats: Sustainable expansion of human footprint along with inputs from conservation social sciences (which streamlines various disciplines to achieve sustainable conservation outcomes) can help arrest the dwindling number of birds specie
- Accelerated afforestation and arresting deforestation: Worldwide Fund for Nature and the Wildlife Conservation Society, BirdLife is working on a scheme that will see one trillion trees re-grown, saved or be better protected by 2050.
- Tackling illegal hunting and poaching: Provisions of CITES and CMS should be adopted under domestic laws to stop illicit trade and poaching of the species.
- Captive breeding and reintroducing the species which are near extinction and critically endangered.
- Sustainable development: Human needs should be reconciled with nature. The anthropogenic development should be made sustainable with other creatures of nature.

IMPORTANT FACTS FOR PRELIM

1. AIM-PRIME Programme

Recently, the Government has launched AIM-PRIME Playbook to help academics launch deep-tech spin-offs.

AIM- PRIME (Program for Researchers in Innovation, Market Readiness and Entrepreneurship)

Launched by:

- Atal Innovation Mission (AIM), NITI Aayog
- AIM has joined hands with Bill & Melinda Gates Foundation (BMGF)
- The nationwide program will be implemented by Venture Center - a non-profit technology business incubator.
- **Aim:** Promoting early-stage science-based, deep technology ideas to market through training and guidance over a period of 12 months using a blended learning curriculum.
- **Target Audience:** Technology developers and incubations managers
- **Focus Areas:** Science-based, knowledge-intensive, deep technology entrepreneurship.
- **Duration:** Paced and staged over a duration of 9 months

Program benefits:

- the PRIME Playbook,
- a guide for science-based entrepreneurs and ventures,
- the PRIME Library,
- a curated resource shared by the faculty and expert mentors associated with the program, and the PRIME Videos, an open-access video collection of the lectures delivered as part of the PRIME Classroom.

Significance:

- Developing products in sectors like healthcare need deep technical knowledge and new inventions, and thus there is a need to nurture science-based deep tech startups.

- Programs like AIM PRIME can nurture vehicles that can attract capital into high risk-reward pursuits.
- To convert publicly funded R&D capabilities into products and services in the market, the AIM PRIME program is serving a very important purpose.

2. Andaman and Nicobar Islands to get Gas Plant

Recently, The Environment Ministry has approved an exemption to the laws governing the regulation of coastal zones and has paved the way for gas-powered plants to be set up at Andaman and Nicobar islands.

About the gas plant

The Plant:

- It will be a gas-based power plant at Hope Town in Andaman & Nicobar Islands to provide clean energy.
- The plant is expected to work on "dual fuel technology i.e., through Liquefied Natural Gas (LNG) or High-Speed Diesel (HSD) or single fuel (LNG)".

Location:

- The plant will come up in South Andaman district's Ferrargunj tehsil.

Developed by:

- It is to be developed by the National Thermal Power Corporation (NTPC).
- National Coastal Zone Management Authority:
- The NCZMA has recommended that gas-based power plants be permitted within the Island Coastal Regulation Zone area only in islands with geographical areas greater than 100 sq. km.

Issues:

- The Island Coastal Zone Regulation (ICRZ), 2019, limits infrastructure development on vulnerable coastal stretches.

Significance of the move:

- To meet the energy requirement of the islanders while reducing the dependency on highly polluting sources such as conventional diesel generators (DG sets) was given prime consideration.
- There has been an increased interest in the development of the Andaman region following a policy push by the NITI Ayog.
- A proposed project is to develop the Greater Andaman region or the southernmost stretch of islands.

DAILY ANSWER WRITING PRACTICE

Q1. Given Myanmar's geostrategic significance and the continuing insurgency threat, disturbances in Myanmar pose a direct and serious policy challenge to India. However, India must continue to engage with Myanmar to restore democratic processes and prevent violence and conflict in Myanmar. Analyse. (250 words)

Introduction

Myanmar (formerly called Burma) military grabbed power in a coup, third time in the nation's history since its independence from British rule in 1948. Military (also called Junta and Tatmadaw) has alleged that the general elections held in November 2020 were full of irregularities and that therefore, the results are not valid. This marked the end of Myanmar's short-lived experience with democracy which began in 2011, when military implemented parliamentary elections and other reforms.

Body

Geo-strategic significance of Myanmar for India

- Geopolitical interests:** Myanmar sits at the intersection of India's 'Neighbourhood First' and 'Act East' policies, and therefore is an essential element in India's practice of regional diplomacy in the Indo-Pacific, and serves as a land bridge to connect South Asia and Southeast Asia.
- Strategic location:** It serves as a buffer between India and China. Myanmar has coastal access to the Bay of Bengal. It connects Bangladesh, China and the restive North-eastern states of India. It is also close to India's Nicobar archipelago.
- National security:** Myanmar-China border has become the epicentre of local armed separatist groups operating on Myanmar soil, and Indian groups, ranging from ULFA in Assam to the NSCN (IM) in Nagaland.

- **Economic interests:** India has interests in natural resources of Myanmar and also developing certain projects like India–Myanmar–Thailand trilateral highway and Kaladan multi-modal project which is to link India's landlocked north-eastern States to the Myanmar Port of Sittwe, located in the Bay of Bengal. Instability in Myanmar will be a roadblock to these ambitions.
- **Countering China:** A weakened Myanmar falling into the clutches of China as a satellite state will pressurize India to do Beijing's bidding in regional affairs.

Approach to be taken by India

- India faces the most challenging dilemma on how to respond to the military coup in Myanmar. India supports the process of democratic transition in Myanmar.
- Though India has expressed deep concern over recent developments in Myanmar, cutting off from the Myanmar military is not a viable option as India has significant economic and strategic interests in Myanmar and its neighbourhood.
- The dual power centres of the military and the civilian government that existed in Naypyitaw until recently, suited India.
- While India's national interests clearly lie in dealing with whoever is in power in Myanmar, India would find it difficult to openly support the junta given the strong western and American stance.
- On the other hand, it can ill-afford to offend the junta by actively seeking a restoration of democracy there.
- India should continue to engage with the present regime in Myanmar working towards mutual development of people of both the countries while it should support sharing experiences in constitutionalism and federalism to assist Myanmar in resolving the prevailing stalemate.

Conclusion

India is left with very few clear policy options. And yet, it must continue to maintain relations with the government in power in Myanmar while discreetly pushing for political reconciliation in the country. In the meantime, the focus must be on improving trade, connectivity, and security links between the two sides.

DAILY QUIZ

- Q1. Which of the following statements is not correct regarding Planet Venus?
- (a) Its atmosphere is highly rich in carbon dioxide.
 - (b) The temperature of Venus is too high.
 - (c) Its structure is similar to Earth's but larger in size.
 - (d) It spins from east to west.
- Q2. With reference to sealed cover jurisprudence, consider the following statements:
1. It is accepting information from government agencies in sealed envelopes that can only be accessed by judges.
 2. It is only used by the High Court .
- Which of the statements given above is/are correct?
- (a) Neither 1 nor 2
 - (b) 2 only
 - (c) 1 and 2 only
 - (d) only 1
- Q3. With reference to Uniting for Consensus (UfC) or the Coffee Club, consider the following statements:
1. It is an official Intergovernmental group comprising all UNSC members.
 2. It is a movement in opposition to the possible expansion of permanent seats in the United Nations Security Council.
 3. G4 nations include India and Pakistan among others.
- Which of the above given statements is/are correct?
- (a) only 1 and 2
 - (b) 2 only
 - (c) 1, 3 and 2
 - (d) only 1 and 3
- Q4. Which of the following are works of Rabindranath Tagore?
1. Bhanusimha
 2. Manasi
 3. Geetanjali
 4. Kumarasambhava
- Select the correct answer using the code given below.
- (a) 1 and 3 only
 - (b) 2 and 4 only
 - (c) 1 and 2 only
 - (d) 1, 3 and 2

Q5. Which of the following conditions are favourable for the formation of Tropical Cyclones?

1. Sea surface with a temperature higher than 27° C
2. Coriolis force
3. Large differences in the vertical wind speed
4. High pressure area

Select the correct answer using the codes given below.

- (a) 1 and 3 only (b) 2 and 4 only
(c) **1 and 2 only** (d) 1, 3 and 2 only

Q6. Match the followings

1. GPS - USA
2. GLONASS- China
3. Galileo - Europe
4. Compass- Russia

Which of the above are correctly matched

- a) 1 and 2 only b) 2 and 3 only
c) 3 and 4 only **d) 1 and 3 only**

Q7. Consider the following statements

1. Barak 1 and Barak 8 both are surface to air missiles
2. India developed Barak missile joint collaboration with Russia

Choose the incorrect statements

- a) 1 only **b) 2 only**
c) Both d) Neither 1 nor 2

Q8. 'CHAFF system' recently in news is related to which of the following

- a) A defence technology**
b) Prevent railway accident
c) Water purification
d) Desalinisation of water

Q9. Consider the following statement

1. Weight of food articles in CPI is higher than WPI
2. WPI base year recently changed to 2017-2018
3. WPI does not capture changes in price of services but CPI does

Choose the correct statement /s

- a) 2 only b) 2 and 3 only
c) All of the above **d) 1 and 3 only**

Q10. "Integrity Pact" recently seen in news is related to which of the following

- a) Corruption** b) Export ,import
c) Wild life corridor d) Pollution