

**GOVERNANCE****Project RE-HAB**

A pilot project RE-HAB (Reducing Elephant-Human Attacks using Bees) has been launched in Karnataka which entails installing bee boxes along the periphery of the forest and the villages to mitigate human-elephant conflict.

These spots are located on the periphery of Nagarahole National Park and Tiger Reserve, which is a known conflict zone.

**Key Point****About:**

It is intended to create “bee fences” to thwart elephant attacks in human habitations using honeybees.

**Advantages:**

- The bee boxes will dissuade elephants without causing any harm to them.
- Extremely cost-effective as compared to various other measures such as digging trenches or erecting fences.
- The initiative will increase honey production and farmers' income.

**Implementing Agency:**

- Project is an initiative of the Khadi and Village Industries Commission (KVIC).
- It is a sub-mission of KVIC's National Honey Mission.

**Honey Mission:**

- The KVIC has launched the Honey Mission to provide awareness, training and 'Bee Boxes' along with Bee Colonies to the farmers.
- The mission was launched in August 2017 in line with the 'Sweet Revolution'.
- The 'Sweet Revolution' was launched in 2016 to promote beekeeping and associated activities.

**INDIAN ECONOMY****Inflation Data: February 2021**

Recently, the Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade has released the **Wholesale Price Index (WPI)** for the month of February, 2021.

**Key Points****Wholesale Price-Inflation:**

- It increased for the second consecutive month to 4.17%.
- This is the highest since November 2018, when wholesale inflation was at 4.47%.
- The WPI inflation was 2.03% in January 2021 and 2.26% in February 2020.

**Reason:**

- Increase in inflation in food articles, fuel & power has led to this surge.
- **Food Inflation:** The food articles in February saw 1.36% inflation which in January stood at (-) 2.80%.
- **Retail inflation:** Based on the Consumer Price Index (CPI), it was at 5.03% in February.

**Wholesale Price Index**

- It measures the changes in the prices of goods sold and traded in bulk by wholesale businesses to other businesses.
- Published by the Office of Economic Adviser, Ministry of Commerce and Industry.
- It is the most widely used inflation indicator in India.
- Major criticism for this index is that the general public does not buy products at wholesale price.
- The base year of All-India WPI has been revised from 2004-05 to 2011-12 in 2017.

**Consumer Price Index**

- It measures price changes from the perspective of a retail buyer. It is released by the National Statistical Office (NSO).
- The CPI calculates the difference in the price of commodities and services such as food, medical care, education, electronics etc, which Indian consumers buy for use.
- The CPI has several sub-groups including food and beverages, fuel and light, housing and clothing, bedding and footwear.

**Four types of CPI are as follows:**

- CPI for Industrial Workers (IW).
- CPI for Agricultural Labourer (AL).
- CPI for Rural Labourer (RL).
- CPI (Rural/Urban/Combined).

Of these, the first three are compiled by the Labour Bureau in the Ministry of Labour and Employment. Fourth is compiled by the NSO in the Ministry of Statistics and Programme Implementation.

**Base Year for CPI is 2012.**

The Monetary Policy Committee (MPC) uses CPI data to control inflation. In April 2014, the Reserve Bank of India (RBI) had adopted the CPI as its key measure of inflation.

**INTERNATIONAL RELATION****Changes in Electoral System of Hong Kong**

Recently, China has made changes in Hong Kong's electoral system.

The measures are part of China's efforts to consolidate its authoritarian grip over Hong Kong Special Administrative Region (HKSAR) following the imposition of a national security law in June 2020.

**Key Points****The New Electoral System:****Increased Membership of the Legislative Council:**

- The number of Hong Kong's Legislative Council (HKLC) members will be increased to 90, with the additional members also nominated, thereby reducing the share of elected representatives.
- Currently, only half of the 70 members of HKLC are directly elected and the rest are nominated.

**Expansion of Election Committee:**

- The Election committee (Hong Kong electoral college) has been expanded to include Beijing-nominated members.
- The Election Committee, as previously, will be responsible for electing the Chief Executive, and will also choose some of the members of HKLC.

**New Candidate Qualification:**

- The selection of "patriots" will be ensured by the setting up of a new candidate qualification review committee.

**Implications:**

- The change will give Beijing-appointed politicians a greater say in running the Hong Kong Special Administrative Region (HKSAR), marking the biggest change since the handover in 1997.
- An increased number of pro-Beijing officials would weaken the power of the opposition to influence the city's leadership.
- It will erode the political freedoms that distinguished Hong Kong from the mainland under the "one country, two systems" model.

**Implication for India:**

- Hong Kong is a destination for re-export of Indian goods to the global market.
- Hong Kong is the fourth largest export market for India.
- India is of the view that Hong Kong can play an important role in strengthening ties with China, as it is considered a gateway to China.
- Thus, global tensions due to political unrest in Hong Kong carry consequences for India's trade with the rest of the world, as well as with China.

**Criticism:**

- The European Union has condemned the change and warned China of broader sanctions.
- The G7 termed this move a step towards eliminating dissenting voices and opinions in Hong Kong.
- All major economies such as the USA, UK, Australia have condemned the move and have urged China to allow a more participatory and representative form of system.
- The change is non-compliance with the Sino-British Joint Declaration.

**SCIENCE AND TECHNOLOGY****Moving Black Hole**

Scientists have discovered the first moving supermassive black hole whose mass is about three million times that of our Sun.

The black hole was travelling within its own galaxy (J0437+2456) which is around 228 million light years away from Earth.

**Key Points****Study Conducted by the Scientists:**

- Scientists studied 10 faraway galaxies with supermassive black holes in the centre, expecting them to have the same velocity as that of the galaxies they reside in.
- Focus of their study was the water in the accretion disk (the spiralling mass around a supermassive black hole made of matter that is eventually ingested by the black hole).
- As the water circles around the black hole before falling into it like liquid in a sink, it produces a laser-like beam of radio light known as a maser. These masers can tell the velocity of black holes very accurately.

**About the Moving Supermassive Black Hole:**

- Of the 10 black holes they studied, only the one at the center of J0437+2456 was unusual. It was not moving at the same velocity as its home galaxy.
- Besides the empirical evidence, the enormous size of these black holes had led people to imagine them to be stationary objects planted in the middle of galaxies as opposed to objects floating around in space.
- It is moving with a speed of about 1,10,000 miles per hour inside its galaxy.

**Possible Causes for the Motion:**

- Two Supermassive Black Holes Merging: Scientists might have spotted the resulting black hole moving in a rearward motion after the merger before settling down in a position.
- One in a Binary System of Black Holes, where not one but two supermassive black holes might exist within the host galaxy held together by a shared centre of gravity, which they might be orbiting.
- The twin of the newly-discovered wandering black hole might not be emitting masers, keeping it from being detected by the radio antenna network.

**NATIONAL DEVELOPMENT**
**Statue of Unity**

Recently, the ‘**Statue of Unity**’ at Kevadia in Gujarat’s Narmada district has crossed the mark of 50 lakh visitors since its inauguration in 2018.

India’s first seaplane service in Gujarat started from 31st October, 2020. It connects Sabarmati Riverfront in Ahmedabad to the Statue of Unity in Kevadia.

**Key Points**

- The Statue of Unity is built in honour of Sardar Vallabhbhai Patel. Sardar Patel is credited with uniting 560 princely states in pre-independent India hence the name of the statue is christened as ‘Statue of Unity’.
- It was inaugurated on 31st October, 2018 to mark the 143rd birth anniversary of Sardar Patel.
- The Statue of Unity is the tallest statue in the world. At 182 metres, it is 23 metres taller than China’s Spring Temple Buddha statue and almost double the height of the Statue of Liberty (93 metres tall) in the US.
- In January 2020, it was added in the ‘Eight Wonders’ of the Shanghai Cooperation Organisation (SCO).

**Location:**

- It is located on the Sadhu Bet island on the Narmada river, which flows between the Satpura and the Vindhya mountain ranges.

**Designed:**

- The Statue of Unity was designed by Padma Bhushan recipient sculptor Ram V Sutar and intricate bronze cladding work was done by a Chinese foundry, the Jiangxi Toqine Company (JTQ).
- Sardar Vallabh Bhai Patel

**Born:** 31st October 1875 in Nadiad, Gujarat.

**Death:** 15th December 1950 in Bombay.

**Achievements:**

- First Home Minister and Deputy Prime Minister of India.
- Headed various Committees of the Constituent Assembly of India, namely:
- Advisory Committee on Fundamental Rights.
- Committee on Minorities and Tribal and Excluded Areas.
- Provincial Constitution Committee.

Integrated the farmer’s cause in Kheda Satyagraha (1918) and Bardoli Satyagraha (1928) with the national freedom movement.

Women of Bardoli bestowed the title ‘**Sardar**’ on Vallabhbhai Patel, which means ‘**a Chief or a Leader**’.

Known as the “**Iron Man of India**” for playing an important role in unification and integration of Indian princely states into the Indian federation and for convincing princely states to align with the Indian Union.

Requested the people of India to live together by uniting (**Ek Bharat**) in order to create a foremost India (**Shresth Bharat**).

This ideology still reflects in the **Atmanirbhar Bharat** initiative which seeks to make India self-reliant.

Remembered as the ‘**Patron Saint of India’s Civil Servants**’ as he established the modern all-India services system.

**ENVIRONMENT AND BIODIVERSITY**
**Removal of Heavy Metals from Water**

Recently, a research team at the Indian Institute of Technology (IIT) Mandi has developed a new method for efficient removal of heavy metals from water.

**Key Points**

- Several methods like chemical precipitation, ion exchange, adsorption, membrane filtration, reverse osmosis, solvent extraction, and electrochemical treatment have been used to remove heavy metals from contaminated water.

- Many of these methods suffer from high capital and operational costs.
- Therefore, adsorption is one of the best-suited methods, due to its high efficiency, low-cost, and ease of operation.

**About the Research:**

- A research team has developed a fibrous membrane filter using a biopolymer-based material that helps to separate out the heavy metals from water samples.
- These membranes contain adsorbents materials that attract and hold the metals.

**Process Used:**

- The researchers have used a process called “**solution blowing**”, while regular fibre-based adsorbents are produced through a method called “**melt blowing**”.

**Melt Blowing:** It is a special technique for manufacturing material with very fine fibers, down to 0.5 μm (in range of micrometers).

**Solution Blowing:** It starts from dissolving the polymer in solvent, e.g. cellulose in ionic liquid.

- The solution is pumped through a spin nozzle where air is blown at high speed concentrically.
- Solution blowing produces fibres that are nanometres in diameter, a hundred thousand times thinner than a single human hair. Finer than those produced through the process of Melt Blowing. This increases the surface area of fibers tremendously, resulting in better adsorption of heavy metals.

**Heavy Metals**

- The term heavy metal refers to any metallic chemical element that has a relatively high density (> 5 g/cm<sup>3</sup>) and is toxic or poisonous at low concentrations.
- Examples of heavy metals include mercury (Hg), cadmium (Cd), arsenic (As), chromium (Cr), thallium (Tl), and lead (Pb)

**Effect of Heavy Metals on Human:**

- There are some essential heavy metals which the human body requires in trace amounts such as Cobalt, copper, zinc, and manganese but in the excessive amount, it can be detrimental to health.
- The heavy metals found in drinking water such as lead, mercury, arsenic, and cadmium have no beneficial effects on our body.
- In fact, their accumulation inside the body can cause severe health problems.

**Metals**

- Mercury
- Cadmium
- Lead
- Arsenic
- Nitrates

**Disease**

- Minamata disease
- Itai Itai
- Anaemia
- Black foot disease
- Blue Baby Syndrome

**ART AND CULTURE**

**Kathakali Maestro Guru Chemancheri Kunhiraman Nair**

Recently, the Kathakali actor Guru Chemancheri Kunhiraman Nair died at the age of 105 in Kozhikode, Kerala. He played a significant role in making Indian classical dances popular in Kerala.

**Key Points**

- Guru Chemancheri Kunhiraman Nair was born on 16th June, 1916.
- He studied at Kalladikkodan school of Kathakali and was specialised in “Kalladikodan” style.
- The Kalladikodan shailee was created by Chathu Panicker Aasaan, and is one among the three major styles of Kathakali. The other two are Vettathu and Kaplingadu.
- Kalladikodan style gives equal importance to the three aspects of nritta (the dance movements in their basic form), nritya (expressional component i.e. mudras or gestures) and natya (the dramatic element of the dance i.e. the imitation of characters).
- His one of the most popular portrayals on stage is that of Lord Krishna and Sudama (known as Kuchela, mostly in Southern India).
- Guru Chemancheri was awarded with **Padma Shri** in 2017

**About Kathakali:**



- Kathakali is one among the eight classical dances of India.
- It is a blend of dance, music and acting. The dance involves dramatisation of stories, adapted mostly from the Indian epics.
- The roles generally portrayed include kings, gods and demons, the vocalists narrate the legend and the percussionists play the musical instruments.
- Kathakali involves use of heavy make-up and stunning costumes (elaborate masks, huge skirts and big head-dresses).
- Different facial colours are used to indicate different mental stages & character, for example green- nobility, black- wickedness and red patches- combining royalty & evil.

**Eight Classical Dances of India**

- Bharatnatyam (Tamil Nadu)
- Kathak (North India)
- Kathakali (Kerala)
- Mohiniyattam (Kerala)
- Kuchipudi (Andhra Pradesh)
- Odissi (Odisha)
- Sattriya (Assam)
- Manipuri (Manipur)

**IMPORTANT FACTS FOR PRELIM****Kenya-Somalia Dispute**

Kenya has declined to take part in proceedings of the International Court of Justice (ICJ) over its maritime border dispute with neighbouring Somalia.

**Key Point****Direction of Maritime Boundary:**

- The main point of disagreement between the two neighbours is the direction in which their maritime boundary in the Indian Ocean should extend.

**Somalia's Stand:**

- The sea border should be an extension of the same direction in which their land border runs as it approaches the Indian Ocean, i.e. towards the southeast.

**Kenya's Stand:**

- The maritime border should run parallel to the equator.

**Importance of Disputed Area:**

- The triangular area thus created by the dispute is around 1.6 lakh sq. km. large, and boasts of rich marine reserves.
- It is also believed to have oil and gas deposits.

**DAILY ANSWER WRITING PRACTICE**

**Qns. Explain the significance of the Eastern Ghats for India. Suggest steps that can be taken to conserve the biodiversity of the region (250 Words).**

Ans:

The Eastern Ghats, discontinuous hill-ranges spread across Odisha, Telangana, Andhra Pradesh, Karnataka, and Tamil Nadu, are home to unique ecosystems.

This diverse landscape is home to endemic flora and fauna. Many animals, including tigers and elephants, and some 400 bird species are found in these discontinuous forests that receive an annual average rainfall of 1,200 mm to 1,500 mm.

**Significance**

- Spread across some 75,000 sq. km, Eastern Ghats play an important dual role in fostering biodiversity and storing energy (biomass) in trees.
- It has many dams like Krishnagiri, Sathanur, Shenbagathoppu, Kariyalur, Gomuki, Mriganda, Chengam, etc.
- They help in irrigation and flood management by controlling water flow.
- Waterfalls such as the Periyar Falls, Megam Falls, Beeman Falls, Killiyur Falls, Hogenakkal, make the land fertile apart from drawing tourists.
- The forest resources of the region act as Carbon sink, thereby helping in reduced concentration of water.

**Threats to Eastern Ghats**

- The Eastern Ghats face a serious threat from climate change. The area has shrunk by 16% over the past century, and just one region, Papikonda National Park, lost about 650 sq. km. over the last twenty years.
- Tremendous stress, degradation and damage due to human greed, population pressure, unsustainable development, apathy by the public, negligence by public servants, etc.

- Haphazard mining, logging, poaching, forest fires, unsustainable harvest of forest produce, pilferage of rare species, smuggling and export of rare flora and fauna, encroachments of forest land and infrastructure development industrialization, springing up of habitations with an intention to colonize and devour the forest.

#### Steps To Be Taken to Conserve the Eastern Ghats

- Promotion of sustainable use of forest resources should be done in order to counter overexploitation.
- Adequate Agricultural Practices: Government should incentivize settled agriculture in order to counter the impact of shifting agriculture because the practice of shifting agriculture will directly contribute to deforestation.

**Afforestation:** Improving tree cover nationally can confer multiple benefits, including modulation of the monsoon, improved air quality and wider spaces for biodiversity to persist.

**Planting Indigenous varieties:** Government should finance the usage of indigenous plants and trees for restoring and strengthening the peripheral areas of the forest of Eastern Ghats by tapping into the International Climate Fund available.

**Local Participation:** There is a need for concerted and macro-level conservation movement by the involvement of all stakeholders especially the public.

Collectivizing or binding all individuals and civil society groups into a network will bring much focus and strength to the cause.

**Eco-tourism:** It takes care of the livelihood of locals by making them stake-holders, the forest and its biodiversity are guarded by eco-tourism management committee members in turn.

**Holistic Conservation:** Conservation of ecosystems like wildlife Corridors, specialised ecosystems, and special breeding sites, areas with intrinsically low resilience, sacred groves and frontier forests etc. is also very important.

#### Conclusion

Only if an effective strategy for the eco-development of these regions is developed by involving the local people, the flora, fauna and other natural resources of Eastern Ghats can be protected. Otherwise the future of the Eastern Ghats and its precious biodiversity will be only an illusion.

#### DAILY QUIZ

1. Consider the following statements regarding the Classical dances of India:

1. Kathakali and Mohiniattam of Kerala are included in the eight classical dances of India.
2. Kalladikodan shailee is a major dance style of Mohiniyattam.
3. Guru Chemancheri Kunhiraman Nair was a prominent Bharatnatyam dancer.

Which of the statements given above is/are correct?

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

2. Consider the following statements about Project RE-HAB:

1. It has been launched to mitigate the elephant attacks in human habitations.
2. It is a sub-mission of the National Honey Mission.
3. The project will be implemented by the Khadi and Village Industries Commission (KVIC).

Which of the statements given above is/are correct?

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

3. Consider the following statements:

1. The Consumer Price Index (CPI) is released by the National Statistical Office (NSO).
2. The CPI for Industrial Workers (IW) is compiled by the Labour Bureau in the Ministry of Labour and Employment.

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

4. Consider the following statements:

1. India's arms imports have increased in the period 2016-2020 from 2011-2015.
2. USA is the largest arms supplier to India in the periods 2016-2020.

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**

5. Consider the following statements:

1. The Nagarhole National Park lies in the Western Ghats and is a part of the Nilgiri Biosphere Reserve.
2. The Srivilliputhur Meghamalai Tiger Reserve is located in Tamil Nadu.

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