

**GOVERNANCE**

**New Guidelines for Poultry Farmers**

- According to new guidelines for poultry farmers, small and marginal poultry farmers in India will now have to take measures similar to their bigger counterparts to prevent environmental pollution.
- Till now, small poultry farms in India were exempt from environmental laws.
- In 2020, the National Green Tribunal stated that the Central Pollution Control Board (CPCB) should revisit the guidelines for keeping poultry farms in the green category and free from air, water and environmental protection laws.

**Status of Poultry Birds in India**

- According to the 20th Livestock Census, there are 851.8 million poultry birds in India.
- About 30% of this is 'backyard poultry' or small and marginal farmers.
- Chickens, turkeys, ducks, geese, etc, are reared in poultry farms for meat and eggs.
- Tamil Nadu, Andhra Pradesh, Telangana, West Bengal, Maharashtra, Karnataka, Assam and Kerala have the highest poultry populations.

**Key Points**

**Major Provisions:**

**New Definition of Poultry Farmer:**

- Small Farmers: 5,000-25,000 birds
- Medium Farmers: More than 25,000 and less than 1,00,000 birds
- Large Farmers: More than 1,00,000 birds

**Certificate of Consent Required:**

- For establishing and operating a medium-sized poultry farm.
- This will have to be taken from the State Pollution Control Board or Committee under the Water Act, 1974 and the Air Act, 1981.
- Permission will be valid for 15 years.

**Implementing Agency:**

The Animal Husbandry Department will be responsible for implementing the guidelines at the state and district level.

**Reducing Pollution:**

- Poultry farms should have a ventilated room to reduce the gaseous pollution from the birds.
- Also, care should be taken so that poultry faeces do not mix with running water or any other pesticide.
- A farm should be set up 500 metres away from a residential area, 100 metres from rivers, lakes, canals and drinking water sources, 100 metres from national highways and 10-15 metres from village footpaths and rural roads.

**Need:**

- Poultry production is associated with a variety of environmental pollutants, including oxygen-demanding substances, ammonia, solids, besides it attracts flies, rodents, dogs and other pests that create local nuisances and carry diseases.
- Poor management of manure, litter and wastewater etc. adversely affects the living in the vicinity.
- Furthermore, intensive poultry production may be responsible for greenhouse gasses, acidification and eutrophication.
- The NGT in 2020 said that sustainable development is a part of the right to life and the state authorities are under obligation to protect the environment as per sustainable development concept.

**Some Initiatives for Poultry:**

**Poultry Venture Capital Fund (PVCF):**

- The Department of Animal Husbandry and Dairying is implementing it under "Entrepreneurship development and Employment generation" (EDEG) of the National Livestock Mission.
- It is a bankable programme and the Central Government is providing subsidy through National Bank for Agricultural and Rural Development (NABARD) for those beneficiaries taking loan for PVCF.

**National Livestock Mission:**

- Different programmes under the National Livestock Mission under which financial assistance is provided to States/Union Territories for implementation of Rural Backyard Poultry Development (RBPDP) and Innovative Poultry Productivity Project (IPPP).

**Assistance to States for Control of Animal Diseases (ASCAD) Scheme:**

- ASCAD under “Livestock Health and Disease Control” (LH&DC) which covers the vaccination of economically important poultry diseases viz., Ranikhet Disease, Infectious Bursal Disease, Fowl Pox etc., including control and containment of emergent and exotic diseases like Avian Influenza schemes.

**INTERNATIONAL RELATIONS**

**China’s eye on Afghan’s Mineral Deposits**

Recently, following the withdrawal of US forces from Afghanistan, China has emerged as one of the first nations to build diplomatic relation with the Taliban. This engagement emanates from China's economic and security interest in Afghanistan.



**Key Points**

**About China’s Economic Interest in Afghanistan:**

**Reserves of Lithium:** Afghanistan is probably home to what may be the world’s largest reserves of lithium.

- Lithium is the key ingredient of the large-capacity lithium-ion batteries that are widely used in electric vehicles and the renewable energy industry.
- China dominates Lithium-Ion Battery Production worldwide and it may seek long-term a contract with the Taliban to develop Afghanistan’s massive untapped lithium reserves in return for mining rights and ownership arrangements.

**Mineral Deposits:** Afghanistan is sitting on mineral deposits estimated to be worth up to \$3 trillion.

- Afghanistan is rich in several resources such as gold, oil, bauxite, rare earths, chromium, copper, natural gas, uranium, coal, iron ore, lead, zinc, gemstones, talc, sulphur, travertine, gypsum and marble.
- China’s Belt and Road Initiative: China’s strategic Belt-and-Road Initiative (BRI) could get more reach if it is able to extend the initiative from Pakistan to Afghanistan, with a Peshawar-to-Kabul motorway.
- This would create a much shorter land route for faster and convenient access to markets in the Middle East for Chinese goods.

**About China’s Security Interest in Afghanistan:**

- According to the UN security council, the East Turkestan Islamic Movement (ETIM) had roots in Afghanistan as it received support from the Taliban and Al Qaeda in the 2000s.
- ETIM is an Uyghur Islamic extremist organisation founded in Western China with the aim to establish an independent state called East Turkestan in the place of Xinjiang.
- Thus, ETIM poses a direct threat to China’s national security and territorial integrity.

- China is worried that Afghanistan could become a potential haven for the Uyghur extremist group, which could retaliate against the widespread repression of Uyghurs.

#### **Impact of China-Taliban Engagement on India:**

- A new route of BRI through Kabul would render India's reluctance to join BRI less consequential.
- With China-Taliban engagement, there can be formation of a new regional geopolitical axis between China-Pakistan-Taliban, which may go against the interests of India.
- China's stronghold in Afghanistan will also hamper connectivity projects to Central Asia via Afghanistan. For example, Chabahar Port, International North South Transport Corridor (INSTC), TAPI Pipeline.

#### **Way Forward**

- India Engaging with the Taliban: Talking to Taliban would allow India to seek security guarantees from the insurgents in return for continued development assistance.
- India can also persuade the Taliban to explore the possibility of its autonomy from Pakistan.
- Fighting Global Terrorism: There is a need for the global community to fight against the global concern of terrorism.
- In this context, it high time to adopt the Comprehensive Convention on International Terrorism (proposed by India at UN in 1996).

### **SCIENCE AND TECHNOLOGY**

#### **Merger of Three Supermassive Black Holes**

Recently, the Department of Science and Technology reported that Indian scientists have discovered the merger of three supermassive black holes from as many galaxies to form a triple Active Galactic Nucleus.

Many Active Galactic Nuclei (AGN) pairs have been detected in the past, but triple AGN are extremely rare, and only a handful has been detected before using X-ray observations.

#### **Key Points**

##### **Current Merger:**

- Scientists were studying the AGN in the two massive barred spiral galaxies NGC7733 and NGC7734 when they detected unusual emissions from the centre of the latter and a curious movement of a large bright clump within it, having a different velocity than that of NGC7733.
- As the third one was a separate galaxy, the scientists named it NGC7733N.
- All three merging black holes were part of galaxies in the Toucan constellation.
- Toucan Constellation: It is located in the southern hemisphere of the sky. It is visible at latitudes south of 15 degrees between August and October. It is completely below the horizon for anyone north of 30 degrees. It is a small constellation, occupying an area of 295 square degrees. This ranks it 48th in size among the 88 constellations in the night sky.
- They are quite far away when compared to the nearest galactic neighbour – the Andromeda galaxy is 2.5 million light years away.

##### **Active Galactic Nuclei:**

- There are supermassive blackholes, which are several million solar masses in size, at the centres of galaxies, and these are known as AGN.
- At the center of most galaxies, there's a massive black hole with a huge mass accumulating gas, dust, and stellar debris around it. AGN is formed when the gravitational energy of these materials, being pulled towards the black hole, is converted into light.
- Since they "accrete" matter, they often have a glow around them which can be observed using light spectroscopy.

##### **Collision of Galaxies:**

- If two galaxies collide, their black hole will also come closer by transferring the kinetic energy to the surrounding gas.
- The distance between the blackholes decreases with time until the separation is around a parsec (3.26 light-years).
- The two black holes are then unable to lose any further kinetic energy to get even closer and merge. This is known as the final parsec problem.

##### **Significance of the Finding:**

The presence of a third black hole can solve the final parsec problem. The two galaxies can come closer when another black hole or a star passes by and takes away some of their combined angular momentum.

The finding shows that multiple accreting black holes [AGN] may be more common in our universe and especially common in galaxy groups. So the growth of black holes may be driven by such mergers in groups.

## INDIAN ECONOMY

### **Sweat Equity Rules: SEBI**

Recently, the Securities and Exchange Board of India (SEBI) has brought into effect the SEBI (Share Based Employee Benefits and Sweat Equity) Regulations, 2021. The regulations have widened the scope of employees who can be offered stock (equity) options.

SEBI has merged the SEBI (Share Based Employee Benefits) Regulations, 2014 (SBEB Regulations) and the SEBI (Issue of Sweat Equity) Regulations, 2002 (Sweat Equity Regulations).

SEBI is a statutory body established in accordance with the provisions of the SEBI Act, 1992. Its basic function is to protect the interests of investors in securities and to regulate the securities market.

### **Key Points**

#### **Sweat Equity:**

- Sweat equity is a non-monetary contribution that the individuals or founders of a company make towards the company. Cash-strapped startups and business owners typically use sweat equity to fund their companies.
- As per Section 2(88) of the Companies Act, 2013 sweat equity shares means such equity shares as are issued by a company to its directors or employees at a discount or for consideration, other than cash.

#### **Issued for:**

It will be issued for providing the know-how or making available rights in the nature of intellectual property rights or value additions.

#### **Maximum Limit:**

- The maximum yearly limit of sweat equity shares that can be issued by a listed company has been prescribed at 15% of the existing paid-up equity share capital within the overall limit, not exceeding 25% of the paid-up capital at any time.
- Further, in case of companies listed on the Innovators Growth Platform (IGP), the yearly limit will be 15% and overall limit will be 50% of the paid-up capital at any time. It will be applicable for 10 years from the date of the company's incorporation.
- SEBI in 2019 launched IGP erstwhile known as 'Institutional Trading Platform' for listing of issuers which are in intensive use of technology, information technology, intellectual property, data analytics, biotechnology or nano-technology to provide products, services or business platforms with substantial value addition.
- This proposal will benefit all new start-up companies seeking listing on the IGP platform.

#### **Share-based Employee Benefits:**

##### **Eligibility:**

- Companies will now be allowed to provide share-based employee benefits to employees, who are exclusively working for such a company or any of its group companies including a subsidiary or an associate.
- It is expected to not only help companies to better use share-based employee benefits for retaining employees for a longer period, but also imbibe a sense of responsibility and ownership in the employee that will push him/her to work for the growth of the company.

##### **Locking Period:**

To provide immediate relief to an employee or his/her family in instances of permanent incapacity or death, the regulations have dispensed with the requirement of a minimum vesting period and lock-in period (minimum 1 year) for all share benefit schemes.

##### **Applicability:**

- The new rules will be applicable only to listed companies as these have been framed by SEBI, which only regulates listed companies.
- A listed company is a stock exchange-listed company wherein the shares are openly tradable whereas an unlisted company is a company that is not listed on the stock market.
- For unlisted companies, any change needed will have to be brought into the Companies Act 2013.

## BIODIVERSITY AND ENVIRONMENT

### **Threat to Sambhar Lake**

According to a recent study, Sambhar Salt Lake in Rajasthan is constantly shrinking with the degradation of soil and water quality and a decline in the population of migratory birds.



### Key Points

#### Location:

80 km south-west of Jaipur in east-central Rajasthan, it is the country's largest inland saline water body. Represents the depression of the Aravalli Range.

#### Famous For:

Production of brine/salt, houses one of the largest salt manufacturing units in the country. Thousands of migratory birds every year.

#### Ramsar Site:

A wetland of 'international importance' under the Ramsar Convention, declared in 1990.

#### Rivers:

Receives water from six rivers, namely Samaod, Khari, Mantha, Khandela, Medtha, and Roopangarh.

#### Fauna:

Flamingoes, pelicans and the waterfowls are commonly sighted.

#### Major Concerns:

##### Loss of Area:

Almost 30% of the Sambhar Lake's area had been lost to mining and other activities, including the illegal salt pan encroachments.

##### Livelihoods of Local People:

- The loss in the area has also threatened the livelihoods of local people who have always lived in harmony with the lake and its ecology.
- The Aravalli hills have decreased by 0.1% (as compared to in 1971). The hill has been a natural barrier limiting the salt from spreading into other fertile areas.
- If this natural wall continues to fall it will force the people to migrate.

##### Regarding Migratory Birds:

- The wetland has decreased whereas vegetation cover has increased, leading to the shortage of red algae which forms the main source of food for the migratory birds.
- The death of more than 20,000 birds belonging to about 10 species which migrate annually to the lake due to avian botulism in 2019.
- Steps to Address the Issue:

#### Way Forward

Sambhar Lake Development Authority should be formed by taking experts from multiple agencies. Also, coordination should be developed among the administration of three districts - Jaipur, Ajmer and Nagaur.

### IMPORTANT FACTS FOR PRELIM

#### British Stamps Banned from Chagos Islands

Recently, the United Nations (UN) has banned British stamps from being used on the Chagos archipelago.



### Key Points

- Now the UPU (Universal Postal Union) will stop registering, distributing and transmitting stamps bearing the words British Indian Ocean Territory (BIOT), the name given by Britain to the archipelago.
- UPU is a United Nations specialized agency and the postal sector's primary forum for international cooperation.
- Chagos archipelago is an island group in the central Indian Ocean, located about 1,600 km south of the southern tip of the Indian subcontinent.

### Background:

- In the 19th century, Chagos were governed from Mauritius, which was a British Colony.
- Mauritius became independent in 1968, but the Chagos archipelago remained under British control. The U.K. government refers to it as BIOT.
- That Sparked protests by Chagossians, who accused London of carrying out an “illegal occupation” and barring them from their homeland.
- The UK retained possession of the Chagos archipelago, which includes the strategic US airbase of Diego Garcia, after Mauritius gained its independence by paying Mauritius more than 4 million pounds for the islands.
- About 1,500 native islanders were deported from the Diego Garcia island in Chagos archipelago so that it could be leased to the US for the airbase in 1971.
- Since 1975, Mauritius has made a concerted legal effort to secure the archipelago's return to its fold.

### Recent developments:

- In 2019, the International Court of Justice (ICJ) ruled that Britain should give up control of the islands.
- Later in 2019, the UN General Assembly adopted a resolution recognising that "the Chagos Archipelago forms an integral part of the territory of Mauritius" and urged UN agencies "to support the decolonisation of Mauritius".

### India's Stand:

India has supported Mauritius' stand on the Chagos Archipelago. India in its submission to ICJ has said that the Chagos Archipelago has been and continues to be with Mauritius and demanded sovereignty over the Chagos Archipelago from Britain.

India stayed committed to its Indian Ocean neighbor Mauritius, as well as its anti-colonial credentials.

### DAILY ANSWER WRITING PRACTICE

**Qns. What do you understand by Black Carbon? Discuss its impacts on the melting of glacier. (150 Words)Ans.**

## Introduction

Black carbon, that often causes glaciers to recede, is emitted in the atmosphere due to incomplete combustion of fossil fuels in motor vehicles and aircraft exhausts, biofuel and biomass.

## Body

### Black Carbons

- Black Carbon is a short-lived pollutant that is the second-largest contributor to warming the planet behind carbon dioxide (CO<sub>2</sub>).
- Unlike other greenhouse gas emissions, BC is quickly washed out and can be eliminated from the atmosphere if emissions stop.
- Unlike historical carbon emissions it is also a localised source with greater local impact.
- Black carbon is a kind of an aerosol.
- General Impacts: Among aerosols (such as brown carbon, sulphates), Black Carbon (BC) has been recognized as the second most important anthropogenic agent for climate change and the primary marker to understand the adverse effects caused by air pollution.
- Emission: It gets emitted from gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuel. It comprises a significant portion of particulate matter or PM, which is an air pollutant.

### Impacts of Black Carbon on the Glacier

- It acts in two ways hastening the pace of glacier melt:
- By decreasing surface reflectance of sunlight.
- By raising the air temperature.
- Black materials absorb more light and emit infra-red radiation that increases the temperature. So, when there is an increase in black carbon in the high Himalayas, it will contribute to faster melting of Himalayan glaciers
- In the long run, changes in the atmospheric composition of the high Himalayas will affect rain and snow precipitation patterns. Accordingly, natural resources and socio-economic activities of Himalayan communities will also be affected.
- Analysis of the data from weather stations in real time has helped us to know about black carbon concentrations and seasonal variations in the high Himalayas. It has been found that the concentration of black carbon **increases in summer months due to varied factors**.

### Measures to be taken

- In the Himalayas, reducing black carbon emissions from cookstoves, diesel engines, and open burning would have the greatest impact and could significantly reduce radiative forcing and help to maintain a greater portion of Himalayan glacier systems.
- Banning fossil fuels or the introduction of glacier tax can be a deterrent in these high-altitude areas.

## Conclusion

Even a minor change of 1 degree Celsius will result in a major decrease in the area under snow cover along Himalayan glaciers, along with a major loss to flora and fauna. Hence, it is imperative to take actions to reduce the black carbon concentration in the region.

## DAILY QUIZ

1. Consider the following statements regarding 'Sambhar lake':

1. It is India's largest inland saline water body.
2. It was declared a Ramsar site in 1990.
3. It receives water from the Ghaggar river.

Which of the statements given above is/are correct?

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

2. Which of the following is/are the consequences of the Jallianwala Bagh Incident?

1. Martial law was proclaimed in Punjab after the incident.
2. Mahatma Gandhi gave up the title of Kaiser-i-Hind.
3. The Indian representative in the Viceroy's Executive Council resigned from the office.
4. The incident paved the way for the Non Cooperation Movement (NCM).

Select the correct answer using the code given below:

- a) 1 and 2 only

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

3. Consider the following statements:

- 1. He was a commander in Maharaja Ranjit Singh's force and the Governor of Kashmir.
- 2. He took control over Khyber Pass to prevent Afghans from ravaging the North-West Frontier.
- 3. He fought the Battle of Peshawar and Battle of Kasur against the Afghans.

The above statements most appropriately describe which of the following Sikh warriors?

- a) **Hari Singh Nalwa**
- b) Sahibzada Ajit Singh
- c) Guru Arjan
- d) Banda Singh Bahadur

4. Consider the following statements regarding sweat equity:

- 1. It is a non-monetary contribution that the individuals or founders of a company make towards the company.
- 2. Startups and business owners use sweat equity to fund their companies.

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. With reference to Milky Sea Phenomenon, consider the following statements:

- 1. It is a rare form of marine bioluminescence.
- 2. It arises from a saprophytic relationship between luminous bacteria and microalgae.
- 3. The positive phase of Indian Ocean Dipole (IOD) creates the favourable conditions for milky sea genesis.

Which of the above statements is/are correct?

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