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MINISTRY OF SCIENCE AND TECHNOLOGY

MK Yadav Sir

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TIMES OF INDIA Apr 9

NEPTIS PHILYRA

(Syllabus: GS Paper 3 – Env and Eco)

Rare butterfly species discovered in Arunachal's Tale sanctuary

Neptis philyra

- **About:** It is a rare species of butterfly, commonly known as the long-streak sailor.
- **Geographical Distribution**: Till date, the butterfly species was known to be found across various regions of east Asia, including eastern Siberia, Korea, Japan, central and southwest China.
- **Distinct Wing Characteristics**: The butterfly has serrated wings with rich brownish-black on the upper side and yellow-brown on the underside.
- **Unique Markings**: The butterfly's distinct markings include a white cell streak forming a "hockey stick" pattern on the forewing.
- **Habitat Preferences**: The species, which is part of the Nymphalidae family, is known to prefer habitats such as evergreen forests, riverine vegetation, and rocky streams.

Tale Valley Wildlife Sanctuary

- **About:** it is situated near the Apatani cultural landscape in the Lower Subansiri District of Arunachal Pradesh.
- **River Flow:** The sanctuary is traversed by rivers such as Pange, Sipu, Karing, and Subansiri, enhancing its ecological diversity.
- **Flora**: It boasts a remarkable array of subtropical and alpine flora, including silver fir trees, ferns, orchids, bamboo, and rhododendrons.
- **Fauna**: Tale Valley Wildlife Sanctuary is home to a diverse range of fauna, including the elusive clouded leopard, the Himalayan squirrel, the Himalayan black bear, and many other species.

INDIAN EXPRESS

Front Page

GLOBAL HEPATITIS REPORT 2024

(Syllabus GS Paper 2 – Health)

India has 2nd highest hepatitis cases, 11% of global burden: WHO

ANONNA DUTT
NEW DELHI, APRIL 9

INDIA HAS the world's second highest prevalence of viral hepatitis cases, accounting for over 11 per cent of the global burden in 2022, according to the Global Hepatitis Report 2024 released by the World Health Organisation (WHO) on Tuesday.

According to the report, there were 254 million people living with Hepatitis B and 50 million with Hepatitis C across the world in 2022. Of these, India accounted for 29 million Hepatitis B cases, second only to China at 79 million; and 5.5 million Hepatitis C cases, after Pakistan at 8.8 million.

An estimated 1.23 lakh people died due to hepatitis in India, while over 50,000 new Hepatitis B cases and 1.4 lakh new Hepatitis C cases were reported in 2022.

Globally, with an estimated 1.3 million deaths per year, viral hepatitis kills as many people as tuberculosis.

INDIA NUMBERS

Hepatitis B (Total)	**2.97 cr**
Infection load*	11.7%
Incidence	50,083
Deaths	98,305
Diagnosis	2.4%
Hepatitis C (Total)	**0.55 cr**
Infection load	11.2%
Incidence	1,44,187
Deaths	26,206
Diagnosis	28%
Treatment**	21%

*Source: Global Hepatitis Report 2024 (figures pertain to 2022); *Proportion of global infections; **Hep B treatment coverage: 0%*

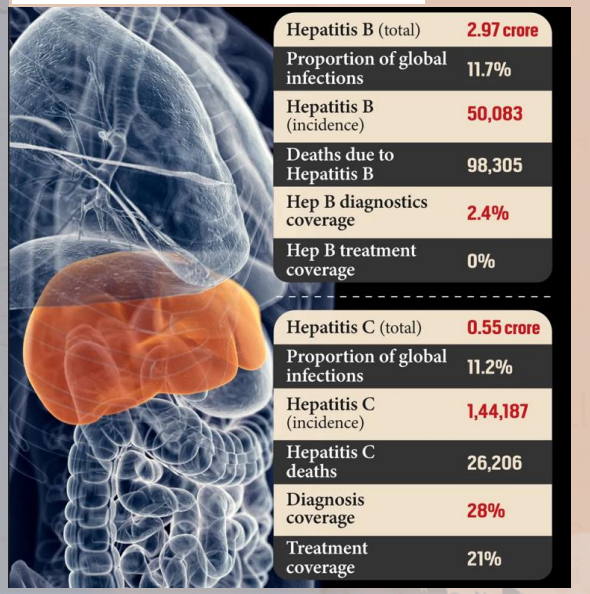
In India, while the tuberculosis toll remains higher — 3.31 lakh people are reported to have died due to TB in 2022 — what is concerning is that hepatitis diagnosis and treatment remains very low. According to the report,

CONTINUED ON PAGE 2

Context: According to the recently released 2024 Global Hepatitis Report by the World Health Organization, India recently accounted for over 3.5 lakh cases of viral hepatitis in 2022, representing 11.6 percent of the global disease burden for that year.

Key Findings of Report

- Over **50,000 new cases of Hepatitis B and 1.4 lakh new cases** of Hepatitis C were reported in India in 2022.
- These infections resulted in the deaths of 1.23 lakh individuals in India during the same year.
- Ten countries, including India, bear nearly **two-thirds of the global burden of hepatitis** B and C, as reported by the World Health Organisation (WHO).
- Bangladesh, China, Ethiopia, Indonesia, Nigeria, Pakistan, the Philippines, the Russian Federation, and Vietnam are among the countries targeted for intensified efforts and support.



Hepatitis B

- **About:** It is a liver infection caused by the hepatitis B virus.
- **Causes of Hepatitis**: Heavy alcohol use, toxins, certain medications, and specific medical conditions can induce hepatitis.
- **Types of Hepatitis**: Viral Hepatitis and Non-viral Hepatitis
- **Transmission:** It is spread when blood, semen, or other body fluids – even in microscopic amounts from a person infected with the hepatitis B virus enters the body of someone who is not infected-.
- **Symptoms**: Include jaundice (yellowing of the skin and eyes), dark urine, extreme fatigue, nausea and vomiting, abdominal pain, etc.
- **Prevention/Vaccines:** Vaccines are available for hepatitis A and B, but not for hepatitis C.
- **Treatment**: There's no specific treatment for acute hepatitis B, while chronic infection can be managed with oral medications like tenofovir or entecavir.

FINANCIAL EXPRESS

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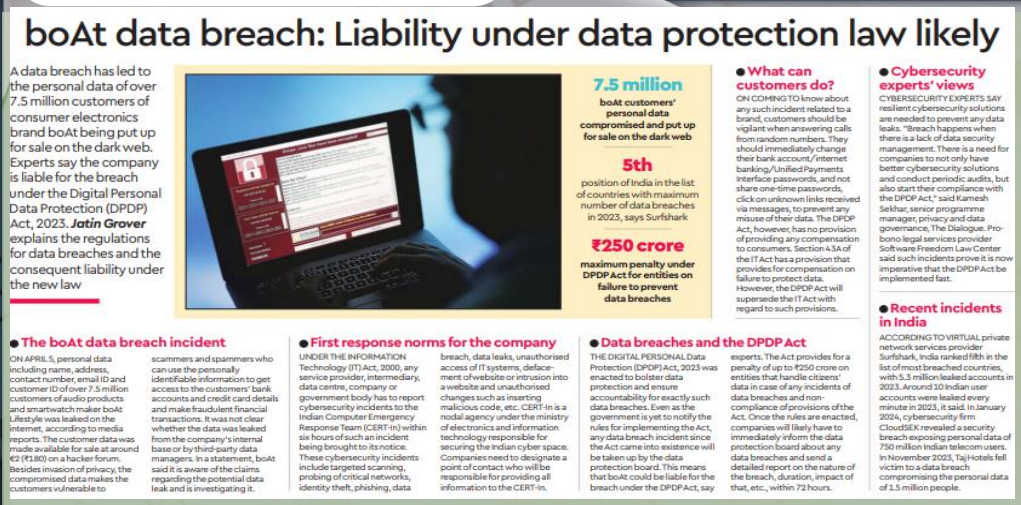
DIGITAL PERSONAL DATA PROTECTION ACT

(Syllabus: GS Paper 3 – Cyber Security)



boAt data breach: Liability under data protection law likely

A data breach has led to the personal data of over 7.5 million customers of consumer electronics brand boAt being put up for sale on the dark web. Experts say the company is liable for the breach under the Digital Personal Data Protection (DPDP) Act, 2023. ***Jatin Grover*** explains the regulations for data breaches and the consequent liability under the new law

7.5 million
boAt customers' personal data compromised and put up for sale on the dark web

5th
position of India in the list of countries with maximum number of data breaches in 2023, says Surfshark

₹250 crore
maximum penalty under DPDP Act for entities on failure to prevent data breaches

● What can customers do?

ON COMING TO know about any such incident related to a brand, customers should be vigilant when answering calls from random numbers. They should immediately change their bank account/internet banking/Unified Payments interface passwords, and not share one-time passwords, click on unknown links received via messages, to prevent any misuse of their data. The DPDP Act, however, has no provision of providing any compensation to consumers. Section 43A of the IT Act has a provision that provides for compensation on failure to protect data. However, the DPDP Act will supersede the IT Act with regard to such provisions.

● Cybersecurity experts' views

CYBERSECURITY EXPERTS SAY resilient cybersecurity solutions are needed to prevent any data leaks. "Breach happens when there is a lack of data security management. There is a need for companies to not only have better cybersecurity solutions and conduct periodic audits, but also start their compliance with the DPDP Act," said Kamesh Sekhar, senior programme manager, privacy and data governance, The Dialogue. Pro-bono legal services provider Software Freedom Law Center said such incidents prove it is now imperative that the DPDP Act be implemented fast.

● Recent incidents in India

ACCORDING TO VIRTUAL private network services provider Surfshark, India ranked fifth in the list of most breached countries, with 5.3 million leaked accounts in 2023. Around 10 Indian user accounts were leaked every minute in 2023, it said. In January 2024, cybersecurity firm CloudSEK revealed a security breach exposing personal data of 750 million Indian telecom users. In November 2023, Taj Hotels fell victim to a data breach compromising the personal data of 1.5 million people.

● The boAt data breach incident

ON APRIL 5, personal data including name, address, contact number, email ID and customer ID of over 7.5 million customers of audio products and smartwatch maker boAt Lifestyle was leaked on the internet, according to media reports. The customer data was made available for sale at around ₹2 (₹180) on a hacker forum. Besides invasion of privacy, the compromised data makes the customers vulnerable to scammers and spammers who can use the personally identifiable information to get access to the customers' bank accounts and credit card details and make fraudulent financial transactions. It was not clear whether the data was leaked from the company's internal base or by third-party data managers. In a statement, boAt said it is aware of the claims regarding the potential data leak and is investigating it.

● First response norms for the company

UNDER THE INFORMATION Technology (IT) Act, 2000, any service provider, intermediary, data centre, company or government body has to report cybersecurity incidents to the Indian Computer Emergency Response Team (CERT-In) within six hours of such an incident being brought to its notice. These cybersecurity incidents include targeted scanning, probing of critical networks, identity theft, phishing, data breach, data leaks, unauthorised access of IT systems, defacement of website or intrusion into a website and unauthorised changes such as inserting malicious code, etc. CERT-In is a nodal agency under the ministry of electronics and information technology responsible for securing the Indian cyber space. Companies need to designate a point of contact who will be responsible for providing all information to the CERT-In.

● Data breaches and the DPDP Act

THE DIGITAL PERSONAL Data Protection (DPDP) Act, 2023 was enacted to bolster data protection and ensure accountability for exactly such data breaches. Even as the government is yet to notify the rules for implementing the Act, any data breach incident since the Act came into existence will be taken up by the data protection board. This means that boAt could be liable for the breach under the DPDP Act, say experts. The Act provides for a penalty of up to ₹250 crore on entities that handle citizens' data in case of any incidents of data breaches and non-compliance of provisions of the Act. Once the rules are enacted, companies will likely have to immediately inform the data protection board about any data breaches and send a detailed report on the nature of the breach, duration, impact of that, etc., within 72 hours.

Context: Recently, a data breach exposed the personal information of over 7.5 million customers of consumer electronics brand Boat, prompting experts to cite the company's liability under the 2023 Digital Personal Data Protection (DPDP) Act.

India's Ranking in Breached Countries

- According to Surfshark, India ranked fifth among the most breached countries in 2023, with 5.3 million leaked accounts.
- Surfshark reported that approximately 10 Indian user accounts were leaked every minute in 2023.
- In January 2024, CloudSEK revealed a security breach that exposed personal data of 750 million Indian telecom users.
- In November 2023, Taj Hotels experienced a data breach, compromising the personal data of 1.5 million individuals.

Digital Personal Data Protection Act 2023

- **About**: An Act to provide for the processing of digital personal data in a manner that recognises both the right of individuals to protect their personal data and the need to process such personal data for lawful purposes and for matters connected therewith or incidental thereto.
- **Nodal Ministry**: Ministry of Electronics and Information Technology
- **Aim**: To establish a framework for processing digital personal data that respects both individuals' rights to safeguard their data and the necessity of processing data for legitimate purposes.

Provisions of the Act

- **Application**: The Act is applicable when processing digital personal data within India, under the following circumstances: Data is collected online & Data is collected offline, and then digitized.
- **Consent**: For individuals below 18 years of age, consent must be granted by a parent or legal guardian.
- **Rights of Data Principal**: A data principal, who is an individual undergoing data processing, possesses the following rights:
    - The right to obtain information regarding the processing of their data.
    - The right to request the correction and deletion of their personal data.
- **Personal data beyond India**: It permits the transmission of personal data beyond India, barring countries that have been prohibited by the central government through an official notification.

INDIAN EXPRESS Page 15

LAVENDER CULTIVATION IN INDIA

(Syllabus: GS Paper 3 – Agriculture)

Lavender cultivation turns farmers into big businessmen in J&K's Doda

ARUN SHARMA
JAMMU, APRIL 9

WHEN LAVENDER cultivation was first introduced to Bhaderwah subdivision in Jammu and Kashmir's Doda district in 2015, most farmers were sceptical and just a handful gave it a go. Today, these early adopters have significantly expanded cultivation, employ 30-40 people each on a full-time basis, have their own distillation units for making lavender oil, and market their products in different parts of the country.

Once a small-scale farmer, Bharat Bhushan from Lehrote village is among the success stories. Having dropped out of school after class 10, he now earns Rs 1-1.5 lakh a month. In 2018, he bought the family's first car – for his son – and later, another one for himself.

Another early adopter, Touqeer Bagban, has studied up to class 11. "Before lavender cultivation, I had a motorcycle. Today, I have a Thar," said Bagban, who is from Vasuki Dera mohalla of Bhaderwah town.

Farmers in several villages of Bhaderwah subdivision are increasingly moving to lavender cultivation from maize crop, bringing with it a marked improvement in livelihood.

According to officials, more than 700 acres of farmland has been brought under lavender cultivation in the area since 2017, and another 100 acres is set to be added. The crop was officially introduced in Bhaderwah by the Council Of Scientific and Industrial Research-Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu, in 2015.

Until 2017, no one in Tipri, Lehrote, or Karyan – villages with nearly 200 households – had a four-wheeler, and most of the houses there were kutcha.

In Tipri, former sarpanch Om Parkash started cultivating lavender instead of maize in 2016, and two years later, he became one of the first in the village to own a car, a Maruti Alto.

Now, the entire village cultivates lavender, and around half of the 60 households have a vehicle. The situation is similar in Lehrote and Karyan. Moreover, nearly all houses in the three villages — all in Tipri panchayat — are now pucca. "Earlier, I used to grow a maize crop and earn only Rs 15,000-20,000 from it. After lavender cultivation, I started earning Rs 1-1.5 lakh," said Nek Chand of Tipri.

More than 700 acres of farmland have been brought under lavender cultivation in the area since 2017. *Express*

Lavender, which can be grown in areas that experience snowfall and have a hilly terrain, blossoms and is ready for harvesting two-and-a-half years after it is planted. The same plant can bear flowers for 18-20 years, and does not require the amount of insecticides, pesticides, and other chemicals used on conventional crops like maize and paddy.

Dr Zabeer Ahmed, director of CSIR-IIIM, Jammu, said: "In 2014, we tried to persuade farmers to start lavender cultivation, but they were reluctant in view of the risks involved in switching over from their conventional maize crop." In 2015, he said, lavender cultivation was introduced in Bhaderwah under the CSIR's Aroma Mission.

Bharat Bhushan and Touqeer Bagban were among just a handful of farmers to take it up at the time. Now, Ahmed said, they are industrialists. They are not only making oil from lavender flowers, but are also involved in further development of the product, like manufacturing perfumes, soaps, agarbatti, room fresheners, and so on, and selling them in the market. They have even established their own labs for quality testing of the oil, and one of them also has a marketing office in Goa. Both have also formed a cluster of farmers who, too, have started growing lavender on their land.

Ahmed said CSIR plans to distribute lavender plants to farmers in parts of Kathua, Rajouri, Poonch, and the Kashmir Valley, besides Uttrakhand, Himachal Pradesh and the Northeast.

He said that 50 distillation plants, including five mobile units, have been set up across the Union Territory of J&K to help farmers extract oil from the lavender flowers.

CSIR-IIIM, Jammu, provides lavender growers end-to-end support.

A small worry

However, the sharp decline in the price of lavender oil, now around Rs 2,500-3,000 per litre as opposed to Rs 12,000 a few years ago, is a worry. "We have to sustain this prosperity and the subsequent change in the lifestyle of these farmers," Dr Ahmed said. The price drop has been attributed to the import of oil from Bulgaria, France and China by buyers elsewhere in India, he explained.

Context: Early adopters of lavender cultivation in Bhaderwah, Jammu and Kashmir, transform scepticism into success, expanding production and creating local employment opportunities.

Lavender Cultivation in India

- **About**: It is primarily focused in Himachal Pradesh, Uttarakhand, and Jammu & Kashmir.
- **Ideal Lavender Hub**: Himachal Pradesh in northern India as the most suitable region for lavender cultivation.
- **Climate Advantage**: Himachal Pradesh boasts a mild climate with low humidity and abundant sunshine, creating an ideal environment for lavender growth.
- **Climate Conditions**
  - **Soil**: The region's well-drained soils play a crucial role in supporting successful lavender cultivation.
  - **Temperature:** Lavender thrives in regions with cool winters and cool summers.
  - **Sunlight:** Lavender requires good sunlight exposure for optimal growth and flower production.
  - **Rainfall:** Annual rainfall ranging from 300 to 1400 mm per year is suitable for lavender cultivation.
  - **Humidity:** Lavender is sensitive to high humidity, which can adversely affect its growth and development.
- **Uses**: Pharmaceutical and therapeutic, Industrial, Cosmetics, and Food and flavouring.

Government Initiatives

- **Aroma Mission:** It was launched in 2016 to promote the cultivation of lavender plants, which hold aromatic healing effects through advanced technology.
- **Purple Revolution:** The Union Ministry of Science & Technology launched the Purple Revolution in 2016 through CSIR's Aroma Mission.
  - **Free Lavender Saplings for New Farmers**: First-time farmers received free lavender saplings under the mission, while experienced growers were charged Rs. 5-6 per sapling.

UNITED NATIONS SECURITY COUNCIL
(Syllabus: GS Paper 2 – International Org.)

UNSC Refers Palestinian Application To Become Full UN Member To Committee

Context: The United Nations Security Council president has referred the Palestinian Authority's application to become a full member of the world body to the committee on the admission of new member.

United Nations Security Council

- **About**: It is one of the six principal organs of the United Nations (UN).
- **Formation**: By the UN Charter in 1945.
- **Objective**: Primary responsibility for the maintenance of international peace and security.
- **Members**: 15 (5 permanent + 10 non-permanent members).
    - The Security Council consists of ten elected members, and five permanent members--China, the United States, France, the United Kingdom, and the Russian Federation. The current and past membership of the Security Council since 1946 can be found in this section.
- **Headquarters**: New York, USA.
- **UNSC Presidency**: Held by each of the 15 members in turn for one month, based on English alphabetical order.
- **Eligibility for Presidency**: Both permanent and non-permanent members are eligible for the UNSC presidency.
- **Criteria to become full Member:** For any country to become a full member of the UN, the international body's charter says the country's membership first has to be approved by the Security Council and then it would need to get the support of two-thirds of the 190 members of the UN General Assembly.
- **Presidential Powers**: In the UNSC, the Council President has a broad range of procedural powers: They can call and preside over meetings, approve the UN body agenda for the month, issue presidential statements, decide the content & and theme of debates, etc.
- **India as a non-permanent member**: 8 times. The latest membership was for the year 2021-22.

THE HINDU

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ATMANIRBHAR MISSION

(Syllabus: GS Paper 3 – Economy)

'Surge in steel imports a warning for Atmanirbhar mission'

Press Trust of India
NEW DELHI

The Indian steel industry has expressed concern over India becoming a net importer of steel in 2023-24, saying it is a "warning signal" for India which strives to become Atmanirbhar.

As per the steel ministry's Joint Plant Committee, India has registered a 38% surge in imports of finished steel to 8.319 million tonnes (MnT) over 6.022 MnT imported during the preceding 2022-23 fiscal.

"The surge in predatory imports from China is a big threat to the Atmanirbharta in steel. India becoming net importer is a warning signal to our march towards Atmanirbharta (self-reliance)," Alok Sahay, secretary general of the apex industry body Indian Steel Association said.

Predatory imports

Looking at the situation, it is very important to arrest predatory imports, he said, and demanded for a trade remedial action on an urgent basis to arrest the inbound shipments.

"Lesser duty rule helps importers. It needs to be removed and notified without delay, so that China or any other steel-surplus country does not use India's growth momentum for supporting their own steel mills, while India suffers in expanding steel capacity," Mr. Sahay said.

Ranjan Dhar, Chief Marketing Officer – ArcelorMittal Nippon Steel, said India's steel industry faces threats from predatory imports and restricting steel imports is crucial to safeguard investments.

Context: The Indian steel industry has expressed concern over India becoming a net importer of steel in 2023-24, saying it is a "warning signal" for the country which strives to become Atmanirbhar.

Atmanirbhar Mission

- **About**: It was introduced in May 2020, aims to bolster India's self-reliance and revive its economy amidst the challenges posed by the COVID-19 pandemic.
- **Objectives**:
  - Prioritizing local manufacturers and service providers to enhance their competitiveness.
  - Addressing trade deficits and balancing payments to uplift the standard of living.
  - Striving for self-sufficiency in all aspects for both the nation and its citizens.
  - Positioning India as a global supply chain hub to attract investment and boost exports.
  - Incentivizing small businesses and farmers affected by COVID-19 through special funds.
- **Features:**
  - **Economic Self-Reliance:** The Atmanirbhar Bharat Abhiyaan aims to promote economic self-reliance in India, reducing dependency on imports and bolstering domestic production.
  - **Industry Support:** It provides support and incentives to various industries, encouraging them to enhance production capacities and competitiveness.
  - **Policy Reforms:** The initiative involves significant policy reforms to streamline regulations, attract investments, and foster a conducive business environment.
  - **Technology Focus**: Atmanirbhar Bharat emphasizes leveraging technology and innovation to propel growth across sectors, fostering indigenous technological capabilities.
  - **Global Trade Impact**: While promoting self-reliance, it also addresses concerns and implications for global trade partners, prompting discussions on international trade agreements and partnerships.
- **Focus Pillars**:
  - **Economy**: Striving for a quantum leap to convert challenges into opportunities.
  - **Infrastructure**: Building modern infrastructure to shape India's identity.
  - **Systems**: Embracing 21st-century technology for efficient systems.
  - **Democracy**: Focusing on a vibrant and healthy democratic setup. & **Demand**: Utilizing the demand and supply chain strength intelligently to drive growth.

RHAMPHICARPA FISTULOSA
(Syllabus: GS Paper 3 – Agriculture)

Vampireweed threatens rice production in Africa. What do we know about it?

Context: A recent report revealed that Rice vampireweed (Rhamphicarpa fistulosa), a facultative, parasitic weed infesting rice in Africa, has impacted over 140,000 farm households and incurred annual losses of $82 million to the continent's economy.

Rhamphicarpa fistulosa

- **About**: It is commonly known as rice vampire weed, is a prevalent and troublesome facultative parasitic weed in Africa.
- **Distribution**: R. fistulosa is extensively distributed, being reported in 35 countries across Africa.
- **Impact of Rice Production Increase**: The surge in rice cultivation in rainfed lowlands has magnified the significance of R. fistulosa, as these are its favored habitats.
- **Host Specificity**: Although capable of parasitizing various crops, rice stands out as its primary host, hence the moniker "rice vampire weed".
- **Host Range**: Apart from rice, R. fistulosa targets other cereal crops such as sorghum and maize, along with dicots like soybean and groundnut.
- **Parasitic Dependency**: While capable of independent growth, R. fistulosa exhibits accelerated reproductive output when parasitizing a suitable host.
- **Impact on Crop Yield**: Parasitism by R. fistulosa significantly impedes host growth and seed production, resulting in substantial yield losses averaging between 24% to 73%.
- **Limited Control Measures**: Farmers often lack adequate knowledge and resources to combat R. fistulosa, resorting primarily to post-emergence herbicides or manual weeding for control.

LIVEMINT Page 8

RIGHT TO PRIVACY vs RIGHT TO KNOW
(Syllabus: GS Paper 2 – Polity)

Poll candidates don't need to reveal every asset they own: SC

Apex court said a candidate's right to privacy is unaffected by issues unrelated to voters

Utkarsh Anand
letters@hindustantimes.com
NEW DELHI

The Supreme Court on Tuesday held that an electoral candidate's right to privacy remains intact for matters irrelevant to voters or his public role, clarifying that candidates are not mandated to reveal every asset owned by them or their dependents, but only those that significantly influence their public image or lifestyle and have a bearing on an elector's choice.

"We are not inclined to accept the blanket proposition that the candidate is required to lay his life out threadbare for examination by the electorate. His right to privacy would still survive as regards matters which are of no concern to the voter or are irrelevant to his candidature for public office. In that respect, non-disclosure of each and every asset owned by a candidate would not amount to a defect, much less a defect of a substantial character," declared a bench of justices Aniruddha Bose and Sanjay Kumar.

The ruling marked a significant stance on the privacy rights of candidates versus the public's right to information, adding to a string of landmark judgments from the Supreme Court, which has played a pivotal role in steering electoral reforms to ensure transparency, accountability and fairness in the democratic process.

> The ruling marked a significant stance on the privacy rights of candidates versus the public's right to information

As the court addressed the argument that voters have an absolute right to know all details about a candidate, it maintained it was not necessary that a candidate declare every item of moveable property that he or his dependent family members own, such as clothing, shoes, crockery, stationery and furniture, etc., unless they were of such value as to constitute a sizeable asset or reflect upon his candidature in terms of his lifestyle and require to be disclosed.

Underscoring the balance between a candidate's privacy and the voters' right to know, the court specified that while significant assets must be disclosed, there is no need for an exhaustive list of all personal property, regardless of whether they are substantial in value or suggest a lavish lifestyle. It stressed that a candidate's right to privacy is unaffected by issues unrelated to voters or his public position, holding that not all moveable assets must be disclosed unless they have a substantial impact on the candidate's public persona or lifestyle.

Context: The Supreme Court recently affirmed that election candidates retain a right to privacy, sparing them from disclosing every detail of their personal lives and possessions to voters.

Supreme Court observations:

- A candidate's choice to retain his privacy on matters which were of no concern to the voters or were irrelevant to his candidature for public office did not amount to a 'corrupt practice' under Section 123 and Section 36(4) of the RPA Act.
- **Section 123 of the Act** defines corrupt practices as encompassing bribery, undue influence, dissemination of false information, and incitement or attempted incitement of hostility by a candidate.
- **Section 36(4) of the 1951 Act**: The returning officer shall not reject any nomination paper on the ground of any defect which is not of a substantial character.

Right to Privacy vs Voter's right to know:

- In the cases of **Association for Democratic Reforms (ADR) in 2002 and People's Union for Civil Liberties in 2003**, the apex court mandated the disclosure of criminal antecedents, educational qualifications and financial assets, promoting voters' right to make informed choices.
- **Constitutional Protection of right to Privacy**: It finds its legal sanctuary within the Indian Constitution, specifically under Article 21 as pronounced in **K.S. Puttaswamy v. Union of India in 2017**, which safeguards the right to life and personal liberty. It includes: A right to bodily autonomy, A right to informational privacy, and A right to a privacy of choice.
- **The SC on balancing right to privacy & right to know**: It stressed that a candidate's right to privacy is unaffected by issues unrelated to voters or his public position, holding that not all movable assets must be disclosed unless they have a substantial impact on the candidate's public persona or lifestyle.

THE HINDU Apr 9

PETER HIGGS
(Syllabus: GS Paper 3 – Sci and Tech)

Peter Higgs, who proposed existence of 'God particle', dies

Associated Press
LONDON

Peter Higgs

Nobel prize-winning physicist Peter Higgs, who proposed the existence of the so-called "God particle" that helped explain how matter formed after the Big Bang, has died at age 94, the University of Edinburgh said Tuesday.

The university, where Mr. Higgs was emeritus professor, said he died on Monday "peacefully at home following a short illness."

Mr. Higgs predicted the existence of a new particle – the so-called Higgs boson – in 1964. But it would be almost 50 years before the particle's existence could be confirmed at the Large Hadron Collider.

Mr. Higgs' theory related to how subatomic particles that are the building blocks of matter get their mass. This theoretical understanding is a central part of the so-called Standard Model, which describes the physics of how the world is constructed.

Edinburgh University said his groundbreaking 1964 paper demonstrated how "elemental particles achieved mass through the existence of a new subatomic particle" which became known as the Higgs boson.

In 2012, scientists at CERN, the European Organization for Nuclear Research, announced that they had finally found a Higgs boson using the $10 billion particle collider built in a 27-km tunnel under the Swiss-French border.

Mr. Higgs won the 2013 Nobel Prize in Physics for his work, alongside Francois Englert of Belgium, who independently came up with the same theory.

Edinburgh University Vice-Chancellor Peter Mathieson said Mr. Higgs, who was born in Newcastle, was "a remarkable individual – a truly gifted scientist whose vision and imagination have enriched our knowledge of the world that surrounds us."

"His pioneering work has motivated thousands of scientists, and his legacy will continue to inspire many more for generations to come."

Context: Nobel prize-winning physicist Peter Higgs, who proposed the existence of the so-called "god particle" that helped explain how matter formed after the Big Bang, has died at age 94.

Peter Higgs

- **About:** He was a British theoretical physicist, professor at the University of Edinburgh, and Nobel laureate in Physics for his work on the mass of subatomic particles.
- **Born**: 29 May 1929
- **Proposal of the Higgs Mechanism**: In the 1960s, Higgs proposed that broken symmetry in electroweak theory could explain the origin of mass of elementary particles in general and of the W and Z bosons in particular.
- **Prediction of the Higgs Boson**: Higgs predicted the existence of a new particle — the so-called Higgs boson — in 1964.
    - It would be almost 50 years before the particle's existence could be confirmed at the Large Hadron Collider.
- **Contribution to Theoretical Physics**: Higgs' theory related to how subatomic particles that are the building blocks of matter get their mass. This theoretical understanding is a central part of the so-called Standard Model, which describes the physics of how the world is constructed.

Higgs boson or god Particle

- **About**: It is the fundamental force-carrying particle associated with the Higgs field, crucial for imparting mass to other elementary particles.
- **Part of the Standard Model**: Among the 17 elementary particles comprising the Standard Model of particle physics, the Higgs boson occupies a pivotal position, explaining the behavior of the universe's basic building blocks.
- **Dubbed the "God Particle"**: Due to its indispensable role in subatomic physics, the Higgs boson is often colloquially referred to as the "God particle," reflecting its profound significance.
- **Origin and Theory:** Proposed in 1964 by Peter Higgs, François Englert, and other theorists, the Higgs boson's conceptualization aimed to elucidate the origins of particle mass, addressing a fundamental aspect of particle physics.
- **Discovery and Experimentation**: Researchers at the Large Hadron Collider (LHC) finally detected the elusive Higgs boson on July 4, 2012, marking a significant milestone in the field of particle physics.

BOTSWANA'S ELEPHANTS

(Syllabus: GS Paper 3 – Env and Eco)

Kill elephants, save them: why Botswana wants to gift 20,000 to Germany

ALIND CHAUHAN
NEW DELHI, APRIL 9

BOTSWANA HAS literally an elephantine problem — it has too many elephants. And President Mokgweetsi Masisi has now said he would like to send 20,000 of the animals to Germany, where there is a proposal to make it tougher to import trophies from hunting animals.

Botswana is home to the world's largest elephant population of 1.3 lakh animals. Hunting has helped keep their numbers in check, and brought revenues from trophy-hunting licences issued to rich westerners. Germany is said to be the largest European importer of African elephant trophies.

Why are there so many elephants in Botswana?

Unlike its south-central African neighbours, Botswana has been a safe haven for elephants due to its stable government and small human population. Following conflict-spurred mass poaching in Namibia and Angola, elephants in Botswana stopped crossing the Chobe river, a tributary of the Zambezi that marks Botswana's border with Namibia.

Botswana also implemented strict conservation policies, giving shoot-to-kill orders against suspected poachers in 2013. The following year, the country banned licensed trophy hunting — however, it lifted the ban in 2019.

And why was hunting allowed again?

Successful conservation resulted in a steady increase in Botswana's elephant population over the years. In the early 1960s, the country had fewer than 10,000 elephants; by the mid-1990s, the population had reached 80,000, according to the independent newsroom *Conservation Frontlines*.

Today, elephants inhabit about 40% of Botswana's land, which has led to increased human-animal conflict. Herds often damage homes in rural communities, drink water from pipes, feed on or destroy crops, and trample people and cattle to death.

"We are forced to collect our livestock early as we are afraid of the elephants... In the cattle posts, people have deserted... By 4 pm, we have rounded off the animals...so by the time the elephants come, they do not find anyone. We wake up...to find their tracks. There are too many elephants," a resident of Gobojango town told *Voice of America*.

A large population of elephants also threatens other species and leads to biodiversity loss and habitat degradation — elephants tear down trees for fodder and consume large amounts of water, which can cause a decline in non-elephant wildlife.

EXPLAINED WILDLIFE

How does elephant hunting help?

Botswana has been donating its elephants — it gave around 8,000 to Angola last year, and 500 to Mozambique in 2022 — but this has not made much of a difference.

Lifting the ban on trophy hunting helps in two ways — it lowers the population, and helps the economy as hunters cough up as much as $50,000 for each animal they kill.

A report in *Morning Brew* said trophy-hunting brought $5 million to local communities in Botswana in 2021, according to government figures. Also, "trophy hunters injected $250 million into South Africa's economy yearly and supported 17,000 jobs, according to one estimate in 2018," the report said.

It has also been argued that regulated trophy-hunting ultimately helps the species as governments pump the money into conservation and share profits with local communities, which can prevent habitat loss.

So what's the problem, then?

Western countries and animal rights advocates deem hunting to be cruel and unethical, and responsible for quickening population decline in imperilled species. "Trophy hunters prefer to kill the largest, strongest animals, whose loss causes population declines," conservation group Humane Society International (HSI) says on its website.

According to HSI, the gains to the economy may be overstated. "In eight key African countries, trophy hunters contribute at most 0.03 per cent of GDP and at most 0.76 per cent of overall tourism jobs," it says. It is also alleged that corruption prevents local communities from benefiting from trophy hunting.

Nonetheless, many experts argue that outright banning is not necessary. Conservation researcher Enrico Di Minin of the University of Helsinki told NPR: "If countries want to ban trophy hunting, they need to have an alternative source of revenue worth hundreds of millions of dollars every year... Just banning things without knowing the consequences is actually creating more problems for the species."

Context: Recently, Botswana's President issued a threat to send 20,000 elephants to Germany.

Elephants Population in Botswana

- **About**: Botswana, unlike its neighbors, has been a safe haven for elephants due to its stable government and small human population.
- **Impact of Conflict in Neighboring Countries**: Conflict-spurred mass poaching in Namibia and Angola led elephants to halt crossing the Chobe river, favoring the safety of Botswana instead.
- **Implementation of Strict Conservation Policies**: Botswana implemented strict conservation policies, including a 'shoot-to-kill' policy against suspected poachers and a ban on trophy hunting, contributing to elephant protection.
- **Steady Increase in Elephant Population**: Due to these measures, the elephant population in Botswana has steadily increased over the years, from fewer than 10,000 in the early 1960s to around 80,000 by the mid-1990s.

Botswana

- **About**: It is officially known as the Republic of Botswana, is situated in Southern Africa.
- **Bordering Countries**: Botswana shares its borders with South Africa to the south and southeast, Namibia to the west and north, and Zimbabwe to the northeast.
- **Connectivity**: The Kazungula Bridge connects Botswana to Zambia, marking the world's shortest border between two countries.

Why have elephants become an issue for Botswana?

- **Human-Elephant Conflict Escalation**: Botswana's increasing elephant population has sparked a surge in human-animal conflicts, as reported by media outlets.
- **Biodiversity Threat:** The large elephant population jeopardizes other species, leading to biodiversity loss and habitat degradation.
- **Habitat Destruction**: Elephants contribute to habitat degradation by tearing down trees for fodder, impacting the ecosystem's balance.
- **Water Consumption Impact**: The substantial water consumption by elephants not only affects local water sources but also potentially reduces water availability for non-elephant wildlife, leading to further decline in their populations.

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