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MINISTRY OF SCIENCE AND TECHNOLOGY



MK Yadav Sir

Table of Contents

1. Right to Repair Portal
2. Primary Amoebic Meningoencephal
3. India's Defence Production
4. SEHER Program
5. Vaquita
6. National Security Council
7. African Swine Flu
8. Digital Bharat Nidhi
9. Coffee Production in India
10. Arctic Wildfire

INDIAN EXPRESS

Pg 7/Jul 7

RIGHT TO REPAIR PORTAL

(Syllabus: GS Paper 3 – Economy)

Govt asks auto companies to join Right to Repair portal

EXPRESS NEWS SERVICE
NEW DELHI, JULY 6

THE CENTRE asked the automobile companies to join the unified Right to Repair Portal India which has been launched by the Department of Consumer Affairs to provide consumers with an easy access to information for repairing their products and enabling them to reuse it.

The meeting, chaired by Consumer Affairs Secretary Nidhi Khare, was attended by various representatives of Automobile Associations like ACMA, SIAM, ATMA, EPIC Foundation and companies including TATA Motors, Mahindra, TVS, Royal Enfield, Renaulds and Bosch, Yamaha Motors India, and Honda Car India. "Companies were urged to on board the portal which facilitates and works as a catalyst to provide relevant repair associated information between the consumers and companies," the official said.

During the meeting, it was emphasised that products that cannot be repaired or subject to planned obsolescence compel consumers to buy new products due to lack of repair options or if it is expensive and contribute to e-waste, the official said.

"The goal is to eliminate obstacles such as restricted access to tools or repair information, ensuring that consumers have complete ownership of products they purchase," the official said.

Context: The Centre has urged automobile companies to join the unified Right to Repair Portal India, aiming to empower consumers with easier access to repair services and information.

Right to Repair Portal

- **About**: It manufacturers would share the manual of product details with customers so that they could either repair by self or by third parties, rather than depend on original manufacturers.
- **Initial Coverage**: Initially, mobile phones, electronics, consumer durables, automobiles, and farming equipment would be covered.
- **Launched by:** Department of Consumer Affairs
- **Objective**: To provide consumers with an easy access to information for repairing their products and enabling them to reuse it.

Right to Repair

- **About**: It refers to government legislation that aims to allow consumers the ability to repair and modify their own consumer electronic devices, instead of being restricted to the manufacturer's services.
- **Ownership Rights**: When customers buy a product, they should completely own it, including the ability to repair and modify it easily and at a reasonable cost, without being dependent on manufacturers for repairs.
- **Historical Origin**: The concept began in the USA with the Motor Vehicle Owners' Right to Repair Act of 2012, which required manufacturers to provide necessary documents and information to allow anyone to repair their vehicles.
- **Objective**: The law aims to harmonize trade between Original Equipment Manufacturers (OEMs) and third-party buyers and sellers, creating new jobs in the process.
- **Global Adoption**: US, UK, and European Union.

THE HINDU Pg 12/Jul 7

PRIMARY AMOEBIC MENINGOENCEPHALITIS

(Syllabus GS Paper 3 – Sci and Tech)



How to manage 'brain-eating amoeba' cases

What are the symptoms of the rare and fatal disease of primary amoebic meningoencephalitis?

A.S. Ananth

The story so far:

There have been four cases, including three deaths, of the rare, but fatal primary amoebic meningoencephalitis (PAM) in Kerala in the last two months. A 14-year-old boy from Thikkodi in Kozhikode district tested positive for the infection on July 5. He is undergoing medical treatment now and his condition is reported to be stable.

Where have the fatalities occurred?

There have been three deaths so far — K.P. Mridul, 12, from Perode in Kozhikode district, died at a private hospital in Kozhikode city on July 3; V. Dakshina, 13, of Kannur, succumbed to it at a private hospital in the city on June 12. Fadiya, 5, of Mannikyar in Malappuram, died at the Government Medical College Hospital, Kozhikode, on May 20.

What is PAM?

Primary amoebic meningoencephalitis or PAM is caused by Naegleria fowleri, an amoeba that thrives in warm freshwater lakes, ponds and rivers. It can also survive in poorly maintained swimming pools in rare cases. As it can infect the brain and destroy the tissues there, this one-celled organism is also called 'brain-eating amoeba'. These infections, though rare, are fatal and 97% of victims don't survive. The infection happens when people go for a swim in lakes, ponds or rivers, during the summer. Experts say it could occur if the atmospheric temperature is high and water levels are low. The amoeba enters the body through the nose and reaches the brain. It destroys brain tissues and causes their swelling. In recent cases, children have been found to be more vulnerable to it. The infection does not spread from people to people. Swallowing water containing the amoeba does not lead to it either.

What are the symptoms of PAM?

According to the Centers for Disease Control and Prevention (CDC) in the U.S., headache, fever, nausea, and vomiting are its early symptoms. The illness, however, can progress rapidly. Stiff neck, confusion, lack of attention to people and surroundings, seizures, and hallucinations are the later symptoms. It usually leads to coma and death after five days, says the CDC. Of the people who were infected, 97% died.

Experts point out that warming of the atmosphere and stagnant and unhygienic water resources could be some of the conditions leading to the infection. This type of amoeba is found to be more active in warm water.

How is it diagnosed and treated?

The infection can be diagnosed through PCR tests of the cerebrospinal fluid. However, as PAM is a rare condition, detection can sometimes be difficult. In Kozhikode, the Government Medical College Hospital suspected its possibility in the five-year-old girl from Malappuram after noticing unusual symptoms and ruled out bacterial meningitis, whose treatment have come down to microscopic examinations. There are no standard treatment methods available and the doctors are following the guidelines of the CDC for these cases. As per sources, the State Health department has procured miltefosine, a broad-spectrum antimicrobial drug, from Germany for the treatment of infected persons. Paediatricians say that Azithromycin and Amphotericin B, some of the other medicines suggested, are available.

Has it been reported in Kerala before?

First detected in the Alappuzha municipality in 2016, it was reported in Malappuram in 2019 — in Kozhikode in 2020, in Thiruvananthapuram in 2022, and again in Alappuzha in 2023. Health Minister Veena George convened a meeting on July 1 to take stock of the situation and it was decided to formulate special guidelines for the treatment.

Health officials have said that there is a chance of the amoeba entering the brain through the bones in a layer that separates the nose and the brain or through possible holes in the ear drum. So, children having infections in their ear have been advised against taking baths in ponds or in stagnated water sources. Diving too should be avoided. Those running water theme parks and swimming pools have been asked to chlorinate the water there at regular intervals. Kerala Chief Minister Pinarayi Vijayan convened another meeting on July 5 and issued directions to keep water resources clean. Children have been asked to use swimming nose clips to prevent the infection.

What can be done to reduce the risk?

Holding the nose or wearing a nose clip while jumping or diving into fresh water are some of the steps suggested to avoid the infection. The head should be kept high while entering warm water. Steer clear from digging in shallow waters, say experts. Distilled or boiled water should be used for cleaning nasal passages.

Context: In the past two months, Kerala has reported four cases of the rare but deadly primary amoebic meningoencephalitis (PAM), resulting in three deaths.

Primary Amoebic Meningoencephalitis (PAM)

- **About:** It is caused by Naegleria fowleri, an amoeba that thrives in warm freshwater environments such as lakes, ponds, and rivers.
- **Also Known as**: Brain Eating Amoeba, because it can cause a brain infection when water containing the amoeba goes up the nose.
- Causes of Increased Risk: Experts suggest that warming of the atmosphere and stagnant, unhygienic water sources are conditions that promote the infection.
    - The amoeba is more active in warm water.
- **Symptoms**: Headache, fever, Nausea, or Vomiting.
    - **Later Symptoms**: Stiff neck, confusion, lack of attention to people and surroundings, seizures, hallucinations, and coma.
- **Vulnerability**: Recent cases indicate that children are more vulnerable to the infection.
- **Non-Contagious Nature**: The infection does not spread from person to person, nor does swallowing water containing the amoeba cause the infection.
- **Treatment**: Combination of drugs, often including amphotericin B, azithromycin, fluconazole, rifampin, miltefosine, and dexamethasone.

HINDUSTAN TIMES

July 7

INDIA'S DEFENCE PRODUCTION

(Syllabus: GS Paper 3 – Security/Economy)

Defence stocks surge as India posts highest ever growth in defence production

Context: India achieved its highest-ever growth in indigenous defence production value during FY 2023-24, as announced by the defence ministry.

India's Defence Production

- **Record-High Production in FY 2023-24:** The value of defence production reached ₹1,26,887 crore, marking a 16.7% increase from the previous fiscal year.
- **Contribution Breakdown**: DPSUs and other PSUs contributed 79.2%, while the private sector contributed 20.8% to the total defence production in 2023-24.
- **Growth Since 2019-20:** Defence production has grown by over 60% from ₹79,071 crore in 2019-20 to ₹1,26,887 crore in 2023-24.
- **Range of Defence Products**: India manufactures a diverse range of defence items including Tejas LCA, helicopters, warships, tanks, artillery guns, missiles, rockets, and military vehicles.
- **Defence Exports Surge:** Defence exports in FY 2023-24 reached ₹21,083 crore, a 32.5% increase from the previous fiscal year, demonstrating robust growth.

Government Initiatives to Boost Defence Exports

- **IDR Act Reform**: Rationalization of Defence Products list for Industrial License and extended validity from 3 years to 15 years.
- **iDEX and DTIS Schemes**: Initiatives like iDEX and DTIS foster innovation and strengthen defence testing infrastructure to enhance defence manufacturing capabilities.
- **FDI Policy Enhancement**: FDI limits in the Defence Sector increased up to 74% via Automatic Route and up to 100% via Government Route to attract foreign investments.
- **Defence Industrial Corridors**: Established in Tamil Nadu and Uttar Pradesh to promote local defence manufacturing clusters leveraging existing infrastructure and human capital.
- **DPEPP 2020:** Defence Production and Export Promotion Policy 2020 aims to bolster self-reliance and export capabilities through structured guidelines.

SEHER PROGRAM
(Syllabus: GS Paper 3 – Economy)

WEP and Transunion Cibil to collaborate to enhance financial literacy and business skills of women entrepreneurs

Context: NITI Aayog's Women Entrepreneurship platform and credit bure have collaborated to launch the SEHER programme.

SEHER Program

- **About**: It aims to empower women entrepreneurs in India through financial literacy and business skills.
    - SEHER facilitates improved access to credit and financial resources specifically tailored for women-led businesses.
- **Founders**: It is a collaboration between NITI Aayog's Women Entrepreneurship Platform (WEP) and TransUnion CIBIL.
- **Focus:** It provides essential knowledge on credit scores, loan eligibility, and financial planning to women entrepreneurs.
- **Supporting MSMEs**: The initiative aligns with WEP's objective to enhance financing opportunities for women within India's vast MSME sector.

Women Entrepreneurship Platform (WEP)

- **Foundation**: NITI Aayog in 2018, WEP transitioned to a public-private partnership in 2022 to foster a holistic support ecosystem for women entrepreneurs.
- **Objective**: WEP aims to empower women entrepreneurs by bridging information gaps and offering support across multiple facets: Entrepreneurship promotion, Access to Finance, Market Linkages, Training and Skilling, Mentoring and Networking, and Business Development Services.

About TransUnion CIBIL

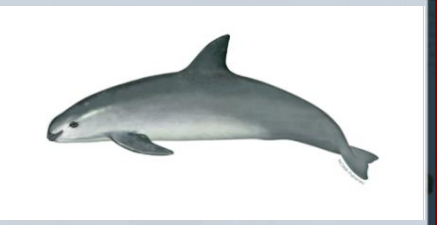
- **About:** It is India's leading provider of information and insights, enabling trust in the modern economy by offering reliable marketplace representations.
- **Objective:** The company's solutions empower millions of Indians by facilitating economic opportunities, positive consumer experiences, and personal empowerment.

NDTV July 7

VAQUITA
(Syllabus: GS Paper 3 – Env and Eco)

Vaquita On The Brink: Population Plummets In Mexico's Gulf

Context: The world's most endangered marine mammal, the vaquita, is teetering on the edge of extinction.



Vaquita

- **About**: It is the world's rarest marine mammal, is on the edge of extinction.
- **Scientific Name**: Phocoena sinus
- **Habitat**: They inhabit the northern part of the Gulf of California, preferring shallow waters up to 50 meters deep.
- **Population**: 10 individuals
- **Lifespan:** 21 Years
- **Features**:
    - **Size and Weight:** Vaquitas are 4 to 5 feet long and weigh between 65 to 120 pounds, making them the smallest cetaceans.
    - **Physical Characteristics**: They have chunky bodies, rounded heads without snouts, and are mostly dark gray with lighter undersides and distinct black facial patches.
    - **Unique Dorsal Fin**: Their dorsal fins are taller and wider compared to other porpoises, contributing to their distinctive appearance.
- **Conservation Status**: Critically Endangered
- **Threats**: The only known threat to the vaquita is getting caught in fishing gear, especially gillnets.

Conservation Efforts

- **Establishment of CIRVA**: In 1996, Mexico founded the International Committee for the Recovery of the Vaquita (CIRVA).
- CIRVA's mandate is to develop and oversee a comprehensive vaquita recovery plan.

INDIAN EXPRESS

Page 8

What an NSA does



A restructuring of the office is an opportunity to look closer at role and remit of the National Security Advisor

SANJAYA BARU

THE APPOINTMENT OF a new Additional National Security Advisor (ANSA) along with a restructuring of reporting relationships both within the National Security Council Secretariat (NSCS) and between the National Security Advisor (NSA) and the Union ministries has not attracted the attention it deserves. While the NSA now presides over a much bigger organisation, with an ANSA and three deputy NSAs, his new role appears more advisory and less operational. The NSA would deal with advisory outfits such as the National Security Advisory Board and the Strategic Policy Group. While the Chief of Defence Staff (CDS) and the three service chiefs, the Union defence, home, foreign and other secretaries are also required to report to the NSA, each of them also reports to a minister in their daily functioning.

How the ministerial bosses of the relevant officials view these changes remains to be seen. Given that the Principal Secretary to the Prime Minister normally deals with the civil bureaucracy, turf issues are bound to arise if the NSA becomes an activist, convening meetings with the Cabinet Secretary and secretaries to the government of India.

Second, it appears the ANSA would now be the gatekeeper in the communication chain between six mid-level unit heads (three Dy NSAs and three service officers) and the NSA. This also means an additional bureaucratic layer has been created between the PM and those monitoring national security on a daily basis. Will the PM's daily security briefings be done by the NSA or the ANSA or both? What of the relationship between the intelligence czars and the PM, and the CDS and PM?

The changes made to the security architecture have raised many questions down the line, both within the civil and military bureaucracies. They have also prompted speculation about the future of the incumbent NSA, Ajit Doval. Is his elevation a precursor to honourable retirement? Will the ANSA, Rajinder Khanna, succeed him? Will someone from the outside replace both in due course? Lack of clarity on such questions would impact the efficiency of the new arrangement.

One can see that a quarter century after the creation of the office of NSA, the institution, its place within the national government and its responsibilities and remit, are still evolving. While there is a lot of published material on the history of the evolution of the office of NSA, the question raised by K Subrahmanyam — the strategic affairs guru intimately associated with the creation of the office, along with KC Pant and Jaswant Singh — in a 2010 article, 'Does India Need an NSA?', has not yet been satisfactorily answered. Subrahmanyam himself answered that question in the affirmative but I believe he would have preferred an institutional separation between 'thinkers' and 'actors', as well as direct access to the PM for intelligence chiefs and the military leadership.

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Both in 2005, after the demise of the then NSA JN Dixit, and in 2014, before the appointment of Ajit Doval, there was much discussion on who ought to fill that post. The turf war was between officers of the foreign service and police service. In the event, on both occasions, an IPS officer and former head of internal intelligence was finally chosen. The absence of any clearly laid out criteria and qualifications for the post and, worse, clearly specified duties and chain of command, has left the question open as to who should be made NSA — a diplomat, a spook, a soldier or a scholar?

When Prime Minister Atal Bihari Vajpayee first created the post he chose to name the Principal Secretary to the PM as the NSA. From 1998 to 2004 the late Brajesh Mishra defined the work of an NSA by living that role. His successor, JN Dixit, had to redefine the role because Prime Minister Singh separated the two posts, appointing an IAS officer, TKA Nair, as Principal Secretary and Dixit as NSA. Dr Singh further complicated the matter by appointing Narayanan as an internal security advisor. By the time the internal turf wars between the IAS, IFS and IPS ended, Dixit passed away and Narayanan took over. He was succeeded by Shivshankar Menon of the foreign service.

While both Doval and Narayanan have similar professional backgrounds, PM Modi has not only elevated the rank of NSA to that of cabinet minister, but has also widened the remit by integrating national security management with higher defence management. This, too, is an experiment whose advisability and experience have not been adequately and professionally evaluated so far.

Finally, given the recent and ongoing controversy about the activities of R&AW, brought into global focus by charges levelled by state agencies in Canada and the United States, as well as the controversy around the decision making process with respect to the Agniveer initiative, the role and remit of the NSA have once again come into focus.

Should the NSA have a diplomatic, bureaucratic, military, police or intelligence background? Is national security management about intelligence gathering or processing? Should those processing intelligence belong to organisations gathering intelligence? Indeed, should the priority for national security management be experience in internal security or external security for a country like India? So on and so forth. The role and responsibility of the NSA and of the National Security Council have evolved with time and changing circumstance. The material in the public domain remains limited for any informed comment on these questions.

A restructuring offers an opportunity for a fresh look at these questions. The Kargil Review Committee chaired by K Subrahmanyam had suggested that the Chief of Defence Staff (CDS) should directly report to the PM. By giving the NSA a cabinet rank and the CDS the rank of a secretary to the Union government, the political leadership has done a disservice to the armed forces. The CDS is not even a permanent member of the cabinet committee on security. Given the challenges being faced with respect to defence modernisation and organisation, and given the security environment in our neighbourhood, the CDS must report directly to the PM and only maintain a consultative relationship with the NSA.

The fact is that successive NSAs have been learning on the job in dealing with national security challenges ranging from the border problem with China to handling political challenges in border states, and these challenges have only grown with time.

The author was Member, National Security Advisory Board of India, 1999-2001 and media advisor to Prime Minister of India, 2004-08

NATIONAL SECURITY COUNCIL

(Syllabus: GS Paper 2 – Polity)

Context: The recent appointment of an Additional National Security Advisor (ANSA) and restructuring of reporting lines within the National Security Council Secretariat (NSCS) and with Union ministries has gone largely unnoticed despite its significance.

National Security Council

- **About:** It is an executive agency of India, headed by Prime Minister of India.
- **Establishment**: November 19, 1998, by Prime Minister Atal Bihari Vajpayee, with Brajesh Mishra as its first National Security Advisor.
- **Role**: The NSC of India advises the Prime Minister's Office on national security and strategic interests.
- **Predecessor**: Before the NSC, these responsibilities were managed by the Principal Secretary to the Prime Minister.
- **Composition**: Members include the National Security Advisor (NSA), Deputy NSAs, and Ministers of Defence, External Affairs, Home, and Finance, along with the Vice Chairman of NITI Aayog.
- **Appointment Process**: Appointments Committee of the Cabinet (ACC) chaired by PM and Home Minister.
- Responsible for appointments like the National Security Advisor.
- **Organisational Structure**
  - **Apex Body**: The NSC serves as the highest authority within India's three-tiered national security management structure.
  - **Three Tiers:** Includes the Strategic Policy Group, the National Security Advisory Board, and a secretariat provided by the Joint Intelligence Committee.

BUSINESS STANDARD
Page 16

AFRICAN SWINE FLU

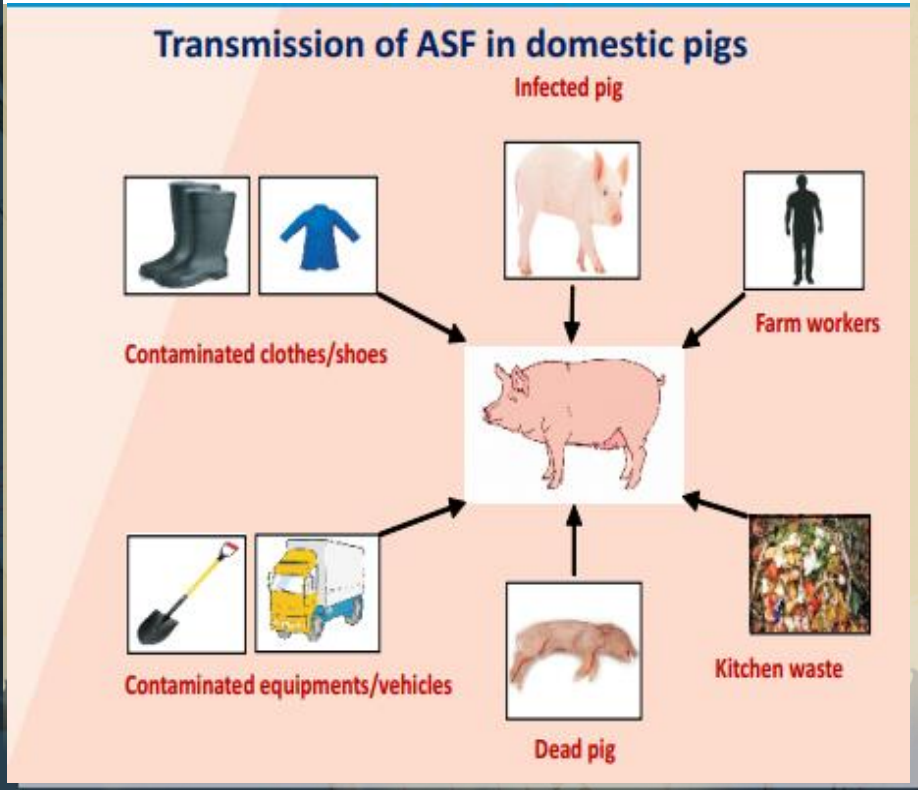
(Syllabus: GS Paper 3 – Sci and Tech)

African swine flu in Kerala pigs won't spread to humans: Centre

African swine flu, currently spreading across a few pig farms in Kerala, is non-zoonotic and will not spread to humans, said the Centre on Sunday.

The authorities have culled as many as 310 pigs at farms in Thrissur district where the disease was first detected. The government also said that there is no vaccine available yet for this variant of swine flu.It said the swine flu was first reported in India in May 2020 in Assam and Arunachal Pradesh. Since then, the disease has spread to around 24 states.

The Union animal husbandry department had formulated a national action plan for control of the swine flu in 2020. It said as far as the current outbreak is concerned, a rapid response team has been constituted by the state's animal husbandry department. SANJEEB MUKHERJEE



Context: The Centre reassured that the African swine flu, currently spreading in a few pig farms in Kerala, is non-zoonotic and poses no threat to humans.

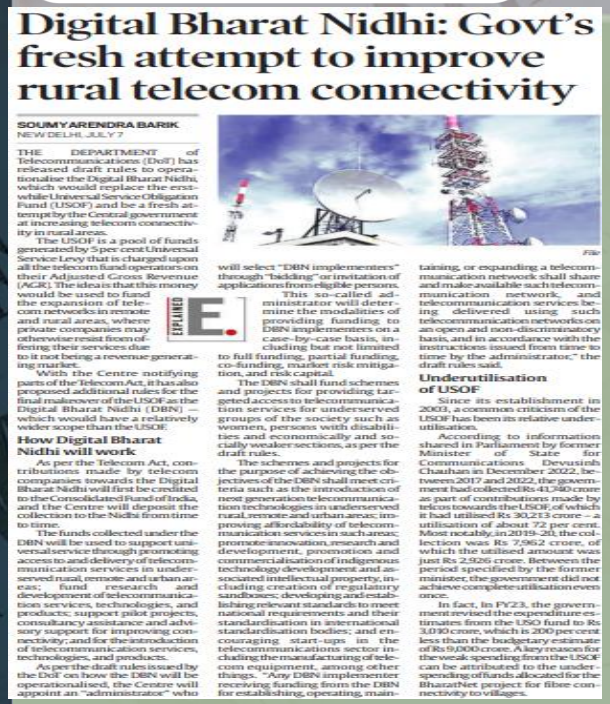
African Swine Flu

- **About:** ASF is a severe viral disease that affects wild and domestic pigs typically resulting in an acute haemorrhagic fever.
- **Symptoms**: Vomiting, Diarrhea,reddening or darkening of the skin, particularly ears and snout, gummed up eyes etc
- **Threat:** ASF is not a threat to human health and cannot be transmitted from pigs to humans.
- **Lack of Vaccine:** Currently, there is no effective vaccine available to combat ASF.
- **Initial Detection**: ASF was first identified in Africa during the 1920s.
- **Global situation**: ASF continues to spread worldwide, threatening pig health and welfare. The disease has reached multiple countries across Asia, the Caribbean, Europe, and the Pacific, affecting both domestic and wild pigs.
- **In India**: It was first confirmed in Arunachal Pradesh and Assam in February-March 2020.
- **Vaccine:** Currently, there is no effective vaccine available against ASF, so prevention by adopting strict biosecurity measures is the only way to prevent ASF.

INDIAN EXPRESS Page 11

DIGITAL BHARAT NIDHI

(Syllabus: GS Paper 3 – Economy)



Digital Bharat Nidhi: Govt's fresh attempt to improve rural telecom connectivity

SOUMYARENDRA BARIK
NEW DELHI, JULY 7

THE DEPARTMENT of Telecommunications (DoT) has released draft rules to operationalise the Digital Bharat Nidhi, which would replace the erstwhile Universal Service Obligation Fund (USOF) and be a fresh attempt by the Central government at increasing telecom connectivity in rural areas.

The USOF is a pool of funds generated by 5 per cent Universal Service Levy that is charged upon all the telecom fund operators on their Adjusted Gross Revenue (AGR). The idea is that this money would be used to fund the expansion of telecom networks in remote and rural areas, where private companies may otherwise resist from offering their services due to it not being a revenue generating market.

With the Centre notifying parts of the Telecom Act, it has also proposed additional rules for the final makeover of the USOF as the Digital Bharat Nidhi (DBN) — which would have a relatively wider scope than the USOF.

How Digital Bharat Nidhi will work

As per the Telecom Act, contributions made by telecom companies towards the Digital Bharat Nidhi will first be credited to the Consolidated Fund of India, and the Centre will deposit this collection to the Nidhi from time to time.

The funds collected under the DBN will be used to support universal service through promoting access to and delivery of telecommunication services in underserved rural, remote and urban areas; fund research and development of telecommunication services, technologies, and products; support pilot projects, consultancy assistance and advisory support for improving connectivity; and for the introduction of telecommunication services, technologies, and products.

As per the draft rules issued by the DoT on how the DBN will be operationalised, the Centre will appoint an "administrator" who will select "DBN implementers" through "bidding" or invitation of applications from eligible persons.

This so-called administrator will determine the modalities of providing funding to DBN implementers on a case-by-case basis, including but not limited to full funding, partial funding, co-funding, market risk mitigation, and risk capital.

The DBN shall fund schemes and projects for providing targeted access to telecommunication services for underserved groups of the society such as women, persons with disabilities and economically and socially weaker sections, as per the draft rules.

The schemes and projects for the purpose of achieving the objectives of the DBN shall meet criteria such as the introduction of next generation telecommunication technologies in underserved rural, remote and urban areas; improving affordability of telecommunication services in such areas; promote innovation, research and development, promotion and commercialisation of indigenous technology development and associated intellectual property, including creation of regulatory sandboxes; developing and establishing relevant standards to meet national requirements and their standardisation in international standardisation bodies; and encouraging start-ups in the telecommunications sector including the manufacturing of telecom equipment, among other things. "Any DBN implementer receiving funding from the DBN for establishing, operating, maintaining, or expanding a telecommunication network shall share and make available such telecommunication network, and telecommunication services being delivered using such telecommunication networks on an open and non-discriminatory basis, and in accordance with the instructions issued from time to time by the administrator," the draft rules said.

Underutilisation of USOF

Since its establishment in 2003, a common criticism of the USOF has been its relative underutilisation.

According to information shared in Parliament by former Minister of State for Communications Devusinh Chauhan in December 2022, between 2017 and 2022, the government had collected Rs 41,340 crore as part of contributions made by telcos towards the USOF, of which it had utilised Rs 30,213 crore – a utilisation of about 72 per cent. Most notably, in 2019-20, the collection was Rs 7,962 crore, of which the utilised amount was just Rs 2,926 crore. Between the period specified by the former minister, the government did not achieve complete utilisation even once.

In fact, in FY23, the government revised the expenditure estimates from the USO fund to Rs 3,030 crore, which is 200 per cent less than the budgetary estimate of Rs 9,000 crore. A key reason for the weak spending from the USOF can be attributed to the underspending of funds allocated for the BharatNet project for fibre connectivity to villages.

Context: The Department of Telecommunications (DoT) has unveiled draft rules for implementing the Digital Bharat Nidhi, aiming to bolster telecom connectivity in rural India as part of the government's renewed efforts.

Digital Bharat Nidhi

- **About**: It would replace the erstwhile Universal Service Obligation Fund (USOF), which is a pool of funds generated by a 5 per cent Universal Service Levy charged upon all the telecom fund operators on their Adjusted Gross Revenue (AGR).
- **Objective**: The primary aim of DBN is to enhance and extend internet connectivity across India, with a specific focus on rural, remote, and economically disadvantaged urban areas.
- **Transformation of USOF**: The DBN initiative marks a shift from the Universal Service Obligation Fund (USOF) to redirect resources towards improving accessibility and reach of phone services nationwide.

How the Digital Bharat Nidhi will work

- **Contributions and Consolidated Fund of India**: Telecom companies' contributions are initially credited to the Consolidated Fund of India (CFI), where all government revenues and expenditures are managed under the Telecom Act.
- **Depositing Funds to DBN**: The Centre periodically deposits collected funds into the Digital Bharat Nidhi (DBN) account.
- **Funding Modalities:** Administrators decide funding types like full, partial, co-funding, market risk mitigation, and risk capital for DBN implementers.
- **Targeted Groups**: DBN funds schemes targeting underserved groups: women, persons with disabilities, and economically weaker sections.
- **Project Criteria:**
  - Projects funded by DBN must focus on:
  - Next-generation telecom technologies
  - Affordable services in rural, remote, and urban areas
  - Innovation, research, and indigenous technology development
  - Start-up encouragement in telecom sector

Universal Service Obligation Fund (USOF)

- **Aim:** To provide for quality and affordable mobile and digital services across the rural and remote areas of the country.
- **Headed by**: Administrator, USO Fund who is appointed by the Central Government, for the administration of the fund.
- **Origin of Concept**: Introduced by Rowland Hill in 1837 with his postal reforms.

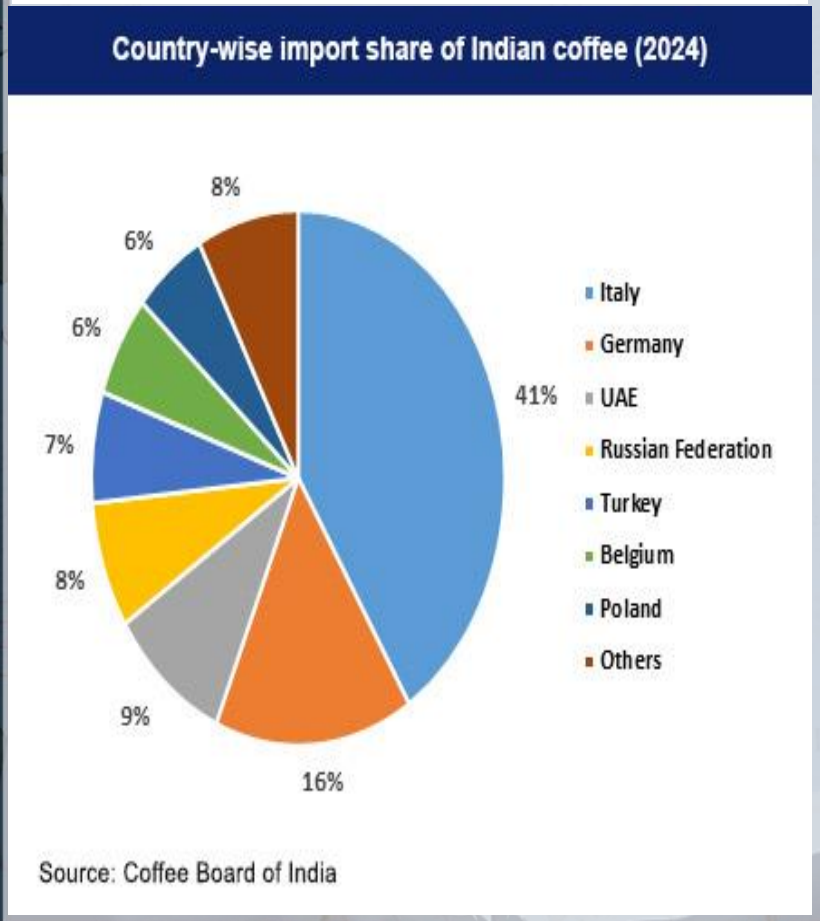
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July 7

COFFEE PRODUCTION IN INDIA

(Syllabus: GS Paper 3 – Agriculture)

Coffee prices soar in India as El Nino-induced drought impacts production in major coffee-growing areas worldwide



Context: Robusta coffee bean prices in India have surged to match premium arabica beans amid production setbacks caused by drought in key producing countries such as Brazil and Vietnam.

Coffee Production in India

- **About**: It is the second most important beverage in India, following tea.
- **Origin from**: Abyssinia Plateau (Ethiopia), it was introduced to India by Baba Budan in the 17th century from Arabia.
- **Establishment in India:** Baba Budan first planted coffee in the Baba Budan Hills of Karnataka.
- **India produces two types of coffee:** Arabica and Robusta.
- **Conditions of Growth:**
  - **Climate:** Hot and humid climates.
  - **Temperature**: From 15°C to 28°C.
  - **Rainfall:** between 150 to 250 cm annually.
  - **Soil:** Prefers well-drained, rich friable loams with ample humus and minerals like iron and calcium.
- **Major States:** Karnataka, Kerala and Tamil Nadu.
  - India contributes about 15% of the world's coffee. Most of it (about 70%) comes from Karnataka alone.
  - The state's primary coffee-growing areas include Chikkamagaluru, Hassan, Madikeri and Kodagu, according to Chengappa.
- **Global Distribution**: Brazil, Vietnam, Colombia, Indonesia.

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Page 12

ARCTIC WILDFIRE

(Syllabus: GS Paper 3 – Env and Eco)



WHY ARCTIC WILDFIRES ARE BAD NEWS FOR THE WORLD

ALIND CHAUHAN
NEW DELHI, JULY 7

SMOKE FROM raging wildfires has once again darkened the skies over the Arctic. It is the third time in the past five years that high intensity fires have erupted in the region, Europe's Copernicus Climate Change Service (C3S) said earlier in July. A majority of fires are in Sakha, Russia, where more than 160 wildfires charred nearly 460,000 hectares of land up until June 24.

The June monthly total carbon emissions from the wildfires are the third highest of the past two decades, at 6.8 megatonnes of carbon, behind June 2020 and 2019, which recorded 16.3 and 13.8 megatonnes of carbon respectively, C3S added.

Wildfires have been a natural part of the Arctic's boreal forest or snow forest and tundra (treeless regions) ecosystems. However, in recent years, their frequency and scale have increased, primarily due to global warming. And these blazing wildfires are fueling the climate crisis.

Why have Arctic wildfires become worse?

The Arctic has been warming roughly four times as fast as the world. While the global average temperature has increased by at least 1.1 degree Celsius above the pre-industrial levels, the Arctic has become on average around 3 degree warmer than it was in 1980.

This fast paced warming has led to more frequent lightning in the Arctic, which has further increased the likelihood of wildfires.

Speaking to *CNN*, Robert H Holzworth, a professor of Earth and Space Sciences at the University of Washington, said, "Thunderstorms occur when there is differential surface heating, so an updraft-downdraft convection can occur... You need a warm moist updraft to get a thunderstorm started, and that is more likely to occur over ice free land than land covered with ice."

Soaring temperatures have also slowed down the polar jet stream — responsible for circulating air between the mid- and northern latitudes — due to less of a temperature difference between the Arctic and lower latitudes. As a result, the polar jet stream often gets "stuck" in one place, bringing unseasonably warm weather to the region. This can lead to intense heatwaves, which can cause more wildfires.

All three factors — rising temperatures, more frequent lightning and heatwaves — will most likely worsen in the coming years, thereby causing more wildfires in the Arctic.

A wildfire in Yakutia, Russia, in 2021. *Reuters*

How can Arctic wildfires spike global warming?

When wildfires ignite, they burn vegetation and organic matter, releasing the heat trapping greenhouse gases such as carbon dioxide (CO_2) into the atmosphere. That is why the rising frequency of wildfires around the globe is a matter of concern as they contribute to climate change.

In the case of Arctic wildfires, the biggest worry is the carbon stored underneath the region's permafrost — any ground that stays frozen for at least two years straight. Scientists estimate that Arctic permafrost holds around 1,700 billion metric tons of carbon, including methane and CO_2. That's roughly 51 times the amount of carbon the world released as fossil fuel emissions in 2019.

Wildfires make permafrost more vulnerable to thawing as they destroy upper insulating layers of vegetation and soil. This can cause ancient organic materials to decompose and release carbon into the atmosphere. In case a large-scale thawing of Arctic permafrost is triggered, it would be impossible to stop the release of carbon.

Context: Smoke from raging wildfires has once again darkened the skies over the Arctic.

Arctic Wildfire

- **About**: The Arctic region is warming approximately four times faster than the global average, with temperatures rising about 3 degrees Celsius since 1980. This accelerated warming creates conditions conducive to wildfires.
- **Increased Lightning Activity**: As temperatures rise, there is a higher frequency of lightning strikes in the Arctic. Lightning-sparked fires have more than doubled in areas like Alaska and the Northwest Territories since 1975, contributing significantly to wildfire occurrences.
- **Thunderstorm Patterns:** Warming temperatures alter atmospheric conditions, promoting thunderstorm formation. Thunderstorms bring more lightning strikes, further increasing the ignition risk for wildfires in the Arctic.
- **All three factors**: Rising temperatures, more frequent lightning and heatwaves — will most likely worsen in the coming years, thereby causing more wildfires in the Arctic.
    - By 2050, it is estimated that wildfires in the Arctic and around the world could increase by one-third, according to a report by the World Wild Fund.

Impact of Arctic Wildfires on Global Warming

- **Release of Greenhouse Gases (GHGs):** Wildfires release greenhouse gases (GHGs) such as carbon dioxide (CO_2) when burning vegetation.
- Increased wildfire frequency globally contributes significantly to climate change.
- **Impact on Permafrost**: Arctic wildfires pose a greater risk due to their potential to thaw permafrost, releasing vast stores of carbon. The region's permafrost holds an estimated 1,700 billion metric tons of carbon, significantly more than annual global fossil fuel emissions.
- **Threshold of Climate Change**: Thawing permafrost from widespread wildfires could breach the critical 1.5 degrees Celsius warming threshold, leading to irreversible environmental consequences globally.

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