



UPSC CURRENT AFFAIRS NOTES 14-01-2024

OPERATION AMRITH

Kerala's "Operation Amrith" focuses on combating antibiotic resistance by addressing the misuse of antibiotics, aiming to safeguard the health of the state's citizens from the potentially deadly consequences of antibiotic resistance.

About Operation Amrith

Operation Amrith (Antimicrobial Resistance Intervention For Total Health) is an initiative launched by the Kerala Drug Control Department to address the issue of antimicrobial resistance (AMR) in the state.

AMR is a global health concern as it refers to the ability of bacteria and other microbes to resist the drugs used to inhibit or kill them. The overuse and misuse of antibiotics contribute significantly to the development of AMR, posing a threat to public health.

Regulatory Measures

The Drugs Control Department plays a crucial role in regulatory actions to optimize antibiotic use.

Pharmacies are required to maintain accurate records of antibiotic sales.

A poster stating '**antibiotics not sold without doctor's prescription**' must be displayed in the establishment and must be strictly adhered to.

Public Participation

The public is encouraged to actively participate in combating AMR.

Citizens can report pharmacies selling antibiotics without a prescription to the Drug Control Department.

Surprise Raids and Complaint Mechanism

Operation Amrith involves surprise raids in retail medical shops to detect over-the-counter (OTC) sales of antibiotics.



A Toll-Free Number (18004253182) is provided for lodging complaints against medical shops.

Once a complaint is received, it is transferred to the corresponding zonal office for verification, and immediate departmental actions are taken if a violation is detected.

State Action Plan on AMR (KARSAP)

Kerala was the first state in India to develop a state action plan on AMR, known as the Kerala Anti-Microbial Resistance Strategic Action Plan (KARSAP), in 2018.

KARSAP reflects a multi-sectoral approach, addressing human, animal, and environmental dimensions of the AMR problem.

Antimicrobial Resistance Awareness Campaigns

Kerala has undertaken initiatives like the Antibiotic Literate Kerala Campaign to raise awareness about AMR.

Block-level AMR Committees have been established in all 191 blocks in the state.

Commitments and Programs

The health department in Kerala has committed to phasing out the over-the-counter sale of antibiotics without a prescription.

The Program on Removal of Unused Drugs (PROUD) facilitates proper disposal of unused antibiotics.

Conclusion:

Operation Amrith, along with the broader initiatives and commitments in Kerala, reflects a comprehensive and proactive approach to tackling the issue of antimicrobial resistance at the state level. The integration of regulatory measures, public participation, awareness campaigns and surveillance efforts contribute to a holistic strategy for addressing this global health challenge.

ZED SCHEME



ZED Certification Scheme for Sustainability of MSMEs

The Zero Effect, Zero Defect scheme (ZED) by the MSME Ministry has achieved a significant milestone of certifying 1 lakh (100,000) Micro, Small, and Medium Enterprises (MSMEs) for environmentally conscious manufacturing practices.

Details

The Zero Effect, Zero Defect scheme (ZED) was launched in October 2016 and revamped in April 2022, aims to encourage sustainable manufacturing and reduce environmental impact.

ZED Scheme Overview

Certification Levels

- The ZED scheme offers **certification under three levels: Gold, Silver, and Bronze.**
- Certification is based on 20 performance-based parameters, including quality management, timely delivery, process control, and waste management.

Financial Support

- MSMEs receive financial assistance for certification, with a **subsidy of up to 75% of the total certification cost.**
- **The maximum subsidy ceiling is Rs 50,000, and additional support of up to Rs 2 lakh** is provided for consultancy to achieve the next certification level.



- **For technology upgradation, assistance of up to Rs 3 lakhs** is offered for zero-effect solutions, pollution control measures, and cleaner technology.

Certification Fees

- MSMEs are charged a certification fee: Rs 10,000 for Bronze, Rs 40,000 for Silver, and Rs 90,000 for Gold.
- The scheme was made free for women-led MSMEs in December 2023, and the government guarantees 100% financial support for certification costs.

Certification Validity

- **ZED certification is valid for three years.**
- MSMEs must reapply for the certificate after the expiration of the validity period.

Target and Achievement

- The scheme surpassed its internal target of 50,000 certifications before January 26, achieving over 1 lakh certifications in 19 months.
- As of the latest data, 1,01,962 units received Bronze certification, 339 units received Silver certification, and 341 units received Gold certification.

Environmental Sustainability and Government's Goals

- **Carbon Emission Reduction:** The ZED scheme aligns with the government's plan to reduce India's CO2 emissions by 1 billion tons by 2030. The goal is to reduce carbon intensity below 45% by 2030 and achieve a Net-Zero emission target by 2070.
- **Focus on Sustainable Practices:** The ZED scheme encourages MSMEs to adopt sustainable manufacturing practices, contributing to environmental conservation.

VIPER ROVER



NASA is inviting people to send their names to the surface of the Moon aboard the agency's first robotic lunar rover, VIPER – short for Volatiles Investigating Polar Exploration Rover.

The rover will embark on a mission to the lunar South Pole to unravel the mysteries of the Moon's water and better understand the environment where NASA plans to land the first woman and first person of color under its Artemis program.

Details

Mission Overview

Objective: VIPER aims to prospect and map lunar resources, especially water ice, in the Moon's South Pole region.

Development: Developed by NASA's Ames Research Center, VIPER is part of the Lunar Discovery and Exploration Program.

Mission Timeline

Launch Date: VIPER is scheduled to be delivered to the Moon's surface in November 2024.



Launch Vehicle: SpaceX's Falcon Heavy will carry Astrobotic's Griffin lander, delivering VIPER as part of NASA's Commercial Lunar Payload Services (CLPS) initiative.

Landing Site

- **Location:** VIPER will operate on the western edge of Nobile crater on Mons Mouton in the Moon's South Pole region.
- **Terrain Exploration:** The rover will traverse various soil environments affected by light and temperature variations, collecting crucial data.

Scientific Payload

VIPER is equipped with a suite of scientific instruments to carry out its objectives:

- **Neutron Spectrometer System (NSS):** Detects sub-surface water from a distance, guiding drilling locations.
- **Regolith and Ice Drill for Exploring New Terrain (TRIDENT):** A 1-meter drill for obtaining subsurface samples.
- **Near InfraRed Volatiles Spectrometer System (NIRVSS):** Analyzes mineral and volatile composition, distinguishing water molecules from hydroxyl.

Cost and Management

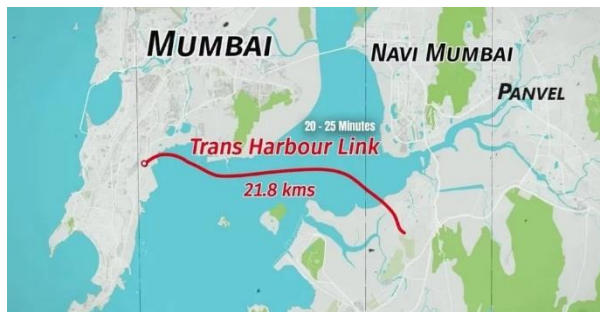
- **Cost Estimate:** The mission's estimated cost is \$433.5 million, emphasizing its scientific significance and technological complexity.
- **Project Management:** NASA's Ames Research Center manages the VIPER project, with contributions from Johnson Space Center, Kennedy and Honeybee Robotics.

Scientific Background

- **Lunar Water:** Data from previous lunar missions indicate the presence of water in various forms, especially in permanently shadowed craters.
- **Resource Utilization:** VIPER's findings on water distribution and form are crucial for potential resource extraction for future space exploration endeavors.

- **Artemis Program Integration:** VIPER aligns with NASA's Artemis program, contributing vital data for planned crewed missions to the Moon.
- **Resource Utilization Potential:** Successful extraction of water molecules could open avenues for propellant production and other space-based applications.

MUMBAI TRANS HARBOUR LINK (MTHL)



The inauguration of the Mumbai Trans Harbour Link (MTHL), India's longest sea bridge, by the Prime Minister, marked a transformative phase for Mumbai's real estate sector.

Key Points

- The Mumbai Trans Harbour Link (MTHL), officially named Shri Atal Bihari Vajpayee Trans Harbour Link (Atal Setu) and also known as Sewri–Nhava Sheva Trans Harbour Link, is a monumental feat of engineering, recently inaugurated on January 12, 2024.
- This 21.8 km, 6-lane Bridge connects Mumbai with its satellite city, Navi Mumbai, economic across the Thane Creek. It comprises a 16.5 km sea link and 5.5 km of viaducts on land at both ends, making it the longest sea bridge in India and the 12th longest in the world.
- The MTHL is expected to significantly reduce travel time between Mumbai and Navi Mumbai, currently plagued by heavy traffic congestion. It is estimated to cut travel time from 2 hours to just 20 minutes, boosting activity, trade, and overall connectivity within the Mumbai Metropolitan Region (MMR).

- The bridge features the first use of orthotropic decks in India, enabling longer spans and increased structural efficiency.
- The bridge is equipped with advanced traffic monitoring and surveillance systems to ensure safety and security.

CAPE VERDE



The World Health Organization (WHO) has certified Cabo Verde (also known as Cape Verde) as a **malaria-free country**, becoming the **third country** to acquire the status in the global health organisation's African region.

The country has now joined Mauritius and Algeria, who were certified in 1973 and 2019, respectively.

About Cape Verde

Cape Verde officially the Republic of Cabo Verde, is an archipelago and island country of West Africa in the central Atlantic Ocean, consisting of ten volcanic islands with a combined land area of about 4,033 square kilometres (1,557 sq mi).

These islands lie between 600 and 850 kilometres (320 and 460 nautical miles) west of Cap-Vert, the westernmost point of continental Africa.



The Cape Verde islands form part of the **Macaronesia ecoregion**, along with the Azores, the Canary Islands, Madeira, and the Savage Isles.

The Cape Verde archipelago, initially uninhabited, was discovered and colonized by Portuguese explorers in the 15th century, marking the first European settlement in the tropics. Due to its strategic location in the Atlantic slave trade, Cape Verde prospered economically in the 16th and 17th centuries, attracting merchants, privateers, and pirates.

History: The archipelago of modern-day Cape Verde was formed approximately 40–50 million years ago during the **Eocene era**.

Polity: Cape Verde is a stable **semi-presidential representative democratic republic**.

In 2020 it was the most democratic nation in Africa, ranking 2023 as 45th in the world, according to the electoral democracy score of the V-Dem Democracy indices.

Judiciary: The judicial system consists of a Supreme Court of Justice whose members are appointed by the president, the National Assembly, and the Board of the Judiciary and regional courts.

Separate courts hear civil, constitutional, and criminal cases. Appeals are to the Supreme Court.

Foreign relations: Cape Verde follows a policy of nonalignment and seeks cooperative relations with all friendly states.

India's First Dark Sky Park

Overview:

The Pench Tiger Reserve in Maharashtra has been designated as India's first Dark Sky Park and the fifth in Asia, protecting the night sky and preventing light pollution.

About India's First Dark Sky Park

- The Pench Tiger Reserve (PTR) in Maharashtra is India's first Dark Sky Park within a tiger reserve for earmarking areas around the park that restrict light pollution for stargazers to access pristine dark skies.
- Dark Sky Place certification focuses on lighting policy, dark sky-friendly retrofits, outreach and education, and monitoring the night sky.
- This designation positions PTR as a sanctuary where tourists can witness celestial spectacles, shielded from the intrusion of artificial light pollution.
- PTR became the fifth such park in Asia.
- The certification was given by the International Dark-Sky Association, a global dark-sky movement to promote astronomy.

Saqqara Blog Image

Archaeologists in Egypt recently unearthed tombs containing mummy masks and a 'god of silence' statue at Saqqara.

About Saqqara



It is part of the necropolis (burial place) of the ancient Egyptian city of Memphis.

It is located on the western bank of the Nile, 40 kilometers south of Cairo, the capital of Egypt.

Saqqara's name derives from the name of the burial god Sokar.

It was an active burial ground for more than 3500 years and is Egypt's largest archaeological site.

It is where the transition from the use of the **mastaba** (ancient Egyptian tombs, in the form of a massive brick or stone mound with battered walls on a rectangular base) as a burial site to the pyramid design that is more popularly known today took place.

Sakkara is best known for the Step Pyramid, the oldest of Egypt's 97 pyramids.

It was built in 2700 BC for King Djoser (Zoser) of the 3rd Dynasty by the architect and genius Imhotep, who was the first to build stone tombs in honor of the king's majesty.

Today, it is considered one of the oldest stone structures built by man, and it was the first time the Ancient Egyptians would attempt to use limestone.

Zoser's Pyramid is entirely built of limestone, small bricks of limestone, and not of the best quality, and yet it has remained for more than 4700 years.

Himalayan Wolf

Himalayan Wolf has been assessed for the first time in the International Union for Conservation of Nature (IUCN)'s Red List and categorised as 'Vulnerable'.





About Himalayan Wolf

- The Himalayan Wolf (*Canis lupus chanco*), a prominent lupine predator found across the Himalayas.
- It is also called Tibetan wolves, which live at more than 4,000 metres altitudes and are genetically distinct from grey wolves.
- Living at such high altitudes, these wolves have genetically adapted themselves to live in low oxygen (hypoxic) conditions.

Distribution:

In China, the Himalayan wolf lives on the Tibetan Plateau in the provinces of Gansu, Qinghai, Tibet, and western Sichuan.

In northern India, it occurs in the Union Territory of Ladakh and in the Lahaul and Spiti region in northeastern Himachal Pradesh.

Conservation status

IUCN: Vulnerable

CITES: Appendix I

Wildlife Protection Act, 1972: Schedule I

Threats: It is illegally hunted for trade in its fur and body parts including paws, tongues, heads, and other parts.

Measures to be taken to enhance the protection of Himalayan wolves

Securing and restoring healthy wild prey populations and landscapes and setting aside wildlife habitat refuges;

Improving livestock guarding methods, such as predator-proof corral pens and using sustainable livestock herding practices, including reduced livestock loads, adapted herding, and developing novel but tradition-based holistic management practices

Management of feral dog populations

Trans-boundary efforts in conservation of the species in range countries through research and monitoring.



Thirty Meter Telescope (TMT)

Recently, an official delegation from the Department of Science and Technology visited Mauna Kea to discuss “challenges” to the Thirty Meter Telescope (TMT) project.

About Thirty Meter Telescope (TMT)

- It has been conceived as a 30-metre diameter primary-mirror optical and infrared telescope that will enable observations into deep space.
- It is proposed as a joint collaboration involving institutions in the U.S., Japan, China, Canada, and India.
- It will be the world’s most advanced and capable ground-based optical, near-infrared, and mid-infrared observatory.
- It will integrate the latest innovations in precision control, segmented mirror design, and adaptive optics.
- At the heart of the telescope is the segmented mirror, made up of 492 individual segments. Precisely aligned, these segments will work as a single reflective surface of 30m diameter.
- **Location: Mauna Kea, an inactive volcano on the island of Hawai’i in the United States.**

Indian contribution

India expects to be a major contributor to the project and will provide; hardware (segment support assemblies, actuators, edge sensors, segment polishing, and segment coating), instrumentation (first light instruments), software (observatory software and telescope control systems) worth \$200 million.

The Indian Institute of Astrophysics (IIAP) is leading the consortium of Indian institutions that are involved with the TMT project.

India TMT will be jointly funded by the Departments of Science and Technology and Atomic Energy.