



11 January, 2024

Square Kilometer Array

Context: It was announced that India had officially become a part of the Square Kilometer Array (SKA) project—a global scientific initiative dedicated to constructing the largest radio telescope in the world.

India's Formal Entry into SKA Project:

- India, after years of contribution, has formally joined the Square Kilometer Array (SKA) project.
- SKA is an international effort to build the world's largest radio telescope.

Membership Status and Financial Commitment:

- Full member status entails signing and ratifying an international treaty along with a financial commitment.
- India has approved Rs 1,250 crore for the project, covering its funding contribution for the construction phase.

India's Participation in Mega Science Projects:

- India is engaged in various international mega science projects, including LIGO and ITER.
- It has a strong involvement in the Large Hadron Collider (LHC), the world's largest particle accelerator.

SKA Project Overview:

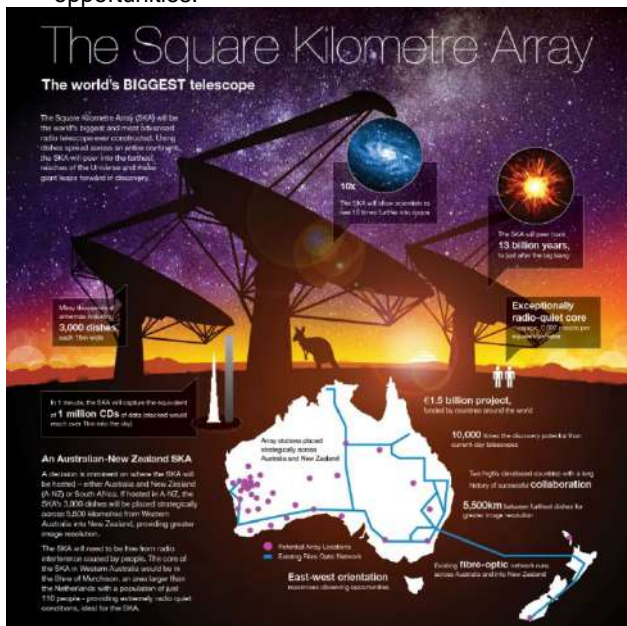
- The SKA is not a single large telescope but a collection of thousands of dish antennas operating as a single unit.
- Construction started in 2022 at sites in South Africa and Australia, with completion of the first phase expected by next year.

Operational Advantages for India:

- SKA, while not located in India, offers significant science and technology gains for the country.
- Full member status provides preferential access to SKA facilities, enhancing India's standing in radio astronomy.

Technology Benefits:

- SKA involves high-end technologies in electronics, software, materials science, and computing.
- Intellectual properties generated by the project are accessible to all member countries, fostering learning opportunities.



Capacity Building and Training:

- SKA participation is expected to expand the science and technology base in India.
- The National Centre for Radio Astrophysics (NCRA) leads India's involvement, with collaboration from 22 institutions, including research institutions, IITs, IISERs, universities, colleges, and private companies.

India's Historical Involvement:

- India has been part of the SKA project since its inception in the 1990s.
- Contributions include design, development, negotiation of the SKA Observatory Convention, and the operation of the Telescope Manager.

SKA Regional Centre in India:

Plans are underway to establish an SKA regional centre in India as part of the global network for data processing and storage.

Areas of Research for India:

- Indian scientists plan to use SKA telescopes for research in various areas, including the evolution of the early universe, formation and evolution of galaxies, neutron star physics, and solar sciences.
- Over 150 scientists, researchers, and students from 30+ Indian institutions, including private companies, are actively participating in SKA-related activities.

National Centre for Disease Control (NCDC) Survey on Antibiotics

Context: The NCDC survey emphasizes the crucial need for better stewardship in using antibiotics, particularly Critically Important Antimicrobials (CIAs), to combat antimicrobial resistance.

Antibiotic Usage in India's Food Animal Production:

- The NCDC survey suggests implementing antimicrobial consumption tracking for antibiotics in the food animal production sector.
- Currently, there is a lack of public domain data on the quantity and types of antibiotics used in food animals and crops.

Conservation of Critically Important Antimicrobials (CIA):

- Emphasis is placed on efforts to conserve the use and effectiveness of Critically Important Antimicrobials (CIA).
- Given the limited global pipeline for new antibiotics, preserving CIAs is crucial.

Commonly Prescribed Antibiotics and Classes:

- The survey identifies third-generation cephalosporins as the most commonly prescribed class of antibiotics (33.1% of overall prescriptions).
- Ceftriaxone, a third-generation cephalosporin, is among the top antibiotics prescribed in this class.
- Ceftriaxone is typically used for diseases such as enteric fever, biliary tract infections, bacterial meningitis, and pneumonia.

Aminoglycosides and CIAs:

- Aminoglycosides, classified as CIAs by the WHO, are also commonly prescribed antibiotics (12.1% of prescriptions).
- Amikacin, a specific aminoglycoside, is identified as frequently prescribed.

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➤ Concerns and Previous Reports:

- The report raises concerns about the widespread use of important antibiotics in food animal production and healthcare.
- Earlier reports in 2021 highlighted the use of CIAs in the Indian dairy and poultry sectors, indicating preventive, control, or treatment purposes.

➤ Antimicrobial Resistance Trends:

- Data from the Antimicrobial Resistance Research and Surveillance Network (ICMR) and National Antimicrobial Surveillance Network (NARS-Net) show increasing resistance to CIAs.
- Resistance trends include third-generation cephalosporins and aminoglycosides.

➤ Multicentric Point Prevalence Survey Details:

- The survey is the first multicentric point prevalence study of antibiotic use at 20 NAC-NET sites.
- It involved 9,652 patients across 15 states and two Union territories.
- Of the patients, 71.9% were prescribed antibiotics, with an average of 1.8 antibiotic prescriptions per patient.
- Intensive Care Units and surgical wards recorded the highest overall antibiotic use.
- Over 55% of prescriptions were for prophylactic use, raising concerns about antimicrobial resistance.

➤ Recommendations and Way Forward:

- Hospitals are advised to adopt standard treatment guidelines and establish well-defined antibiotic policies.
- Periodic point prevalence surveys in hospitals are recommended to monitor changes in antibiotic usage over time.

11th Revision of International Classification of Diseases

Context: The World Health Organization launched Traditional Medicine Module 2 as part of ICD 11, initiating preparations for its implementation.

➤ Integration of Traditional Medicine into WHO ICD-11:

- Ayurveda, Siddha, and Unani Medicine data and terminology are now part of the WHO ICD-11 classification.
- This inclusion involves indexing the terminology from these traditional medicine systems as codes in the WHO Disease Classification Series ICD-11.

➤ Collaboration Between Ministry of AYUSH and WHO:

- The Ministry of AYUSH collaborated with the World Health Organization to develop a disease classification for Ayurveda, Siddha, and Unani systems under the TM-2 module of ICD-11.
- A Donor Agreement was signed between the Ministry of Ayush and the World Health Organization to facilitate this classification effort.

➤ Impact on India's Healthcare System:

- The initiative aims to strengthen and expand India's healthcare delivery system.

- It will contribute to research, Ayush insurance coverage, research & development, and policy-making in the healthcare sector.

➤ Potential Applications of Codes:

- The indexed codes can be utilized for formulating strategies to control various diseases in society.
- The inclusion of traditional medicine terminology in ICD-11 opens avenues for future healthcare planning and disease management strategies.

➤ ICD Overview:

- The International Classification of Diseases (ICD) is the global standard for health information, covering mortality and morbidity statistics.
- First adopted in 1893, WHO has overseen ICD since its establishment in 1948.
- ICD is periodically revised, and the current version is the 10th revision.

• Utility and Global Adoption:

- Used globally in clinical care and research to define diseases, study disease patterns, manage healthcare, monitor outcomes, and allocate resources.
- Translated into 43 languages and utilized by over 100 countries for reporting mortality data, a key health status indicator.
- Approximately 70% of the world's health expenditures (USD \$3.5 billion) rely on ICD for reimbursement and resource allocation.

• ICD-11 Highlights:

- ICD-11 features around 55,000 unique codes for injuries, diseases, and causes of death.
- Developed over a decade, it offers significant improvements, is electronic, and presents a more user-friendly format.
- Unprecedented involvement of healthcare workers in collaborative meetings and proposal submissions.
- Aligns closely with the Global Antimicrobial Resistance Surveillance System for codes related to antimicrobial resistance.
- Enhances data capture on safety in healthcare, identifying and reducing unnecessary events harmful to health.
- Includes new chapters on traditional medicine and sexual health, and recognizes gaming disorder as an addictive disorder.

• ICD Purpose and Uses:

- Serves as the foundation for identifying global health trends and statistics.
- International standard for defining and reporting diseases and health conditions.
- Facilitates easy storage, retrieval, and analysis of health information for evidence-based decision-making.
- Enables sharing and comparison of health information across hospitals, regions, settings, and countries.
- Allows data comparisons in the same location across different time periods.

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NEWS IN BETWEEN THE LINES

Land Ports Authority of India



Recently, the Land Ports Authority released a report on Gender-Inclusive Framework for Cross-Border Trade in India.

About Land Ports Authority of India:

- The Land Ports Authority of India (LPAI) is a **statutory body** that **manages India's border infrastructure**.
- It was established under the Land Ports Authority of India Act, **2010**
- It **operates under the Ministry of Home Affairs' Department of Border Management**.
- It oversees India's border infrastructure, ensures safe passage at **Integrated Check Posts, constructs land ports** and manages cross-border movement facilities.
- The **Chairperson and Members are appointed by the Central Government**, serving a five-year tenure or until they reach sixty years of age, whichever comes first.

Rajaji Tiger Reserve



Recently, the hog deer has been spotted for the first time in the Chilla Range of Uttarakhand's Rajaji Tiger Reserve.

About Rajaji Tiger Reserve:

- Rajaji Tiger Reserve is a **national park and tiger reserve** in the Indian state of **Uttarakhand**.
- It is located in the Shivalik range of the Himalayas, and is spread across the districts of **Haridwar, Dehradun and Pauri** in Uttarakhand.
- The reserve was **named after the famous freedom fighter C. Rajgopalachari**, also known as "Rajaji".
- It was **established in 1983** by merging the three wildlife sanctuaries of Uttarakhand: **Rajaji, Motichur and Chilla**.
- **Flora:** The reserve boasts diverse forests from semi-evergreen to **Terai grassland**, hosting Rohini, **Palash, Shisham, Sal** and more.
- **Fauna:** The park is home to **elephants, tigers, leopards, deer, ghorals** and many types of birds.

Hog Deer:

- The hog deer (**Axis porcinus**) is a small to **medium-sized deer species** native to South and Southeast Asia.
- It is a grassland creature, typically **found in tropical and sub-tropical** climates with dense vegetation.
- It is **Endangered** in IUCN list and protected under **Wildlife Protection Act (1972)** and CITES Appendix I.

National Housing Bank



Recently, the Board of Directors of LIC gave the approval to the proposal to invest in the National Housing Bank promoted entity that would focus on residential mortgage-backed securities (RMBS), according to a regulatory filing by LIC with the stock exchanges.

National Housing Bank:

- The National Housing Bank (NHB) is a **state-owned bank and regulatory authority** in India.
- It is a **subsidiary of the Reserve Bank of India (RBI)** and is the apex regulatory authority for housing finance enterprises.
- It fulfils multiple functions, including supervising **Housing Finance Companies (HFCs)** for grievance redressal, ensuring HFCs adhere to BASEL norms for regulatory capital, and actively promoting and developing housing initiatives.
- Its primary objective is to promote housing development.
- It was set up on **July 9, 1988** under the National Housing Bank Act, **1987**.
- Its headquarter is in **New Delhi**.

INS Kabra



Recently, the Indian warship INS Kabra docked at Colombo port, underscoring efforts to bolster bilateral ties between India and Sri Lanka, particularly in maritime cooperation.

About INS Kabra:

- INS Kabra is a **naval vessel** named after an island in the Andaman and Nicobar archipelago.
- It belongs to the **Car Nicobar class of high-speed offshore patrol vessels**.
- Built by **Garden Reach Shipbuilders and Engineers (GRSE)**, it is part of a series of 10 Fast Attack Crafts designed for patrol, anti-piracy and rescue operations within India's Exclusive Economic Zone.
- These vessels offer a cost-effective platform for maritime operations and are specifically designed for patrol duties, anti-piracy measures and rescue operations.
- The Car Nicobar class, including INS Kabra, are the **first water jet propelled vessels** in the Indian Navy.

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Place in News

Timor Leste

Timor Leste: (Capital: Dili)

Recently, the Prime Minister of India held a bilateral meeting with President of Timor-Leste Jose Ramos-Horta.



Location: Timor Leste or East Timor is an island country, located in Southeast Asia.

Boundaries: Timor Leste is bounded by **Timor Sea** (Southeast), **Wetar Strait** (North), **Ombai Strait** (Northwest) and **western Timor** (part of Indonesian province of East Nusa Tenggara) to Southwest.

Significance:

- **Mount Tatamailau**, also known as Mount Ramelau, is the **highest mountain** in East Timor
- **Tetum and Portuguese are the official languages**, while Indonesian and English are also widely spoken.
- Timor-Leste **gained independence on May 20, 2002**, making it the fourth youngest country in the world.
- It gained **independence from Indonesia in 2002** after a long struggle for self-determination.

POINTS TO PONDER

- Who has become recently France's youngest Prime Minister? - **Gabriel Atta**
- Where is the Bay of Stickiness located on the Moon? - **Adjacent to Gruithuisen Domes near Oceanus Procellarum**
- Which communities primarily celebrate the Chandubi festival? - **Rabha and Hajong communities**
- Who developed the Drishti 10 'Starliner'? - **Adani Defence and Aerospace**
- Where is the country's first "Healthy and Hygienic Food Street," Prasadam, located? - **Neelkanth Van, Mahakal Lok, Ujjain**

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