

INTERNAL SECURITY**PROCUREMENT OF A GSAT 7B SATELLITE**

- The Defence Acquisition Council (DAC) cleared the Acceptance of Necessity (AoN) for procurement of a GSAT 7B satellite, along with equipment like Night Sight (image intensifier), 4X4 light vehicles, and Air Defence Fire Control Radar (light).

What are the GSAT 7 series satellites?

- GSAT 7 satellites are advanced satellites developed by the Indian Space Research Organisation (ISRO) to meet the communication needs of the defence services.
- The GSAT 7 satellite was launched in August 2013 from an Ariane 5 ECA rocket from Kourou in French Guiana.
- It is a 2,650 kg satellite which has a footprint of nearly 2,000 nautical miles in the Indian Ocean region.
- This satellite is mainly used by the Indian Navy for its communication needs.
- The GSAT 7 provides a gamut of services for military communication needs, which includes low bit voice rate to high bit rate data facilities, including multi-band communications.

Series of GSAT 7 satellites

- Named Rukmini, the satellite carries payloads in UHF, C-band and Ku-band, and helps the Navy to have a secure, real time communication link between its land establishments, surface ships, submarines and aircraft.
 - ❖ The satellite was injected into a geosynchronous transfer orbit (GTO) of 249 km perigee (nearest point to earth), 35,929 km apogee (farthest point to earth) and an inclination of 3.5 degree with respect to the equator.

The GSAT 7A:

- It was launched in 2018 from the Satish Dhawan Space Centre in Sriharikota, and has gone a long way in boosting the connectivity between the ground radar stations, airbases and the airborne early warning and control aircraft (AEW&C) of the IAF.
- It also helps in satellite controlled operations of unmanned aerial vehicles (UAVs) which gives a great deal of reliability to the operations as compared to ground controlled operations.
- This satellite has 10 channels in Ku band with switchable frequency for mobile users, one fixed Gregorian or parabolic antenna, and four steerable antennas.

GSAT 7B satellite:

- The GSAT 7B will primarily fulfil the communication needs of the Army.
- Currently, the Army is using 30 percent of the communication capabilities of the GSAT 7A satellite, which has been designed for the Indian Air Force (IAF).
- The GSAT 7B will also help the Army enhance its surveillance in border areas.
- While many features of this satellite are still a closely guarded secret, it is expected that the state of the art, multi-band, military-grade satellite shall be a shot in the arm for the communication and surveillance needs of the Army.

How will GSAT-7B help India?

- Till date, the Indian Army has been dependent on GSAT-7A and other satellites, but with this new state-of-the-art technology, the Army will have new eyes in the sky.
- The military-grade satellite will be a force multiplier in providing fail-safe communication support.
- Continuous satellite coverage over India's vast and complex topography will help the Indian Army in maintaining peace and also to carry out security operations, if needed.
- Such a satellite would be of utmost importance for the Indian Army as it currently faces a double threat of China and Pakistan lurking at its borders.
- The use of such a satellite would also mean that the Army's vast array of radio communication equipment could come under a single platform.
- The satellite would majorly benefit the unmanned aerial vehicles (UAVs) in the force's inventory by ensuring they have an enhanced flying range in line with their original specifications.

- It is a step in the right direction, but cautioned that India had a long way to go to hold a position of advantage or superiority in space warfare.

A GSAT 7C satellite :

- It is on the cards for the IAF, and a proposal to this effect was cleared by the DAC in 2021. This satellite would facilitate real time communication with IAF's software defined radio communication sets. It will increase the capability of the IAF to communicate beyond the line of sight in a secure mode.

What other kinds of military satellites does India have?

- An Electromagnetic Intelligence Gathering Satellite (EMISAT), developed by ISRO, was launched in April 2020 through a Polar Satellite Launch Vehicle (PSLV-C45).
- It has an Electronic Intelligence (ELINT) package called Kautilya, which allows the interception of ground-based radar and also carries out electronic surveillance across India.
 - The ELINT package provides the capability in direction-finding of radar and fixing their locations. It is placed in a 748-km orbit, and is said to be based on the Israeli satellite system. This satellite circles the globe pole-to-pole, and is helpful in gathering information from radars of countries that have borders with India.
- India also has a RISAT 2BR1 synthetic aperture radar imaging satellite, which was launched in December 2019 from Sriharikota.
- It has the capability to operate in different modes including very high resolution imaging modes of 1x0.5 metre resolution and 0.5x0.3 m resolution with a swath of 5-10 km.

INTERNATIONAL RELATIONS

INDIA -OMAN RELATION

- Recently, the Minister of External Affairs of India met his Oman counterpart and discussed growing cooperation in various fields including defence, energy, space and science and technology.

Key Highlights of the Meeting

- The two ministers reviewed cooperation in areas such as politics, economy, energy, investment, science and technology and humanitarian issues.
- They focused on defence and maritime security cooperation during talks including the exchange of white shipping information to increase maritime domain awareness
- They agreed to "initiate the exchange of white shipping information expeditiously to increase the maritime domain awareness" of both sides.
- In the field of trade, the two ministers agreed to finalise negotiations of a bilateral protocol on investment and avoidance of double taxation and prevention of fiscal evasion with respect to taxes on income at an early date.
- They also looked at ways to enhance trade and investment for post-pandemic recovery.
- They also agreed to step up cooperation between India's National Green Hydrogen Mission and Oman's plans to position itself as a global hub for green hydrogen and green ammonia.

India-Oman Relations

Bilateral Relations:

- Oman is a strategic partner of India and an important interlocutor at the Gulf Cooperation Council (GCC), Arab League and Indian Ocean Rim Association (IORA) fora.
- India and Oman are linked by geography, history, culture and enjoy warm and cordial relations.
- The people-to-people contact between India and Oman can be traced back 5000 years, diplomatic relations were established in 1955
- The historical India-Oman bilateral ties were transformed into a strategic partnership in November 2008.

Economic & Commercial Relations:

- Both India and Oman accord high priority to strengthening economic and commercial relations between the two countries.
- Economic cooperation between India and Oman is reviewed through the institutional mechanism of the Indo-Oman Joint Commission Meeting (JCM).

- India is among Oman's top trading partners, during 2019-20, bilateral trade was US\$ 5.93 billion.
- For Oman, India was the 3rd largest (after UAE and China) source for its imports and 3rd largest market (after UAE and Saudi Arabia) for its non-oil exports in 2018.
- Major items of Indian exports are: mineral fuels and products of their distillation, textiles, machinery, electrical items, chemicals, iron and steel, tea, coffee, spices, rice and meat products and seafood.
- Among major Indian imports are: urea, LNG, polypropylene, lubricating oil, dates and chromite ore.
- Various Indian financial institutions and PSUs have their presence in Oman.

Cultural Cooperation:

- Indian Social Club and its various regional, linguistic and sports wings actively promote Indian Culture in Oman, celebrating National Days, Festivals and Cultural diversity of India.
- Yoga is quite popular in Oman, especially among expatriates and local youth.
- The Embassy organised many events in 2019 to celebrate the 150th Birth Anniversary of Mahatma Gandhi and the 550th Birth Anniversary of Guru Nanak Dev ji.

Defence Cooperation:

- It is a key pillar to India's West Asia Policy with the most robust defence & security cooperation mechanisms.
- There has been regular exchange of visits by Defence Ministers of both sides.
- India and Oman conduct regular biennial bilateral exercises between all three services.
 - ❖ Army exercise: Al Najah
 - ❖ Air Force exercise: Eastern Bridge
 - ❖ Naval Exercise: Naseem Al Bahr

Maritime Cooperation:

- Oman is at the gateway of Strait of Hormuz through which India imports one-fifth of its oil imports.
- India signed a pact with the country in 2018 to access the Duqm port of Oman.
- The Indian Navy is able to use the facilities at Duqm port in Oman following the signing of a pact between the two countries
 - ❖ The port will act as India's entry point for wider West Asia and Eastern Africa, a welcome development at a time when China has deployed strategic assets in the Indian Ocean Region,
 - ❖ The Port of Duqm is situated on the southeastern seaboard of Oman, overlooking the Arabian Sea and the Indian Ocean. It is strategically located, in close proximity to the Chabahar port in Iran.

Indian Diaspora:

- There are about 7,00,000 Indians in Oman, of which about 5,67,000 are workers and professionals (June 2020).
- There are Indian families living in Oman for more than 150-200 years.
- Thousands of Indians are working as doctors, engineers, chartered accountants, teachers, lecturers, nurses, managers, etc.s of Cooperative federalism need to be preserved by preventing the possibility of any inter-state disputes.

IMPORTANT FACTS FOR PRELIM

WORLD AIR QUALITY REPORT 2021

- The 2021 World Air Quality Report was released, the report presented an overview of the state of global air quality in 2021.

About

- IQAir, a Swiss group that measures air quality levels based on the concentration of Particulate Matter (PM) 2.5.
- IQAir endeavours to engage, educate, and inspire governments, researchers, Non-Government Organisations, companies, and citizens to work together to improve air quality and create healthier communities and cities.

Key Finding

- In 2021, Mumbai had recorded Particulate Matter (PM) 2.5 annual average of 46.4 microgram/cubic metre – nearly nine times above the World Health Organisation (WHO) limit – according to a report by IQAir.
- In 2021, 48 per cent of India's cities exceeded 50 µg/m³, or more than 10 times the WHO guideline.
- India was home to 14 of the world's 20 most polluted cities.
- India's PM 2.5 annual average reached 58.1 µg/m³ in 2021, ending a three-year trend of improving air quality.
 - ❖ The country's PM 2.5 annual averages have now returned to pre-quarantine levels of 2019.
- New Delhi city is topping the list for the fourth consecutive year. Delhi topped a list of 92 capital cities in 2020, 85 such cities in 2019, and 62 such cities in 2018.
- On the list of capital cities, Dhaka followed Delhi in terms of the annual average PM2.5 concentration.
- Not a single country managed to meet the WHO's air quality standard in 2021.

Risks of Air Pollution

- Air pollution causes and aggravates many diseases, ranging from asthma to cancer, lung illnesses and heart disease.
- The estimated daily economic cost of air pollution has been figured at \$8 billion (USD), or 3 to 4 percent of the gross world productsome of the key elements of the exercise.

2. RESERVE BANK INNOVATION HUB (RBIH)

- Recently, the Reserve Bank of India (RBI) governor inaugurated the Reserve Bank Innovation Hub (RBIH) in Bengaluru which is intended to encourage and nurture financial innovation in a sustainable manner through an institutional set-up.

About RBIH

- It has been set up as a Section 8 company under the Companies Act, 2013 with an initial capital contribution of Rs. 100 crore.
- It is a wholly owned subsidiary of the RBI.
- It would create internal capabilities by building applied research and expertise in the latest technology.
- It will collaborate with financial sector institutions, policy bodies, the technology industry, and academic institutions and coordinate efforts for exchange of ideas and development of prototypes related to financial innovations.
- It plans to identify and mentor start-ups having maximum potential.

Aims and objectives:

- It aims to create an ecosystem that focuses on promoting access to financial services and products for the low-income population in the country.
- It aims to bring world-class innovation to the financial sector in India, coupled with the underlying theme of financial inclusion.

DAILY ANSWER WRITING PRACTICE

Q1. The National Land Monetisation Corporation will not only generate revenue from the surplus land holdings of the government but also streamline management of government held land. Analyse. (150 words).

Introduction

The Union cabinet recently approved the creation of a National Land Monetisation Corporation to monetise the surplus land holdings of Central Public Sector Enterprises (CPSEs) and other government agencies. Considering that various arms of the state have considerable land holdings across the country, monetisation of their “surplus, unused and under-used non-core assets in the nature of land and buildings” is a prudent strategy as it will lead to more efficient utilisation of these “under-utilised” assets.

Body

Rationale behind National Land Monetisation Corporation

- **Database of land surplus and investors:** A detailed and comprehensive inventory of the state's land holding will not only help it identify the surplus land, and push for monetising it, but will also help create a database for potential investors.
- **Clarity to potential investors:** A properly marked land parcels with geographical identifiers, with their boundaries clearly demarcated, and with the legality of title well established, will provide greater clarity and certainty to private investors.
- **Monetising unused land:** Public sector entities hold vast tracts of land that are either unused and underused land.
 - ❖ As per reports, the total vacant land available with Railways is estimated at around 1.25 lakh acres.
 - ❖ Similarly, the defence ministry also has considerable land holdings outside of the cantonment boundaries.
 - ❖ Thus, collating them under a single entity will lead to a more efficient monetisation drive, and better utilisation of these assets.
- **Additional resources:** The proceeds from the monetisation of these assets will help generate additional resources, boosting government coffers. The land in and around prime areas can possibly generate substantial returns.
- **Reduce artificial scarcity of land:** Importantly, auctioning off surplus land will increase the supply of land, which may address the issue of the "artificial" scarcity of land that exists in certain areas. This could depress prices and thus have a moderating effect on costs of projects.
- **Separate entity** to streamline management: Considering that land monetisation is a complex process, entrusting this work to a separate agency is the right way to go about it.
 - ❖ As the government itself has acknowledged, it requires "specialised skills and expertise" in areas such as "market research, legal due diligence, valuation, master planning, investment banking and land management."
 - ❖ **A separate entity**, housed with professionals with specialised skills is better suited for this task.

Issues that exist

- First, the estimation of surplus land may be a contentious issue.
- Ministries, departments, and public sector entities may be reluctant to demarcate land parcels as "surplus".
- Second, the corporation will have to grapple with issues such as the absence of clear titles, ongoing litigation, and muted investor interest.
- Third, there is also the issue of the encroachment of government land to contend with.
- But while this monetisation drive should lead to more efficient outcomes, it does raise questions over the management of commons, and whether public purpose can be better looked after by more effective management of public land by the state.

Way forward

- The success of the infrastructure expansion plan would depend on other stakeholders playing their due role.
- These include State governments and their Public Sector Enterprises and the private sector.
- In this context, the Fifteenth Finance Commission has recommended the setting up of a High-Powered Intergovernmental Group to re-examine the fiscal responsibility legislation of the Centre and States.
- Maintaining transparency is the key to adequate realisation of the asset value. is a good way forward for India to insulate economy from geopolitical risks.

DAILY QUIZ

Q1. Which of the following are the common sources of Lead?

1. Storage batteries
2. Hair oils and cosmetics
3. Some traditional ethnic medicines
4. Pottery
5. Pens and pencils

Which of the given above options is/are correct?

- (a) 1, 4 and 5
- (b) 2, 3 and 4

- (c) 1, 2, 3 and 4
(d) **1, 2, 3, 4 and 5**

Q2. Consider the following statements:

1. Clear-air atmospheric observatories containing automatic weather stations have been established at Maitri and Bharati stations in the Arctic region.
2. Chandra Basin is situated in Lahaul-Spiti region of Eastern Himalaya.

Which of the given above statements is/are correct?

- (a) 1 only
(b) 2 only
(c) 1 and 2
(d) **None**

Q3. Which of the following is /are chemical constituents of Particulate Matter (PM) 2.5?

1. Sulphates
2. Nitrates
3. Black carbon
4. Ammonium

Select the correct answer using the code given below:

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

Q4. With reference to the Collegium System in India, which of the following statements is/are not correct?

- (a) It pertains to both appointment and transfers of the judges of the Supreme Court and High Courts.

(b) The Collegium for the Supreme Court is mentioned under Article 124 of the Constitution.

- (c) NJAC Bill was introduced as a remedy to the drawbacks of the Collegium system.

- (d) The outgoing CJI recommends his successor on the basis of seniority.

Q5. With reference to Antarctic Treaty, consider the following statements:

1. The Antarctic treaty remains the only example of a single treaty that governs a whole continent.
2. India is a member of this treaty.
3. It is headquartered in Brazil.

Which of the statements given above is/are correct?

- (a) 1 and 3 only
(b) 2 only
(c) **1 and 2 only**
(d) None of these