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ANALYSIS**



LAKSHYA ACADEMY®

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# 1 - Agreement on Migration and Mobility between Italy and India:

## GS II

### International Issues

- **Context:**
- Ex-post facto approval of the Migration and Mobility Agreement between Italy and India was recently obtained by the Union Cabinet.
- **What is the Italy-India Migration and Mobility Agreement?**
- **About:**
- The agreement is expected to improve people-to-people relations between Italy and India while enhancing collaboration on matters pertaining to irregular migration.
- It promotes collaboration and exchange by facilitating movement for a range of groups, including businesspeople, skilled workers, students, and young professionals.
- **Important clauses:**
- Indian students wishing to pursue post-academic or vocational training in Italy and gain professional experience are eligible to apply for a 12-month temporary residency.
- Workers' Reserved Quotas: Under the current Flows Decree, the agreement specifies quotas for both seasonal and non-seasonal Indian workers, with a reserved quota range spanning the years 2023–2025.
- The annual "Flow Decree" (Decreto Flussi) issued by the Italian government establishes the cap on the number of non-EU nationals who are permitted to work and conduct self-employment in Italy.
- **Execution:**
- Unless discontinued, the agreement will automatically renew for a further five years.
- Its implementation will be overseen by a Joint Working Group (JWG), which will meet on a regular basis to assess progress and suggest helpful measures for efficient execution.

- **Important Details About Italy:**

- **About:**

- Jutting out of southern Europe into the Adriatic, Tyrrhenian, Mediterranean, and other waterways is the boot-shaped peninsula known as Italy.

- **Associated Nations:**

- Italy shares international boundaries with Austria, France, San Marino, Slovenia, the Holy See (Vatican City), and Switzerland.
- Albania, Algeria, Croatia, Greece, Libya, Malta, Montenegro, Spain, and Tunisia are among the countries with whom Italy shares sea boundaries.
- Republic is the type of government.
- Rome is the capital.
- Currency: Euro
- Principal Mountains: Apennines and Alps
- Principal Rivers: Tiber, Po, Adige, and Arno

- **What Other Fields Does Italy and India Cooperate in?**

- **Historical Connections:**

- Italy and India are young nations with long histories. Italian port cities played a significant role in the spice trade as trading hubs.
- In the thirteenth century, the Venetian trader Marco Polo visited India as part of his eastern journeys and produced a report on his adventures.

- **Political:**

- India and Italy established diplomatic ties in 1947.
- Italy and India upgraded their connection to a Strategic Partnership in March 2023.

- **Financial:**

- In 2022–2023, the two nations' bilateral commerce was valued at USD 14.25 billion.
- Italy ranks among India's top five EU trading partners.
- The primary products that India ships to Italy are iron ore, leather, textiles, motor vehicles, chemicals, jewels, and jewellery in addition to ready-made clothing.
- Italy is a major importer of engineering goods, machine tools, metallurgical products, and general and speciality machinery.

- **Safety:**
- A forum called the India-Italy Military collaboration Group (MCG) was created to strengthen defence collaboration between the two nations.
- *Source* → *The Hindu*

## **2 - Beneficiaries of the Viksit Bharat Sankalp Yatra Are Added to PM-Kisan:**

### **GS II**

#### **Government Policies and Interventions**

- **Context:**
- At a peak of 10.47 crore in April-July 2022, the number of beneficiaries of the Pradhan Mantri Kisan Samman Nidhi (PM-Kisan) plan has dropped by more than 20%, to 8.12 crore.
- A "saturation drive" under the Viksit Bharat Sankalp Yatra, one of the government's proactive initiatives, has brought 34 lakh farmers back to the list of beneficiaries.
- **What is the Bharat Sankalp Yatra of Vikasit?**
- **About:**
- It's a national programme to increase awareness through outreach initiatives in order to reach government scheme saturation. of India, encompassing all Nagar Panchayats, Urban Local Bodies, and Gramme Panchayats.
- With the active participation of numerous Ministries and Departments of the Government of India, State Governments, and the Central Government, the campaign is being launched using a whole of government strategy. Institutions and Organisations.
- **Goals:**
- Reach out to those who are less fortunate and who qualify for different programmes but have not yet benefited from them.
- distributing information and raising awareness of programmes.
- interaction with government programme beneficiaries through their sharing of personal narratives and experiences.

- enrollment of prospective recipients using information gathered during the Viksit Bharat Sankalp Yatra.
- **What is the PM-Kisan, or PM Kisan Samman Nidhi Yojana?**
- **About:**
  - It was introduced to help land-holding farmers with their financial demands.
  - It started operating in December 2018.
  - **Benefits to the finances:**
  - Farmers' families nationwide receive a financial reward of Rs 6000/-per year, paid into their bank accounts in three equal installments every four months via the Direct reward Transfer (DBT) system.
- **The Scheme's Scope:**
  - The programme was originally designed to assist Small and Marginal Farmers (SMFs) with holdings of up to two hectares of land; however, its purview was expanded to include all landholding farmers.
- **Finance and Execution:**
  - The Indian government provides all of the money for this central sector scheme.
  - The Ministry of Agriculture and Farmers Welfare is in charge of carrying it out.
- **Goals:**
  - to augment the small- and marginal-farmers' financial needs in order to purchase different inputs that would guarantee healthy crops and yields that are appropriate for the expected farm revenue at the end of each crop cycle.
  - to keep them safe from moneylenders so they can continue their farming endeavours and avoid them becoming victims of such costs.
- **PM-KISAN App for Mobile:**
  - The Ministry of Electronics and Information Technology worked with the National Informatics Centre to create and design it.
- **Module for Physical Verification:**
  - As per the guidelines specified under the system, a yearly physical verification of 5% of the beneficiaries is required.

- **What Difficulties Does PM-Kisan Face?**

- **Required Elements and Aadhaar Connection:**

- Farmers now have difficulties in meeting these requirements due to the complexity of the mandated land seeding laws and the obligation to connect Aadhaar with operational bank accounts.
- Access to PM-Kisan benefits may be impeded for farmers, particularly those residing in distant areas, by technological difficulties in meeting the Aadhaar linking and land planting requirements.

- **Outreach and Awareness:**

- It's possible that a large number of eligible farmers are still ignorant of the PM-Kisan programme or lack enough knowledge of the application procedure.
- Outreach programmes may find it difficult to connect with every member of the farming community, especially in isolated or marginalised areas, despite best efforts.

- **Accessibility of Technology:**

- Farmers' capacity to interact with the online processes necessary for PM-Kisan enrollment and compliance may be hampered by disparities in technological access, particularly smartphones and internet connectivity.

- **The Way Ahead:**

- For simplicity and efficiency, conduct a thorough evaluation of the Aadhaar linking requirements and the obligatory land seeding laws.
- Make use of technology to develop platforms that are easy to use for smooth compliance.
- Create community-based engagement initiatives to assist farmers who are at risk.
- Work together with NGOs, agricultural services, and local government to find and assist qualified farmers who are not aware of PM-Kisan benefits.

- **Source → The Hindu**

## 3 - Pegasus Malware:

### GS III

#### Science and Technology

- **Context:**

- The Pegasus malware has reignited the conversation about security and privacy. Amnesty International has reported that it was used to target the phones of two well-known Indian journalists, which has sparked questions about possible government complicity.
- More than 10 million individuals worldwide are involved in the Amnesty International movement, which is dedicated to establishing a day when everyone can exercise their human rights.

- **Pegasus Spyware: What Is It?**

- **About:**

- A extremely intrusive mobile spying tool, Pegasus spyware can covertly access and monitor cellphones, gathering data and information from several apps and sources.
- The Israeli cyber-intelligence company NSO Group developed it, and according to them, they only sell it to government organisations that use it to combat terrorism and criminal activity.
- NSO highlights safeguards in place to prevent journalists, solicitors, and human rights advocates who aren't engaged in terrorism or other major crimes from being targeted.

- **Standard Operating Procedure:**

- Pegasus is a harmful programme that permits spyware to be loaded on a device without the owner's permission. It infects devices via "zero-click" techniques.
- Unlike conventional programmes that require explicit user confirmation, the spyware installs without requiring any action from the user.
- It has the ability to take advantage of holes in applications like FaceTime, iMessage, and WhatsApp and send a message or call that starts the spyware installation process even if the recipient doesn't open or respond.
- Pegasus is a type of spyware that can infiltrate Apple products by taking advantage of zero-day vulnerabilities.
- An operating system issue or weakness that has not yet been found that the maker of the mobile phone is unaware of and has not been able to address is known as a zero-day vulnerability.

- **Objectives:**

- Pegasus spyware has been used to spy on journalists, human rights activists, attorneys, opposition leaders, and heads of state, according to several investigations and publications.
- Several nations have been charged with utilising Pegasus malware to target its adversaries and detractors, including Mexico, India, Saudi Arabia, Morocco, Hungary, Azerbaijan, and Rwanda.

- **Ramifications:**

- Pegasus spyware jeopardises the security and privacy of people and organisations who support democracy, fight corruption, and uphold human rights.
- It compromises journalists' independence by disclosing their sources, techniques, and materials, undermining press freedom.
- The malware makes it possible for foreign espionage and meddling in domestic affairs and decision-making processes, endangering national sovereignty and stability.

- **Problems:**

- Pegasus malware can conceal its existence and activities on the device, and if it senses that it is being found or examined, it will self-destruct, making it challenging to identify and eliminate.
- Pegasus spyware operates in legal murky areas, making it challenging to govern and control.
- Spyware abuse and misuse are frequently denied or avoided by NSO Group and its clients.

- **The Way Ahead:**

- Provide a global supervision framework to ensure that businesses are held responsible for any unethical use of surveillance technologies and to support independent assessments.
- In order to clearly combat the use of spyware and safeguard the privacy and human rights of those who are targeted, national and international legal frameworks should be strengthened.
- Organise public awareness campaigns to inform people about the dangers of spyware and how to protect their devices from possible hacking.
- bolster the nation's cybersecurity framework to proactively identify and eliminate online threats, including ongoing surveillance for possible spyware activity.
- Urge IT firms to implement moral standards that are consistent with human rights doctrines in order to foster ethical business practices.

- **Source → *The Hindu***



## 4 - ISRO's X-ray polarimeter satellite:

### GS II

#### Science and Technology

- **Context:**

- In an effort to better understand X-ray polarisation and its cosmic origins, such as black holes, neutron stars, and magnetars, the Indian Space Research Organisation (ISRO) recently launched its first X-ray Polarimeter Satellite (XpoSat).
- The PSLV-C58 rocket in Low Earth Orbit powers the mission.

- **What is an XpoSat, or X-ray polarimeter satellite?**

- **Goal:**

- XPoSat is intended to investigate X-ray polarisation in the medium X-ray band, providing information on the geometry and radiation mechanisms of astronomical sources.
- Understanding the physics underlying these celestial bodies depends on this research.

- **Payloads:**

- POLIX (Polarimeter Instrument in X-rays) and XSPECT (X-ray Spectroscopy and Timing) are the two primary payloads carried by the satellite.
- About forty brilliant celestial sources will be observed by POLIX, while XSPECT will investigate the electromagnetic spectrum produced by various materials.

- **Progress:**

- Completely constructed by the Raman Research Institute and the UR Rao Satellite Centre of ISRO, two Bengaluru-based organisations, XPoSat's construction started in 2008 and a formal agreement was inked with ISRO in 2015.

- **Worldwide Setting:**

- As far as X-ray polarisation in the medium X-ray band is concerned, XPoSat is just the second mission in the world. Launched in 2021, NASA's Imaging X-ray Polarimetry Explorer (IXPE) was the first space agency mission of its kind.

- **Contribution of the Nation:**

- After the 2015 launch of AstroSat and the recently launched solar mission Aditya-L1, XPoSat will be India's third space-based observatory. Its launch is regarded as a major advancement in Indian space science and astronomy.

- **How Will X Ray Study Celestial Objects and What Does It Mean?**

- Electromagnetic radiation with a wavelength of 0.01 to 10 nanometers is known as X-rays.
- An electric field and a magnetic field vibrating perpendicular to one another define electromagnetic radiation.
- The orientation of these two fields as the radiation travels across space is referred to as electromagnetic radiation polarisation.
- When X-rays scatter, they can become polarised. Additionally, polarised X-rays are generated when a magnetic field bends the path of a charged particle travelling quickly.
- Astronomers can learn about the direction and intensity of magnetic fields in astronomical objects by measuring the polarisation of X-rays with equipment such as POLIX. This in turn offers important new understandings of the properties and dynamics of pulsars, the areas surrounding black holes, and other X-ray-emitting cosmic events.

- *Source → The Hindu*

## 5 – Agreement on Lithium with Argentina:

### GS II

#### International Issues

- **Context:**

- A draft exploration and development agreement has been reached between the Ministry of Mines, Government of India, and CAMYEN, an Argentinean miner, regarding the potential acquisition and development of five or six lithium blocks through the state-owned Khanij Bidesh India Ltd (KABIL).
- Additionally, the business and Chilean miner ENAMI have inked a non-disclosure agreement for the mineral's "possible exploration, extraction, processing, and commercialization."

- **What is the lithium atom?**
- **About:**
  - An alkali mineral known as "white gold" is lithium. It is the lightest metal in the periodic table, a delicate, silvery-white metal.
- **Principal attributes:**
  - Elevated Reactivity
  - Minimal Density
  - Superior Electrochemical Characteristics
- **Top Producers and Occurrence:**
  - Minerals such as lepidolite, petalite, and spodumene naturally contain lithium.
  - Lithium metal or its derivatives are produced by refining the recovered material from these minerals.
  - China, Argentina, Chile, and Australia are the world's leading producers of lithium.
  - Australia led the globe in the production of lithium mines in 2022. China came in third, followed by Chile.
  - A vast lithium deposit believed to contain 18 million tonnes of lithium was recently found beneath the Salton Sea in California, United States.
- **Uses:**
  - Batteries: Rechargeable batteries, which power computers, cellphones, electric cars, and other gadgets, depend on lithium as a key component.
  - Glass and ceramics: Glass and ceramics are strengthened with lithium compounds to increase their heat resistance and durability.
  - Medicine: Mood stabilisers like lithium are used to treat bipolar disorder.
  - Lubricants: High-pressure and high-temperature applications employ lithium greases.
- **Lithium reserves in India:**
- **Lithium finds increased dramatically in 2023:**
  - Large reserves (estimated at 5.9 million tonnes) discovered in the Salal-Haimna areas of the Reasi district in Jammu and Kashmir.
  - There are other reserves in the Jharkhand regions of Giridih and Koderma.
  - However, India has put up two blocks of lithium for auction: one in J&K and another in Chhattisgarh. The majority of India's domestic needs, in areas such as the production of lithium-

ion batteries and other energy storage solutions, are fully supplied by imports. The estimated value of the import bill is ₹24,000 crore.

- *Source → The Hindu*



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