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NIA (Amendment) Bill:

Why in News?

The [Lok Sabha](#) on July 15, 2019 passes The National Investigative Agency (Amendment) Bill, 2019. This Bill gives NIA officers power to investigate offences committed outside India too, and mandates the setting up of Special Courts.

The NIA was set up in 2009 in the wake of the Mumbai terror attack that had claimed 166 lives.

What are changes introduced in the NIA (Amendment) Bill?

According to PRS Legislative Research, there are three major amendments to the National Investigation Agency (NIA) Act of 2008.

- The first change is the type of offences that the NIA can investigate and prosecute. Under the existing Act, the NIA can investigate offences under Acts such as the Atomic Energy Act, 1962, and the Unlawful Activities Prevention Act, 1967.

According to PRS, the latest amendments will enable the NIA to additionally investigate offences related to human trafficking, counterfeit currency, manufacture or sale of prohibited arms, cyber-terrorism, and offences under the Explosive Substances Act, 1908.

- The second change pertains to NIA's jurisdiction. Under the Act, for the offences under its purview, NIA officers have the same power as other police officers and these extend across the country.

The Bill amends this to give NIA officers the power to investigate offences committed outside India. Of course, NIA's jurisdiction will be subject to international treaties and domestic laws of other countries.

- The third change relates to the special trials courts for the offences that come under NIA's purview or the so-called "scheduled offences".



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The existing Act allows the Centre to constitute special courts for NIA's trials. But the Bill enables the Central government to designate sessions courts as special courts for such trials.

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Overseas bond:

The story so far:

The government, Finance Minister Nirmala Sitharaman announced in the Budget speech, plans to raise a portion of its gross borrowing from overseas markets.

The government and the Reserve Bank of India (RBI) will reportedly finalise the plans for the overseas issue of sovereign bonds by September.

While several commentators have argued that this is a risky move, the government itself is convinced that it will help boost private investment in the country.

What is an overseas bond issue?

- A government bond or sovereign bond is a form of debt that the government undertakes wherein it issues [bonds](#) with the promise to pay periodic interest payments and also repay the entire face value of the bond on the maturity date.
- So far, the government has only issued bonds in the domestic market.
- India's sovereign external debt to GDP ratio is among the lowest around the world, at less than 5%.



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- Against this background, the government will start raising a part of its gross borrowing programme in external markets in external currencies.
- This, would also have a beneficial impact on the demand for government securities in the India.
- The market estimates that the government will only test the waters and borrow about \$10 billion, which works out to about 10% of its gross market borrowing.

What are the benefits of an overseas bond issue?

- The government has been arguing that the quantum of its borrowing within India is 'crowding out' the private sector.
- In other words, it is saying that government borrowing is at such a level that there are not enough funds available for the private sector to adequately meet its credit and investment needs.
- If the private sector cannot borrow adequately, then it cannot invest as it wants to, and that cripples one major engine of economic growth.
- Therefore, borrowing overseas allows the government to raise funds in such a way that there is enough domestic credit available for the private sector.

The appetite of the international market for Indian bonds and their price will also say a lot about how India is viewed globally on the risk factor. For example, if the rate at which India can borrow overseas is low, then this would mean the global market assigns a low risk to India defaulting.

What are the risks?

- Several economists have expressed their concerns over the fact that India might follow the path of some Central and South American countries such as Mexico and Brazil.
- In the 1970s, several of these countries borrowed heavily overseas when the global market was flush with liquidity.
- But then, when their currencies depreciated sharply a decade later, these countries were in big trouble as they **could not repay their debt.**
- India is not likely to be viewed as a risky proposition by the international market and so is likely to fetch an attractive rate for the bonds.
- Cheap and plentiful funds, however, should not encourage the government to borrow too heavily from abroad.



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- **Another risk to India** from overseas borrowings is that this would lead to a quicker increase to its foreign exchange reserves, which would lead to a stronger rupee at a time when it is already appreciating against the dollar.
- This, many experts say, would be an adverse outcome. A stronger rupee would encourage imports at a time when the government is trying to curb them, and discourage exports at a time when they are being encouraged.
- On the other hand, a rupee depreciation for whatever external reason would prove even more disastrous as it would make it far more expensive for India to repay its external debt.
- **The third problem** with an overseas bond issue is that the government would not be able to inflate itself out of trouble.
- That is, in the domestic market, if the government does ever reach the stage where it is finding it difficult to repay its debt, it can simply print more money, let inflation rise quickly and repay its debt.
- This is not an option in an overseas bond issue. The Indian government cannot print foreign currency to repay its debt.

What does it mean for the domestic market?

- According to the government's own reasoning, there are not enough funds in the domestic market to cater to its needs as well as those of the private sector.
- This shallowness of the bond market is not a good thing, especially at a time when the government needs the bond market to finance several of its commitments.
- Ideally, the government should have enough revenue that it does not need to borrow as much.
- However, at a time when both direct and indirect tax collections have disappointed, the government is forced to borrow to finance its expenditure.
- In such a scenario, it is a welcome move for the private sector that the government is leaving it room to borrow in the domestic market.



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Chandrayaan 2

The story so far:

When Chandrayaan 1, India's first moon mission was launched on October 22, 2008, from Sriharikota, using the Polar Satellite Launch Vehicle (PSLV), India became the fourth country to plant its flag on the lunar surface.

On the moon, the mission conclusively detected traces of water along with magnesium, aluminium and silicon.

Now, close to a decade later, India will launch its second lunar mission, Chandrayaan 2, on July 15, 2019, again from Sriharikota, using the Geosynchronous Satellite Launch Vehicle (GSLV) Mark III rocket.

How will the launch work?

- The GSLV Mark III rocket will first launch the spacecraft into an Earth Parking Orbit (170 km X 40,400 km).
- Then the height of the orbit will be enhanced until the spacecraft can reach out to the Lunar Transfer Trajectory.
- On entering the moon's sphere of influence, on-board thrusters will slow down the spacecraft, allowing it to be captured by the moon.
- Then it will be eased into a circular orbit (100 km X 100 km).
- From this orbit, the lander and rover will separate as a unit from the orbiter, and, through a series of braking mechanisms, the duo will "soft-land" on the moon, on September 6, 2019.

What is special about Chandrayaan 2?

- Chandrayaan 2 will be the first mission to reach and study the south pole of the moon.
- It is made up of an orbiter, a lander named 'Vikram', after Vikram A. Sarabhai, the founding father of space science research in India, and a rover named 'Pragyan', which means 'wisdom'.
- At about 3,877 kg, the spacecraft weighs nearly four times its predecessor, Chandrayaan 1.
- While Chandrayaan 1 sent its lander crashing into the moon, Chandrayaan 2 will use rocket technology to soft land 'Vikram', carrying its 'Pragyan' rover in a suitable high plain on the lunar surface, between two craters, Manzinus-C and Simpeliuss N, at a latitude of about 70° South.



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- The lander-rover combo has an expected lifetime of 14 days, while the orbiter will continue for a year.

How does the 'Pragyan' rover operate and what determines its lifetime?

- The time taken for the moon to complete one rotation on its axis is approximately equal to 29.5 earth days.
- This is also equal to the time it takes to complete one orbit around the earth.
- That is why the same side always faces the earth. But because it takes 29.5 earth days to complete one rotation, every point on its surface experiences daylight for about half the time, or a little more than 14 days at a stretch.
- Moon days are nearly 14 earth days long.
- This point will receive light for nearly another fortnight which will match the expected lifetime of the lander-rover combo.
- Since the 'Vikram' lander and 'Pragyan' rover are powered by solar energy, they will be energised during this period by sunlight on the moon.
- Once night falls, this energy will not be available as they are plunged into a dark and cold -180° Celsius environment.
- If the lander-rover duo should kickstart after another half-rotation when day breaks once again, it will be a bonus for the ISRO.
- The mission is not designed to survive this extreme cold, unlike some U.S. and Chinese missions which survived on the "dark" side of the moon using special sources of warmth.

How will the mission study the moon?

- Using the Terrain Mapping Camera 2 which is on board the orbiter, the mission will produce images of the moon remotely from a 100 km lunar polar orbit.
- While the moon rotates about its axis, along its east-west direction, say, the lunar polar orbit will be in the perpendicular direction, along the lunar north-south direction.
- Thus, as the moon rotates, the orbiter gets a view of its entire surface from overhead.
- The rover will carry two instruments or payloads which will collect and test samples from the moon's surface to identify what elements they contain.



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- The rover moves on six wheels and once let down on the moon, can travel about 500 m from the lander.

What is the success rate of "soft-landing" on the moon?

- There have been 38 attempts so far at "soft-landing" on the moon, with a success rate of 52% according to the ISRO website.

Why should we have this mission? Why should we study the moon?

- The moon offers a pristine environment to study. It is also closer than other celestial bodies.
- Understanding how it formed and evolved can help us better understand the solar system and even earth itself.
- With space travel taking shape and exoplanets being discovered everyday, learning more about earth's celestial neighbour can help in advanced missions.
- Finally, it is a piece of the larger puzzle as to how the solar system and its planets have evolved.

Great Indian Bustard:

Why in News?

With just 130 great Indian bustards left in the country, the Centre has initiated a project worth ₹33.85 crore for their conservation and protection.

Details of Measures taken:

- The ministry was providing funds to states and Union Territories for conservation and protection of 21 critically endangered species, including the great Indian bustard.
- "The ministry, through its Centrally Sponsored Scheme-Integrated Development of Wildlife Habitats (CSS-IDWH), provides funds to states or Union Territories under the component 'Species Recovery Programme' for conservation and protection of 21 critically endangered species, including the great Indian bustard.



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- Ministry has also initiated a project, titled 'Habitat Improvement and Conservation Breeding of Great Indian Bustard-An Integrated Approach',
- It will provided with financial support from the ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA) for conservation, breeding of the Indian bustard with technical support from the Wildlife Institute of India (WII).

Objectives:

- To build up captive population of great Indian bustard and to release the chicks in the wild for increasing the population.
- Rajasthan, Gujarat and Maharashtra are the important range states involved in this programme.

Currently, there are two centres for breeding and hatching -- one in Jaisalmer and the other in Kota, both in Rajasthan, he said.

Climate change:

Why in News?

In [Greenland](#), climate change isn't just a danger to ecosystems but also a threat to history, as global warming is affecting archaeological remains, according to a study.

Reasons Behind:

- There are more than 1,80,000 archaeological sites across the Arctic, some dating back thousands of years, and previously these were protected by the characteristics of the soil.
- Because the degradation rate is controlled by the soil temperature and moisture content, rising air temperatures and changes in precipitation during the frost-free season may lead to a loss of organic key elements such as archaeological wood, bone and ancient DNA.
- In addition to organic elements, such as hair, feathers, shells and traces of flesh, some of the sites contain the ruins of Viking settlements.



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Future Changes:

- Projections used in the study, which are based on different warming scenarios, predict that average temperature could increase by up to 2.6 degrees Celsius, leading to "higher soil temperatures, a longer thaw season, and increased microbial activity within the organic layers".
- Around 30 to 70% of the archaeological fraction of organic carbon (OC) could disappear within the next 80 years.
- This means that these remains, some of which provide a glimpse into the lives of the first inhabitants of Greenland from around 2,500 BC, are at risk.
- When findings were compared with previous surveys, they found evidence of ongoing degradation.
- At some sites, we did not find any intact bones or pieces of wood, suggesting that these have disintegrated within the last decades.
- In regions such as Alaska, ancient artefacts are emerging as the permafrost thaws due to rising temperatures.