

POLITY AND GOVERNANCE

❖ **India's nuclear liability law**

➤ **CONTEXT:** The issues regarding India's nuclear liability law continue to hold up the more than a decade-old plan to build six nuclear power reactors in Maharashtra's Jaitapur, the world's biggest nuclear power generation site under consideration at present.

• An official at the French energy company Electricite de France (EDF), which submitted its techno-commercial offer for the construction of the 9,900 MW project two years ago, the issues arising out of the liability law "would have to be solved before any contract" could be signed with India.

➤ **What is the law governing nuclear liability in India?**

• Laws on civil nuclear liability ensure that compensation is available to the victims for nuclear damage caused by a nuclear incident or disaster and set out who will be liable for those damages. The international nuclear liability regime consists of multiple treaties and was strengthened after the 1986 Chernobyl nuclear accident.

• The umbrella Convention on Supplementary Compensation (CSC) was adopted in 1997 with the aim of establishing a minimum national compensation amount. The amount can further be increased through public funds, (to be made available by the contracting parties), should the national amount be insufficient to compensate the damage caused by a nuclear incident.

• Even though India was a signatory to the CSC, Parliament ratified the convention only in 2016. To keep in line with the international convention, India enacted the Civil Liability for Nuclear Damage Act (CLNDA) in 2010, to put in place a speedy compensation mechanism for victims of a nuclear accident.

✓ The CLNDA provides for strict and no-fault liability on the operator of the nuclear plant, where it will be held liable for damage regardless of any fault on its part.

✓ It also specifies the amount the operator will have to shell out in case of damage caused by an accident at ₹1,500 crore and requires the operator to cover liability through insurance or other financial security.

✓ In case the damage claims exceed ₹1,500 crore, the CLNDA expects the government to step in and has limited the government liability amount to the rupee equivalent of 300 million Special Drawing Rights (SDRs) or about ₹2,100 to ₹2,300 crore.

✓ The Act also specifies the limitations on the amount and time when action for compensation can be brought against the operator.

• India currently has 22 nuclear reactors with over a dozen more projects planned. All the existing reactors are operated by the state-owned Nuclear Power Corporation of India Limited (NPCIL).

➤ **What does the CLNDA say on supplier liability?**

• The international legal framework on civil nuclear liability, including the annex of the CSC is based on the central principle of exclusive liability of the operator of a nuclear installation and no other person.

• In the initial stages of the nuclear industry's development, foreign governments and the industry agreed that excessive liability claims against suppliers of nuclear equipment would make their business unviable and hinder the growth of nuclear energy, and it became an accepted practice for national laws of countries to channel nuclear liability to the operators of the plant with only some exceptions.

• Two other points of rationale were also stated while accepting the exclusive operator liability principle

✓ One was to avoid legal complications in establishing separate liability in each case

✓ The second was to make just one entity in the chain, that is the operator to take out insurance, instead of having suppliers, construction contractors and so on take out their own insurance.

• Section 10 of the annex of the CSC lays down "only" two conditions under which the national law of a country may provide the operator with the "right of recourse", where they can extract liability from the supplier — one, if it is expressly agreed upon in the contract or two, if the nuclear incident "results from an act or omission done with intent to cause damage".

• However, India, going beyond these two conditions, for the first time introduced the concept of supplier liability over and above that of the operator's in its civil nuclear liability law, the CLNDA.

• The architects of the law recognised that defective parts were partly responsible for historical incidents such as the Bhopal gas tragedy in 1984 and added the clause on supplier liability.

• Apart from the contractual right of recourse or when "intent to cause damage" is established, the CLNDA has a Section 17(b) which states that the operator of the nuclear plant, after paying their share of compensation for damage in accordance with the Act, shall have the right of recourse where the "nuclear incident has resulted as a consequence of an act of supplier or his employee, which includes supply of equipment or material with patent or latent defects or sub-standard services".

➤ **Why is the supplier liability clause an issue in nuclear deals?**

- Foreign suppliers of nuclear equipment from countries as well as domestic suppliers have been wary of operationalising nuclear deals with India as it has the only law where suppliers can be asked to pay damages. Concerns about potentially getting exposed to unlimited liability under the CLNDA and ambiguity over how much insurance to set aside in case of damage claims have been sticking points for suppliers.
- Suppliers have taken issue with two specific provisions in the law, Section 17(b) and Section 46. The latter clause goes against the Act's central purpose of serving as a special mechanism enforcing the channelling of liability to the operator to ensure prompt compensation for victims.
- Section 46 provides that nothing would prevent proceedings other than those which can be brought under the Act, to be brought against the operator. This is not uncommon, as it allows criminal liability to be pursued where applicable.
- However, in the absence of a comprehensive definition on the types of 'nuclear damage' being notified by the Central Government, Section 46 potentially allows civil liability claims to be brought against the operator and suppliers through other civil laws such as the law of tort.
- While liability for operators is capped by the CLNDA, this exposes suppliers to unlimited amounts of liability.
- **What are existing projects in India?**
- The Jaitapur nuclear project has been stuck for more than a decade — the original MoU was signed in 2009 with EDF's predecessor Areva. In 2016, EDF and NPCIL signed a revised MoU, and in 2018, the heads of both signed an agreement on the "industrial way forward" in the presence of Indian Prime Minister Narendra Modi and French President Emmanuel Macron.
- In 2020, the EDF submitted its techno-commercial offer for the construction of six nuclear power reactors but an EDF official told that the issue arising from India's nuclear liability law remains an item on the "agenda for both countries". Multiple rounds of talks have not yet led to a convergence on the issue.
- Other nuclear projects, including the nuclear project proposed in Kovvada, Andhra Pradesh, have also been stalled. Despite signing civil nuclear deals with a number of countries, including the U.S., France and Japan, the only foreign presence in India is that of Russia in Kudankulam — which predates the nuclear liability law.
- **What is the government's stand?**
- The central government has maintained that the Indian law is in consonance with the CSC. About Section 17(b), it said that the provision "permits" but "does not require" an operator to include in the contract or exercise the right to recourse.
- However, legal experts have pointed out that a plain reading of Section 17 of the CLNDA suggests that Section 17(a), (b) and (c) are distinctive and separate, meaning even if the right to recourse against the supplier is not mentioned in the contract [as provided by Section 17 (a)], the other two clauses stand.
 - ✓ This effectively means that the supplier can be sued if defective equipment provided or if it can be established that the damage resulted from an act of intent.
 - ✓ Besides, it would not be sound public policy if the NPCIL, a government entity, entered into a contract with a supplier and waived its right to recourse in the contract, despite the fact that the law provides for such recourse.
- Further, the Ministry of External Affairs had said that Parliament debates over the CLNDA had rejected amendments to include the supplier, and therefore the supplier cannot be liable under this kind of "class-action suit". However, private sector players were not convinced and experts point out that during a trial, what would be considered is what is enshrined in the statute and not what was discussed in Parliament.
- As for the Jaitapur project, the government has said that the issues regarding the liability law would be resolved before French President Emmanuel Macron's visit to India, which was first scheduled for March 2023 but has been pushed to September 2023.

CLIMATE LAWS

- ❖ **European Union members approve carbon market scheme**
- **CONTEXT: The 27 member states in the EU recently approved a revamp to the bloc's so-called carbon market, which is set to make it more costly to pollute for businesses in Europe, sharpening the main tool the EU has to discourage carbon dioxide emissions in the industrial sector.**
- The changes to the EU's Emissions Trading System (EU ETS), more commonly called the bloc's carbon market, are one of five new laws given final approval after being proposed by the European Commission and after a favorable vote at the European Parliament recently.
- The approval was announced amid a meeting of the bloc's environment ministers in Brussels.
- What is the carbon market?

- Since 2005, European factories and power plants have had to purchase permits to cover their CO2 emissions, with the prices becoming more prohibitive as their usage increases against norms for their sectors.
- The idea is to create financial incentives for keeping emissions in check, and penalties for failing to and to generate funds for climate-related projects.
- It applies to power-generation industries, energy-intensive industries and the aviation sector. Eventually it will be expanded to cover greenhouse gases other than CO2, such as methane and nitrogen oxides.
- The law's existence has coincided with emissions from those sectors falling by 43% in the EU but what share of that might be correlation and what share might be coincidence is harder to ascertain, amid various partially-related breakthroughs helping to limit emissions.
- The changes will set more stringent targets and tougher penalties as time passes.
- The new rules increase the overall ambition of emissions reductions by 2030 in the sectors covered by the EU ETS to 62% compared to 2005 levels.
- The free permits granted to companies for lower levels of emissions will be gradually phased out, by 2034 for heavy industries and by 2026 for the aviation sector, for instance.
- There had been some resistance to the changes within the bloc, which are roughly two years in the making.
- Only 23 of 27 EU members voted in favor; Poland and Hungary opposed it, Belgium and Bulgaria abstained.
- Critics like Poland had argued that the targets were too ambitious and would place an unfair strain on industry.
- Some EU policies and laws (international sanctions are one example of current relevance amid Russia's invasion of Ukraine) require unanimous approval from member states, but for most a qualified majority vote suffices.
- What else was approved?
 - The changes to the ETS are part of the EU's "Fit for 55" package of climate plans, a reference to its goal of reducing carbon emissions by 55% by 2030 compared with a 1990 benchmark. Four more alterations were approved on 25th April 2023.
 - The first is a plan to incorporate parts of the shipping industry into the ETS, meaning they too will need to buy permits to cover their emissions at times.
 - A new, separate ETS will be established for the buildings and road transport sectors and some others, mainly small industry according to the EU.
 - Changes specifically tailored to the aviation sector were also approved.
 - The EU will also introduce what it calls its Carbon Border Adjustment Mechanism (CBAM), which concerns products imported from outside the EU for carbon-intensive industries.
- ✓ According to the EU, its aim is "to prevent that the greenhouse gas reduction efforts of the EU are offset by increasing emissions outside its borders through the relocation of production to countries where policies applied to fight climate change are less ambitious than those of the EU."
- The EU is setting up what it calls a Social Climate Fund.
- ✓ It "will be used by member states to finance measures and investments to support vulnerable households, micro-enterprises and transport users and help them cope with the price impacts of an emissions trading system for the buildings, road transport and additional sectors.
- ✓ The bulk of the funds would hail from the carbon market revenues generated by the ETS, Brussels said, with member states contributing the rest.

PRELIMS

1. Surrogacy Act

- **CONTEXT: Kerala HC orders 'triple tests' for couple facing legal hurdles to have child through surrogacy**
- The Karnataka High Court has evolved "triple tests" (genetic test, physical test, and economic test) for considering the plea of a couple to have a child through altruistic surrogacy— which the petitioner-husband has to pass to become eligible to become a father through surrogacy.
- **Key provisions**
- Objective: The Act sought to regulate the surrogacy part of a rather flourishing infertility industry in the country.
- Defining 'surrogacy': It is defined as a practice where a woman undertakes to give birth to a child for another couple and agrees to hand over the child to them after birth.
- Altruistic surrogacy: The Act allows 'altruistic surrogacy' — wherein only the medical expenses and insurance coverage is provided by the couple to the surrogate mother during pregnancy. No other monetary consideration will be permitted.

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- The intending couple: Any couple that has 'proven infertility' is a candidate.
- ✓ The 'intending couple' as the Act calls them, will be eligible if they have a 'certificate of essentiality' and a 'certificate of eligibility' issued by the appropriate authority.
- ✓ The former will be issued if the couple fulfills three conditions:
- ✓ A certificate of infertility of one or both from a district medical board;
- ✓ An order of parentage and custody of the surrogate child passed by a Magistrate's court;
- ✓ Insurance cover for the surrogate mother.
- Eligibility Certificate: An eligibility certificate mandates that the couple fulfil the following conditions:
- ✓ They should be Indian citizens who have been married for at least five years;
- ✓ the female must be between 23 to 50 years and the male, 26 to 55 years;
- ✓ they cannot have any surviving children (biological, adopted or surrogate);
- ✓ However, this would not include a 'child who is mentally or physically challenged or suffers from life threatening disorder or fatal illness.'
- Surrogate mother: Only a close relative of the couple can be a surrogate mother, one who is able to provide a medical fitness certificate.
 - ✓ She should have been married,
 - ✓ with a child of her own, and
 - ✓ must be between 25 and 35 years,
 - ✓ but can be a surrogate mother only once.
- Regulating Body: The Centre and State governments are expected to constitute a National Surrogacy Board (NSB) and State Surrogacy Boards (SSB) respectively.
- ✓ This body is tasked with enforcing standards for surrogacy clinics, investigating breaches and recommending modifications.
- ✓ Further, surrogacy clinics need to apply for registration within 60 days of the appointment of the appropriate authority.
- Offences: Offences under the Act include commercial surrogacy, selling of embryos, exploiting, abandoning a surrogate child etc.
- ✓ These may invite up to 10 years of imprisonment and a fine of up to Rs. 10 lakh.
- 2. Exercise Ajeya Warrior 2023**
- **CONTEXT: Indian Army contingent will participate in the 7th edition of the bilateral training exercise 'Ajeya Warrior 2023'.**
- The Ajeya Warrior Exercise is a combined military drill, designed to provide company-level joint training focused on counter-terrorism operations in urban and semi-urban settings.
- The 6th edition of the India-UK Joint Company Level Military Training Ajeya Warrior exercise took place in Chaubatia, Uttarakhand in 2021.
- In 2013, the first military training took place.
- The exercise is part of an initiative to develop interoperability and share expertise with friendly foreign nations.
- It aims to provide pieces of training to the soldiers of both nations in counter-insurgency and counter-terrorism operations and has proved to be an excellent strategy for strengthening the ties between them.
- **Recent developments in India UK defence relations**
- In critical defence technologies the UK is considered to be a world leader especially in jet engines development and electric propulsion technology and the UK has expressed its readiness to share this expertise with India supported by respective industries.
- In 2022 the UK has offered advanced core technologies to India – capable of creating an indigenous, ITAR-free jet engine. These will be manufactured, owned and exported by India.
- Both countries have established an Electric Propulsion Capability Partnership – and with the JWG in place this will help to set up a strong partnership between the navies of India and the UK for development of Electric Propulsion capability here in India.
- The roadmap has also committed to partner on India's indigenous combat air programmes – the Light Combat Aircraft (LCA)-MkII and Advanced Medium Combat Aircraft (AMCA).
- **Other bilateral exercises**
- Exercise Indradhanush: a joint air force exercise that aims to improve mutual operational understanding between the two air forces through close interaction. The exercise began in the year 2006.
- Exercise Konkan: It is a naval exercise held by India and the United Kingdom. It began in 2004.

ANSWER WRITING

Q. Discuss the negative consequences of excessive use of nitrogenous fertilisers, especially urea on crop yield. What are the possible solutions for correcting this imbalance in the application of fertilisers?

Fertilizers are the chemical substances that are provided to the crop to increase their production and yielding capacity. However, continuous and disproportionate use of nitrogenous fertilizer, especially urea, has deleteriously affected soil health and crop productivity. The government introduced a nutrient-based subsidy (NBS) regime in fertilisers to discourage farmers from applying too much urea. However, the data reveals a worsening of nutrient imbalance, with urea consumption rising by over a third since 2009-10.

Negative consequences of excessive use of nitrogenous fertilisers and urea on crop yield:

- **Soil acidification:** The application of nitrogen (N) fertilizers can increase soil acidity due to the release of H ions during hydrolysis, which leads to the development of infertile soils that do not respond well to crop yields.
- **Damage to plants:** The high activity of bacteria increases the amount of ammonia in the soil via fast urea degradation. As a result, plants are damaged due to the lack of necessary nutrients and the toxicity of ammonia and carbon dioxide released from urea degradation.
- **Reduced crop yield:** During the Green Revolution, scientists bred semi-dwarf crop varieties that did not bend post-ripening of grains. These could tolerate fertiliser application and produce more grain with higher doses. However, over time, the crop yield response to fertiliser use has more than halved. The underlying reason has been the disproportionate application of N by farmers.
- **Affects seed germination:** Urea fertilizers can have adverse effects on seed germination, seedling growth, and early plant growth in soil. These effects have been attributed to urea itself, and other impurities in urea fertilizers.
- **Residual nitrogen in the soil and nitrogen leaching:** Nitrogen is accumulated in the soil profile after crop harvest. This occurs because crops cannot take up all applied N fertilizer from the soil. This can have an impact on subsequent crops grown on the soil. Further, this also increases the potential for N leaching in shallow water tables.

Possible solutions for correcting the imbalance in the application of fertilisers:

- **Reducing the consumption of urea:** If applying more urea is counterproductive as manifested in diminishing crop yield the attempts should be made to reduce its consumption. There are two approaches to cut urea consumption. The first is raising prices, and the second is increasing nitrogen use efficiency (NUE) by enabling farmers to harvest the same or more grain yields with fewer bags.
- **Use of Nano urea:** Nano Urea is also primarily aimed at boosting NUE. The ultra-small size of its particles is said to allow easier penetration through the stomatal pores of leaves. IFFCO claims that a single 500-ml Nano Urea bottle can effectively replace at least one 45-kg bag of regular 46% N urea.
- **Rationalising fertiliser subsidy:** there is a need for a well-targeted subsidy payment to ensure that farmers get what they optimally require for agriculture. A cap on the availability of subsidized fertilisers would help in reducing their excessive use.
- **Using neem-coated urea:** It helps in improving soil health, reducing the costs with respect to plant protection chemicals and reducing pest attacks. Studies indicate that it also results in an increase in the yield of paddy, sugarcane, maize, and soybean.
- **Fixing NPK ratio based on soil and cropping pattern:** In general, the N, P, K ratio of 4:2:1 is considered to be optimum for India. The ratio originated from field trials conducted during the 1950s in the pre-Green Revolution period. However, the fertiliser norm for a state or country depends upon the cropping pattern, yield levels, crop variety and soil-specific characteristics which have undergone a sea change over the years. This should be considered for deciding the optimum fertilizer ratio.

The adverse impact of synthetic chemicals on crops and the environment can be reduced by adopting new agricultural technological practices such as transitioning to chemical-free farming which employs natural products like manure, bio-fertilizers, biopesticides, slow-release fertilizer, nano fertilizers, and so on. Further measures should be taken towards the adoption of organic farming and zero-budget natural farming.

MCQs

1. Nuclear Power Station	Location
1. Kakrapar Atomic Power Station	Gujarat
2. Kalpakkam Atomic Power Station	Tamil Nadu
3. Narora Atomic Power Station	Karnataka
4. Kaiga Nuclear Power Plant	Uttar Pradesh
5. Tarapur Atomic Power Station	Maharashtra
6. Kudankulam Nuclear Power Plant	Tamil Nadu

How many above pair/s is/are correctly matched?

- One pair only
- Two pairs only
- Three pairs only

d) Four pairs only

2. With reference to Convention on Supplementary Compensation for Nuclear Damage (CSC) consider the following
1. It seeks to establish a uniform global legal regime for compensation to victims in the unlikely event of a nuclear accident.
 2. All states are free to participate in it regardless of their presence of nuclear installations on their territories or involvement in existing nuclear liability conventions.
 3. India had ratified it in 2010.

Which of the above statement/s is/are correct?

- a) **1 and 2 only**
- b) 2 only
- c) 2 and 3 only
- d) 1 and 3 only

3. Consider the following statements with regards to Civil Liability for Nuclear Damage Act, 2010
1. It fixes liability for nuclear damage and specifies procedures for compensating victims.
 2. The Act fixes no-fault liability on operators and gives them a right of recourse against certain persons.
 3. All operators including Government need to take insurance or provide financial security to cover their liability.

Which of the above statement/s is/are not correct?

- a) 1 and 2 only
- b) 2 only
- c) 2 and 3 only
- d) **3 only**

4. 'Fit for 55' package often mentioned in news is related to which of the following?
- a) World Health Organisation
 - b) UN Development Programme
 - c) UN Environment Programme
 - d) **European Union**
5. The term Carbon Border Adjustment Mechanism (CBAM) or Carbon Border Tax recently seen in news is associated with which of the following?
- a) **European Union**
 - b) Gulf Cooperation Council
 - c) Organization for Economic Cooperation and Development
 - d) Shanghai Cooperation Organization

6. Recently Centre has asked states not to levy or impose any tax or duty on generation of electricity, with reference to this news consider the following statements
1. State List authorizes states to put taxes on consumption or sale of electricity in its jurisdiction.

2. Centre can levy water cess and air cess on hydro and wind power generation.

Which of the above statement/s is/are correct?

- a) **1 only**
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

7. With reference to the Surrogacy (Regulation) Act, 2021 consider the following

1. It bans commercial surrogacy, which is punishable with a fine of up to Rs 10 lakhs , there is no jail term under the law.
2. The law allows only altruistic surrogacy where no money exchanges hands and where a surrogate mother is genetically related to those seeking a child.

Which of the above statement/s is/are correct?

- a) 1 only
- b) **2 only**
- c) Both 1 and 2
- d) Neither 1 nor 2

8. With reference to 'Eco-Sensitive Zones', which of the following statements is/are correct?(PYQ)

1. Eco-Sensitive Zones are the areas that are declared under the Wildlife (Protection) Act, 1972
2. The purpose of the declaration of Eco-Sensitive Zones is to prohibit all kinds of human activities in those zones except agriculture.

Select the correct answer using the code given below.

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) **Neither 1 nor 2**

9. Consider the following statements with respect to interstate water disputes in India:

1. The disputes neither fall under the Supreme Court's nor any other court's jurisdiction
2. The disputes can only be adjudicated by temporary and ad hoc interstate water dispute tribunals

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) **Both 1 and 2**
- d) Neither 1 nor 2

10. Exercise Ajay Warier is a bilateral training exercise between India and which of the following country?

- a) USA
- b) **UK**
- c) Russia
- d) France