

**GOVERNANCE**

**Cybersecurity Guidelines for Power Sector**

Recently, the government released cybersecurity guidelines for the power sector. This is the first time that a comprehensive guideline has been formulated on cyber security in the power sector.

The guidelines are a precursor to cybersecurity regulations that the Central Electricity Authority (CEA, Ministry of Power) is working on.

**Key Points**

**About:**

- CEA has framed the guidelines under the Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019.
- It lays down a cyber assurance framework, strengthens the regulatory framework, puts in place mechanisms for security threat early warning, vulnerability management and response to security threats, and secures remote operations and services, among others.
- The norms are applicable to all responsible entities as well as system integrators, equipment manufacturers, suppliers/ vendors, service providers, and Information Technology (IT) hardware and software OEMs (Original Equipment Manufacturers) engaged in the Indian power supply system. Responsible Entities include power generation utilities, distribution utilities, transmission companies and load dispatch centres among others.

**Major Guidelines:**

- **Procure from Trusted Source:** Mandates Information & Communication Technology-based procurement from identified 'trusted sources' and 'trusted products' or else the product has to be tested for malware/hardware trojan before deployment for use in the power supply system network.
- **Chief Information Security Officer:** Appointment of a Chief Information Security Officer (CISO) at each responsible entity as well as the setting up of an Information Security Division headed by the CISO.
- **Procedure for Identifying and Reporting:** The entities will also be required to incorporate a procedure for identifying and reporting any disturbances suspected or confirmed to be caused by sabotage and submit the report to the sectoral CERT and Computer Emergency Response Team -India (CERT-In) within 24 hours.

**Significance:**

It will promote research and development in cybersecurity and open up the market for setting up cyber testing infra in public as well as private sectors in the country.

**ECONOMY**

**India's Ethanol Plan and Food Security**

India's ambitious plan to cut the use of fossil fuels by promoting ethanol derived from rice, corn and sugar could undermine its food security.

**Key Points**

**About:**

- **Ethanol:** It is an agro-based product, mainly produced from a by-product of the sugar industry, namely molasses. It is one of the principal biofuels, which is naturally produced by the fermentation of sugars by yeasts or via petrochemical processes such as ethylene hydration.
- **Ethanol Blending Programme (EBP):** It aims at blending ethanol with petrol, thereby bringing it under the category of biofuels and saving millions of dollars by cutting fuel imports and decreasing carbon emissions.
- **Blending Target:** The Government of India has advanced the target for 20% ethanol blending in petrol (also called E20) to 2025 from 2030. Currently, 8.5% of ethanol is blended with petrol in India.

**Associated Issues:**

- **National Policy on Biofuel:** The new ethanol blending target primarily focuses on food-based feedstocks, in light of grain surpluses and wide availability of technologies. The blueprint is a departure from the 2018 National Policy on Biofuels, which prioritized grasses and algae; cellulosic material such as bagasse, farm and forestry residue; and, items like straw from rice, wheat and corn.
- **Risk of Hunger:** The food grains meant for the impoverished are being sold to distilleries at prices cheaper than what states pay for their public distribution networks.

1. Competition between the distilleries and the public distribution system for subsidized food grains could have adverse consequences for the rural poor and expose them to enhanced risk of hunger.
2. India still ranks 94th on the Global Hunger Index 2020 comprising 107 nations.
3. The Food and Agriculture Organization (FAO) estimates that about 209 million Indians, or about 15% of its population, were undernourished between 2018 and 2020.
4. The Covid-19 pandemic is also pushing more people into poverty, dealing a blow to decades of progress.
- **Cost:** Production of biofuels requires land, this impacts the cost of biofuels as well as that of food crops.
- **Water use:** Massive quantities of water are required for proper irrigation of biofuel crops as well as to manufacture the fuel, which could strain local and regional water resources.
- **Efficiency:** Fossil Fuels produce more energy than some of the biofuels. E.g. 1 gallon of ethanol produces less energy as compared to 1 gallon of gasoline (a fossil fuel).

#### **Government's Arguments:**

- **Enough Stockpiles of Grains:** The push for ethanol poses no threat to India's food security because the government has enough stockpiles of grains at warehouses of the state-run Food Corporation of India (FCI). State reserves stood at 21.8 million tons of rice, against a requirement of 13.54 million tons.
- **Capacity Creation:** The long-term planning of the government involves the creation of sufficient capacities so that half of the requirement of 20% blending is catered by grains, predominantly maize and the rest by sugar cane.
- **Benefit of Farmers:** The blending plan would benefit corn and rice farmers, while addressing the issue of surplus.

#### **Way Forward**

- **Ethanol From Wastes:** India has a real opportunity here to become a global leader in sustainable biofuels policy if it chooses to refocus on ethanol made from wastes. This would bring both strong climate and air quality benefits, since these wastes are currently often burned, contributing to smog.
- **Water Crisis:** The new ethanol policy should ensure that it doesn't drive farmers toward water-intensive crops and create a water crisis in a country where its shortage is already acute. Rice and sugarcane, along with wheat, consume about 80% of India's irrigation water.
- **Prioritize Crop Production:** With our depleting groundwater resources, arable land constraints, erratic monsoons, and dropping crop yields due to climate change, food production must be prioritized over crops for fuel.

### **INTERNATIONAL RELATION**

#### **China-Taiwan Issue**

China-Taiwan relationship has been strained for years, but the latest escalation comes from a series of air incursions by the Chinese military. While a country's airspace is internationally recognised by law, its air defence zone is a self-declared region which is monitored by the country's military for defence purposes.

#### **Key Points**

##### **Conflict between China and Taiwan (Background):**

- China and Taiwan separated amid civil war in 1949 and China considers Taiwan part of its territory to be taken control of by force if necessary.
- But Taiwan's leaders say that Taiwan is a sovereign state.
- After decades of hostile intentions and angry rhetoric, relations between China and Taiwan started improving in the 1980s. China put forward a formula, known as "one country, two systems", under which Taiwan would be given significant autonomy if it accepted Chinese reunification.
- In Taiwan, the offer was rejected, but the government did relax rules on visits to and investment in China.
- There were also limited talks between the two sides' unofficial representatives, though Beijing's insistence that Taiwan's Republic of China (ROC) government is illegitimate prevented government-to-government contact.

- China's implementation of a national security law in Hong Kong in 2020 was seen by many as yet another sign that Beijing was becoming significantly more assertive in the region.

#### **China's Concerns:**

- **One China Policy Challenged:**

1. This means that countries seeking diplomatic relations with the People's Republic of China (PRC, Mainland China) must break official relations with the Republic of China (ROC, Taiwan) and vice versa.
2. The existent diplomatic relationship of the Taiwan and its membership in intergovernmental organizations challenges this policy:
  - ✓ The ROC, Taiwan has diplomatic relations with 15 countries and substantive ties with many others such as Australia, Canada, EU nations, Japan and New Zealand.
  - ✓ Besides, Taiwan has full membership in 38 intergovernmental organizations and their subsidiary bodies, including the World Trade Organization, Asia-Pacific Economic Cooperation, Asian Development Bank and Central American Bank for Economic Integration.

- **Agreements/Exercises Countering China:**

1. Recently, the US has announced a new trilateral security partnership for the Indo-Pacific, between Australia, the UK and the US (AUKUS), which is also seen as an effort to counter China.
2. Malabar Exercise (US, Japan, India and Australia) is also a major step towards building a sustainable Indo-Pacific coalition thereby addressing the massive strategic imbalance generated by an economically and militarily powerful China.

- **Strategic and Defense Support to Taiwan by US:**

1. Taiwan has sought to improve its defenses with the purchase of US weapons, including upgraded F-16 fighter jets, armed drones, rocket systems and Harpoon missiles.
2. A US aircraft carrier group led by the warship Theodore Roosevelt has entered the South China Sea to ensure freedom of the seas, and build partnerships that foster maritime security.

#### **India's Stand on the Issue:**

- Since 1949, India has accepted the "One China" policy that accepts Taiwan and Tibet as part of China.
- However, India uses the policy to make a diplomatic point, i.e., if India believes in "One China" policy, China should also believe in a "One India" policy.
- Even though India has stopped mentioning its adherence to One China policy in joint statements and official documents since 2010, its engagement with Taiwan is still restricted due to the framework of ties with China. India and Taiwan do not have formal diplomatic relations but since 1995, both sides have maintained representative offices in each other's capitals that function as de facto embassies.

#### **Way Forward**

- India and other powers must draw a redline for any Chinese effort to take Taiwan by force. After all, the Taiwan issue is not just a moral question of allowing the destruction of a successful democracy by a totalitarian State, or a question of international ethics where the principle of settling disputes peacefully is adhered to.
- In fact, the reason for drawing that line is not about Taiwan at all, but because of what the consequences of a Chinese invasion of Taiwan would be for India and the rest of Asia. The day after China's invasion of Taiwan will mark a very different Asia, irrespective of the results of the invasion.
- Drawing a red line is not easy and may ultimately not work, but India and others at least need to try because of the stakes involved. One aspect of this is improving India's ties with Taiwan, even if they stay short of recognising its independence. Others have argued for continuing with the growing economic relations and building on popular support for Taiwan in the wake of India's troubles with China.

### **IMPORTANT FACTS FOR PRELIM**

#### **Exercise AJEYA WARRIOR-2021**

Recently, the 6th Edition of India - UK Joint Company Level Military Training Exercise AJEYA WARRIOR has commenced in Uttarakhand. Earlier, India and the UK participated in a two-day bilateral Passage Exercise (PASSEX) in the Bay of Bengal.

#### **Key Points**

**About:**

- The exercise is conducted alternatively in the United Kingdom and India.
- The exercise is part of an initiative to develop interoperability and sharing expertise with friendly foreign nations.

**Other Joint Exercises between India and UK:**

- Navy: Konkan
- Air Force: Indradhanush

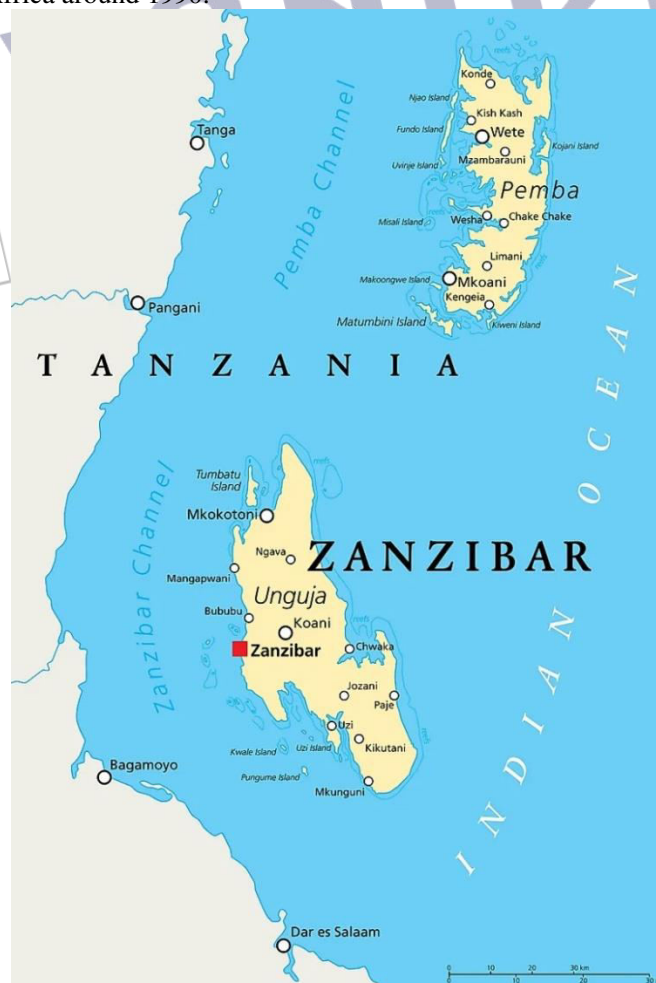
**2. Nobel Prize for Literature, 2021**

The 2021 Nobel Prize in Literature has been awarded to novelist Abdulrazak Gurnah "for his uncompromising and compassionate penetration of the effects of colonialism and the fate of the refugee in the gulf between cultures and continents". Last year, the award was given to Louise Glück "for her unmistakable poetic voice that with austere beauty makes individual existence universal."

The Nobel Prizes in Physics, Chemistry and Medicine for 2021 have already been awarded.

**Key Points**
**About:**

- Abdulrazak Gurnah was born in 1948 and grew up on the island of Zanzibar in the Indian Ocean. He was forced to flee to the UK, the former colonial power, at the end of the 1960s after a revolution occurred in Zanzibar. Zanzibar is part of East Africa, a region known as the Swahili coast, stretching from present-day Somalia to Mozambique on the western shores of the Indian Ocean.
- He has published ten novels and a number of short stories. The theme of the refugee's disruption runs throughout his work.
- He began writing as a 21-year-old in English exile, and although Swahili was his first language, English became his literary tool.
- Gurnah's fourth novel 'Paradise' (1994), his breakthrough as a writer, evolved from a research trip to East Africa around 1990.





**Significance:**

At a time when the global refugee crisis is exponentially on the rise, Gurnah's work draws attention to how racism and prejudice against targeted communities and religions perpetuate cultures of oppression.

**DAILY ANSWER WRITING PRACTICE**

**Qns. Amrut 2.0 is a renewed approach towards making the country water secure. Elaborate. (150 words)**

**Ans:**

**Introduction**

- AMRUT was launched as the first water focused Mission in 2015, with a total Mission outlay of ₹1,00,000 crore. The Mission caters to 500 major cities covering 60% of the urban population.
- Now, taking the transformations further, AMRUT2.0 aims to make around 4,700 towns / cities 'water secure'. It will build upon the progress of AMRUT to address water needs, rejuvenate water bodies, better manage aquifers, reuse treated wastewater, thereby promoting circular economy of water. The total outlay of AMRUT 2.0 is ₹2,97,000 crores, including central share of ₹76,760 crores

**Body****AMRUT 2.0: Salient features**

- The Objective of AMRUT 2.0 is to provide 100% coverage of water supply to all households in around 4,700 ULBs, by providing 2.68 crore urban household tap connections, thereby benefitting around 10.7 crores people.
- It will provide 100% coverage of sewerage and septage in 500 AMRUT cities, by providing 2.64 crore sewer connections/ septage connections.
- Rejuvenation of water bodies and urban aquifer management will be undertaken to augment sustainable fresh water supply.
- Recycle and reuse of treated wastewater is expected to cater to 20% of total water needs of the cities and 40% of industrial demand.
- Under the Mission, fresh water bodies will be protected from getting polluted to make natural resources sustainable.

**Water issues plaguing the nation**

- India has 4 % of the world's freshwater which has to cater to 17 % of the world's population.
- As per NITI Aayog report (CWMI) released in June 2019, India is facing the worst-ever water crisis in history.
- Approximately 600 million people or roughly around 45 % of the population in India is facing high to severe water stress.
- As per the report, 21 Indian cities will run out of their main source of water i.e. groundwater by 2020.
- Nearly 40 % of the population will have absolutely no access to drinking water by 2030 and 6 % of India's GDP will be lost by 2050 due to the water crisis.

**Addressing above issues through AMRUT 2.0**

- The mission will upscale from 500 cities covered under AMRUT with 1 lakh+ population to all 4,372 cities, covering 100% urban India.
- It will promote circular economy of water through formulation of City Water Balance Plan for each city, focusing on recycle/reuse of treated sewage, rejuvenation of water bodies and water conservation.
- Digital economy will be promoted through being a Paperless Mission.
- Pey Jal Survekshan will be conducted in cities to ascertain equitable distribution of water, reuse of wastewater and mapping of water bodies w.r.t. quantity and quality of water through a challenge process.
- Technology Sub-Mission for water will leverage latest global technologies in the field of water.
- The Mission seeks to promote Aatmanirbhar Bharat through encouraging Startups and Entrepreneurs. It will lead to promotion of GIG economy and on-boarding of youth & women.
- Urban Water Information System through NRSC will be developed, leading to Aquifer Management system.

- Information, Education and Communication campaign will spread awareness among masses about conservation of water.
- Target based capacity building program will be conducted for all stakeholders including contractors, plumbers, plant operators, students, women and other stakeholders.

### Conclusion

Decentralised approach, with a key focus on water conservation, source sustainability, storage and reuse wherever possible. A participatory approach is needed in water governance. AMRUT 2.0 has a reform agenda, with focus on strengthening of urban local bodies and water security of the cities. This is the need of the hour.

### DAILY QUIZ

Q1. Consider the following statements with reference to the Real Estate (Regulation and Development) Act 2016:

1. It mandates that all the commercial and residential real estate projects larger than 500 sqm or eight apartments should be registered with National Housing Bank (NHB).
2. Under the RERA act, a minimum of 70% of the buyers' and investors' money will be kept in a separate account.

Which of the statements given above is/are correct?

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

Q2. Arrange the following strategic areas/ locations in the direction of West to East:

1. Shaksam Valley
2. Galwan Valley
3. Aksai Chin

Select the correct answer using the code below:

- a. 1-2-3**
- b. 2-1-3
- c. 3-2-1
- d. 1-3-2

Q3. Siachen Glacier is situated to the

- a. East of Aksai Chin
- b. East of Leh
- c. North of Gilgit
- d. North of Nubra Valley**

Q4. The Conference of Disarmament was created with a permanent agenda, also known as the "Decalogue," it includes which of the following topics?

1. Nuclear weapons in all aspects
2. Reduction of military budgets
3. Conventional weapons
4. Reduction of armed forces

Select the correct answer using the code below:

- a. 1 and 2 only
- b. 3 and 4 only
- c. 2, 3 and 4 only
- d. 1, 2, 3 and 4**

Q5. The terms 'SWAS, SAFAL and STAR' sometimes mentioned in news recently are related to:

- a. Processed vegetable oils
- b. Green crackers**
- c. New pension schemes for farmers
- d. Standards & Labeling Programme by Bureau of Energy Efficiency (BEE)