



TLP+ 2022 MAINS TEST SERIES

SAMPLE TEST
& SYNOPSIS



1. What do you understand by decarbonisation of agriculture? Why decarbonisation of agriculture in India can be a complex task? Examine.

Approach:

Answer should contain the following parts:

- Introduction with reference to decarbonisation of agriculture
- Explain decarbonisation of agriculture
- Examine why decarbonisation of agriculture in India can be a complex task
- Conclusion

Key words

- Greenhouse gas (GHG) emissions
- Rice cultivation
- Cattle manure and enteric fermentation
- On-farm water management
- Soil health cards & rebalancing the use of crop nutrients

Related concepts

- Organic Farming
- Paris Climate Accord

Introduction

The agriculture sector's role in greenhouse gas (GHG) emissions is widely known where more than one-quarter of the world's GHG emissions come from agriculture, forestry, and land-use change. In this context, decarbonisation of agriculture becomes important for tackling the challenges posed by climate change induced environmental degradation.

Body

In 2016, agriculture and livestock emitted 407,821 Gg of CO₂e, around **14% of total emissions**. Out of this, 61.3% is linked to livestock.

- Apart from livestock, the major constituents of agriculture GHG emissions are **rice cultivation (17.5%)**, fertiliser application (19.1%) and field burning of agricultural residues (2.2%).
- Agricultural production is also the largest **source of methane and nitrogen dioxide** emissions. This mainly comes from cattle manure and enteric fermentation, over-application of fertiliser and flooding rice paddies.

These facts clearly showcase the deeply carbon intensive nature of Indian agriculture where decarbonisation would ensure, or atleast, lead a way towards reduced resource consumption at the primary stage as well as help in building **climate resilience in agricultural sector**. Thus, decarbonising of agriculture would include:

- Promoting more accurate fertiliser use and developing improved fertilisers to reduce their emissions footprint.
- Improving management of grazing lands and manure and the productivity of farm animals, as well as reducing enteric emissions through diet modification.
- Cutting down on meat based diets by encouraging **greater reliance on plant-based diets** in key consumer groups in India.

- Reducing the duration of flooding in paddy fields and improving paddy yields and stopping livestock or crop production on forested or peat land.
- Alongside reducing farm emissions, another major target is to lock up carbon on land and in the plants that grow on it. Also, one needs to inculcate resource efficiency by reducing consumption of irrigation water, chemical fertilisers, etc

In Indian context, decarbonisation of agriculture is considered as a complex task due to the following factors:

- **Socio-economic impact** – Of the 160 million rural households with agriculture as the main source of livelihood, over 120 million marginal farmers, who are still in the 'survival phase' of their socio-economic development. Thus, decarbonising of agriculture must prioritise the needs of these vulnerable section of the population.
- **Multiplicity of goals** – Multiple goals like increasing food production, alleviating poverty, and reducing emissions are affecting targeted decarbonisation of agriculture in India where alleviating poverty along with improving nutrition needs robust agricultural sector.
- **Input intensive agriculture** – Current agricultural production systems in India are input intensive as a result of little changes since green revolution days which has complicated the transition to green agriculture.
- **Poor outcomes of schemes/programmes** – Outcomes of National Mission on Sustainable Agriculture (NMSA) under the National Action Plan on Climate Change (NAPCC), National Initiative on Climate Resilient Agriculture (NICRA), and National Adaptation Fund for Climate Change (NAFCC) have not been satisfactory.

But, India has made some progress in decarbonising agriculture, as evident from –

- Steady progress on sustainable agriculture parameters such as on-farm water management and **soil health cards**.
- Soil testing of over 100 million samples have promoted less-carbon-intensive agriculture by **rebalancing the use of crop nutrients**, such as nitrogenous fertilisers.
- The Zero Budget Natural Farming (ZBNF) concept introduced in Andhra Pradesh in 2015 is a low-input, climate-resilient type of farming that encourages farmers to use low-cost locally sourced inputs.
- India has been an early mover through its "Greening India Mission" and aims to create 2.5-3 billion tonnes of carbon sinks by 2030.

Conclusion

Way Ahead

- **Tapping the potential:** India has the potential to cut 18% of its annual GHG emissions from agriculture and livestock sector. 50% of this reduction could be achieved by implementing these three measures: Efficient use of fertiliser; Adoption of zero-tillage and management of water used to irrigate paddy.
- **Federal Coordination:** Coordinated and action-oriented implementation and appropriate institutional architecture from the Centre to states to districts or agro-zones is needed.

- **Capital Provisioning:** Sustainable agriculture pathways will require significant capital, but a large portion could come from repurposing existing subsidies.
- **Integrated Approach:** Undertake conservation, restoration, and regeneration under an integrated forest management framework which requires funding and mobilising communities and addressing their needs, especially forest fringe villages.
- **Promoting alternatives:** Alternative agriculture practices like **Vertical farms** can produce more food than traditional farming. When grown in a vertical farm, a typically low yielding crop such as wheat can increase yields over 600 times. Cutting farming emissions can also be done with steps such as “direct seeding of rice”, a method that decreases water use.

Value Additions and Facts/Figures

- The share of agriculture in GDP increased from 17.8 per cent in 2019-20 to 20.2 per cent in 2020-21. The last time the contribution of the agriculture sector in GDP was at 20 per cent was in 2003-04.
- In 2019-20, total food grain production (296.65 million tonnes) in the country was higher by 11.44 million tonnes than 2018-19. India's share in world agricultural exports increased to 2.1% in 2019 from 1.71% in 2010.

2. After AFSPA is withdrawn from the Northeast and demilitarization takes place, the region will be better integrated and more prosperous. Do you agree? Substantiate your views.

Approach:

Answer should contain the following parts

- Introduction with details of recent AFSPA withdrawal in NE India
- Positive impact of withdrawal of AFSPA on NE India
- Challenges despite withdrawal of AFSPA
- Conclusion – Way ahead

Key words

- Sweeping Powers, arrest & search without warrant
- Alienation and Separatism
- Economic development due to stability
- Ethnic differences & Geographical limitations

Related concepts

- Schedule V & VI
- Act East Policy

Introduction

Recently, Union government significantly reduced the footprint of the Armed Forces Special Powers Act (AFSPA), 1958 in the Northeast.

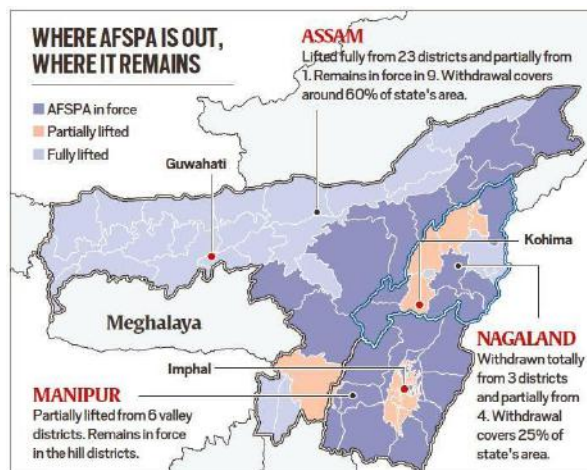
- It is withdrawn entirely from 23 districts in Assam.
- It is partially withdrawn from seven districts in Nagaland, six districts in Manipur, and one district in Assam.

As a result, AFSPA remains in force in parts of these three states as well as in parts of Arunachal Pradesh and Jammu & Kashmir.

Body

The Act, which has been called **draconian**, gives sweeping powers to the armed forces. It allows them to open fire, even causing death, against any person in contravention to the law or carrying arms and ammunition. It gives them powers to **arrest individuals without warrants**, on the basis of "reasonable suspicion", and also search premises without warrants.

The recent withdrawal of AFSPA in certain NE part is seen as significant and has come as the result of reduction in insurgencies and a number of major insurgent groups in talks with Indian government.



It is true that the region will be better integrated and more prosperous after AFSPA is withdrawn and demilitarization takes place, due to the following factors:

- **Helps overcome alienation & Separatism:** Living under the AFSPA regime has had psychological consequences, trauma and alienation of the people, solidifying separatism. This can be overcome now. The recent decision will lift restrictions of movements through check points and frisking of residents, thereby providing conditions for better integration of the region.
- **Economic Development due to stability** – The region has immense natural resources, accounting for 34% of the country's water resources and almost 40% of India's hydropower potential. The region also has high potential in sports and tourism sector. All these can be tapped optimally in an environment of stability and peace.
 - Tourism potential of the region is still unexplored as the 'Natural and cultural diversity' of the Northeast provides great opportunity for inflow of tourists in the region.
 - Environment of stability also helps in improving the infrastructure like roadways, highways, airways & waterways in the region
- **Leads to Success of Act East Policy** – It is strategically located with access to the major states in the east and adjacent countries such as Bangladesh and Myanmar. The region is also a vantage entry point for the Southeast and East Asian markets. Stability in the region will therefore enable India to realize its projects under Act Policy in time bound manner.

At the same time, despite its advantages, there is perception that north eastern region of India will not be better integrated and more prosperous, even after AFSPA is withdrawn from the Northeast and demilitarization takes place, due to the following factors:

- **Economic backwardness** – Inadequate infrastructure facilities, coupled with geographical isolation have led to inadequate utilisation of its mineral resources of the region. The Northeast has a long way to go in terms of economic growth where the states' total Gross State Domestic Product (GSDP) share in India's GSDP was only 2.8 per cent in 2019-2020. The existence of such regionally imbalanced development always provides a fertile ground for separatism that hinders prosperity & integration.

- Further, Assam contributes lion's share of the region economy, clearly showcasing the uneven growth of the region.
- **Ethnic differences** – Northeast India is a kaleidoscope of geographic, ethnic, and economic heterogeneity. Economic backwardness, compounded with ethnic differences provides a perfect recipe for instability and disturbance in the region.
- **Geographical limitations** – The region is geographically isolated from the mainland and is surrounded by hilly and mountainous regions of neighbouring countries, which are disturbed areas too. This impedes integration of the region.
- **Hostile neighbours and open borders** – The insurgency in the region has been primarily driven by shelters available in adjoining countries. Hence, along with domestic measures, international cooperation is also required to deal with insurgencies.

Conclusion

It is important to remember that militancy in the Northeast is down but not over. The problems in the North East should be solved through a political process and not through a law that violates people's right to life and dignity with impunity.

- There is a need to sensitize security personnel about human rights so as to ensure that they don't misuse their powers.
- At the same time, intelligence cooperation has to be strengthened to further strengthen security apparatus in the region.
- Skill Development Mission should take up training of surrendered militants on a mission mode.
- Further, the road to lasting political stability in the region has to pass through economic prosperity, necessitating focus on economic development and sustainable growth.

Value Addition and Facts/Figures

- In comparison to 2014, there has been a reduction of 74 percent in militancy incidents in 2021. Similarly, deaths of security personnel and civilians have also come down by 60 percent and 84 percent respectively during this period.
- Most of the extremist groups have laid down their arms expressing their faith in the Constitution of India and the policies of the central government. About 7,000 militants have surrendered in the last few years. Today all these persons have become a part of the democratic process and are participating in the development of the North East.
- Due to the continuous improvement in the security situation (post 2014) in the North-East states, the disturbed area declaration from Meghalaya has been withdrawn in March, 2018. Similarly, it has been withdrawn from Tripura in May 2015. It has never been put in force in Mizoram.

3. There is an immediate need for the creation of an independent institution, so as to bring various central investigation and enforcement agencies under one umbrella. Do you agree? What will be the benefits of such move? Explain.

Approach:

Answer should contain the following parts

- Introduction with mention of institutional integrity
- Need for creation of an independent umbrella institution
- Counter view with regards to creation of such an institution
- Benefits of creating a new independent umbrella institution
- Conclusion

Key words

- Social Legitimacy
- Political nexus & autonomy of organisation
- Inefficiency in functioning
- Clearly defined powers
- End the multiplicity of proceedings

Related concepts

- Police Reforms
- Judicial Reforms

Introduction

Chief Justice of India has said that there was an immediate need for the creation of an independent umbrella institution, so as to bring various central agencies like the Central Bureau of Investigation (CBI), Enforcement Directorate (ED) and the Serious Fraud Investigation Office (SFIO) under one roof to ensure their independent and impartial functioning.

Body

In a well-functioning democracy, it is essential that all the institutions of State uphold and strengthen democratic values and not allow authoritarian tendencies to creep in.

- These institutions may have de-facto legitimacy but they are **yet to gain social legitimacy**, which can lead to erosion of trust that people repose on the State.

In this context, the need for the creation of such an independent institution can be seen from the following points:

1. A single incident at times gets investigated by multiple agencies, often leading to dilution of evidence, contradiction in depositions, and **prolonged incarceration of innocents**.
2. Prosecution and investigation under the same agency which is blamed for its inefficiency.
3. Lack of reasonable check & balance calling for accountability of the performance of such institutions.

4. Inadequate human resource capabilities, irregular upgradation of knowledge and lack of deployment of state-of-the-art technology often leads to **inefficiency of these organisations**.
5. Strong political nexus of persons manning these organisations & their political masters thus **diluting the autonomous functioning** of these institutes.
6. These institutions are being used as a tool of harassment by the ruling party against its opponents, thus calling into question the neutrality of the institution.

Accounting for all the arguments with reference to creation of an independent institution for all investigative agencies, the benefits of such a move can be seen from the following points:

- Such a body to be created under a statute will have **clearly defined powers**, functions and jurisdictions. This will help in efficient functioning and quick disposal of cases.
- This umbrella organisation will **end the multiplicity of proceedings**. Once an incident is reported, the organisation should decide as to which specialised wing should take up investigation.
- The organisation to be headed by an independent and impartial authority to be appointed by a committee akin to the one which appoints the Director of the CBI. This will minimise political interference in the working of investigation agencies of the country.
- Separate and autonomous wings for prosecution and investigation, in order to ensure total independence will help in improving upon the conviction rate in many cases.
- Increase the public trust in institutions and also improve upon the social trust factor in case of constitutional functioning in the country.

At the same time creating an independent umbrella institution is not the end of all and it is important to take into consideration the following points:

- **Accountability** – The investigative agencies have to be accountable to Parliament and that control can only be exercised by questioning the elected government which is responsible to Parliament.
- **Manpower issues** – The existing issues of inefficient manpower and lack of well trained personnel along with proper expertise can continue even in the new super organisation.
- **Domain expertise** – Ministries know best how to investigate crimes in their domain and have the wherewithal for complex investigations.
- **Devolution of powers** – The recent trend has been to split agencies, not merge. This is to ensure proper functioning and oversight where accountability is also ensured.

Way forward for present institutions –

- Investigators need to stand up to unethical pressures in order not to betray the trust reposed in them by the public.
- If the investigative agencies have to tread the path of virtue, it should have the strongest leader with a distinct belief in the law and ethics.
- The leadership should focus on weeding out the dishonest among officers and rewarding those who have shown and proven themselves to be honest and professionally innovative.

- Increasing the representation of women not just in Investigative agencies but also in broader Criminal Justice System.

Conclusion

Investigating agencies are essential element in modern nation- state system where there is a need for constant surveillance against anti-social forces to safeguard the nation. But at the same time, these agencies should overcome the trust deficit as it doesn't bode well for a democracy and thus strive towards making them objective, efficient and effective.

Value Addition and Facts/Figures

- **Central Bureau of Investigation (CBI)** is the premier investigating agency of India under the Ministry of Personnel, Public Grievances and Pensions. It was originally set up to investigate bribery and governmental corruption.
- CBI is exempted from the provisions of the Right to Information Act. CBI is India's officially designated single point of contact for liaison with the Interpol.
- **Enforcement Directorate (ED)** is a law enforcement agency and economic intelligence agency responsible for enforcing economic laws and fighting economic crime in India under the Department of Revenue, Ministry of Finance.
- The prime objective of ED is the enforcement of two key Acts: The Foreign Exchange Management Act 1999 (FEMA) and The Prevention of Money Laundering Act 2002 (PMLA)
- **NCB or Narcotics Control Bureau** is an Indian Federal Law Enforcement that was established in 1986 whose agenda is to combat drug trafficking and the illegal use or abuse of substances under the Narcotics Drugs & Psychotropic Substances Act. It is aimed at implementing the NDPS Act.
- It is engaged in team-work with the Customs and Central Excise/GST, State Police Department, Central Bureau of Investigation (CBI), Central Economic Intelligence Bureau (CEIB), and other Indian intelligence and law enforcement agencies.

4. The real progress of the Indian judiciary should be measured by the number of women in high positions. Why? Explain your reasoning. In this light, examine the need for reforms in judicial appointments.

Approach:

Answer should contain the following parts

- Introduction – Present state of women in Judiciary
- Explain why real progress of Indian judiciary should be measured by the number of women in high positions
- Examine the need for reforms in judicial appointments vis-a vis women
- Way forward

Key words

- Transparent, inclusive, and representativeness
- Legitimacy of courts
- Sustainable Development Goals 5 and 16
- Diversity of perspectives
- Advisory panel on Judicial diversity
- Transparency in appointments (Collegium)

Related concepts

- All India Judicial Service
- Indianization of Judiciary

Introduction

Recently, Chief Justice of India (CJI) has called for 50% representation of women in the judiciary. Presently, despite three women judges sitting in the Supreme Court, there seems to be no likelihood that India will have its first woman Chief Justice in the near future. This shows the poor state of women's representation in Indian judiciary.

Body

The real progress of the Indian judiciary should be measured by the number of women in high positions as:

- The entry of women judges into spaces from which they had historically been excluded is seen as a positive step in the direction of judiciaries being perceived as being more **transparent, inclusive, and representative of the people** whose lives they affect.
- By their mere presence, women judges **enhance the legitimacy of courts**, sending a powerful signal that they are open and accessible to those who seek recourse to justice.
- The Sustainable Development Goals (SDG 5 and SDG 16), address the global responsibility of having **gender equality** and women's representation in public institutions such as the judiciary.
- It will ensure **diversity of perspectives is fairly considered**. For example – more balanced and empathetic approach in cases involving sexual violence. It will instil greater public trust in the judiciary.

- Improvements in women's representation in the judiciary remains intrinsic to constitutional ideals of gender equality and social justice.
- Women's greater participation in higher judiciary will provide impetus to fighting gender stereotypes and can pave the way for women's greater representation in others areas too (legislature, executive, media, academia, foreign policy etc.)
- Changing the long-established demographics of a court can make the institution more amenable to consider itself in a new light, and potentially lead to further modernization and reform.

In this context, judicial appointments become important as entry barrier for women in the higher judiciary is the main stumbling block, which can be overcome by reforms in judicial appointments.

- Adopt better practices from countries like Britain where the government created an **Advisory Panel on Judicial Diversity** to investigate the barriers to women in the judiciary and propose suitable remedies and recommendations.
- The representation of women is more in lower judiciary due to recruitment through an open entrance examination. However, the higher judiciary has opaque **collegium system**, which more likely reflect bias against women. Hence, there is a need to first put in place a more **transparent system w.r.t appointment of judges** at higher level.
- **Collection of data** should be initiated to determine the number of women judges in the lower judiciary and tribunals and also to determine year-wise number of senior designates by all High Courts.
- Removing the minimum age for recruitment as district judge can help young female advocates from opting out of practice in favour of other services or corporate jobs. Governments should also rationalise salary and allowances of lower judiciary.
- One also needs to make **judicial infrastructure gender inclusive**. This is because lack of infrastructure in courts, gender stereotypes and societal attitudes have created hurdles for women to enter the legal profession. For example –out of nearly 6,000 trial courts, 22% have no toilets for women.
- The need of the hour is to correct the patriarchal mind-set in recommending and approving the names of those who are to be elevated as high court judges and come out with more representation to worthy women lawyers and district judges for elevation.

Conclusion

Judiciary is one of the most important pillars of the democracy, where, making the appointments continuous and collaborative process involving the executive and the judiciary, will help to institutionalize the process with adequate safeguards to preserve the judiciary's independence guaranteeing judicial primacy.

Value Addition and Facts/Figures

Status of representation of Women in Higher Judiciary:

1. There has never been a women Chief Justice of India.
2. SC was established in 1950. First female SC judge was appointed in 1989.
3. Of the 256 Supreme Court judges appointed in the past 71 years, only 11 (or 4.2%) have been women.
4. Only 73 out of 661 High Court judges, which is roughly 11.04% are women. In five High Courts, namely, Manipur, Meghalaya, Patna, Tripura and Uttarakhand, there is not even a single woman judge.

5. What is the Innovations for Defence Excellence (iDEX) framework? What are its objectives? Examine its significance for India's internal security preparedness.

Approach:

Answer should contain the following parts

- Introduction with reference to iDEX framework
- Explain Innovations for Defence Excellence (iDEX) framework
- Detail upon its objectives
- Examine the framework's significance for India's internal security preparedness
- Conclusion

Key words

- Foster innovation and technology development
- Defence Innovation Organization; HAL & BEL
- Culture of technology co-creation and co-innovation
- Strategic autonomy

Related concepts

- Chief of Defence Staff
- Make in India

Introduction

Innovations for Defence Excellence (iDEX) framework was launched by the Government with the aim to foster innovation and technology development in Defence and Aerospace Sector by engaging Industries including MSMEs, start-ups, individual innovators, R&D institutes and academia and promote self-reliance.

Body

The Government has approved a central sector scheme viz. **Innovations for Defence Excellence (iDEX)** with budgetary support of Rs 498.78 crore for the next 5 years from 2021-22 to 2025-26.

- iDEX will be funded and managed by a '**Defence Innovation Organization (DIO)**' which has been formed as a '**not for profit**' company as per Section 8 of the Companies Act 2013 for this purpose, by the two founder members i.e. Defence Public Sector Undertakings (DPSUs) - **HAL & BEL**.

- iDEX will function as the executive arm of DIO, carrying out all the required activities while DIO will provide high level policy guidance to iDEX.
- Under iDEX route, the Government focuses on innovation and design & development, and supports the start-ups and innovators for successful prototype development.
- iDEX has partnered with leading incubators in the country to provide handholding, technical support and guidance to the winners of iDEX challenges.

Objectives of Innovations for Defence Excellence (iDEX) framework:

1. Facilitate rapid development of new, indigenized, and innovative technologies for the Indian defence and aerospace sector, to meet needs for these sectors in shorter timelines.
2. Create a culture of engagement with innovative startups, to **encourage co-creation** for defence and aerospace sectors.
3. Empower a culture of **technology co-creation and co-innovation** within the defence and aerospace sectors.
4. Boost innovation among the start-ups and encourage them to be a part of Indian defence and aerospace ecosystem.

iDEX's significance for India's internal security preparedness:

- **Strategic autonomy:** One of the first aims of India as a nation since Independence has been to achieve self-reliance in the field of defence and defence production. Dependence on imports for defence preparedness restricts our strategic autonomy and thus India needs to be self-reliant to be able to project her power in international arena without undue foreign pressures.
- **Counter China:** The growing Chinese presence in the subcontinent poses a threat to the interests of India. China cheque book diplomacy can be tackled by India's military support to the countries in Indian subcontinent. To be able to emerge as exporter of defence equipments, India has to become self-reliant in defence sector.
 - With a target of US \$5 billion for defence exports by 2024, India has intensified its efforts to sell weapons to Southeast Asia and Africa, where Chinese defence companies dominate.
- **Savings on Foreign Exchange:** India emerged as the second-largest importer of arms transferred between 2016-20, with a share of 9.5% of global arms imports. India is expected to spend around USD 220 Billion in the coming decade to modernize its armed forces. Reduced dependence on imports will eventually lead to savings in foreign exchange.
- **Increased awareness** in the Indian innovation ecosystem about defence needs and, conversely, in the Indian defence establishment about the potential of the Indian innovation eco-system to deliver innovative solutions to meet their needs.
- **Expansion of MSME and start-ups base** by extending financial support will be provided to nearly 300 startups/ MSMEs/ individual innovators and 20 partner incubators under the DIO framework in consultation with other stakeholders.
- **Complements other initiatives:** In this context of Self-reliance, the government of India has initiated various schemes like Make in India, Startup India, Atal Innovation Mission (AIM), etc. to encourage innovation and entrepreneurship in the Indian commercial ecosystem.

- Consequently, through iDEX, Ministry of Defence aims to create an ecosystem which fosters innovation and encourages technology development in Defence by engaging R&D institutes, academia, industries, start-ups and even individual innovators.

Conclusion

The Defence Innovation Organization with its iDEX team will enable creation of channels for innovators to engage and interact with the Indian defence production industry. The long-term effect to be realized by the group is establishment of a culture, where enlisting the effort of innovators by the Indian military is commonplace and frequent.

Value Addition and Facts/Figures

- So far under iDEX, 132 start-ups have been engaged and 66 contracts have been signed for prototype development. Out of them, Indian Navy, after successful trials, has placed a supply order on one iDEX winner.
- Moreover, the Ministry has also accorded Acceptance of Necessity (AoN) for 14 more iDEX products, paving the way for placement of orders on the iDEX winners.
- At least 60 solutions will be taken up for Productionization by creating a linkage between the Start-up and the industry, including both in public as well as private sector.

Defence Exports:

- The recent US \$375 million Brahmos missiles deal with the Philippines—the first such export order for the missile—has come as a shot in the arm for India's defence industry. Under the contract, India will provide three missile batteries to the Philippine Navy and potentially a follow-up order.
- Government has strengthened the role of defence attaches located in Indian embassies abroad. The government has allocated them an annual budget of up to US\$50,000 to promote Indian defence equipment in their respective markets.
- Moreover, to reinforce their sales pitch, the government has cleared multiple 'Made-in-India' equipment, including the Tejas combat aircraft and Astra missile for export to friendly countries.
- Due to such efforts, the exports have soared to INR 10,745 crores in 2018-19, from just INR 1,940.64 in 2014-15, although there is a long way to go.

6. Describe the Near Field Communication (NFC) technology. How is it different from other wireless technologies? What are its key applications? Explain.

Approach

Answer should contain the following parts

- Introduction with reference to NFC technology
- Explain Near Field Communication (NFC) technology
- Show NFC's difference from other wireless technologies
- Explain NFC's key applications
- Conclusion

Key words

- Short-range wireless connectivity technology
- Electromagnetic radio fields
- Contactless Banking
- Digital keys

Related concepts

- WiFi & LiFi
- 5G Technology

Introduction

Near-field communication (NFC) is a **short-range wireless connectivity technology** that uses **magnetic field induction** to enable communication between devices when they're touched together or brought within a few centimetres of each other.

Body

NFC transmits data through electromagnetic radio fields, to enable communication between two devices. Both devices must contain NFC chips, as transactions take place within a very short distance. NFC-enabled devices must be either physically touching or within a few centimeters of each other for data transfer to occur.

NFC's difference from other wireless technologies: NFC complements a variety of other wireless technologies, including RFID, Bluetooth, UWB and QR codes. It also differs from these technologies in important ways. Other technologies work best in the following ways –

- RFID technologies uses a similar communication technology as NFC technology but it uses other base frequencies for the generated RF field. These technologies do not target the wide range of use cases as NFC offers for consumers and end customers.
- EMV (Europay, Mastercard and Visa) allows for credit card transactions using a chip and an equipped payment terminal. While it also authenticates transactions, it is not as dynamic and interactive as NFC, which allows for contactless payments.
- Bluetooth offers a greater connection range than NFC but is less secure. It works best for connecting peripherals, such as headphones, to mobile devices and computers.
- **Ultra Wide Band (UWB)** is a new technology and operates at a very low power using pulse patterns to keep from interfering with other wireless technologies. This allows it to send data quickly without losing accuracy.

- **QR codes** need to be activated by the user by scanning an image with a smartphone's camera app, instead of a simple tap used by NFC. QR codes are less complex and are easier to include in emails.
- **As far as detection range,** NFC can only identify whether a device is next to another. Bluetooth can recognize when an object is within a room.
- NFC is most suitable for ultra-short range (>2cm or one inch), low-latency startup, connect and transfer where **only one side of the connection needs power.** And unique to NFC, connections can exchange data or power. It operates in the 13.56 MHz band of unlicensed spectrum. Power harvesting has a maximum of 1w.

This technology is best for money transfer and payments between two NFC-powered device, gathering and sending data.

- Today, hundreds of millions of **contactless cards and readers** worldwide use NFC technology in myriad applications—from securing networks and buildings to monitoring inventory and sales, preventing auto theft, keeping tabs on library books, and running unmanned toll booths.
 - NFC is behind the cards that we wave over card readers in subway turnstiles and on buses
- It is present in speakers, household appliances, and other electronic devices that we monitor and control through our smartphones.



Other Key applications of NFC Technology:

1. **Contactless Banking** – It is used in contactless banking cards to perform money transactions.
2. **Digital keys** – NFC technology can also be utilized in the Smart Home. Users can unlock and open house doors with NFC-capable devices without using a physical key.
3. **Representing information** – Although still rather rare, there are also advertising posters and places of interest equipped with NFC tags that provide relevant information on the smartphone at the user's request.
4. **Monitoring Patient Stats:** NFC opens up new possibilities for home monitoring, as NFC-enabled wristbands can be configured to track patients' vital signs. The patient taps the wristband on a smartphone or tablet, and her medical data is transmitted to the doctor's office, where a medical professional can check it.
5. **Airlines:** In 2012, Japan Airlines (OTCMKTS: JAPSY) became the first commercial airline worldwide to allow passengers to tap standard NFC phones to pass through boarding gates in lieu of paper boarding passes. The customer experience in airports that use

NFC technology is enhanced significantly, as NFC can shorten the boarding of a 450-person plane to just 15 minutes—a process that normally takes 40 minutes without the use of NFC.

6. **Streaming content** – When televisions, cameras and music systems are made NFC-capable, the smartphone display can be mirrored to the TV screen and photos can be transferred from the digital camera to the smartphone.
7. **Charging** – It will soon be possible to use NFC to charge small accessory devices such as Bluetooth headsets by simply placing the devices close to the smartphone.
8. **Hospitality, Travel, and Leisure:** In the hospitality industry, a hotel may manage building and room access centrally in real-time, without the need for physical delivery of key cards. Using NFC technology, a hotel can send access rights to a guest's room directly to his or her mobile device in advance of their arrival.

Conclusion

Some NFC risks include payment processing fraud, eavesdropping and replay attacks. Near field communication technology has many uses, including enabling access to secured locations and tracking users, sometimes without their knowledge or consent. This is an increasing cause of concern and risk.

Value Addition and Facts/Figures

Other Wireless Technologies:

- **Bluetooth:** Developed in the late 1990s, it is a technology designed to enable short-range wireless communication between electronic devices, such as between a laptop and a smartphone or between a computer and a television.
- Bluetooth works by using radio frequencies, rather than the infrared spectrum used by traditional remote controls. As a result, Bluetooth eliminates the need not only for a wire connection but also for maintaining a clear line of sight to communicate between devices. Bluetooth works at 2.4GHz frequency.
- **Wi-Fi (Wireless Fidelity):** It is similar to Bluetooth in that it also uses radio waves for high-speed data transfer over short distances without the need for a wire connection.
- Wi-Fi works by breaking a signal into pieces and transmitting those fragments over multiple radio frequencies. This technique enables the signal to be transmitted at a lower power per frequency and also allows multiple devices to use the same Wi-Fi transmitter. Wi-Fi based networks work at 2.4, 3.6 and 5 GHz.

7. Discuss the significance of the India-Australia Economic Cooperation and Trade Agreement (ECTA) for India's bilateral trade. Do you think India's interests with respect to agriculture and dairy sectors have been addressed under the agreement? Examine.

Approach:

Answer should contain the following parts

- Introduction explaining the India-Australia Economic Cooperation and Trade Agreement (ECTA)
- Discuss significance of India-Australia ECTA for India's bilateral trade
- Explain India's interests with respect to agriculture and dairy sectors
- Examine ECTA with respect to India's interests in agriculture and dairy sectors
- Conclusion

Key words

- Tariff reduction
- Zero-duty market access
- Positive Signal
- Negative list approach
- Inclusion of services

Related concepts

- QUAD
- AUKUS

Introduction

The India-Australia FTA, officially called the Australia-India Economic Cooperation and Trade Agreement, was signed in April, 2022 has been hailed as a watershed moment in India-Australia bilateral relations. It is estimated to **double trade between the two nations and generate one million jobs.**

Body

The India-Australia FTA is an ambitious pact with significant commitments to tariff cuts. Australia will provide zero-duty market access for 96.4 per cent value of Indian exports (98 per cent of tariff lines) on the first day of implementation of the agreement.

- Exports of several labour-intensive sectors, currently facing import duty of 4-5 per cent in Australia, will gain from the immediate duty-free access.
 - These include most textiles and apparel, a few agricultural and fish products, leather, footwear, furniture and sports goods, jewellery, engineering goods, and selected pharmaceuticals and medical devices.
- Tariffs on the remaining 113 tariff lines, amounting to 3.6 per cent of India's exports, will be phased out in five years.
- Australia, too, will gain considerable market access in India with tariffs being eliminated on more than 85 per cent of the Australian goods exports immediately, rising to almost 91 per cent in over 10 years.

The **significance** of the deal can be understood from the following points:

1. **Big push to bilateral trade:** The pact will not only eliminate or lower tariffs on a large number of goods but also address the non-tariff barriers such as technical barriers to trade, apart from sanitary and phytosanitary restrictions. According to government estimates, trade in goods is likely to almost double to \$50 billion in five years from about \$27 billion at present.
2. **Inclusion of Services:** Both countries have decided to facilitate the recognition of professional qualifications, licensing, and registration procedures between professional services bodies. The length of stay for an Indian student with a bachelor's degree with first-class honours in the areas will be extended from two to three years. Australia will also provide new access for young Indians to participate in working holidays in the country.
3. **Retains Export Competitiveness amidst Trade blocs:** As India is not part of any significant regional trading bloc and most major economies the world over are forging bilateral or regional trade pacts with other countries, it is important for India to sign similar agreements, so that it does not lose out on preferential market share and weaken its export competitiveness.
4. **Positive Signal to world:** It is the first trade agreement signed by India with a developed economy after more than a decade. India is hopeful that the FTA with Australia will give a positive signal to other developed countries such as the UK, Canada and the EU, who are already on the negotiating table for similar pacts with India.
5. **Negative List Approach:** IAECTA is India's first agreement where a mixed scheduling approach is adopted for scheduling sector-specific commitments in services, with the possibility of complete transition to a negative list approach. This will be the first time that India will follow a negative list approach.

India's interest with respect to Agriculture and Dairy sector:

- Indian farmers' union have consistently opposed the government's plans to open the dairy sector for foreign dairy majors.
- This was also evident in the opposition to the RCEP [Regional Comprehensive Economic Partnership] deal which also wanted to allow dairy imports into India.
- As many small farmers are dependent on dairy work, opening the sector to foreign countries like Australia is considered as against the interest of millions of farmers and dairy workers.

ECTA and India's agriculture and dairy sector:

- While tariffs on items such as wool, sheep meat, coal, alumina, metallic ores, and critical minerals will be immediately reduced to zero, on other products such as avocados, onions, cherries, shelled pistachios, macadamias, cashews in-shell, blueberries, raspberries, blackberries and currants, tariffs will be eliminated over the next few years.
- In this context, the deal has managed to completely shield its dairy sector from any tariff reduction under the FTA while also excluding most sensitive agriculture items such as chickpeas, walnut, pistachio nut, wheat, rice, bajra, apple, sunflowers seed oil and sugar.

- India has other items in the exclusion list, where no concessions have been extended, include silver, platinum, jewellery, iron ore, and most medical devices.
- This shows that Indian diplomacy has been fairly successful in safeguarding Indian interests in agriculture and dairy sector.

Conclusion

A strong bilateral cooperation is needed for any trilateral, minilateral cooperative framework to work successfully. Given how India and Australia are actively engaging in these formats as seen with the Quad, the India–Australia–US and Japan–Australia–India trilaterals, the need of the hour for India and Australia is to make this economic pact advantageous to both.

Value Addition and Facts/Figures

- In 2020, the total goods and services trade between India and Australia was about \$18 billion. India is the 6th largest export partner and 11th largest import partner as of 2020 and some of the major items of export from India to Australia include refined petroleum, telecommunications and information and communication technology services, business services while the top import items from Australia include coal and education services.
- Agreements following the negative list approach list those sectors in the schedule of reservations, which are kept out of the scope of the agreement. These reservations are for existing non-conforming measures and future measures, which may apply to certain sectors in future or ex-post.
- Compared to it, the positive list approach, by listing only those sectors in which trade commitments are made, give the nations the right to impose trade barriers or regulatory restrictions over all the sectors, which are not included in the list.

India's recent FTA talks:

- The Comprehensive Economic Partnership Agreement (CEPA) between India and the United Arab Emirates (UAE) was formally unveiled at a press conference held on March 28, 2022. The Agreement is expected to enter into force on May 1, 2022.
- On April 22, Prime Minister Narendra Modi and his British counterpart Boris Johnson agreed that the two countries would expand their defense ties and work on finalizing the India-UK FTA by the end of the year.
- India and the EU restarted their FTA negotiations in goods and services in early 2021 after a gap of eight years. The two regions aim to work out pacts in investments and geographic indications parallel to FTA engagement.
- India-Israel trade talks ongoing, 2022 target for deal where the two countries are reportedly engaged in FTA talks and want to sign a deal by mid-2022 as the year marks 30 years of India-Israel formal diplomatic ties. Total merchandise trade between India and Israel amounted to US\$4.67 billion in FY 2020-21.

8. The BIMSTEC platform offers tremendous opportunities for regional security and economic prosperity in South Asia. Do you agree? What are the key challenges in tapping the true potential of BIMSTEC? Discuss. (250 Words)

Approach:

Answer should contain the following parts:

- Introduction – Make a brief introduction to BIMSTEC and contextualise the recently held summit in Colombo.
- Body – Mention the opportunities for regional security first and then follow up with economic cooperation potential.
- Highlight the hurdles that the group faces in realising its true potential.
- Conclusion – Summarise with mentioning SAARC and contextualise in the present global order the need for BIMSTEC

Key words

- Colombo Summit
- BIMSTEC charter
- Terrorism & Radicalisation
- Maritime security
- Intra-trade

Related concepts

- SAARC
- ASEAN
- Act East Policy

Introduction

Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a sub-regional organization that promotes economic development and cooperation among the member states.

- BIMSTEC's prime assets are the historical and cultural links between South and Southeast Asia and the spirit of community.
- It has a total of seven member countries- five from South Asia, including Bangladesh, Bhutan, India, Nepal, and Sri Lanka, and two from Southeast Asia, including Myanmar and Thailand.

Recently its 5th summit was held in Colombo which led to the **signing of the BIMSTEC Charter** which formalises the grouping into an organisation comprised of member states that are coastal and dependent on the Bay of Bengal.

Body

In the recently held 5th summit the Indian Prime minister said that the BIMSTEC grouping needs to give adequate priority to regional security to ensure prosperity in the backdrop of the developments in Ukraine. He further noted that it is impossible to ensure the prosperity or development of the region without security.

Opportunities for Regional Security and Economic Prosperity in South Asia

- **Terrorism:** The South Asia is a hotbed for terrorist activities. All the BIMSTEC nations have faced terrorist attacks in recent past such as the Easter bombings by ISIS in

Srilanka. This threat of terrorism in the region can be better handled through a regional security cooperative framework under the BIMSTEC umbrella which can include an anti-terror platform.

- **Radicalisation:** Terrorism has come to be increasingly linked with radicalisation as digital tools have been used for propaganda as seen in the youths joining ISIS in large numbers. In this context, a best practices model and information sharing can reduce radicalisation and future terrorist attacks.
- **Maritime security:** A strong regional maritime framework from BIMSTEC can provide security from piracy, and transnational crimes and further ensure a rule-based order in the Indo-Pacific region which is under threat from China.
- **Transnational crimes:** Transnational crime can be an agenda to focus on given the common concern on the proliferation of crimes such as human trafficking, drug abuse, cyber threats, climate change, arms smuggling, terror financing and money laundering in the Bay of Bengal region.
- **Disaster Management:** BIMSTEC countries are among the most vulnerable to climate change this is visible in an increased rate of clones, floods and heatwaves in the region. Thus, member states should pool their resources and capabilities to deal with natural disasters.
- **India as Net Security Provider:** Given the asymmetry (in size, power & status) between India and other member countries, along with growing Chinese presence in the region, the platform provides opportunity for India to be a net security provider in the region aligned with its SAGAR vision. India being a responsible power thus ensures the balance of power in the region & provide the needed stability for prosperity.

Therefore regional security can help the region to leverage the economic opportunities which are as follows :

- **Huge Market:** The BIMSTEC region hosts 22% of the world population, that's 1.68 billion people; and the member states have a combined GDP of US\$3.697 trillion/per year. This provides member nations market for its growth in manufacturing and exporting service professionals.
- **Intra-trade:** Intra-regional trade in BIMSTEC is around \$70 bn. That constitutes only 7% of the total global trade of its member-countries. Hence, there is a huge scope for increasing trade amongst the member countries.
 - The members recently adopted the Master Plan for Transport Connectivity applicable for 2018-2028. This will increase the internal trade between members. This kind of trade was helpful for blocs such as ASEAN and European Union to become prosperous nations.
- **Oil resource:** The majority of the BIMSTEC nations are dependent upon crude oil and natural gas for development. The oceanic region being rich in reserves can be used by member nations for reducing import bills and being self-dependent.
- **Fish resources:** BIMSTEC is an important fishing region with an annual fish catch of around six million tonnes, constituting 7% of the world's catch and valued at around U.S.\$4 billion. This potential can be further enhanced with deep trawling and sharing of technology among the member nations.
- Approximately 185 million people are dependent on the natural resources provided by the Bay of Bengal . The fishermen population alone is estimated to be around 3.7

million. Thus the cooperation among members can alleviate millions out of poverty with better integration into a trade bloc.

Key Challenges in tapping the true potential of the Group

- **Bilateral Issues:** A strong BIMSTEC presupposes cordial and tension-free bilateral relations among all its member-states. This has not been the case, given the trajectory of India-Nepal, India-Sri Lanka, and Bangladesh-Myanmar ties in recent years.
- **Uncertainties over SAARC:** Both Kathmandu and Colombo want the SAARC summit revived, even as they cooperate within BIMSTEC, with diluted zeal. This obstructs the achievement of the true potential of the BIMSTEC forum.
- **China's increasing footprint in the subcontinent:** China's decisive intrusion in the South-Southeast Asian space has cast dark shadows on the cohesiveness of the grouping on issues like trade pacts, investments & security.
- **Rohingya Refugee Crisis:** The military coup in Myanmar, brutal crackdown of protesters and continuation of popular resistance have produced a new set of challenges.
- **The untapped potential of Business cooperation:** It lacks an effort to enthuse and engage the vibrant business communities of these seven countries, and expand their dialogue, interactions and transactions.
- **Poor implementation of FTA:** BIMSTEC Free Trade Area Framework Agreement, signed in 2004, are yet to bear fruit. In contrast, much has been achieved in Humanitarian Assistance and Disaster Relief and security, including counterterrorism, cyber security, and coastal security cooperation.
- **Role of BCIM:** The formation of another sub-regional initiative, the Bangladesh-China-India-Myanmar (BCIM) Forum, with the proactive membership of China, has created more doubts about the exclusive potential of BIMSTEC.

Conclusion

BIMSTEC in recent times has become an alternative to the SAARC for cooperation among South Asian nations. Further with the increasing global turmoil, the threat of terrorism and maritime security due to China's hegemonic ambitions, it's time for BIMSTEC nations to focus on the security of the region which will be of prime importance for the developing economies of the region.

9. What are your views on India's emphasis on equity at all scales in climate action and sustainable development in the UN regime? Substantiate your views. (250 Words)

Approach

Answer should contain the following parts:

- Introduction – Define climate equity and contextualise to latest report by IPCC
- Body – in brief paragraph write about why India places equity at centre of climate discussion.
- Write various reasons for the need of equity in climate change and sustainable development.
- Mention suggestions given by India in COP 26 summit at Glasgow and after that.
- Conclusion – Summarise the need for climate equity with favouring Indian stand of equity

Key words

- Sixth Assessment Report (AR6)
- Historical Responsibility
- Restricted Flow of Funds
- Sustainable lifestyle practices
- Clear pathway for Net Zero Target
- Shift the focus from mitigation to adaptation

Related concepts

- [Glasgow Summit](#)
- India's Climate Leadership

Introduction

Climate equity is a concept that addresses the just division, fair sharing, and equitable distribution of the benefits and burdens of climate change and the responsibilities to deal with climate change.

The recently released Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) underlines India's emphasis on equity at all scales in climate action and sustainable development.

Body

India's argument of equity on all scales is based on the **principle of climate justice** which is at heart of the climate change negotiations. It points to the fact of uneven contributions of developed and developing nations in the present global warming and climate change. This is India's view there is a necessity for public finance for developing countries and the need for scale, scope and speed in climate finance.

Need for Equity at all Scales

- **Historical Responsibility:** Since 1751, over 1.6 trillion tonnes of CO₂ have been emitted. The United States has emitted 400 billion tonnes of CO₂, a quarter of the cumulative global total. India, the target of the rich world, to cut its carbon emissions,

has emitted only 48 billion tonnes of CO₂ since 1751 just 3 per cent of the cumulative global total. Thus the rich nations need to take historical responsibility.

- **Restricted Flow of Funds:** As per the two UNFCCC's Biennial Assessment of Finance (2018), the actual flow of funds from the developed to developing countries amounts to only 38 billion dollars that too after the relaxed criteria adopted by the UNFCCC.
- **Social and Economic transformation required for climate mitigation:** Developing nations are still to bring the majority of their population out of poverty. Further, these nations depend upon agriculture and fisheries which are climate-sensitive and therefore will need better support for transformation than the developed nations which have already attained food security and lowered their dependency on agriculture.
- **Manage the negative consequences of climate mitigation on vulnerable populations:** Climate change will disproportionately affect the poor and vulnerable populations in developing and least developed nations. For example, Bangladesh might lose 1/3 of the land to sea-level rise. Thus the developing nations have more to lose and therefore the developed nations need to contribute more.
- **Enable just transition towards low-emissions development:** Developed nations have transitioned their economies from coal-based to gas-based which is less harmful to the climate. For example, Britain closed one of its last coal mines. Developing nations are still transitioning and this will require technological and financial support. Owing to the use of the historical carbon budget by the developing nations they should transfer the technology needed and appropriate finances.
- **Ensure sustainable development:** Developed nations are far ahead in per capita income as well as in the human development index. Developing nations will need to scale up their energy consumption to attain the same level of per capita income. This is possible only with sustainable development as climate change will increase the burden on developing nations. Therefore the developed nations need to contribute not only to climate initiatives but also to sustainable development goals for equity.
- **Equal Opportunities:** The richest countries of the world are home to half the world population, and emit 86 per cent of its CO₂. To increase the global income and per capita income of the poorest, there is a need to limit climate change, which will require emissions of high-income lifestyles to be curbed.

Suggestions Made by India to attain Climate equity

- Developed nations need to follow the **sustainable lifestyle practices** as followed in developing nations and reduce per capita carbon emissions. This will liberate the space for the poorest nations to develop sustainably without affecting the climate.
- Developed nations should adhere to the promises made in the Paris climate summit to **deliver 100 billion dollars** annually to developing nations. Further, this funding should be transparent and should be based on consensus-based accounting mechanisms and should not include private funding.
- Developed nations should **transfer the technology** needed to transition to sustainable development without putting extra conditions such as patents and other intellectual property restrictions. This would make the transition faster and swift which will help attain the target of a 1.5-degree reduction.
- Developed nations in past have failed to adhere to targets agreed in the Kyoto protocol while developing nations have attained the voluntary targets announced in

the Copenhagen summit. Thus the developed nations need to **announce a clear pathway to attain the Net-zero targets.**

- Climate change should not be seen only in the terms of rising temperatures and sea level but the focus should be on the vulnerable communities and low lying nations which are on verge of submergence. For this, there is a need to **shift the focus from mitigation to adaptation** which has received less funding from the developed nations.
- Common but Differentiated Responsibilities(CBDR) should be the basis of future climate goals. The developed nations should not force lesser developed nations to adopt the goals such as a net-zero target by 2050. In this respect, India supports different net-zero targets by developing countries. For Example, India has adopted 2070 as a timeline for the net-zero targets.
- Sustainable Development should be the basis on which all future development programs of the world bank, the United Nations and other world bodies should work. Further, there needs to be an accountability mechanism to adhere to these targets.

Conclusion

Climate change poses the greatest threat to those least responsible for it, generally people that are already vulnerable to deep-rooted challenges such as poverty. Conversely, those who have contributed the most to climate change have a much better capacity to protect themselves from its impacts. Therefore, India's emphasis on climate equity at all scales is justified and should be adhered to in future for sustainable development.

Value Additions and Facts/Figures

India's leadership in Climate Change Initiatives

International Solar Alliance

- Launched by India at Paris Summit, 2015 along with the President of France.
- The ISA is an intergovernmental treaty-based organisation with a global mandate to catalyse solar growth by helping to reduce the cost of financing and technology.
- With the amendment of its Framework Agreement in 2020, all *member* states of UN are now eligible to join ISA (earlier only countries between tropics were eligible)
- ISA is the nodal agency for implementing One Sun One World One Grid (OSOWOG), which seeks to transfer solar power generated in one region to feed the electricity demands of others.
- The Headquarters is in Gurugram, India.
- The Alliance has a 24x7 Solar Cyber Centre. This will give open access to all nations for advice and information on many projects and financial innovation.

Coalition for Disaster Resilient Infrastructure (CDRI)

- It is a multi-stakeholder global partnership of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and knowledge institutions.
- The Prime Minister of India launched CDRI during his speech at the UN Climate Action Summit on 23rd September 2019.

- It aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks in support of sustainable development.

Panchamrita Strategy

Prime Minister proposed following 'Panchamrita' strategy at COP26 Glasgow summit.

- India will increase its non-fossil energy capacity to 500 gigawatts by 2030.
- India will meet 50 per cent of its energy requirements, with renewable energy, till 2030.
- India will reduce carbon emission by one billion tonnes by 2030.
- India will reduce its carbon intensity by 45 per cent by 2030.
- India will achieve net zero emissions by 2070.

10. What are electoral bonds? Why have electoral bonds attracted criticism? What measures would you suggest to address the growing concerns over electoral bonds? Discuss. (250 Words)

Approach:

Answer should contain the following parts:

- Introduction – Mention what is electoral bonds and contextualise the criticism attached to them.
- Body – Write about features of electoral bonds.
- Based on the features of the scheme, mention the criticism of the scheme.
- Suggest some reforms needed to induce transparency and accountability.
- Conclusion – Link the issue of election funding to democracy and argue for revision of the scheme.

Key words

- Transparency
- Black Money
- Representation of People's act
- Right to know
- Against smaller parties

Related concepts

- Electoral Reforms
- Simultaneous elections

Introduction

Electoral bonds are an instrument that was introduced through the finance bill of 2017. These were brought to increase transparency and reduce black money in political funding.

However according to Association of Democratic Reforms, NGO that has filed case in SC challenging the scheme, the system of electoral bonds rather than bringing transparency has made the process opaquer and open to misuse.

Body

Features of Electoral Bonds

- An Electoral Bond is like a **promissory note** that may be purchased by a person who is a citizen of India or incorporated or established in India.
- A person being an individual can buy Electoral Bonds, either singly or jointly with other individuals.
- The bonds are like banknotes that are payable to the bearer on demand and are interest-free.
- As of now, only State Bank of India is authorised to issue and encash these bonds, which are valid for fifteen days from the date of issuance.
- Only the Political Parties registered under Section 29A of the Representation of the People Act (RPA), 1951 (43 of 1951) and which secured not less than one per cent of the votes polled in the last General Election to the House of the People or the Legislative Assembly of the State, shall be eligible to receive the Electoral Bonds.

Criticisms related to Electoral Bonds

- **Possibility of Money Laundering:** Since the identity of the donor has been kept anonymous, it could lead to an influx of black money. By doing away with all the safeguards that were present in Corporate donations to Political parties (through the Companies Act), Indian, foreign and even shell companies can now donate to political parties without having to inform anyone of the contribution.
- **Large Corporations and not common man is utilising this route:** Nearly 91.76% (Rs 5,624 crore) of the total number of bonds purchased during the 12 phases were in the denomination Rs 1 crore. Thus, there is the possibility of unholy nexus developing between Corporates and Political parties for favourable policies which comes at the cost of public welfare.
- **Against Smaller Regional Parties:** 80.5% of the total Electoral Bonds redeemed between March 2018 and October 2019 were encashed in New Delhi (while maximum value of bonds was purchased in Mumbai) where national parties' headquarters are located. This clearly shows that the scheme is tilted in favour of National parties.
- **New sale windows during State elections:** The government's scheme was meant for Lok Sabha elections, but the sale window for bonds had been opened before State Assembly elections repeatedly, which is beneficial for the Central ruling party.
- **Hindering Right to Know:** Voters will not know which individual, company, or organisation has funded which party, and to what extent. Before the introduction of electoral bonds, political parties had to disclose details of all its donors, who have donated more than Rs 20,000. The change infringes the citizens 'Right to Know' and makes the political class even more unaccountable.
- **Asymmetry of information:** Because the bonds are purchased through the SBI (Central PSU), the government is always in a position to know who the donor is. This asymmetry of information threatens to favour the scheme towards the political party that is ruling at the time.

- **Foreign Influence:** According to election commission the amendment to the Companies Act could lead to the infusion of black money through shell companies and make political parties vulnerable to influence by foreign companies.
- **Leading to Crony-Capitalism:** It could become a convenient channel for businesses to round-trip their cash parked in tax havens to political parties for a favour or advantage granted in return for something. Anonymous funding might lead to an infusion of black money.
- **Loopholes:** Corporate Entities may not enjoy the benefit of transparency as they might have to disclose the amount donated to the Registrar of Companies; Electoral bonds eliminate the 7.5% cap on company donations which means even loss-making companies can make unlimited donations etc.

Suggestions of Reforms to Electoral Bond Scheme

- All political parties which receive donations through electoral bonds should declare in their contributions reports the total amount of such donations received in the given financial year, along with the detailed particulars of the donors as against each bond; the amount of each such bond and the full particulars of the credit received against each bond.
- A list of all political parties eligible to receive donations through electoral bonds as per the eligibility criteria mentioned in the Electoral Bond Scheme, 2018 should be compiled and regularly updated. This list must be made available in the public domain through the websites of the ECI.
- Political parties that remain inactive over a prolonged period, do not take part in any election and continue to receive donations through electoral bonds should be de-listed by the ECI.
- The ECI should be entrusted with the responsibility to oversee that no political party is ineligible to receive donations through electoral bonds by the Electoral Bond Scheme, 2018.
- All National and Regional political parties must provide all information on the funds received through electoral bonds under the Right to Information (RTI) Act. Full details of all donors should be made available for public scrutiny under the RTI.
- Scrutiny of financial documents submitted by parties to be conducted annually by a body approved by the Comptroller and Auditor General (CAG) and the Election Commission.
- Political parties in compliance with the Central Information Commission's order dated 3rd June 2013 must be brought under the ambit of the RTI Act, 2005.

Conclusion

The electoral bonds scheme was brought to induce transparency and reduce black money however it has failed to live up to these ideals. Therefore, for inducing fairness in the election process the electoral bond scheme must be revised to remove the loopholes mentioned above for a vibrant polity based on transparency, accountability and citizens' right to know about the funding of elections.

Value Additions and Facts/Figures

Data on Electoral Bonds

- A total of 12,924 Electoral Bonds worth Rs 6534.78 cr have been sold in fifteen phases between March 2018 to January 2021.
- 92.046% or Rs 6015 cr of the total value of bonds purchased were in the denomination of Rs 1 crore indicating that these bonds are being purchased by corporates rather than individuals.
- Between FY 2017-18 & 2018-19, political parties received a total of Rs 2,760.20 cr from electoral bonds. A whopping 60.17% or Rs 1,660.89 cr of this was received by a single party which is the ruling political party.
- For the FY 2018-19, ADR analysis found that 4 National parties namely BJP, INC, NCP & AITC declared receiving a total of Rs 1960.68 cr while 7 Regional parties namely Biju Janata Dal (BJD), Telangana Rashtra Samithi (TRS), YSR-C, Shiv Sena (SHS), Telugu Desam Party (TDP), Janata Dal Secular (JDS) & Sikkim Democratic Front (SDF) received Rs 578.49 cr from donations via electoral bonds.

Expenditure in Elections in India

- Overall, expenditure in the last six Lok Sabha elections between 1998 and 2019 has seen a near six-fold jump from Rs 9,000 crore in 1998 to over Rs 55,000 crore in 2019.
- It is estimated Rs 100 crore is spent in each Lok Sabha constituency. Effectively, an approximate Rs 700 per vote was spent.

11. The United Nations (UN) has declared 2023 as 'the international year of millets'. What are the benefits of millets? Can millet cultivation be a viable solution to agrarian and nutritional challenges? Critically examine. (250 Words)

Approach:

Answer should contain the following parts:

- Introduction – In brief write what are millets and add facts on their area of production.
- Body – Mention the benefits of millets in general.
- Mention benefits of millets which will solve the agrarian problem.
- Mention benefits of millets which will solve nutritional problems.
- Write some counterarguments which are hampering millets uptake.
- Conclusion – Mention initiatives taken by India in recent times and how these are crucial for India.

Key words

- Climate Resilient & Low carbon footprint
- Biofuel & Ethanol blending
- Diversification of food crops
- Soil degradation
- Micronutrients Deficiency

Related concepts

- Organic Farming
- Evergreen Revolution

Introduction

Millet is a common term to categorise small-seeded grasses that are often termed **dryland-cereals**. Majorly cultivated in the semiarid tropical regions of Africa and Asia, around 97 per cent of the world's overall millet production happens in these regions. Recently the global community has focused on its cultivation and consumption due to its nutritional and climate-resilient qualities.

Body

Millets were one of the oldest foods known to humans. But they were discarded in favour of wheat and rice with urbanisation and industrialisation. But now they are being focused upon due to the following benefits :

- **Climate Resilience:** Millets are hardy crops, and they can withstand extreme temperatures, floods and droughts. They also help mitigate the effects of climate change through their **low carbon footprint** of 3,218-kg CO₂ equivalent per hectare, as compared to wheat and rice, with 3,968kg and 3,401kg, respectively, on the same measure.
- **Restoration of ecosystems and sustainability:** Land degradation has been a major problem in India, causing massive economic losses year after year. Drought-tolerant crops, like millets, with low dependence on chemical inputs, would put far less pressure on ecosystems.
- **Biofuel and Ethanol Blending:** A study conducted among farmers in Madhya Pradesh showed that bio-ethanol can be created using sorghum (jowar) and pearl millet (bajra) and that this fuel could bring down carbon emissions by about half. Estimates also suggest that millets can deliver greater returns than maize while using 40% less energy in processing.
- **Cultural Connection:** Millets production is part of the Indian culture and its revival will connect the new generation to the food and dietary significance of their ancestors.
- **Meet Sustainable Development Goals:** Millets can play a role in India's sustainability policy interventions. Millets help in energy optimisation, climate resilience and ecosystem restoration.

Agrarian Significance of Millets

- **Skewed Cropping Pattern:** Indian agriculture has focused mainly on wheat and rice due to the green revolution which was started in the 1960s to achieve food security. But now its production has reached saturation point and India's buffer stocks are full. Millets can lead to **diversification of food crops** which will help farmers to fetch better returns.
- **Lack of Irrigation:** Only One-third of land is irrigated in India and this increases the cost of farming for small and marginal farmers who have to invest in deep tube wells. Millets are Drought resistant and suitable for harsh, hot and dry environments. Thus it can provide farmers with an alternative to water-guzzling crops.
- **Climate Change:** Climate change is reducing crop yields due to heatwave, diseases and drought. Millets are resilient to climatic stress as they are photo insensitive and resilient to climate change.

- **Soil degradation:** Soil degradation is due to excessive use of fertilisers and water logging is affecting Indian agriculture. This is particularly widespread in Punjab and Haryana. This can be solved by the adoption of millets because the fibrous roots of millet plants help in improving soil quality, keep water run-off in check and aid soil conservation in erosion-prone areas, thereby restoring natural ecosystems.

Nutritional Significance of Millets

- **Food Security:** Millets are cheaper and nutritionally superior to cereals. This can provide food security in a country like India where more than 20 per cent live below the poverty line.
- **Micronutrients Deficiency:** According to Global Nutrition Report 2021, 17% of under five children in India are wasted and 34% are stunted. This is majorly due to micronutrients deficiency. Millets are Nutri-cereals that are highly nutritious and known to have high nutrient content which includes protein, essential fatty acids, dietary fibre, B-Vitamins and minerals such as calcium, iron, zinc, potassium and magnesium. Thus this can solve India's malnutrition problem and provide immunity against diseases.
- **Obesity:** The proportion of overweight children in India grew from 2.1 per cent in NFHS-4 to 3.4 per cent in NFHS-5. Millets help in tackling health challenges such as obesity, diabetes and lifestyle problems as they are gluten-free, have a low glycemic index and are high in dietary fibre and antioxidants.
- **Anaemia:** The prevalence of anaemia is 67% in children and 59% in women as per the NHFS-5 survey. It results mainly from iron deficiency which leads to weakness and fatigue. According to Frontiers in Nutrition' report regular consumption of millets can improve haemoglobin and serum ferritin levels to reduce iron deficiency anaemia.

Issues Hampering adoption of Millets on large-scale

- The **awareness of the benefits of millets is still low** and this is the reason for the lesser number of players working on value-added millet products in India.
- The main reasons behind its low appeal are low remuneration, lack of input subsidies and price incentives, subsidised supply of fine cereals through the public distribution system (PDS) and changes in consumer preferences and lower demand.
- In the absence of proper market linkages for forest and agricultural produce, millet consumption is restricted to rural haats, bazaars, tourist spots and festivals.
- Wheat has gluten proteins that swell and form networks on adding water to the flour, making the dough more cohesive and elastic. This quality of Wheat which millets lack is hampers its uptake in food industry.

Conclusion

Recently Indian government has increased the MSP, declared millets as Nutri-cereals and announced the year 2018 as a national year for millets. These measures are taken to promote millets production and consumption to solve agrarian and nutritional problems which India faces. This will help India to attain sustainable development goals and build better human capital for the future.

Value Additions and Facts/Figures

- India, Nigeria and China are the largest producers of millets in the world, accounting for more than 55% of the global production.
- India is the largest global producer of millets, with a 41% market share. A compound annual growth rate of 4.5% is projected for the global millet market in the coming decade.
- The three major millet crops currently growing in India are jawar (sorghum), bajra (pearl millet) and ragi (finger millet).
- Major producers include Rajasthan, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Maharashtra, Gujarat and Haryana.
- According to the Ministry of Agriculture & Farmers Welfare, in 2016 – 2017, the area under the cultivation of millet declined with 60% less coverage area (to 14.72 million hectares).

12. What do you understand by data management? What are its key components? Why robust data management practices are critical for digital governance? Explain. (250 Words)

Approach:

Answer should contain the following parts:

- Introduction – Initiate a discussion on need of data management in India.
- Body – Define in brief what does data management mean.
- Mention key components of data management with help of example
- Write how data management is important for digital governance.
- Conclusion – Summarise the answer with writing about initiatives taken by India for data management.

Key words

- Data governance
- Data architecture
- Privacy protection
- Citizen Ce-Centric
- National Cyber Security Coordinator
- Draft Data Accessibility Policy

Related concepts

- [Draft Data Accessibility Policy](#)
- B N Srikrishna Committee on data protection law.

Introduction

The increasing use of digital technologies is generating enormous amounts of data. This data needs to be utilised in an efficient way for better targeting of schemes, decision making, policy formulation and attaining critical goals like sustainable development and digitisation of the economy. This is where efficient data management practices can play a crucial role as data is the new oil in the modern digital economy.

Body

Data management is the practice of collecting, keeping, and using data securely, efficiently, and cost-effectively. The goal of data management is to help people, organisations, and connected things optimise the use of data within the bounds of policy and regulation so that they can make decisions and take actions that maximise the benefit to the organization.

Key Components of Data Management

- **Data Governance:** Data Governance provides the overarching support to data management through stewardship, policies, processes, standards, and adherence to leading practices. India has introduced a Data Protection Bill in the parliament which will provide governance architecture to data collected in India by private and government organisations.
- **Data Architecture:** Data Architecture provides the infrastructure for the storage, integration, and use of data throughout the organization. In India National Informatics Centre(NIC) and Centre for Development of Advanced Computing (CDAC) provide data architecture for the government while private institutions depend upon the cloud and private infrastructure of companies like Google and Amazon.
- **Metadata:** Metadata allows you to use data more efficiently by providing critical information about data attributes. Metadata is being used in Integrated Smart city centres in India for better governance in Urban areas.
- **Data Quality:** Data Quality provides the structure necessary to have data that fulfils the needs of the business. For example, the next census in India will be carried out digitally. To ensure data quality the census enumerators are trained in various workshops before going into the field.
- **Data Lifecycle:** The Data Lifecycle follows the data throughout the organisation, providing integrity from the initial introduction into the organisation through the final deletion from the organisation. This end to end management of data is followed by the Unique Identification Authority of India(UIDAI) regarding the Aadhar data collected from the residents of India.
- **Analytics:** Analytics applies statistical and visualisation techniques that lead to valuable insights that can help the organisation make better decisions. NITI Aayog in India utilises data for better insights for example the data on Sustainable goals helps to rank states on their progress and show where they lack.
- **Data Privacy:** Data Privacy supports the needs of the business to share data internally and externally and protect citizens' privacy. Data privacy is a fundamental aspect of governance and the Supreme Court in K.S Puttaswamy case has said that privacy is a fundamental right.

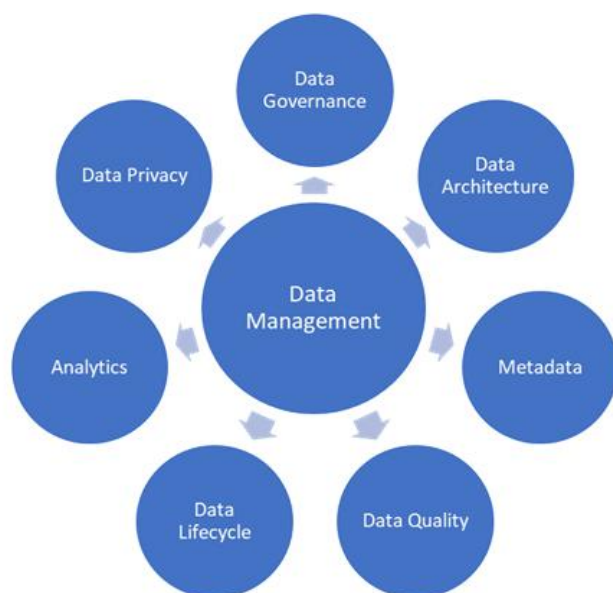


Fig: Components of Data Management

Importance of Data Management for Digital Governance

- **Improve Citizen experience:** Data Management helps to deliver services proactively, with new data automatically triggering a response where required. For example, Estonia has this functionality where the registration of a newborn child automatically leads to the provision of childcare benefits, with data from the tax registry determining how much money should be transferred to which bank account.
- **Increase administrative efficiency:** Robust data management would allow governments to streamline backend data, reducing friction and cutting clearing times. In Germany, fully interoperable and connected government data were estimated to produce a 60 per cent reduction in case-processing time for key public services.
- **Enable data-driven policy making:** High-quality and available data have a positive impact on policy making. In Denmark, for example, the government uses geodata to simulate flooding scenarios, enabling both better crisis management and improved long-term-investment decisions.
- **Enhance data protection and privacy:** Modern data management, enables privacy by design. Structured and secure data exchanges reduce the number of people in contact with data and the risk of leaks. Citizens can benefit from more transparency and active management of consent.
- **Reduce fraud, waste, and abuse:** In the United States, agencies across the government made an estimated \$175 billion in improper payments in 2019. Better data management can help mitigate loss risk by reducing errors from manual inputs and inconsistent data across registers and by enabling governments to leverage analytics tools that identify fraud.
- **Improves decision making:** In today's date, data is the most powerful asset any business or government can have. Data management helps make sounder decisions, policy enhancement, behavioural change, and citizen-centric governance.
- **Reduction in loss of data:** If there is a secure gateway to the data to be accessed, it will ultimately reduce the risks of data leaks or any kind of data loss. Relying on safe

and trusted sources helps in the reduction of data loss. For example, yearly malware and ransomware attacks lead to the loss of 1.25 lakh cores according to the National Cyber Security Coordinator of India.

Conclusion

The amount of data generated by the 1.3 billion population of India is huge and this data can be leveraged for better decisions, policymaking, planning, and disaster reduction. In this context, the government of India has formulated a [Draft Data Accessibility Policy](#) which will make public data interoperable and accessible to the private sector for improving the data governance which is the aim of the Digital India Mission.

13. What is One Nation One Ration Card (ON-ORC) scheme? What are its potential benefits? Examine. What is the current stage of the scheme? Discuss. (250 Words)

Approach:

Answer should contain the following parts:

- Introduction – Link Migration in India with the need for ONORC in the introduction.
- Body – Enlist the features of the ONORC scheme.
- Mention possible benefits of ONORC covering different dimensions.
- Write the present status of the scheme with help of data.
- Then mention some issues with the implementation of the scheme to show its status in totality.
- Conclusion – Conclude with the reforms needed from here to achieve the right to food for every citizen.

Key words

- Portability of food security benefits
- National Food Security Act
- IM-PDS and Annavitran portal
- Prevent Duplication and Double Benefits
- Nutritional security
- Exclusion error

Related concepts

- One Nation One Grid
- One Nation One Election

Introduction

In India, migration is mainly seasonal and circular in nature, and not of permanent type. Almost a third of the Indians are internal migrants. Therefore, the One Nation One Ration Card(ONORC) scheme is aimed at enabling migrant workers and their family members to buy subsidised rations from any fair price shop anywhere in the country under the National Food Security Act, 2013 (NFSA).

Body

The demand for an effective and fast rollout of ONORC grew stronger when the plight of migrant and informal workers became visible after the sudden announcement of a national

lockdown on the evening of March 24, 2020. Before the ONORC came into existence, ration card holders could access their entitlements only at a Fair Price Shop (FPS) or ration shop, where they were registered.

Features of One Nation One Ration Card(ONORC)

- The scheme seeks to provide **portability of food security benefits** all across the nation. Families who have food security cards can buy subsidised food from any ration shop in the country.
- For instance, a migrant worker from, say, Basti district of Uttar Pradesh will be able to access PDS benefits in Mumbai, where he or she may have gone in search of work.
- While the person can buy food grains as per his or her entitlement under the NFSA at the place where he or she is based, members of his or her family can still go to their ration dealer back home.
- Existing ration cards will be turned into one nation one ration card and it should be linked with an Aadhar Number to avail of this service.
- It was started in mid-2019 by the Ministry of Consumer Affairs, Food and Public Distribution with a pilot project in 4 states and was supposed to be rolled out across the country by June 2020 but got delayed due to the Pandemic.
- The national portability will work using the:
 - **Integrated Management of Public Distribution System (IM-PDS) portal** – It will provide the technological platform for the ration cards' portability.
 - **Annavitran portal** – It will host the data of the food grains distribution through ePoS devices within a state. This will help a beneficiary access subsidised food grains within a state (inter-district.)

Potential Benefits of One Nation One Ration Card Scheme

- **Supporting One-Third of Population:** Nearly, 37% of the population is migrant labourers. Thus the scheme will support migrants and achieve food security.
- **Provides Agency:** It provides a choice to the poor and migrant workers to avail of food grains from the fair price shop of their choice which is an empowering change for the marginalised sections.
- **Prevent Duplication and Double Benefits:** It will help in reducing the number of dual ration cardholders across different states. This will also decrease the food subsidy required and thus help in achieving fiscal prudence.
- **Help in understanding migration patterns:** The centralised FRP shop data may be used to formulate policies on intra- and inter-state migration. Further, it can be linked to e Shram portal in future to link all the benefits to unorganised workers.
- **Better efficiency of Food Distribution Schemes:** As per the reply to an RTI, over 40,000 tonnes of food grains, including wheat and rice, have rotted in the last six years. With ONORC those left out due to migration can take that food.
- **Less Corruption and Exploitation:** There is rampant corruption and exploitation for getting BPL cards by migrants in other states. It will reduce such exploitation and discrimination faced by migrants.
- **Reduce Social Discrimination:** It will reduce the role of social identities like caste, class and gender and power relations in availing the PDS facility by women and other disadvantaged classes.

- **Help towards fulfilling the SDG 2 target of ending hunger by 2030:** In the 2021 Global Hunger Index, India ranks 101st out of the 116 countries. ONORC will help to reduce malnutrition in women and children across the nation.
- **Nutritional Security:** With cheap food grain available to migrants, there are chances of more expenditure towards fruits and vegetables which will help in decreasing the prospects of hidden hunger linked to micronutrient deficiency.
- **Social Mobility:** Migrants spent a huge amount of money on daily food needs. This hinders their savings capacity. The assured food to the poorest section will help them achieve mobility across the social ladder.

Current Status of the Scheme

- To date, 35 states and Union Territories have joined the ONORC, covering about 69 crore NFSA beneficiaries.
- According to the Dalberg report, most households are aware of portability and their right to rations from any FPS, awareness of inter-state portability, (most applicable to the migrant workforce), is at 58%.
- Three states which are Assam, Delhi and West Bengal are yet to join the scheme.
- According to the Union Ministry of Consumer Affairs, Food and Public Distribution, about 1.35 crore portability transactions every month are being recorded under ONORC on an average.
- While inter-state ration card portability is available in 35 states, the number of such transactions is much lower than that of intra-district and inter-district transactions.

Issues Being faced by ONORC Scheme

- **Technological Issue:** Technology failures at Fair price shops due to lack of connectivity and fear of stockouts are the top reasons for denial of service as per the Dalberg report.
- **Lack of Awareness:** Despite government directives stating that rations cannot be denied due to failures occurring on account of technology, most PDS dealers were either unaware or unwilling to use any exception handling mechanism to issue rations in such situations.
- **Federalism:** Many states are not convinced about a “one size fits all” regime. This is because States have customised the PDS through higher subsidies, higher entitlement limits, and supply of additional items.
- **Discrimination:** The Dalberg report also reports that marginalised women including widows, divorced and destitute found it most difficult to access their rations in the ONORC scheme.
- **Exclusion Error:** Once the PDS processes have been digitised through smart cards and Aadhar linking then leakages could be reduced, but there have been exclusion errors post Aadhar linking as of late.

Conclusion

The ONORC scheme is not only timely, but is also necessary to overcome the ravages of the pandemic in a sustainable manner. However, better digital linkages, increase awareness and

supply management can help the scheme attain the goal of inclusive growth. This will help in achieving the Right to Food goal which is a right of every citizen.

Value Additions and Facts/Figures

One Nation, One Gas Grid

The Indian Power system for planning and operational purposes is divided into five regional grids. One Nation, One Gas Grid refers to the integration of these regional grids thus establishing a National Grid for providing energy produced by natural gas to various stakeholders like the central government, the state governments, the public and the private sectors.

Benefits of One Nation One Grid

- **Connecting the nation:** With one nation and one gas grid, the energy produced from natural gas will be supplied to the whole country via a single source.
- **Helps Accelerate Rapid Expansion:** In the 27 years before 2014, only a 15,000 km natural gas pipeline was built. But currently work is underway on more than 16,000 km of gas pipeline nationwide which will be complete in the next 5-6 years
- **Addresses regional imbalance:** It will help in improving the regional imbalance of gas availability as currently the natural gas is only in limited pockets of the country.
- **Gas Based Economy:** The grid will be step towards gas-based economy by increasing the share of natural gas in India's primary energy mix from 6.2 percent to 15 percent by 2030.
- **Cleaner environment:** In times when conventional Sources are depleting and mining is being extended to a greater depth and area, natural gas can prove to be a boon by preventing deforestation and desertification.
- **Helps achieve Paris Climate Goal:** India has committed the COP21 Paris Convention in December 2015 that by 2030, it would reduce carbon emission by 33% of 2005 levels. Natural gas, as domestic kitchen fuel, as fuel for the transport sector as well as a fuel for industries and commercial units, can play a significant role in reducing carbon emissions.

14. Explain your understanding of 'care economy'? Why is it important to talk about it? Examine the need for government intervention for care economy. (250 Words)

Approach:

Answer should contain the following parts:

- Introduction – Define the Care economy in brief and add a fact to show the importance of the issue involved.
- Body – Write different pointers to clarify what is meant by care economy.
- Mention the need to talk about the care economy in the present context.
- Write why government intervention is necessary for recognition and investment in the care economy.
- Conclusion – Summarise the information already presented with the promise of a better future if issues plaguing the care economy are addressed.

Key words

- Child care
- Elderly care
- Demographic Transition
- Labour Force Participation.
- Feminisation of Poverty
- National Income

Related concepts

- One Nation One Grid
- One Nation One Election

Introduction

The care economy consists of paid and unpaid labour and services that support caregiving in all its forms. It remains an integral but undervalued component of economies all over the world. India's first Pan India time use survey was released in 2020 showing that the majority of the caregiving responsibilities are done by women i.e 81.1% as compared to men 26.1%.

Body

Meaning of Care Economy

- The International Labour Organisation (ILO) broadly defines care work as “consisting of activities and relations involved in meeting the physical, psychological and emotional needs of adults and children, old and young, frail and able-bodied”.
- More specifically, it involves child care, elder care, education, healthcare, and personal social and domestic services that are provided in both paid and unpaid forms and within formal and informal sectors.

Care work across the world remains characterised by a void of benefits and protections, low wages or non-compensation, and exposure to physical, mental and, in some cases, sexual harm. The idea of a care economy was developed from the experiences of women, their role as consumers and as unpaid labour at home.

Need to talk about Care Economy

- **Need to be Recognised** : Much of the care work continues to be performed for no pay, by families and friends, at home, and in communities. This unpaid care work is not included in the national income.
- **Cater to Demographic transition**: The care work sector employs a large proportion of India's population, especially women, but given that soon India will become an ageing country, the requirement for care workers, especially personal, domestic and health care workers will increase drastically. However, India spends less than 1% of the GDP on care work infrastructure and services.
- **Increase Women labour force participation** : Most of the jobs created in the care economy will benefit the women job seekers. This will in turn help increase female labour force participation and advance Sustainable Development Goals.
- **Urbanisation**- Urbanisation is changing the traditional joint-family structure to nuclear, single-parent, and transnational households, alienating them from community care bonds. This change in development pattern will need more caregiving workers in urban areas in future.
- **Climate change**: Climate change has caused water scarcity and rural food distress which affects the development of children, women and the elderly, especially in rural areas. This will need investment in healthcare, Anganwadi workers and education.
- **Gender inequalities**: The care work is seen as a female responsibility and for the same job females are paid less compared to males. This restricts women to household domains or low pay work which leads to the **feminisation of poverty**.
- **Lack of legislation**: There is almost always a deficit in the supply of quality paid care workers because of numerous factors that include low salaries, lack of benefits, long working hours, and job security issues.

Need for Government to Intervene in Care Economy

- **Investment**: Care economy needs investment for better pay and employment opportunities. Here the role of government is critical as it can make budgetary allocations and also mobilise the private sector to invest in the care economy. For example, the Indian government has increased the pay of health care workers in pandemics and provided health insurance under the Ayushman Bharat scheme to the poorest section.
- **Economic growth**: Care economy also helps in stoking gender-inclusive economic growth. Women's unpaid work is valued at 3.1% of GDP in India. Recognising AWWs, ANMs, ASHAs and domestic help (amongst others), as formal sector workers would allow their economic contribution to be counted in the GDP.
- **Improved Productivity**: Workplaces that provide time, income security and space for undertaking care services such as breastfeeding, enable positive nutrition and health outcomes improving the productivity of workers.
- **Strengthens the Right to life**: Government intervention in Care services will also deliver the benefits of child development, ageing in dignity and emotional & psychological stability in one's life.
- **Regulations**: A national government with its policies rules and regulations can direct the whole economy to recognise and give the dignity to care work. For example, it can

make regulations for investment in social sectors which cater to care work. This can reduce the burden on women.

- **Reduce Inequality:** The market economy has failed to reduce the inequality between men and women in terms of paid work. Further, it has also failed to recognise the value of unpaid work. Thus here the intervention of government is needed to attain the constitutional principles of the Right to Equality.
- **Climate Change and Urbanisation:** Climate change and urbanisation will greatly increase the need for care work and therefore there is a need for a strategy to handle this impending crisis.

Conclusion

Care work has been long neglected and unrecognised and therefore time has come to recognise its due for a healthy, inclusive and progressive economy. This will need higher investment from the government and private sector and attitudinal change in the way national income is calculated. This is necessary for attaining sustainable development goals as well as making the economy future-ready for climate change and demographic transition.

Value Additions and Facts/Figures

Idea of Wages for House Work

- Kamal Haasan had announced through his political party Makkal Neethi Manram's political promise that he was in favour of paying women for household chores.
- Congress had pledged Rs 2,000 for homemakers each month in both Assam and Kerala during the state elections campaign.
- The Supreme Court in 2021 directed an insurance company to pay a higher claim amount by taking into account the unpaid work performed by a deceased homemaker.
- In 2007, Sweden, which ranks top on the European Union's Gender Equality Index, introduced subsidies to domestic chores (cleaning, laundry and ironing). Thirteen years later, studies indicate that those who opted for subsidies reported more hours of earned income (around \$2000 more annually than those in the same bracket who did not avail of the subsidies).