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1. BAN ON SINGLE USE PLASTICS

INTRODUCTION:

Plastic is a miraculous material and one of the biggest breakthroughs made by man. Plastic has transformed the human lives in many ways. However, In due course of time Plastic, especially single use plastic has emerged as a major cause of environmental pollution.

Plastic is non-biodegradable substance and thus the plastic material remains in the environment for hundreds of years polluting it immensely. Warned by the potential threats plastic can inflict to the environment, it has become very essential to ban single use plastic before it ruins our mother earth.

CONTEXT:

- In June 2018, Prime Minister announced that India would eliminate single-use plastics by 2022.
- Taking a cue from the Prime Minister's clarion call in his Independence Day speech to eliminate single use plastic in the country from 2 October, 2019, Indian Railways has risen to the occasion to shield the environment from the menace of plastic.
- Ministry of Railways has directed all Railway units to enforce ban on single use plastic material, with less than 50 micron thickness from 2 October, 2019.
- Ministry of Defence also organized a massive programme at more than 400 locations throughout the country as part Swachhta Pakhwada against single use plastic.

What are single use plastics?

- ❖ According to the United Nations Environment Programme: "Single-use plastics, often also referred to as disposable plastics, are commonly used for plastic packaging, and include, items intended to be used only once before, they are thrown away or recycled. These include, among other items, grocery bags, food packaging, bottles, straws, containers, cups and cutlery."
- ❖ However, there is no central and comprehensive definition for single-use plastic globally and various governments currently use their own definitions.

BAN ON SINGLE USE PLASTICS - THE NEED FOR SUCH MOVE:

There are numerous reasons why the government of various countries has come up with strict measures to limit the use of plastic bags and single use plastics:

Environmental factors:

- While it is still unclear, some studies suggest that plastic bags and Styrofoam containers can take up to thousands of years to decompose, contaminating soil and water, and posing significant ingestion, choking and entanglement hazards to wildlife on land and in the ocean.
- Due to their light weight and balloon-shaped design, plastic bags are easily blown in the air, eventually ending up on land and in the ocean.

Health and social factors:

- Styrofoam items contain toxic chemicals such as styrene and benzene. Both are considered carcinogenic and can lead to additional health complications, including adverse effects on the nervous, respiratory and reproductive systems, and possibly on the kidneys and liver.
- Several studies have shown that the toxins in Styrofoam containers can transfer to food and drinks, and this risk seems to be accentuated when people reheat the food while still in the container.
- In low-income regions, domestic waste – including plastics – is often burnt for heating and/or cooking purposes, exposing largely women and children to prolonged toxic emissions.

- Illegal disposal practices of plastics often take the form of open burning, accentuating the release of toxic gases that include furans and dioxins.
- Research has shown that in developed as well as in developing countries, littering of plastic bags and Styrofoam containers can lead to perceived 'welfare losses'

Economic factors:

- Stranded single-use plastics create visual pollution and are increasingly becoming a priority especially in countries that rely heavily on tourism as a major source of GDP, such as Small Island Developing States.

For instance, Asia-Pacific Economic Cooperation (APEC) estimated a \$1.3 billion economic impact of marine plastics to the tourism, fishing and shipping industries in that region alone.

- Styrofoam products present challenging recovery dynamics, making recycling – although technically possible – often financially unviable.

For instance, Styrofoam usually can't be recycled locally but must instead be transported to a centralized plant.

- Because of the porosity of foamed plastic products, cleaning such products, which are often contaminated with food or drinks, is difficult and energy-intensive, further increasing the cost of recycling.

Other reasons for the need to ban:

- Plastic Waste is polluting the land and water immensely.
- Plastic Waste leads to the clogged drainage problem.
- Plastic Waste is having a negative impact on human health.
- Chemicals released by plastic Waste enter the soil and make it infertile
- Plastic Waste has become a threat to the life of animals living on earth as well as in water.

STEPS TAKEN SO FAR:

India Level efforts:

- Govt. of India has laid great emphasis on eradicating single use plastic which has become one of the biggest sources of pollution.
- The Government of India has held off imposing a blanket ban on single-use plastics to combat pollution. The plan was part of a broader campaign to rid India of single-use plastics by 2022.
- Instead of direct blanket ban government tried to curb the use of plastic bags, cups, plates, small bottles, straws and certain types of sachets.
- Apart from this, Government of India has asked states to enforce existing rules against storing, manufacturing and using some single-use plastic products such as polythene bags and Styrofoam etc.

Do You Know These Facts?

- ❖ A staggering 5 trillion single-use plastic bags are used annually around the globe—and each bag takes 1,000 years to decompose.
- ❖ Each bag contributes to the 400 million tons of plastic produced every year. About 2.5 million plastic water bottles are trashed hourly.
- ❖ Over 8 million tons of plastic enter the ocean annually with single-use plastic bottles accounting for 1.5 million tons of ocean waste.
- ❖ Our harmful plastic habits must change or there will be 12 billion metric tons of plastic litter on Earth by 2050.
- ❖ The good news: governments in at least 32 countries have banned plastic bags altogether and at least 127 countries have implemented policies regulating plastic bags according to the United Nations.

Yoksam village – Sikkim successful story

- ❖ Sikkim's battle against plastics started way back in 1998 when it became the first state of India to ban disposable plastic bags through legislation. Interestingly, the inspiration for the state-wide ban on plastics came from a tiny village named –Yuksom.
- ❖ In 1996, Yuksom became the first village in Sikkim, and probably in India also, to ban the use of plastics like bags and bottles. Two years later, the Sikkim government also announced a state-wide ban on plastic bags through legislation on June 4, 1998.

- Keeping in view of negative impact on the industry, there was a conscious decision within the government not to hit businesses hard for now and discourage the use of plastic only on a voluntary basis.

International efforts to ban single use plastic:

- About 112 countries, states and cities around the world have already imposed bans on various single-use plastic goods.
- Most of these bans target thin single-use plastic carrier bags or imports of non-biodegradable bags. Some, such as the one in Antigua-Barbuda, include other single-use or problematic items, such as foam coolers and plastic utensils.
- **Kenya's plastic bag law** — impose stiff punishments on violators, including jail time and fines of up to \$38,000.

CONVENTIONS RELATED TO PLASTIC WASTE

- ❖ **Basel Convention:** on Controlling trans-boundary movements of hazardous wastes and their disposal
- ❖ The International Convention for the Prevention of Pollution from Ships -1973 (**MARPOL**).
- ❖ The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (**London Convention**) and its 1996 Protocol (**the London Protocol**)
- ❖ **Stockholm Convention on Persistent Organic Pollutants:** With the potential to regulate the production, use, and disposal of additives used in the manufacture of plastics, to the extent they are persistent organic pollutants (POPs)

ALTERNATIVES TO PLASTIC:

- **Bioplastics:** Made from algae, waste agricultural and food residues, using bacteria or mushrooms as micro-converter, Some bioplastics like PHAs (polyhydroxyalkanoates) are soil- and marine-safe — that is, they safely degrade in the environment within weeks or months, leaving no harmful residues.
- **Water dispensers & water ATMs:** They can replace packaged plastic bottled water in most locations.
- Finally, where single-use plastic cannot be avoided, a plethora of technologies can help recover and sort the waste.

Examples are smart bins, sorting machines, reverse vending machines and smart packaging technologies that make it easier to separate different materials.

- **Eco friendly alternatives** like Bamboo sticks, bamboo straws, bamboo glasses which are being used in many areas now.

IMPACT OF PLASTIC BAN ON ECONOMY:

- **Impact on trade:** The Plastic industry in the country employs about 40 lakh people which include more than 30,000 processing units. Around 85-90 percent of which are small and medium - sized enterprises. A ban on the plastics could easily affect industry, posing question on the trade and employment.
- A piece of plastic bag is cheaper compared to paper bag and it will cost no more than 10-15 paise which is much cheaper than a paper bag costing 20-25 paise per piece. Ban may increase the cost of packing of materials.
- Plastic bags are easy to open, pack and transport. That is the reason why they are used widely in logistic and retail industry. In contrast, reusable cloth bags consume more space and are quite heavy.

WHAT NEEDS TO BE DONE:

- **Create awareness among people:** Raise public awareness about the harm caused by single-used plastics. Explain the significance of ban decision and all the punitive measures that will follow if not followed in letter and spirit.
- **Promote eco-friendly alternative:** Before the ban or levy comes into force, assess the availability of alternatives. Ensure that the preconditions for their uptake in the market are in place. Provide economic incentives to encourage the uptake of eco-friendly and fit-for-purpose alternatives that do not cause more harm.

- **Support the plastic industry:** Provide incentives to industry by introducing tax rebates or other conditions to support its transition.
- **Revamp recycling sector:** Support environmental projects or boost local recycling with the funds. Create jobs in the plastic recycling sector with seed funding.
- **Effective and efficient Implementation:** Enforce the measure chosen effectively, by making sure that there is clear allocation of roles and responsibilities. Monitor and adjust the chosen measure if necessary and update the public on progress.

CONCLUSION:

Though recycling is the best option for plastic, methodology and systemization for recycling is slow. While the production model of plastic is very huge and uncontrollable, the numbers of recycling plants are very less. This vast gap must be closed. Besides, ban on single use plastic forces the customer to buy the recyclable plastic bags and reuse of disposable bags along with other alternatives. This can also encourage reuse of the bags. Moreover, such a ban could be complemented by ensuring that retail shop keeper and big shopping complexes to team up with plastic recycling firms and set up even collection points for the bags which no longer be reused.

Finally, government should educate the public and trade bodies to achieve the benefits of the ban. Since long term benefits of plastic bag ban use will benefit the economy, environment and also saves taxpayer money which can lead to plastic bag cleanup.

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2. BLUE REVOLUTION AND INDIA

INTRODUCTION:

India is among the major economies of the world due to its sheer size. Being the fourth largest fish exporter in the world, the Government plans to expedite further growth in Fisheries sector. Now, it is essential to work on strengthening the linkages in this sector. Realizing the need, the Government has been working on it.

CONTEXT:

While the Union government replaced the much-coveted Blue Revolution Scheme (BRS) with the Prime Minister Matsya Sampada Yojana (PMMSY), Telangana recently undertook a herculean task of attaining the high-profile 'Blue Revolution', aiming to achieve all-round development in aquaculture and fisheries sectors.

BACKGROUND:

- It was launched in India during the seventh Five-year plan (1985-1990) when the Central Government sponsored the Fish Farmers Development Agency (FFDA).
- It has brought improvement in aquaculture by adopting new techniques of fish breeding, fish rearing, fish marketing, and fish export.
- India is the second largest fish producing country in the world with an annual production of about 12.60 million metric tons; it is aimed to increase it to 15.00 million metric tons by 2020.

What is Blue Revolution?

Blue Revolution, the Neel Kranti Mission has the vision to achieve economic prosperity of the country and the fishers and fish farmers as well as contribute towards food and nutritional security through full potential utilization of water resources for fisheries development in a sustainable manner, keeping in view the bio-security and environmental concerns.

BR Strategies to Achieve 15 MMT Fish Production			
Ponds	Reservoirs	Brackish waters	Coastal waters
<ul style="list-style-type: none"> Area expansion Production enhancement Productivity 2.33 MT/ ha to 3.90 MT/ ha 	<ul style="list-style-type: none"> Production enhancement Productivity 100 kg/ ha to 170 kg/ ha Cage culture 	<ul style="list-style-type: none"> Infrastructure Seed production Productivity 3.52 MT/ ha to 6.45 MT/ ha 	<ul style="list-style-type: none"> Sea Cage Farming of Finfish Seaweed Cultivation Mariculture of Shellfish
Wetlands	Cold Water	Deep Sea	Species
<ul style="list-style-type: none"> Community participation Increased utilization Productivity 220 kg/ ha to 1000 kg/ ha 	<ul style="list-style-type: none"> Conservation Rainbow Trout Raceway Farming Mahseer Sport Fishing 	<ul style="list-style-type: none"> Exploitation of deep-sea resources Export of Sashimi-grade Tuna 	<ul style="list-style-type: none"> Minor Carps Ornamental Fishes Tilapia, Pungassius <i>P. (F) indicus</i> Standardisation of breeding Technology

Blue Revolution 2.0

- The Blue Revolution 2.0 will succeed only if its growth revolves around sustainable forms of aquaculture.
- India currently ranks second** in the world in aquaculture production at 4.7 million tonnes per annum while China is way ahead at a whopping 60 million tonnes per annum.
- India's aquaculture sector, however, has the **potential to upstage China** and, in the process, create greater employment opportunities, increase the volume of exports, strengthen the rural economy and contribute substantially to the country's GDP.
- The key strategy of the **2030 Master Plan** should lay special thrust on increasing productivity in inland fisheries along with full utilization of the country's deep-sea fishing potential.

BR 2.0: VISION

Creating an enabling environment for integrated development of the full potential of fisheries of the country, along with substantially improvement in the income status of fishers and fish farmers keeping in view the sustainability, bio-security and environmental concerns.

Objectives

- To fully tap the total fish potential of the country both in the inland and the marine sector and triple the production by 2020.
- To transform the fisheries sector as a modern industry with special focus on new technologies and processes
- To double the income of the fishers and fish farmers with special focus on increasing productivity and better marketing postharvest infrastructure including e-commerce and other technologies and global best innovations
- To ensure inclusive participation of the fishers and fish farmers in the income enhancement
- To triple the export earnings by 2020 with focus on benefits flow to the fishers and fish farmers including through institutional mechanisms in the cooperative, producer companies and other structures

FIVE PILLARS

- 1 To double the income of fishermen and farmers
- 2 To increase the Fish production to 220 Lakh Tonnes Per Year in the next 5 years from the existing 150 Lakh Tonnes per year.
- 3 To increase the annual income to Rs 1 Lakh Crore from the current Rs 46,600 Crore
- 4 Reduce post-harvest losses to 10 Per cent from 20-25 per cent
- 5 To create 55 lakh employment opportunities in the sector

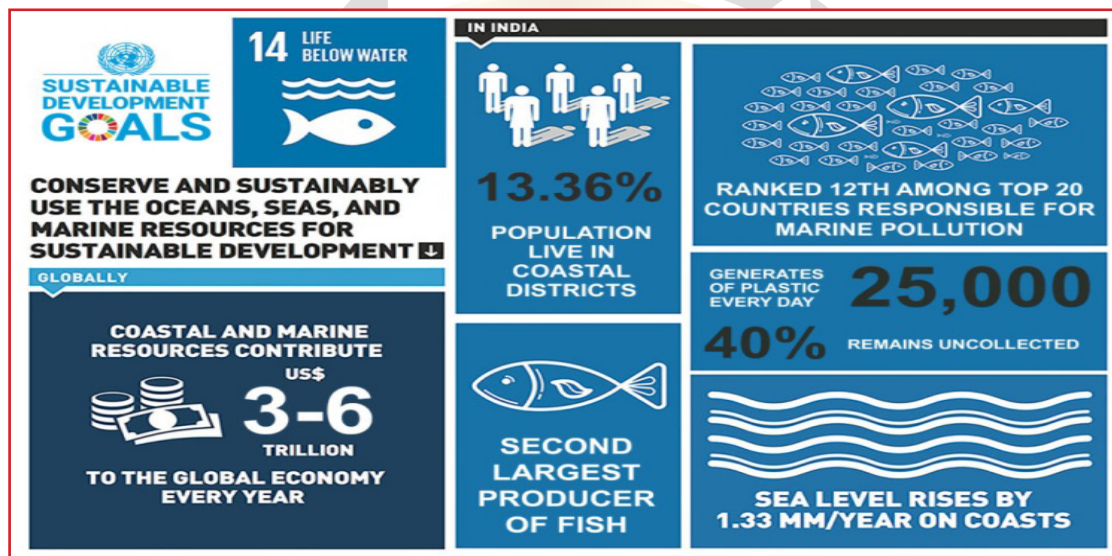
NEED FOR BLUE REVOLUTION:

- There is immense scope for the further development of the fisheries and aquaculture sector in India. India is bestowed with varied resources in the form of rivers and canals; floodplain lakes; ponds and tanks; reservoirs and brackish water.
- The marine fisheries a resource is estimated at 4.41 million metric tonnes and its activities spread along the country's long coastline of 8118 km.
- In order to enhance fish production, there is a need for integrated fish farming and for the diversification of fish production into areas like, old water fisheries, riverine fisheries and brackish water fisheries.
- Further expansion of the area under aquaculture has to become an important option to boost fish production. In this context, derelict water bodies could be immensely useful and could be an important resource to boost fish production to meet the future demands.
- Reservoirs, which are largely untapped, have great potential for the development of fisheries. Foreseeing the high potential in the fishery sector, the Prime Minister has called for a revolution in the fishery sector and has named it the **"Blue Revolution-Neel Kranti Mission"**

Marine Resources and SDG- 14

- **Long coastline**-According to India's Fifth National Report to the Convention of Biological Diversity 2014, India has a long coastline of about 7,517 km in length which sustains and provides a source of livelihood to over 250 million people.
- India is the second largest producer of fish in the world.
- The Indian government's **Sagarmala Project, also known as the Blue Revolution**, is working to improve the state of India's ports and coastlines.
- To conserve marine ecosystems, the government has undertaken a National Plan for the Conservation of Aquatic Eco-systems. Coastal and marine biodiversity protection is a key area of focus for India.

Major Transformations
1. Shifting of focus from capture to Culture Fisheries
2. Empirical farming to knowledge based farming
3. Sustenance farming to commercial farming



GOVERNMENT INITIATIVES:

Pradhan Mantri Matsya Sampada Yojna

- The Pradhan Mantri Matsya Sampada Yojana (PMMSY) is a flagship scheme for focused and sustainable development of fisheries sector in the country as a part of Aatma Nirbhar Bharat Package.
- PMMSY scheme primarily focuses on adopting 'Cluster or Area based approaches' and creation of Fisheries clusters through backward and forward linkages.
- Special focus will be given for employment generation activities

Future of India's Fishery Sector

- Latest scheme offers insurance of fishing vessels; financial assistance for upgrading vessels, boats, bio-toilets, aquaculture in saline, alkaline areas, Sea Mitra, Nucleus Breeding Centers, Fisheries and Aquaculture Startup Apps, Integrated Aqua Park, Integrated Coastal Fishing Village Development, network of aquatic laboratories and their facilities, e-trading, marketing etc.
- PMMSY aims to address the shortcomings in the production, quality technology, post-harvest infrastructure and management.
- It also aims for robust fishery management framework and welfare of fishermen A sustainable development plan for the sector.
- It is to be implemented under the Aatma Nirbhar Bharat package in the next 5 years with an estimated investment of Rs 20,050 Crore. Out of this, Rs 12,340 Crore is to be spent on activities related to marine, fisheries and aquaculture

E GOPALA APP and its utility

- The e-Gopala App will facilitate the provision of a market place for livestock
- The state is crucial for the project as out of state's total population, 89 per cent of the people live in villages and out of that 76 per cent of the population survive on agriculture and animal husbandry.
- Through e-Gopala App, cattle rearers can get all the information related to animal husbandry. They can purchase and sell livestock and access
- IVF Lab was also started at Veterinary University

Integrated National Fisheries Action Plan 2020

- To achieve the Blue Revolution, an Integrated National Fisheries Action Plan (NFAP) aimed at enhancing fish production and productivity is prepared by the Department of Animal Husbandry.
- This approach is initiated considering the various fisheries resources available in the country like ponds and tanks, wetlands, brackish water, cold water, lakes, reservoirs, river and the marine sector.
- All States and Union Territories have been asked to prepare a State Action Plan for 5 years in line with NFAP for achieving the goals of Blue Revolution in their State/UTs.

CHALLENGES:

- Major Zoological Degradation
- Many reservoirs are understocked and not well managed
- Outbreak of major disease
- Shortage of high-quality fish meal
- Limited right over water bodies.
- 90% of fish marine stock have either been fully exploited or over fished or depleted to an extent where recovery may not be bio logically possible.
- Lack of logistic technology.

WAY FORWARD:

- The goal is to double fish exports in the next 3-4 years which will create millions of new employment opportunities only in the fisheries sector.
- Benefits of the scheme include addressing critical gaps, to work towards equipping the sector with the latest technology, to upgrade critical infrastructure, strengthening the value chain and to create employment opportunities.
- The scheme also has provisions that would boost the welfare of those associated with fishing.

CONCLUSION:

This was the biggest investment made in the fisheries sector since independence, to make the optimum use of the fisheries sector, a new ministry has been formed while other schemes like Mission Clean Ganga and Mission Dolphin will also benefit the sector. "This will increase earning opportunities through farming as well as other means. The initiative will boost fish, milk and honey production, paving the way for Blue Revolution. The Fisheries sector is gaining importance not only because of its significance in the food production but also because of its value in export earnings and the economic development of the country. It is also instrumental in providing sources of livelihood for a large section of economically backward and resource poor population of the country. With the proper implementation of the Blue Revolution, the fisheries sector could be developed into a world class modern industry with optimum utilization of water resources in a sustainable manner.

3. DATA PROTECTION

INTRODUCTION:

With nearly 450 million Internet users and a growth rate of 7-8%, India is well on the path to becoming a digital economy, which has a large market for global players. While the transition to a digital economy is underway, the processing of personal data has already become omnipresent. The reality of the digital environment today, is that almost every single activity undertaken by an individual involves some sort of data transaction or the other

WHY IN NEWS?

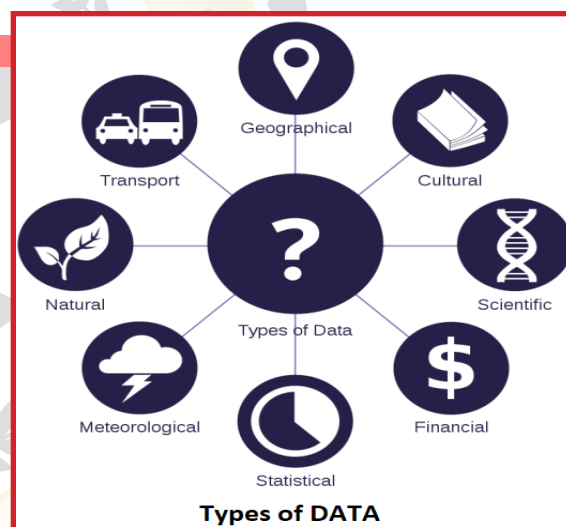
India has recently banned 118 additional Chinese apps. As per reports, this ban comes under Section 69A of the Information Technology Act and is due to the illegal data collection practices followed by these apps.

What is Data

Data are characteristics or information, usually numerical, that are collected through observation. In a more technical sense, data are a set of values of qualitative or quantitative variables about one or more persons or objects, while a datum (singular of data) is a single value of a single variable.

DATA PROTECTION, AND ITS IMPORTANCE:

- With the increase in user-generated data and the exponential industrial value of data, it's becoming vital that the government bodies take necessary steps to protect the data rights of their citizens.
- Data protection regulations ensure the security of individuals' personal data and regulate the collection, usage, transfer, and disclosure of the said data.
- They also provide access to data of the individuals and places accountability measures for organizations processing personal data and supplements it by providing remedies for unauthorised and harmful processing.



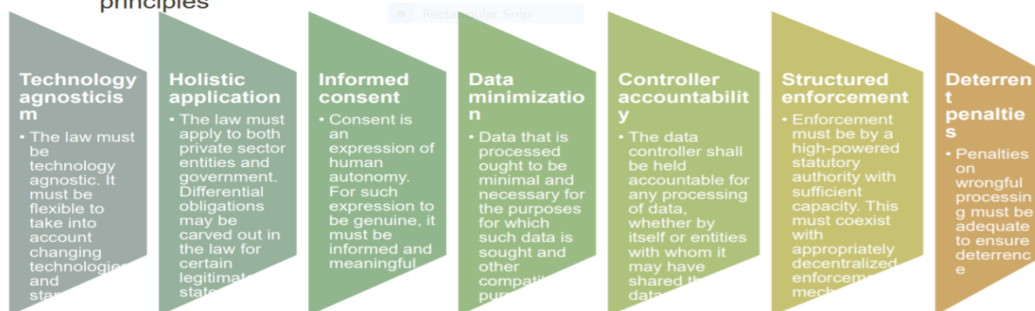
GOVERNMENT INITIATIVES:

Personal Data Protection Bill 2019 - The Personal Data Protection Bill, 2019 was introduced in Lok Sabha by the Minister of Electronics and Information Technology, on December 11, 2019. Currently, the Bill is being analyzed by a Joint Parliamentary Committee in consultation with experts and stakeholders.

The Bill seeks to provide for protection of personal data of individuals, and establishes a Data Protection Authority for the same.

KEY PRINCIPLES AROUND DATA PROTECTION IN INDIA

A data protection framework in India must be based on the following seven principles



What is personal information?

A draft of the Bill makes reference to three categories of data:

- personal data that refers to any data about or relating to a data principal
- sensitive personal data which includes health and genetic data, biometrics, caste or tribe data, passwords etc.
- critical personal data which remains undefined but can be specified by the central government.

Key provisions

- The government is qualified to order any **data fiduciary** to acquire personal and non-personal/anonymised data for the sake of research and for national security and criminal investigations.
- **Social media companies**, which are deemed significant data fiduciaries based on factors such as volume and sensitivity of data as well as their turnover, should develop their own **user verification mechanism**.
- The Bill gives a user the **right to be forgotten**, that is to stop their data from being disclosed if the purpose of data collection has been served, if the user withdrew consent, or the data was disclosed illegally.
- The user can make a complaint to **Data Protection Authority**, who will then order the data fiduciary to remove the user's data.

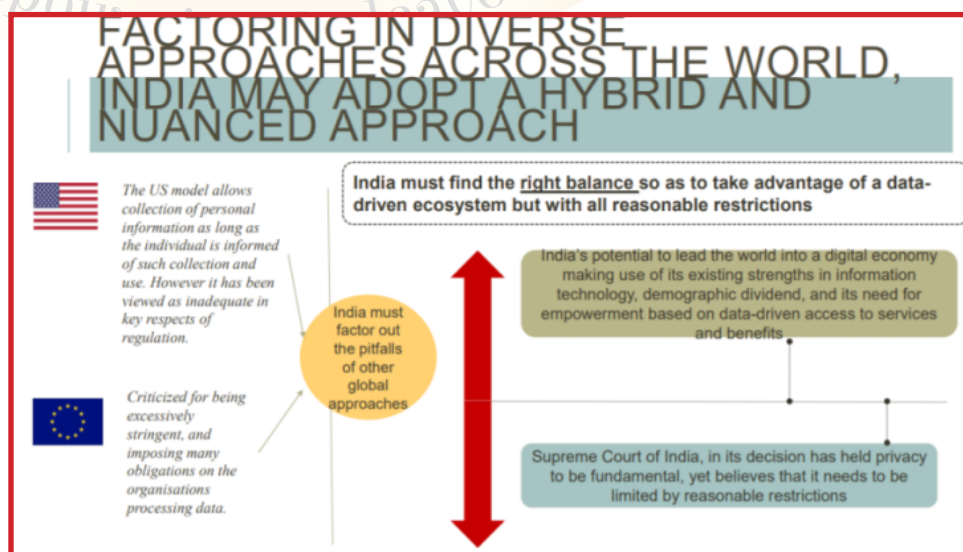
Legal and Constitutional Provision

At the moment, India does not have a specific legislation enacted primarily for data protection.

- India's regulatory mechanism for data protection and privacy is **the Information Technology Act, 2000 ("The IT Act") and its corresponding Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 ("the IT Rules")**.
- In 2017, the Supreme Court of India ruled that privacy is a fundamental right of Indian citizens. In addition to this, personal data is also protected under **Article 21 of the Indian Constitution** which guarantees to every citizen, the Right to Privacy as a fundamental right.
- The Supreme Court has held in a number of cases that information about a person and the right to access that information by that person is also covered within the ambit of right to privacy.
- India has followed the EU's **General Data Protection Regulation (GDPR)** in allowing global digital companies to conduct business under certain conditions, instead of following the isolationist framework

CHALLENGES TO DATA PROTECTION:

- Criminalizing Illegitimate Re-identification
- Localization of data
- Lack of Structural Framework
- Cost of Maintaining Data Privacy
- Growth of Data is exponential
- Proliferating devices



WAY FORWARD:

- Restrictions on Processing and Collection of Personal Data
- Processing of Personal Data for “Functions of the State”
- Implementations to be done- “data principals” (persons whose personal data is being processed) the ‘right to be forgotten’.
- Personal data will need to be stored on servers located within India, and transfers outside the country will need to be subject to safeguards
- Processing of Sensitive Personal Data to Require Explicit Consent
- Creation of Data Protection Authority
- Aadhaar Act Amendments to be done.
- While technology has evolved to be able to collect, store and mine increasing amounts of data for improved public services or for commercial purposes, there are understandable concerns over the lack of accountability for the purposes and limits of the use of personal data. These concerns demand an appropriate regulatory framework for Privacy

CONCLUSION:

While data can be put to beneficial use, the unregulated and arbitrary use of data, especially personal data, has raised concerns regarding the privacy and autonomy of an individual. This was also the subject matter of the landmark judgement of the Supreme Court, which recognized the right to privacy as a fundamental right, the focus on data protection to enhance citizen safety and security has increased.

SUPPLEMENTARY NOTES**Justice BN Srikrishna committee Recommendations:-**

- Restrictions on Processing and Collection of Personal Data
- Processing of Personal Data for “Functions of the State”
- The committee recommends giving “data principals” (persons whose personal data is being processed) the ‘right to be forgotten’.
- Personal data will need to be stored on servers located within India, and transfers outside the country will need to be subject to safeguards
- Processing of Sensitive Personal Data to Require Explicit Consent
- Data Protection Authority
- Aadhaar Act Amendments

4. DEFENCE INDIGENISATION

INTRODUCTION:

A government bears ultimate responsibility for a country's security. Its ability to equip its armed forces using its own industrial and technological capabilities is of great importance. A successful defence industry provides strategic leverage with other countries, including as a potential supplier to neighbours who may otherwise turn to competitors. Furthermore, defence exports reduce the costs of defence acquisitions and can help subsidise a country's defence budget, hence the indigenisation of a defence industry is a necessary and worthwhile national security objective, particularly for a large country like India with an expanding economy, a wide variety of security challenges, and growing international obligations.

INDIGENISATION & INDIANISATION OF DEFENCE:

- **Indianisation** means converting all equipment to meet our military needs. In this, there has been considerable achievement as proven in the 1971 war and Kargil Operation Vijay. The missile boats, MIG 21s, armour and weapons bear testimony to our innovative adoption of equipment.
- **Indigenisation** means building systems or parts thereof in the country. Here too we have graduated from assembling knock down kits to building from scratch. All these have been part of an extended trial and error process. The services too have set up considerable technology infrastructure.



["In a nutshell, we have 'Indianised' well, 'Indigenized' satisfactorily but are yet nowhere near becoming "Indian" in terms of becoming self-reliant across the spectrum of Indian battle order needs."]

WHY INDIGENISATION: ADVANTAGES:

Fiscal improvisation: Being the second largest arms importer in the world (after Saudi Arabia) lead to increase in the fiscal deficit as we procure 60% of its weapon systems from foreign markets. Indigenisation will lower the deficit.

- **Improved BOP-** India can export its indigenous defence technology and equipment to the neighbouring nations.
- **Economic growth-** It will boost of the GDP as well, as the reduced import bills will be replaced by indigenous production and other factors of production.
- **Security Measures:** Indigenisation in defence is critical to national security also. It keeps intact the technological expertise.
- **Strategic Independence-** While formulating bilateral relation, defence equipment import dependency will no more affect the rational decisions. Self-sufficient and self-reliant defence industry will place India among the top global powers.

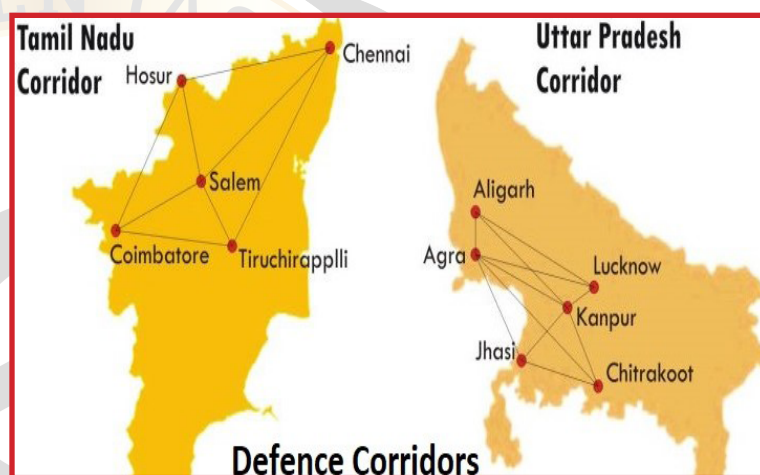
Key Drivers - Defence technology omnibus is driven by **five drivers** which are:

- The Indian Military
- The Defence Research and Development Organisation (DRDO)/ Defence Public Sector Undertakings (DPSUs)
- The Private Sector
- The Political Leadership
- The People of India

- **Employment generation:** As per government estimates, a reduction in 20-25% in defence related imports could directly create an additional 100,000 to 120,000 highly skilled jobs in India.
- **Societal and Psychological impact-** Nationalism and Patriotism can increase with indigenous production of defence equipment, that in turn will not only boost the trust and confidence of the Indian forces but will also strengthen a sense of integrity and sovereignty in them.

GOVERNMENT INITIATIVES:

- **Defence Acquisition Procedure 2020-** New DAP incorporates several measures to boost domestic Defence industry and Make in India; Procedures simplified to reduce time delays and enhance ease of doing business.
- **New FDI Policy**
 - Some new provisions like new category 'Buy (Global – Manufacture in India)' done to encourage foreign Original Equipment Manufacturer (OEMs) to setup 'manufacturing / maintenance entities' through its subsidiary in India while enabling requisite protections to domestic industry.
 - FDI through automatic approval is increased from 49% to 74%.
 - Preference to 'Buy (Indian)', 'Buy & Make (Indian)' & 'Make' categories of acquisition over 'Buy (Global)' category, thereby giving preference to Indian industry in procurement.
- **Industrial Corridors-** The government has inaugurated two defence industrial corridors, in Tamil Nadu and in Uttar Pradesh, to boost the flagship 'Make in India' programme that in turn would attract investments as well as encourage employment generation.
- **E- Biz Portal-** The portal will provide a one-stop shop for providing G2B services to investors and business communities in India and help in reducing the delays and complexity in obtaining information and services.
- **Mission Raksha Gyanshakti:** with the objective of creating greater Intellectual Property in Defence Production Ecosystem.
- **Artificial Intelligence in Defence:** Creation of Defence Artificial Intelligence Project Agency(DAIPA) in , 2019 for greater thrust on Artificial Intelligence (AI) in Defence.
- **Innovations for Defence Excellence (iDEX):** The objective of iDEX is bringing startups to innovate, develop technology and solve problems related to defence and aerospace.

**DRAFT DEFENCE PRODUCTION AND EXPORT PROMOTION POLICY (2020):**

- Recently, the Ministry of Defence has formulated a **draft Defence Production and Export Promotion Policy 2020 (DPEPP 2020)** which is envisaged as overarching guiding document of MoD to provide a focused, structured and significant thrust to defence production capabilities of the country for self-reliance and exports.
- **The policy has laid out following goals and objectives:**
 1. To achieve a turnover of Rs 1,75,000 Crores (US\$ 25Bn) including export of Rs 35,000 Crore (US\$ 5 Billion) in Aerospace and Defence goods and services by 2025.
 2. To develop a dynamic, robust and competitive Defence industry, including Aerospace and Naval Shipbuilding industry to cater to the needs of Armed forces with quality products.
 3. To reduce dependence on imports and take forward "Make in India" initiatives through domestic design and development.
 4. To promote export of defence products and become part of the global defence value chains.
 5. To create an environment that encourages R&D, rewards innovation, creates Indian IP ownership and promotes a robust and self-reliant defence industry.

- **The Policy brings out multiple strategies under the following focus areas:**

1. Procurement Reforms
2. Indigenization & Support to MSMEs/Start-ups
3. Optimize Resource Allocation
4. Investment Promotion, FDI & Ease of Doing Business
5. Innovation and R&D
6. DPSUs and OFB
7. Quality Assurance & Testing Infrastructure
8. Export Promotion

ISSUES/CHALLENGES WITH DEFENCE PRODUCTION IN INDIA:

- **Archaic Model of Defence Production-** Public enterprises have shown a very low rate of return on the capital invested. This has inhibited their ability to re-generate themselves in terms of new investments as well as in technology development.
- **Gross Inefficiency of the DPSUs and OFs-** It is worth noting that while there has been some improvement on the issue of Defence Public Sector Undertakings (DPSUs), virtually no action has been taken for improving the management of the Ordnance Factories (OFs), which continue to function as a department-run organisation.
- **Inefficiency of DRDO and its Separation from Production Agencies-** Some of the problem's organisation facing the organisation are lack of organisational reforms, poor accountability, meagre resources and poor human resource management.
- **Dispute Settlement body:** There is an urgent need for a **permanent arbitration committee** which can settle disputes expeditiously. In the USA, the procurement agency DARPA has a permanent arbitration committee which resolves such issues amicably and their decision is final.
- **Separation of Procurement from Indigenisation-** If the separation of R&D from production has been a major problem in India's industrial defence development, the separation of procurement from production has also been an equally contributory factor.

WAY AHEAD:

- **Structural reform and more power** to DRDO in order to enhance its confidence and authority.
- **Identification of self-reliance goals** backed by technology audit by the Military Industrial Commission, followed by prioritization and perspective planning on Indigenisation.
- **R&D** needs to be given precedence with technology transfer preferences in selective disciplines.
- **Integration of Military Maintenance Infrastructure with DPSUs, PSUs, and Private Sector:** The military would become relatively freer to focus on its operational ethos. It would enable Indian industry to gain valuable defence technology insights.
- **Software Industry** and technologies like **Artificial intelligence and cyber security** should be used to develop and manufacture the "chip" indigenously.
- **Efficient Supply Chain** is critical for a defence manufacturer looking to optimize costs.

CONCLUSION:

Despite the numerous reform measures undertaken by the Government of India, the Indian defence industry still suffers from several legacy issues which need to be addressed in order to establish an efficient and credible defence industrial base. The reform agenda that needs to be pursued must be multi-pronged one and it needs to be implemented systematically. It should begin with an overarching and integrated institutional structure that would be responsible for the three critical but inter-related functions of procurement, production and R&D.

Supplementary Capsules

NOT ENOUGH BANG FOR THE BUCK**Military expenditure**

- India is world's 5th largest military spender after US, China, Russia & Saudi Arabia
- Spent over **\$80 bn** in arms deals over last **15-16 yrs**
- Defence budget 2020-21 is **₹ 3.37 lakh crore**. Another **₹ 1.33 lakh crore** for defence pensions
- Revenue outlay (**65%**) dwarfs capital outlay (**35%**) for modernisation in defence budget

Arms deals

- Second largest arms importer, gets over **60%** of requirements from abroad due to poor domestic defence-industrial base
- Biggest suppliers Russia, Israel, France & US
- Around **65** capital acquisition contracts worth over **₹ 1.5 lakh crore** inked with foreign vendors since 2016-17
- Over **80%** of domestic acquisitions from **five** defence PSUs, **four** shipyards and **41** ordnance factories

Operational hollowness

- Poor long-term planning, haphazard procurements, little tech transfer despite mega deals
- **Army** has critical gaps in artillery, infantry weapons, light helicopters, night-fighting etc
- **IAF** does not have enough fighter jets, mid-air refuellers, AWACS, drones etc
- Navy short of submarines, multi-role helicopters, minesweepers etc
- Maintenance of **15 lakh** armed forces, pay & pensions consume bulk of the expenditure



5. FIT INDIA CAMPAIGN – INDIA'S FITNESS CHALLENGE

{“Success is related to fitness, success stories of all of our icons from any field of life have a common thread- most of them are fit, have a focus on fitness and are fond of fitness” – Prime minister of India.}

INTRODUCTION:

Driven by the inspiration of the above lines, Prime Minister of India launched fit India campaign on the occasion of National Sports Day in 2019.

Fit India movement is a nation-wide campaign that aims at encouraging people to include physical activities and sports in their everyday lives and a plethora of activities was conducted under the campaign of Fit India Movement.



CONTEXT:

On April 14, 2020, Government of India launched Fit India Active Day Programme. The programme was launched under the flagship initiative of Government called “Fit India”.

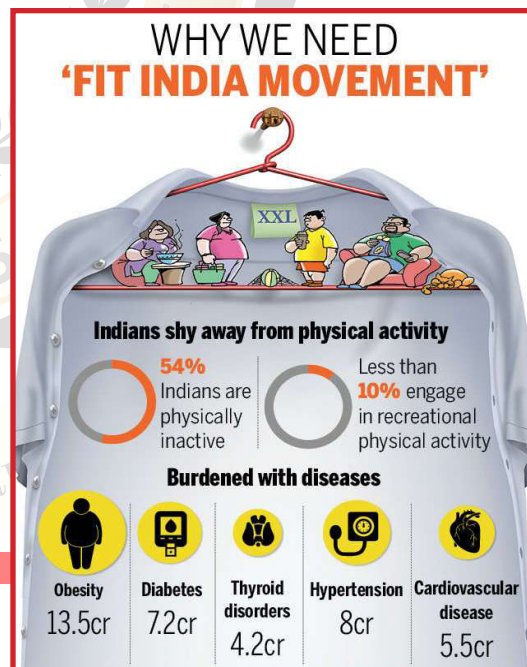
The Ministry of AYUSH has issued guidelines to implement the Fit India Active Day Programme. The programme is launched to make sure children practice fitness even when they stay home. The programme also intends to create immunity against COVID-19.

ABOUT THE FIT INDIA CAMPAIGN:

- Prime Minister during the launch of ‘Fit India Movement’ urged people to change their lifestyle and make fitness a daily routine.
- ‘Fit India Movement’ will be a very interesting campaign for everyone-children, the elderly, the young and women, and it will be everyone’s movement.
- The ‘Fit India Movement’ will be a “multi-ministry effort”, including the sports, HRD ministry, panchayati raj, rural development ministries, aimed at bringing about behavioral change and introducing basic fitness practices in the daily lives of Indians, a majority of whom lack access to sports or fitness infrastructure in their neighborhoods.
- A special focus of the campaign will be on rural India that lacks basic facilities to improve physical well-being and awareness of fitness.

DO YOU KNOW THESE FACTS?

- **World Health Organization (WHO) statistics** say one in four adults globally is not active enough, while more than 80% of the world’s adolescent population is insufficiently physically active.
- **According to the Indian Council of Medical Research (ICMR)**, the estimated proportion of all deaths due to Non-Communicable diseases (NCDs) has increased from 37.09% in 1990 to 61.8% in 2016.
- WHO blames unhealthy diet and lack of physical activity for increasing instances of high blood pressure, increase in blood glucose, elevated blood lipids and obesity. In fact, NCDs, or metabolic risk factors, lead to cardiovascular diseases, the primary reason behind premature deaths.



- WHO has also recognized diabetes as a growing challenge in India with an estimated 8.7% diabetic population between the age group of 20 and 67 years.
- **As per the National Family Health Survey 2015-16**, 11% of women (1 in 10) and 15% of men (1 in 7) of 15-49 years are hypertensive.
- **In India, the Global Disease Burden (GBD) 2015** ranks chronic kidney disease as the eighth leading cause of death.

LIFESTYLE DISEASES AND FACTS:

- **Lifestyle diseases** are happening due to lifestyle disorders. Lifestyle disorders can be cured by making lifestyle changes.
- To name a few, Obesity, Cardiovascular diseases, Depression, Diabetes Mellitus, Metabolic Syndrome etc are some of the examples for lifestyle diseases.
- More disturbing is the fact that a majority of these diseases are interrelated in the sense that one of them can perpetuate the other leading to a vicious cycle.
- The astonishing rate at which the lifestyle diseases are rising in the population has made them diseases of public health concern.

GOQii's FIT INDIA REPORT

- ❖ According to the report, More than 57% population across key cities such as Delhi, Hyderabad and Chennai are overweight.
- ❖ Further, lifestyle diseases have witnessed a steady rise – diabetes has increased to 5.1% in 2018 from 3.6% in 2017, cholesterol has increased to 12.1% in 2018 from 5.2% in 2017 and high blood pressure has increased to 9.4% in 2018 from 4.9% in 2017.
- ❖ In another study by Stanford in 2017, Indians were found to be among the world's laziest citizens clocking in an average of just 4,297 steps a day. India is ranked 39 among the 46 countries surveyed.

BENEFITS OF FIT INDIA MOVEMENT:

People in any profession can make themselves efficient in their profession if they are mentally and physical fit. If body is fit, then one would be mentally also fit. Sports has a direct relation to fitness but 'Fit India Movement' aims to go beyond fitness. Fitness is not just a word but an essential pillar to a healthy and prosperous life. Some key benefits are:

- **Highlights the need for physical fitness:** The launch of 'Fit India Movement' doesn't just highlight the indispensable need for physical fitness; it marks a conscious effort to make a shift in the common attitude among Indians to consider engagement in sports as an activity beyond recreation.
- **Fosters healthy Life style:** The proliferation of technology made our lives much easier and much better, but at the same time, it made many people turn to a sedentary lifestyle. So, there is a need to take effective steps to turn to an active lifestyle to protect our health. Thus, 'Fit India Movement' was launched at the right time and encourages people to maintain a healthy lifestyle.
- **Encourages to consume healthy food:** Due to the inactive lifestyle and stressful lives, many people are getting lifestyle diseases such as diabetes, hypertension etc. 'Fit India Movement' can encourage people to consume healthy food and to maintain physical and mental fitness.
- Fit India Movement' will make children think about the negative consequences of junk food. As a result, this movement will encourage children to consume healthy food. Some parents put too much stress on children to study. This movement has the potential to change their minds and as a result, they may encourage their children to go out and play.
- Some people are already focusing on fitness. But that is a small proportion of people. Generally, many people want to maintain an active lifestyle, but all they need is some encouragement. So, this movement constantly reminds people to focus on fitness goals just like 'Swachh Bharat' reminds us of the importance of keeping our surroundings clean.
- Emphasizing that sports is more than an extra-curricular activity, the government is making efforts to bring sports in to the mainstream and is rightly pushing for the change that everyone should play some sport or the other.
- This movement has the potential to make more people embrace traditional Indian martial art forms like Kathi Samu, Musti Yuddha, etc., and traditional dance forms and also healthy Indian snacks. And as a byproduct, this may result in creating some jobs.

SOME KEY CHALLENGES ARE:

- **High Incidence of Poverty and lack of access to affordable nutritious food:** 'Fit India Movement' may not reach the people of below poverty line. To maintain a healthy lifestyle, both physical activity and nutritious food are necessary. But in India, still many people are malnourished and some people do not have access to safe drinking water. So, without solving the issue of poverty and lack of access to affordable nutritious food, a section of people in India will not be able to take advantage of this movement.
- **Lackadaisical approach of schools towards sports:** The motivation to maintain fitness should start from childhood. But in India many schools lack playgrounds. Lack of playgrounds may push children to turn into an inactive life style.
- **Lack of infrastructural facilities:** There are apprehensions that pollution, infrastructure, lack of safe public spaces such as parks, walking routes and cycling tracks will act as a hindrance for India in achieving "Fit India" tag.
- In India, it is still widely believed that sports are part of 'extra-curricular' activity – an activity that is extra and not essential. Bringing a change in this deep-rooted mindset is the challenge for the government.

CONCLUSION:

As said by prime minister of India, "Fitness is not just a word but an essential pillar to a healthy and prosperous life. Fitness is part of our historic legacy and while working on the body we also train the mind, increasing focus and co-ordination of body parts. A healthy Individual, a healthy family and a healthy society are the essentials to make New India a Fit India". Therefore we must accord highest priority to the fit India campaign not only to make individuals fit but also the nation on whole.



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6. FLOODS AND FLOOD MANAGEMENT IN INDIA

INTRODUCTION:

Floods are recurrent phenomena in India. Due to different climatic and rainfall patterns in different regions, it has been the experience that, while some parts are suffering devastating floods, another part is suffering drought at the same time.

With the increase in population and development activity, there has been a tendency to occupy the floodplains, which has resulted in damage of a more serious nature over the years.



FLOODS AND FLOOD MANAGEMENT IN INDIA

Often, because of the varying rainfall distribution, areas which are not traditionally prone to floods also experience severe inundation. Thus, floods are the single most frequent disaster faced by the country. Some parts of the country, mainly coastal areas of Andhra Pradesh, Orissa, Tamil Nadu and West Bengal, experience cyclones, which are often accompanied by heavy rainfall leading to flooding.

CONTEXT:

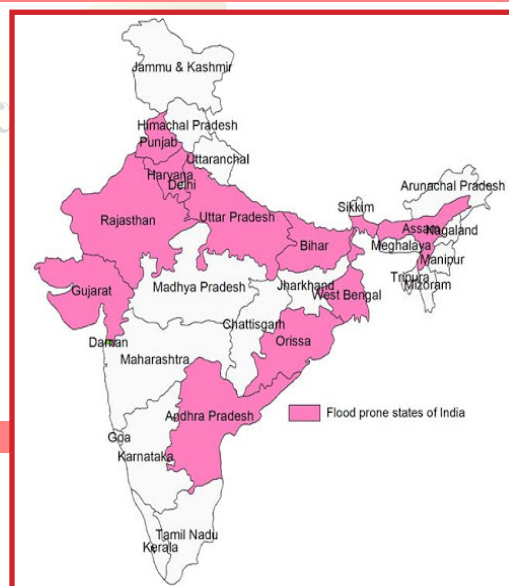
- Recently, floods in Assam and other north-eastern states have caused devastation of life and property, which is an annual problem in the region. However, floods are not restricted to North-eastern India; rather it affects many other areas in the country.
- Very recently, Heavy rains have caused more flooding in parts of the state of Telangana, in particular in Hyderabad following which the city saw record heavy rains which triggered floods causing fatalities and severe material damage.
- Then Floods in Bengaluru in Karnataka state caused traffic chaos and damaged hundreds of homes in the month of October 2020.
- Apart from these incidents, thousands of people have been forced and evacuated from their homes after rivers broke their banks in the states of Maharashtra and Gujarat, western India in 2020.

AREAS PRONE TO FLOOD:

- In 1980, Rashtriya Barh Ayog (National Commission on Floods) assessed the total area liable to flooding in the country as 40 million hectares (ha), which constitutes one-eighth of the country's total geographical area.
- The Working Group on Flood Control Programme set up by the Planning Commission for the Tenth Five Year Plan put this figure at 45.64 million ha.
- About 80 per cent of this area, i.e. 32 million ha, could be provided with a reasonable degree of protection.

DAMAGE FROM FLOODS:

- More significant than the loss of life and damage to property is the sense of insecurity and fear in the minds of people living in the floodplains.



- The after-effects of flood, such as the suffering of survivors, spread of disease, non-availability of essential commodities and medicines and loss of dwellings, make floods the most feared of the natural disasters faced by humankind.
- Heavy flood damage was inflicted during the monsoon of 1955, 1971, 1973, 1977, 1978, 1980, 1984, 1988, 1989, 1998, 2001 and 2004.

WHAT ARE THE REASONS FOR FLOODS IN INDIA?

Flooding is caused by the inadequate capacity within the banks of the rivers to contain the high flows brought down from the upper catchments due to heavy rainfall.

Flooding is accentuated by erosion and silting of the river beds, resulting in a reduction of the carrying capacity of river channels; earthquakes and landslides leading to changes in river courses and obstructions to flow; synchronization of floods in the main and tributary rivers; retardation due to tidal effects; encroachment of floodplains; and haphazard and unplanned growth of urban areas.

Major reasons for floods in India:

- **Seasonality** - The rainy season is heavily concentrated in a short span of 3-4 months of the season. It results in heavy discharge from rivers resulting in devastating floods at times.
- **Cloud Burst** - Heavy precipitation and at time cloud bursts in the hills or upstream also floods the rivers. The rivers start spilling over if rainfall of about 15cm or more occurs in a single day. This affects Western coast of Western Ghats, Assam and sub-Himalayan West Bengal and Indo-Gangetic plains.
- **Accumulation of silt** - The Himalayan Rivers having huge ingredients bring in large amount of silt and sand that ultimately get accumulated with no clearing operations taking place for years on. As a result the water carrying capacity of the rivers is drastically reduced, resulting in floods. e.g Jhelum flooding
- **Obstruction** - Obstruction caused by construction of embankments, canals and railway related activities also results in floods.
- **Deforestation** - Trees play a vital role to hold the surface on mountains and create natural barriers for the rain waters. Therefore deforestation of hill slopes results in the water level rivers suddenly raising and causing floods.
- **Town Planning** - The new addition to this is the phenomena of urban flooding as witnessed in the metropolitan cities of Mumbai, Chennai, Bengaluru and Srinagar.
- The root cause is the rampant migration from rural areas to the cities that has caused immense pressure on land, the failure of the civic authorities in checking encroachment of land which are traditional outlets for the over-flowing rivers, poor planning and corruption.
- **Monsoon Pattern** - These factors are further compounded by irregular pattern of monsoon, unseasonal rains or even shift in the traditional periodicity of Monsoon.

FLOOD SCENARIO IN INDIA

- ❖ In India floods are most common and frequently occurring source of disaster.
- ❖ About 40 million hectares of land area in the country is flood prone according to the data compiled by the National Flood Commission.
- ❖ Over 60% of the flood damage results from river floods and another 40% is the result of heavy rainfall and cyclones, most of which is in peninsular river basins.
- ❖ State wise study shows that about 27% of the flood damage in the country is in Bihar, 33% by Uttar Pradesh and Uttarakhand and 15% by Punjab and Haryana.
- ❖ On an average, the area affected by floods annually is about 8 million hectare, out of which the about 3.7 million hectare is cropped area affected.
- ❖ The major flood areas in India are in the Ganges-Brahmaputra-Meghna basin which accounts for nearly 60% of the total river flow of the country.

NEED FOR INTEGRATED FLOOD MANAGEMENT:

According to **the audit report on “Schemes for Flood Control and Flood Forecasting” 2017** by the Comptroller and Auditor General of India (CAG), the major issues with flood management in India are:

- **Key recommendations of Rashtriya Barh Ayog** such as scientific assessment of flood prone areas and enactment of Flood Plain Zoning Act **are not materialized**.
- **Poor flood forecasting system:** Flood forecasting network of the CWC is not sufficient to cover the country adequately. Further, most of the existing flood forecasting stations are not operational.
- **Poor flood risk mapping:** A task force set up by the Central Water Commission (CWC) in 2006 did not complete the task of flood risk mapping. Further, the Vulnerability Atlas of India has stopped flood zonation. Flood damage assessments not done adequately.
- **Delays in completion of projects under the flood management programmes** primarily due to shortfall of Centre's assistance.
- **Flood management works are not taken up in an integrated manner.**
- **Most of the large dams in India do not have disaster management plans**– only 7% of total large dams in the country have emergency action plans/disaster management plans.

APPROACH TO FLOOD MANAGEMENT

Approaches to dealing with floods may be any one or a combination of the following available options:

- Attempts to modify the flood
- Attempts to modify the susceptibility to flood damage
- Attempts to modify the loss burden
- Bearing the loss.

The main thrust of the flood protection programme undertaken in India so far has been an attempt to modify the flood in the form of physical (structural) measures to prevent the floodwaters from reaching potential damage centres and modify susceptibility to flood damage through early warning systems.

Flood Management and Border Areas Programme (FMBAP)

- ❖ For Flood Management Works in the entire country and River Management Activities and works related to Border Areas, FMBAP scheme has been approved by union cabinet.
- ❖ **The Scheme “FMBAP”** has been framed by merging the components of two continuing XII Plan schemes titled “Flood Management Programme (FMP)” and “River Management Activities and Works related to Border Areas (RMBA)”.
- ❖ **The aim of the Scheme** is to assist the State Governments to provide reasonable degree of protection against floods in critical areas by adopting optimum combination of structural and non-structural measures and enhancing capabilities of State / Central Government officials in related fields.

Structural and non structural measures for flood management:

Structural measures	Non-structural measures
The structural measures includes: <ul style="list-style-type: none"> • Embankments, flood walls, sea walls • Dams and reservoirs • Natural detention basins • Channel improvement • Drainage improvement • Diversion of flood waters. 	Non-structural measures include: <ul style="list-style-type: none"> • Flood forecasting and warning • Floodplain zoning and Mapping • Flood fighting • Flood proofing • Flood insurance.

WHAT NEEDS TO BE DONE :

- **A Multi-pronged strategy** is needed in consonance with the changing rain patterns to manage floods. It will be native to look at flood management as an isolated subject. It should be seen in the light of environmental degradation, global warming and poor governance at various levels.
- Efforts made by the Centre and the state governments to check deforestation should be intensified. The tree plantation drives at all levels are steps in the right direction.
- Cleaning of drains and rivulets near the cities should be accorded top priority.
- Construction of embankments, flood walls, ring bunds, flood control reservoirs should be scientifically carried on.
- Improvement of river channels and surface drainage and most importantly checking erosion of land on river banks are others measures that could help checking the spread of flood.
- **Advance town planning and yearly preparations** should be done to mitigate the effects of urban planning.
- Flood control as a subject has no clear cut legislative marking. As a subject it is not included in any of the legislative lists of the country that is the Union, the State or the Concurrent lists.
- Issues related to drainage and embankments find a mention in Entry 17 of List II of the State List. That entails that preventing and fighting floods is primarily the responsibility of the state governments.
- The state level set up has water resources departments, flood control board and state technical advisory committee. The Central mechanism has a network of organizations and expert committees constituted from time to time to study advice on flood management.
- **The Centre-states mechanism needs to be further strengthened** with focus on greater coordination. This has to be a continuous and ongoing system rather than waking up at the time of the calamity only. The Centre and the states through a joint plan should undertake various measures to control floods.

INITIATIVES TAKEN SO FAR TO DEAL WITH FLOODS

- ❖ Policy Statement 1954.
- ❖ High-Level Committee on Floods 1957.
- ❖ Policy Statement of 1958.
- ❖ National Flood Commission (Rashtriya Barh Ayog) 1980.
- ❖ Expert Committee to Review the Implementation of the Recommendations of National Flood Commission 2003 (R.Rangachari Committee)
- ❖ National Water Policy (1987/2002/2012).

CONCLUSION:

As floods cause major damage to life and property every year, it is the time for central and the state governments prepare a long-term plan that goes beyond piecemeal measures like building embankments and dredging to control floods. Also, there is a need for an integrated basin management plan that brings all the river-basin sharing countries as well Indian states on board.

Keeping in view the fact that the problem of Urban Flooding is becoming more severe and losses are mounting every year. The subject of urban flooding needs exclusive attention and the proper implementation of NDMA guidelines on Urban Flooding (2016) is the need of the hour.

7. FOOD PROCESSING INDUSTRY

INTRODUCTION:

Food processing industry provides the vital linkage between industry and agriculture and is of enormous significance for India's development. With India moving from a position of scarcity to surplus in food production the prospects for increasing processing levels are enormous.

SECTOR OVERVIEW:

- India currently processes less than 10% of its Agri output. Most of the processing that is done in India is primary processing.
 - **Primary processing** – done through rice, sugar, edible oil and flour mills etc. Primary processing offers *lower value-addition* compared to secondary processing.
 - **Secondary processing** includes processing of high value items viz fruits and vegetables, dairy, bakery, chocolates etc.

Where we are?

1. **Cereals** - second largest producer of food grains globally (284.95¹ million tons)
2. **Fruits & vegetables** - Ranks as the second largest producer of Fruits and Vegetables (F&V) in the world (311.7¹ million tons)
3. **Milk** - largest producer of milk globally (176.35 MMT)
4. **Meat** - largest livestock population in the world (7.7 MT of meat produced annually)
5. **Poultry** - around 95.2 bn eggs annually
6. **Marine** - second largest fish producer in the world (12.60 million metric tons)

- Thus, given the high production levels along with low processing current processing rates, the sector presents huge opportunities.
- Additionally, the sector provides huge employment generation potential as well.

GROWTH, INVESTMENTS AND INITIATIVES:

Riding on favorable policy ecosystem the Food Processing sector has been growing at an Average Annual Growth Rate (AAGR) of around 8.41 per cent between FY14 and FY18 and constitutes as much as 8.83 per cent and 10.66 per cent of GVA in Manufacturing and Agriculture sector respectively.

India has due advantages in FPIs: Why?

- Changing consumption patterns due to urbanization.
- Changes in the gender composition of work force.
- Growing consumption rates have contributed to the increase in the size of processed food market.
- Large sourcing hub for agriculture produce
- Two thirds of our 1.3 billion population are young with growing incomes also create a large market for food products

- **Global Investments:** Backed by the enabling business environment, FDI inflow into Indian food industry has been increasing steadily. Over the past five years FDI inflow into Indian food industry has been increasing at a CAGR of 4.02%.

States accounting for highest no. of Registered Food Processing Units in India	
State	Number of Registered Units
Andhra Pradesh	5861
Tamil Nadu	5077
Telangana	3969
Punjab	2906
Maharashtra	2808

- **Current Export Levels:**

- **Top 5 exported commodities (2018-2019)** : marine products>basmati rice >buffalo meat>spices >non-basmati rice
- **Major Export destinations:** They are exported to more than 100 countries/regions; **chief among them** are the Middle East, Southeast Asia, SAARC countries, the EU and the US.
- **Agriculture Share:** India's total agriculture export basket accounts for little over 2% of world agriculture trade and Agricultural exports' contribution to India's GDP is also as low as 2%.
- **Value chain:** Majority of Indian exports are low value, raw or semi-processed and marketed in bulk which are then processed in other countries, indicating the scope to move up the value chain.
- **Location Advantage:** Despite convenient connectivity, share of India's high value and value added agro produce in its agriculture export basket is less than 15% compared to 25% in US and 49% in China.
- **Quality Enhancement:** Further, India is unable to export its vast horticultural produce due to lack of uniformity in quality, standardization and its inability to curtail losses across the value chain.

- **Policy ecosystem:**

The Government of India has accorded 'high priority' status to the food processing industry. With an overall objective of positioning India as the 'Food Basket' to the world, several initiatives have been undertaken with the objective of promoting investments, innovation and bringing best practices. This vision is in line with the 'Make in India' initiative of the Government.

a. **Attracting investments**

- 100% FDI is permitted under the automatic route in Food processing industries.
- 100% FDI is permitted in Manufacture of food products and for trading (including through e-commerce) for food products manufactured and/ or processed in India.

b. **Enabling sourcing**

In tandem with policies enabling the food processing sector, several progressive marketing reforms and schemes have also been launched for agriculture products, which allow for better sourcing opportunities for food processing industries

- The Agricultural Produce and Livestock Marketing (Promotion and Facilitation) [APLM] Act 2017, allows for clauses such as allowing single licenses for traders and de-listing perishables from the ambit of the AP-MCs.
- The electronic National Agriculture Market (e-NAM) portal was launched in 2016 with the vision of a single agriculture market.

- **Pradhan Mantri Kisan SAMPADA Yojana** (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters). The following schemes are implemented under this-

(i) Mega Food Parks

(ii) Integrated Cold Chain and Value Addition Infrastructure

(iii) Creation/Expansion of Food Processing & Preservation Capacities (Unit Scheme)

(iv) Infrastructure for Agro-Processing Clusters

(v) Creation of Backward and Forward Linkages

(vi) Food Safety and Quality Assurance Infrastructure

(vii) Human Resources and Institutions

- **Operation Greens:** A scheme to control the price fluctuation of Tomato, Onion and Potato by promoting Farmer Producers Organizations (FPOs), agri-logistics, processing facilities and professional management etc.
- **Nivesh Bandhu:** A dedicated investors' portal aimed at facilitating ease of doing business, and presenting information on incentives and policies on a single platform

- **Fiscal incentives:**

- (a) **Goods and Service Tax (GST):** 36% of the food items have been exempted from GST (0%) and 37% of the food items shall attract GST of 5% . These items constitute bulk of raw material that goes into further value addition. Hence cost of production of processed item is expected to fall. Low GST for food products is likely to have positive impact on food processing sector and prices of food products

- (b) **Financing:**

- The food processing sector enjoys **Priority Sector Lending**.
- To boost easy access of finance infrastructure status is provided for projects like Mega Food Parks and Cold Chain.
- A special fund of Rs.2000 crore has been set up in National Bank for Agriculture and Rural Development (NABARD) to provide credit at affordable rates to boost food processing sector.

- (c) **Custom duty:**

- All goods related to Food Processing, imported as part of the Project Import, irrespective of their tariff classification, are entitled to uniform assessment at concessional basic customs duty of 5%.
- Exemption of import duty for Import of Raw material/Intermediate Food Items against the export of finished products under advance authorization scheme of the Department of Commerce.

- **Regulatory Support**

- There has been an evident shift from 'checking adulteration' to 'ensuring safety' and has provided the country a meaningful opportunity to widen the scope of standards to encourage the food business operators towards self-compliance instead of being under surveillance.

Indian Food Regulatory Ecosystem

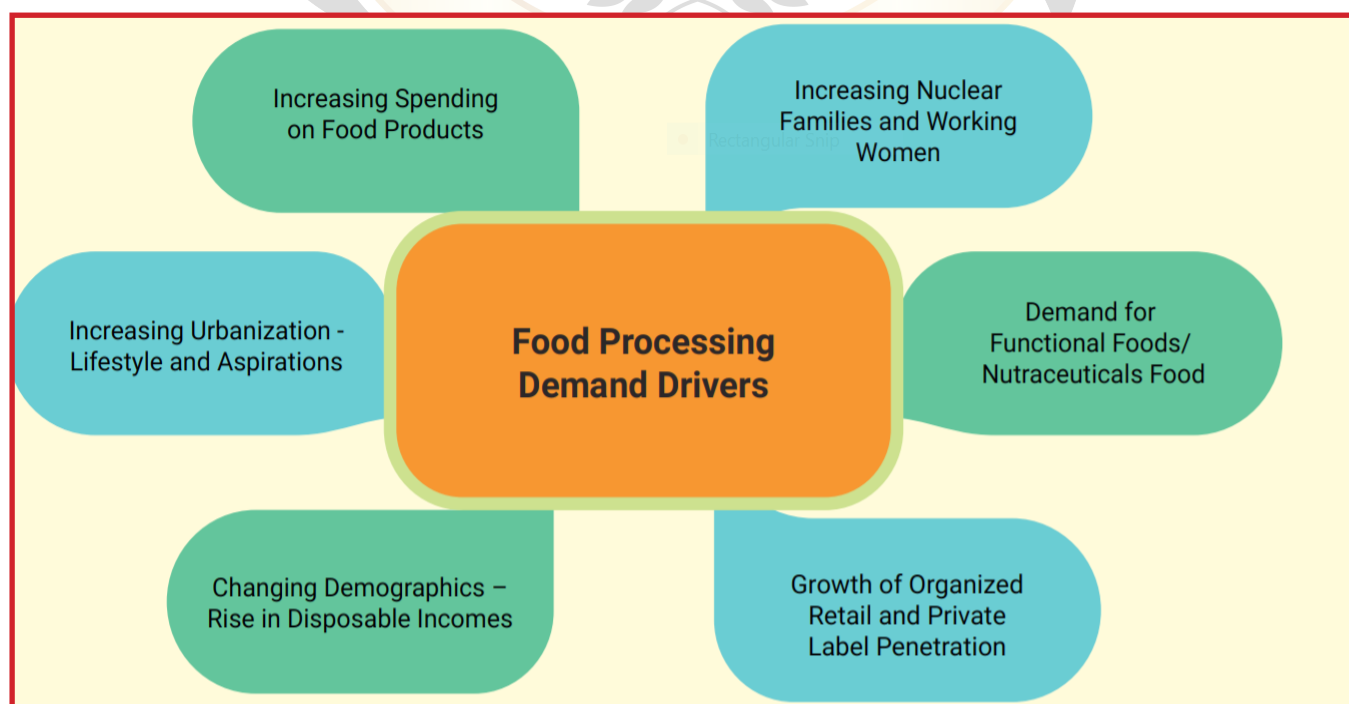
- Journey began with the enactment of The Food Safety and Standards Act (FSSA) in 2006.
 - This act brought into force in place of PFA (Prevention of Food Adulteration Act) and overrides all other food related laws.
- The recently notified Advertising and Claims regulation has provided a framework that enables level playing field for industry while protecting interests of the consumer.
- Standards for fortified to combat micro-nutrient malnutrition through packaged food especially the staples like rice, wheat flour, milk, edible oil etc.
- Food Licensing and Registration System (FLRS) simplified web-based system helps FBOs to apply for license/registration certificate from in the country.

- Harmonization with international standards has taken momentum in India to meet with Global standards.
- India has set a strong regulatory framework by developing various horizontal and verticals standards to encourage and support food processing industry.
- Food Safety and Standards Authority of India (FSSAI) has initiated the process of framing the regulations, covering all food products.

MAJOR SECTOR CHALLENGES:



SECTOR POTENTIAL:

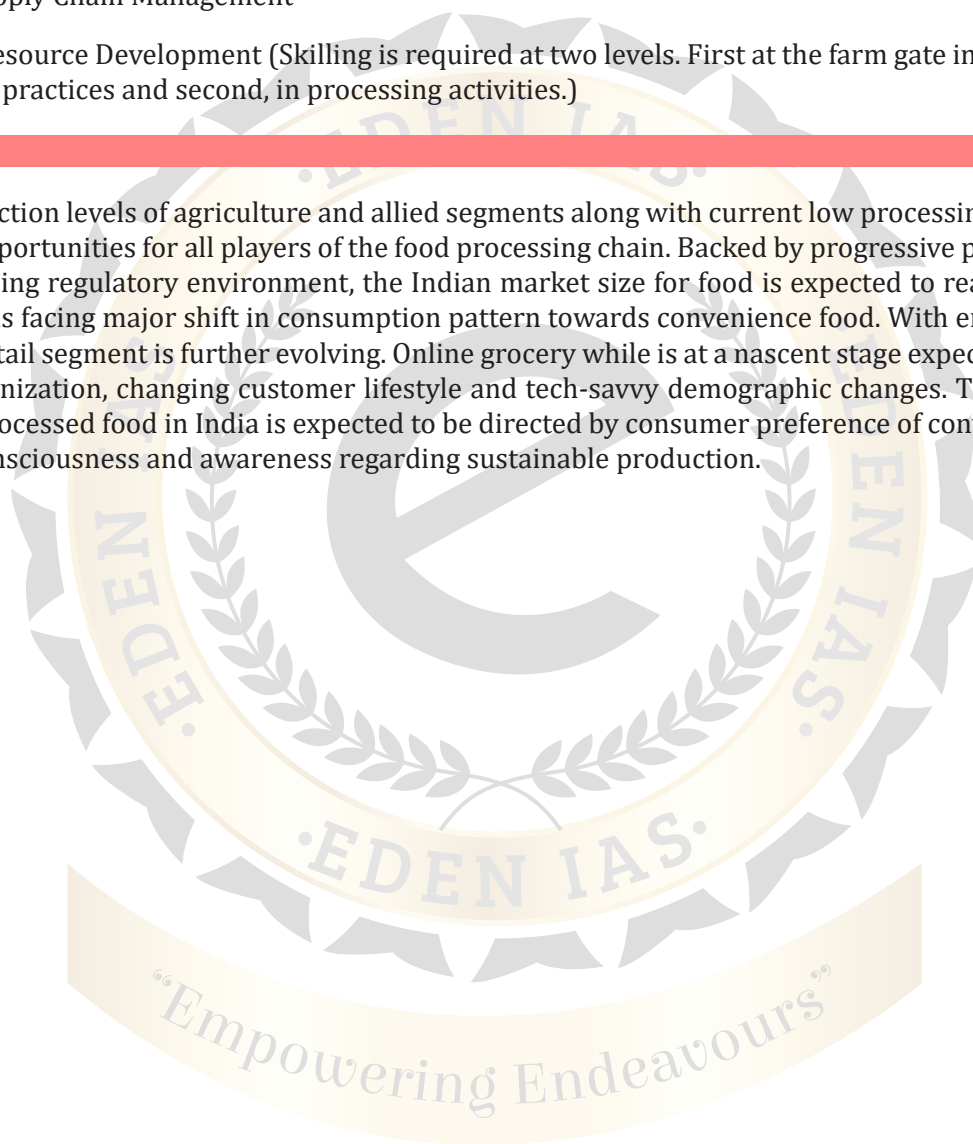


WAY FORWARD

- Strengthening the Indian Food Regulatory Ecosystem
- Harmonizing and Adopting International Best Practices
- Capacity Building initiatives
- Need for integrated cold chain and feasible cold chain solutions
- Efficient technologies
- Better Supply Chain Management
- Human Resource Development (Skilling is required at two levels. First at the farm gate in promoting agricultural best practices and second, in processing activities.)

CONCLUSION:

India's high production levels of agriculture and allied segments along with current low processing rates, represents huge untapped opportunities for all players of the food processing chain. Backed by progressive policies, fiscal incentives and an enabling regulatory environment, the Indian market size for food is expected to reach USD544 billion by 2020-21. India is facing major shift in consumption pattern towards convenience food. With emergence of e-commerce, the food retail segment is further evolving. Online grocery while is at a nascent stage expected to grow due to fast paced urbanization, changing customer lifestyle and tech-savvy demographic changes. Thus, going forward the demand for processed food in India is expected to be directed by consumer preference of convenience, nutritional value, brand consciousness and awareness regarding sustainable production.



8. INDIA AND WEST ASIA

INTRODUCTION:

West Asia is a part of India's extended neighbourhood. Continued peace and stability in the region are of vital strategic interest to India. India's interaction with the region has been evident from the days of recorded history. Till date internal as well as external transformations such as political instability, civil wars, sectarian rivalry, religious extremism, and secessionist movements are making it volatile and precarious region.

WHY THE REGION IS IMPORTANT:

- **Location-** Geopolitically West Asia occupies an important position in international relations due to its geographical location and proximity to continents and countries – South Asia, China, Central Asia, Europe, and Africa.
- **Energy Resources-** It is the world largest oil-producing region accounting for 34% of world production, 45% of crude oil exports and 48% of oil proven reserves. All powers seek a stake in the affairs of the region due to the abundance of natural resources.
- **Strategic Perspectives-** It is also a region plagued with instability largely due to the involvement of external forces, and sometimes due to internal conflicts. Great powers like Europe and America have at various times and with varying degrees of success dominated over the region.
- **Gate way to central Asia:** West Asia is gate way to land locked and energy rich central Asia.



Significance for India

- **Balanced among factions-** Since India has a strategically good and balanced relations with Iran, Saudi Arabia, Israel, Iraq, and the Gulf States, it is in the better position of being in trust by all the major factions in the region.
- **Changing regional dynamics-** heavyweights like Saudi Arabia, Iran, and Turkey are contending each other's views and divided on the basis of their deep vested interests. At the same time, international players and multi-lateral organizations are also involved in proxy conflicts in the region.
- **Terrorism:** Terrorism has emerged as the biggest security threat to the region. The rise of the Islamic State in Iraq and Syria (ISIS) is the most disturbing trend.
- **Trade and commerce-**The numbers on trade between India and the Gulf countries are having important weightage.
- **Indian Diaspora:** There are large Indian communities in the Gulf States. The remittances sent by Indian labour migrants have added to the economic relationship.
- **Energy Sources-** West Asia is crucial for stability and economic growth in India because around 65% of our oil and more than 80% of our gas supplies come from this region.
- **Socio-cultural affinity-** Socio-cultural affinity of Indian Muslims owing to – Macca and Madina located in this region. Every year more than a lakh Indian Muslims go for Hajj, providing a binding force between two regions.

- **Pakistan factor:** Pakistan is very close ally of many west Asian countries especially with GCC.
- **Shia- Sunni** divide may impact internal security of India.

INDIA AND WEST ASIA: RECENT DEVELOPMENTS :

- There are two ways that India has been engaging with the region in terms of geopolitical strategy.
 - The **first**, as mentioned, it has been making allies and collaborating economically with countries to safeguard its energy security.
 - At the **second** level, it has been engaging selectively in socio-political contacts. As one of the largest diaspora population in the region.
- **Bilateral relations**-India accorded importance to the Gulf region as is clearly evident in the diplomatic visits paid by Indian PM to the countries of the West Asia in general and to the Gulf States in particular. His visits to Saudi Arabia, UAE, Qatar, Iran.
- **Contentious issues**- The Qatar-Saudi blockade, and the ongoing U.S. sanctions over Iranian Nuclear deal are the two contentious issues, which India is watching closely.
- **The Indian diaspora** too adopts various means to influence the government of the homeland and host countries.
- **Israel- Palestine**-PM Modi's Palestine visit was the first visit by an Indian Prime Minister. With New Delhi's policy of trying to build capacity of Palestine, India signed six agreements worth around \$50 million with Palestine.
- **UAE**- A landmark pact awarding a consortium of Indian oil companies a 10% stake in offshore oil concession is the first Indian investment in the UAE's upstream oil sector. There is growing convergence between India and UAE on tackling terrorism.
- **Oman** has been a long-standing partner of India in West Asia, where Indians constitute the largest expatriate community. With the Indian Ocean becoming a priority focus area for New Delhi, Oman's significance is likely to grow.
- **Naval cooperation** has already been gaining momentum with Muscat giving berthing rights to Indian naval vessels to fight piracy in the Gulf of Aden. India and Oman are enhancing cooperation in the field of health, tourism and peaceful uses of outer space.

LOOK WEST POLICY: INDIA & WEST ASIA

- Look West Policy is the strategy of Indian Government in dealing with the West Asian nations. It was adopted by the Indian government in 2005 and has not gained much attention since then.
- In recent years, under the present government, the same strategy has been followed with increased intensification. Currently, the Look West Policy focuses on 3 **main axes: The Arab Gulf countries, Israel and Iran**

Current Status

- The success of this policy is seen when Organisation of Islamic Cooperation has not taken a strong stance against India on the issue related to the abrogation of article 370 and 35A and UAE presenting Order of Zayed to PM Modi immediately after to boost the ties between the two nations.
- India's economic development needs have made West Asia increasingly important both as a fuel source and for India's labour and remittance. Historically, India's West Asia policy has been multi-directional.
- During the Cold War years, India maintained close economic cooperation with both Saudi Arabia and Iran, the rival poles in regional geopolitics.
- In the post-Soviet world: The bi-directional approach has been expanded to a tri-directional foreign policy to accommodate the three key pillars of West Asia — Saudi Arabia, Iran and Israel.

India's importance

- India is looking for renewed alignments, investment opportunities and diaspora outreach in the region.
- Palestinian called for a potential Indian role in the West Asian peace process. Palestine, which has turned away from a US-led mediation, now counts on India to realise the two states solution.
- India remains strongly committed to the establishment of a viable Palestinian state, living at peace with Israel.
- India acts as an important market for the Gulf oil economies, their aviation companies, a provider of technology and human resources.
- Joint military exercises to control "non-State actors".
- Today, New Delhi is building infrastructure in Iran while also sharing intelligence with Saudi Arabia.

CONCERNS AND CHALLENGES:

• US- Iran Factor-

- Iran amidst prospective US Trump administration sanctions. India has traditionally aimed to maintain good relations with Iran in light of India's substantial Shia Muslim minority.
- The tensions in Iran have exposed India to another challenge: the vulnerability of India's citizens and economic interests in West Asia.

• Israel-Palestine Factor-

- Peace negotiations between Israel and Palestine are not seeing any progress and are challenged by the US' increasing inclination towards Israel.
- Furthermore, there is a revival of support for Palestinians by the wider Arab public that could put pressure on Gulf regimes to reverse their current rapprochement with Israel.

• China Factor-

- China's position in the region has grown in recent years, though not as much as it might have given its dependence on West Asian petroleum imports. Its energy investments focus mostly on Iraq, and to some extent the UAE.
- A massive economic-political deal between China and Iran, initiated in 2016 and supposedly leaked in more detail this month, remains mostly aspirational.

- **Oil Import-** India has even reduced its oil imports following the US' sanctions, further challenging its India-Iran relations.

- **Indian diaspora-** The workers employed in the destination countries are subjected to abuse and exploitation, long tedious working hours, delays in payment to name a few.

{Public sector jobs are reserved for the nationals and private sector jobs for the migrants who come under the system of Kafala an 'employment framework in the Gulf' whereby a national employer sponsors a migrant. This framework has been criticised by human rights activist as it leads to exploitation of the migrant worker in the host countries.}

China- Pakistan Angle

- The US' unilateral withdrawal from the JCPOA and the re-imposition of sanctions on Iran has derailed India's strategy to counter China and Pakistan through Iran
- China and India, as two emerging powers, are yet to articulate a clear road map for the region.
- With China's expanding footprint in the Indian Ocean Region, India must strengthen security ties with littoral states.
- Current estimates suggest China has already spent about \$68 billion on the CPEC project alone and approximately \$200 billion on all other projects to date.
- Also, India's efforts to counter China and Pakistan through Iran may become redundant especially if Iran and Pakistan can overcome their differences and co-operate to link their ports to increase their connectivity.

WAY FORWARD

- **From a political perspective**, given the historically close and proximate relationship, the need for regular visits at the highest levels to countries in the region needs no reiteration. Visits after 30-odd years do not do justice to relations with some of our important partners. Consultations at the Ministerial and official level should not be episodic, but frequent;
- **Commercial and economic cooperation** should be further broad based and conditions created to attract a greater level of investment from these countries as also look at project exports and appropriate investments into those countries;
- **Leverage partnerships** to provide for greater energy comfort levels and security. We should look at moving beyond buyer-seller relationship and strike partnerships in each other countries and in third countries in the energy sector;
- **Strengthen defence and security** related interaction. Develop an agenda of joint cooperation and exchange of information in combating extremism, terrorism, cyber terrorism and piracy;
- **Carefully harness soft power** approaches in the areas of education, culture and human resource development, medical tourism among others;
- **With the Indian community** being the preferred community of choice, ensure welfare and safety of the large Indian community in the countries of the region in close consultation with the host countries.

CONCLUSION

Keeping in mind that the region is a hotbed for global political game plans, India needs to devise strategies to secure its geo-strategic interests. U.S., Russia, China are selling military and technological equipment to the Gulf countries, while India as an emerging soft power is cautiously watching from the distance. Till date, India's main interests in the region are economic in nature and our West Asia Policy is pragmatic, clear and acceptable. Moreover, the Indian diaspora is being tapped as an asset and has become a major source of soft power diplomacy helping to promote India's interest in the region. Although our energy security is protected in the region, we need to re-engage with all stakeholders more dynamically and diplomatically in order to promote national aspirations of 'New India'.

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9. MANUFACTURING IN INDIA: PROBLEMS AND SOLUTION

INTRODUCTION:

India's manufacturing sector: India's manufacturing sector has evolved through several phases – from initial industrialisation and licence raj to liberalisation and the current global competitiveness. In 2017, the manufacturing sector contributed only about 16% of India's GDP. On the other hand, in the east and south-east Asia, the industry share is above 30-40%, while the manufacturing is up by 20-30%. Manufacturing sector's share in the GDP has not grown at all, though between 2004 and 2012, employment growth in this sector was considerable. However, the total manufacturing employment has reduced significantly between 2011 and 2016 by 10 million in just four years, especially in the labour-intensive manufacturing sectors like food processing, tobacco, textiles, apparel, leather, wood and furniture. This is in contrast to what was achieved in Japan, Korea, Taiwan and China.

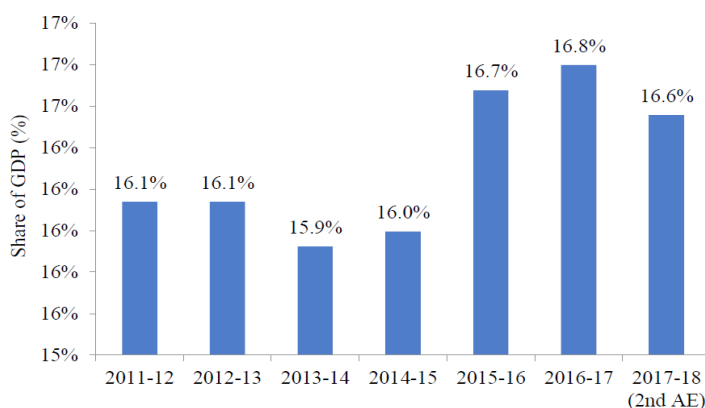
POTENTIAL AND PROSPECTS: MANUFACTURING SECTOR:

- India has three Ds (Democracy, demography and demand) for the growth of the manufacturing sector.
- 65% of India's population is below the age of 35 – an advantage when compared to other countries.
- Studies have shown that every job created in the manufacturing sector has a multiplier effect in creating 2 to 3 jobs in the service sector. High domestic demand, increasing middle class and young population and high returns make India attractive for the manufacturers. The manpower cost is low when compared to other nations.

ISSUES AND CHALLENGES:

- **Infrastructural bottlenecks:** Lack of backward and forward linkages between agriculture, industry and service sector.
- **Regulatory uncertainty/legal hurdles:** Regulatory risks and policy uncertainty in the past have dented investor confidence. Getting statutory clearances related to power, environment, labour are major hurdles. Laws related to the all aspects of manufacturing and service concern are very complex and compliance with these laws are difficult.
- **Investment:** There has been a cyclical slowdown in fresh investment since 2011-12.
- **Technology adoption:** The adoption of new technologies like artificial intelligence, data analytics, machine-to-machine communications, robotics and related technologies, collectively called "Industry 4.0", are a bigger challenge for SMEs than for organized large-scale manufacturing. Data security, reliability of data and stability in communication/transmission also pose challenges to technology adoption.
- **Exports and insufficient domestic demand:** There have been no export driven industrial growth. Domestic demand alone may not be adequate for sustained, high value manufacturing.
- **Labour laws:** The labour laws in India are excruciatingly complicated. The laws change based on the number of labourers. The worst of the laws is the Industrial Disputes Act, which says that if the manufacturing firm has 100 workers or more, it cannot dismiss any of them under any circumstances unless prior approval is given by the government, which is rarely given. The law is mandated even if the industry is going bankrupt.
- **Challenges to doing business:** Despite recent improvements in our global EODB rank, it continues to be a drag on the system. This is also true of investment conditions in the states. Getting construction permits, enforcing contracts, paying taxes, starting a business and trading across borders continue to constrain doing business.

Figure 4.1: Manufacturing as a share of GDP, 2011-12 to 2017-18



Source: MoSPI

- **Biased trade regime:** India's trade regime is biased towards capital-intensive manufacturing.
- **Research and development:** Currently, India spends about 0.9% of GDP on research and development, a considerably small amount when compared with other developed nations. This prevents the sector to evolve, innovate and grow.
- **MSME sector/Small enterprises,** because of their smaller size, suffer from low productivity, preventing them from achieving economies of scale and also facing tough competition due to the cheap imports from China and other countries that have a free trade agreement with India.
- **Labour productivity in India** is less when compared with other nations like China due to the lag in supply chain management, transportation, production planning and maintenance. Today, 62% of India's population is in the working-age group and more than 54% of the total population is below 25 years of age. However, it is estimated that only 4.7% of India's workforce is formally skilled. This is in contrast with US (52%), UK (68%), Germany (75%), Japan (80%), South Korea (96%) and China (24%).
- **Intellectual Property Protection and Enforcement** are risky and expensive in India. Currently, the government is undertaking significant IP Protection reforms, increasing uncertainty and complexity.
- **Lack of necessary skills and education:** The manufacturing sector, for it to grow, requires an educated workforce with the necessary skills and training. India's skill ecosystem needs to be fixed. According to a FICCI report, India has 5.5 million people enrolled in vocational courses, while China has 90 million. Also, India's education system lacks soft-skills and value-based training that meets the demands of the industry.

GOVERNMENT INITIATIVES:

- **Make in India initiative** aims to make India the global manufacturing hub. It also aims to increase the sector's GDP share to 25% from the existing 16%, and create 100 million new jobs by 2022.
- **Skill India** aims to create jobs and promote entrepreneurship within India.
- **Atmanirbhar Bharat** which spoke about ₹ 5.94 lakh crore liquidity support for various sectors with special focus on Micro, Small and Medium Enterprises (MSME).
- **Pradhan Mantri MUDRA Yojana (PMMY)** provides loans for small business. Startup India scheme's objective is to generate employment and promote economic development. It seeks for the development and innovation of products and services and aims to increase the employment rate in India.
- **Stand-up India** aims to promote entrepreneurship among women and SC and ST communities.
- **Shram Suvidha** is a web portal that provides a single platform for all labour law compliances. Other labour reform initiatives include Random Inspection Scheme, Universal Account Number and Apprentice Protsahan Yojana.
- **Defence Procurement Policy (DPP)** prioritises the promotion of indigenous defence technology.
- **National Manufacturing Policy (NMP)** provides for Technology Acquisition and Development Fund (TADF) that facilitates the acquisition of clean, green and energy-efficient technology by MSMEs.

COVID-19 & MSME SECTOR:

- **Most hurt sector** during Covid 19 was the Medium, Small and Micro Enterprises (MSMEs) of India.
- **Migration**, hundreds of thousands of stranded migrant workers across the country, suggests that MSMEs have been the worst casualty of Covid-19 induced lockdown.
- **According to a recent survey** for "small and medium" firms in manufacturing, only 7% said they will be able to survive for more than three months with their cash in hand if their business remains closed.

Global Exercises

- **China**-China is currently one of the dominant players in the global economy and its growth is mainly because of its manufacturing sector, contributes more than 25% of the global manufacturing GDP. China's comprehensive economic planning, high investments in infrastructure growth, incentives and subsidies, progressive decentralisation and market-oriented reforms led to its manufacturing revolution.
 - Currently, the Chinese government, through its Made in China 2025 strategic plan, is incentivising the Chinese companies to improve their factories' quality, productivity and digitisation.
- **South Korea**
 - South Korea has become a high-tech manufacturing country by giving higher emphasis on the purchase of technology and subsidies on R&D investments made by the public and private players.
 - Tax incentives for R&D are provided at every stage. Thus, increased investment in research and development led to it gaining a competitive edge in technology and design.

WAY FORWARD:

- **Demand generation, augmentation of industrial infrastructure and promotion of MSMEs**- The government can play a crucial role in creating domestic manufacturing capabilities by leveraging proposed public procurement and projects. Mega public projects such as Sagarmala, Bharatmala, industrial corridors, and the Pradhan Mantri Awas Yojana (PMAY) can stimulate domestic manufacturing activities.
- **self-sufficient clusters of manufacturing**- Efforts should be made to develop self-sufficient clusters of manufacturing competence, with Cluster Administrative Authorities empowered to provide single window clearances to entrepreneurs and investors.
- **Ease of doing business**- Introduce a "single window" system in all states that provides a single point of contact between investor and government and facilitates all required licences and approvals. It should be based on stakeholder consultation.
- **NITI Aayog** could work with states to prepare manufacturing clusters and develop export strategies based on their sector competitiveness and resource strengths.
- **FDI**- For India to become the world's workshop, we should encourage further FDI in manufacturing, particularly when it is supported with buybacks and export orders.
- **E-commerce** can be the driver of overall economic growth over the next decade through its impact on generating demand, expanding manufacturing, employment generation and greater transparency.
- **Quality**- Harmonize Indian quality standards with global standards in many sectors. Lack of harmonization has affected Indian exports and prevented the leveraging of trade agreements adequately.
- **Labour Intensive sectors**- Setting up of mega parks and manufacturing clusters in labour intensive sectors with common facilities to reduce costs and improve quality. It is also recommended that state governments should set up plug and play parks (flatted factories) to ensure international productivity standards.
- **Labour reforms**: Reforming of the existing labour laws must be prioritised to make them simplified and flexible. They must be reformed in a way that will promote investment and ease of doing business within the sector.
- **Power**: Stable, low cost and uninterrupted power is vital to promote the growth of the energy-intensive manufacturing growth.
- **Promote research and development**: India is spending about 0.6-0.7% of its GDP on Research & Development. This is much less than the US (2.8%), China (2.1%), South Korea (4.2%) and Israel (4.3%).

CONCLUSION

Last but not the least, for India's manufacturing sector to grow, it is pertinent that we push the frontier for MSMEs—they contribute nearly 32% of the GDP. There is an urgent need to bring down the cost of capital for these firms so that they stay competitive and innovative. While the Indian industry needs to upgrade to compete globally, without an effective and targeted policy support, the manufacturing sector will stagnate and not be able to compete with its emerging market peers. Effective collaboration between the government and the private sector is the need of the hour.



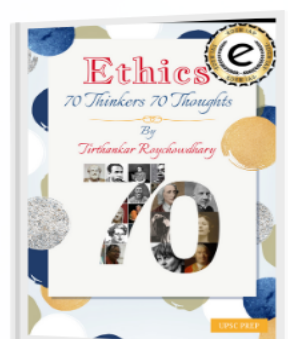
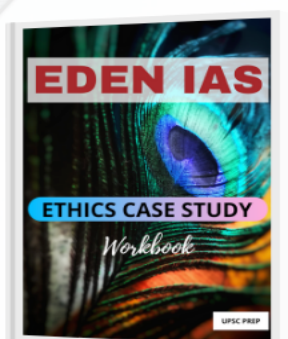
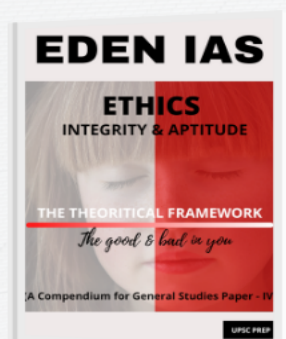
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10. POWERING INDIA'S SOLAR DREAMS

INTRODUCTION:

Providing secure, affordable and sustainable energy to all is an important policy priority in India, and major progress has been made towards the United Nations Sustainable Development Goals (SDGs), notably SDG7 on energy. For this, the solar energy plays a critical role in both meeting sustainable development objectives and reducing environmental externalities in India. Looking ahead, the government of India has laid out an ambitious vision to bring secure, affordable and sustainable energy to all its citizens.

SOLAR ENERGY: WHY BETTER ALTERNATIVE:

- It's a free source of energy
- It can make use of the underutilized land
- It can cause less electricity loss
- Low electricity cost per unit
- It can make your home go off-the-grid
- It's good for the environment
- It helps improve your grid security

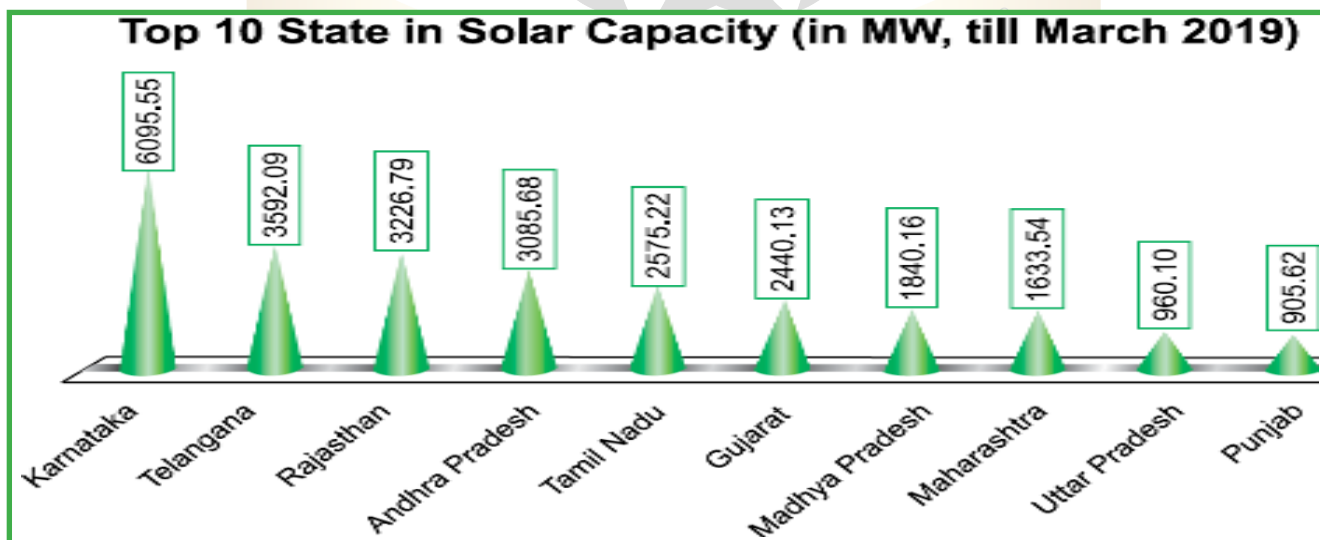
What is Solar Rooftop System?

In this system, in any residential commercial, institutional and industrial building, the solar panels are installed in the roof. It can be of two types: Solar Rooftop System having storage facility by using battery and Grid Connected Solar Rooftop System.

Current status and Potential

- As of September 2020, the total installed capacity for Renewables is 89+ GW with the following break up:
 - Wind power: 38 GW
 - Solar Power: 36 GW
 - Bio Power: 10 GW
 - Small Hydro Power: 5 GW
- Recently, India achieved 5th global position in solar power deployment by surpassing Italy. Solar power capacity has increased by more than 11 times in the last five years from 2.6 GW in March, 2014 to 30 GW in July, 2019. Presently, solar tariff in India is very competitive and has achieved grid parity.

Top 10 State in Solar Capacity (in MW, till March 2019)



- Based upon availability of land and solar radiation, the potential solar power in the country has been assessed to be around 750 GW.
- India is expected to be **8% of global solar capacity by 2035**. With the future potential capacity of 363 Gigawatts (GW), India can be a global leader in term of encashing energy sector advantages.

TYPES OF SOLAR ENERGY:

- **Grid connected electricity**-Grid interactive solar energy is derived from solar photovoltaic cells and concentrated solar power Plants on a large scale.
- **Off-grid solutions**-
 - While, the areas with easier grid access are utilizing grid connectivity, the places where utility power is scant or too expensive to bring, have no choice but to opt for their own generation.
 - They generate power from a diverse range of small local generators using both fossil fuels (diesel, gas) and locally available renewable energy technologies (solar PV, wind, small hydro, biomass, etc.) with or without its own storage (batteries). This is known as off-grid electricity.

TECHNOLOGIES USED:

- **Solar Photovoltaic:** Solar photovoltaic (SPV) cells convert solar radiation (sunlight) into electricity. A solar cell is a semi-conducting device made of silicon and/or other materials, which, when exposed to sunlight, generates electricity.
- **Solar thermal:** Solar Thermal Power systems, also known as Concentrating Solar Power systems, use concentrated solar radiation as a high temperature energy source to produce electricity using thermal route.



EMERGING WAYS OF SOLAR ENERGY PRODUCTION:

- **Floating Solar-** Floating solar technology is an alternative for harnessing solar power in places with constraints on land availability/usage. Under this technology, solar PV panels are mounted on floating platforms on water bodies such as dam reservoirs, lakes, etc.
- **Solar wind hybrid-** Solar wind hybrid technology aims at optimization of land and common infrastructure, such as power evacuation, transmission network, etc., by combining wind and solar technologies.
- **Solarization of public transportation-** Specialised institutions are in discussion with Indian Railways for setting up of solar projects for captive use of railways.

ADVANTAGES:

- **Renewable Energy Source-** Among all the benefits of solar panels, the most important thing is that solar energy is a truly renewable energy source. It can be harnessed in all areas of the world and is available every day. We cannot run out of solar energy, unlike some of the other sources of energy.
- **Reduces Electricity Bills** which has significant reduction in per unit cost of solar (Rs.6.17 in 2014 to Rs.2.44 in 2018).
- **Diverse Applications-** Solar energy can be used for diverse purposes. You can generate electricity (photovoltaics) or heat (solar thermal).
- **Low Maintenance Costs-** Solar energy systems generally **don't require a lot of maintenance**. You only need to keep them relatively clean, so cleaning them a couple of times per year will do the job.

- No overhead wires- no transmission loss
- **Technology Development**- Technology in the solar power industry is constantly advancing and **improvements** will intensify in the future. Innovations in quantum physics and nanotechnology can potentially increase the effectiveness of solar panels and double, or even triple, the electrical input of the solar power systems.

GOVERNMENT INITIATIVES:

PM Modi's 10-point action plan to promote solar power

Prime Minister Narendra Modi on Sunday listed out 10 action points at the founding conference of the International Solar Alliance, to bring about a solar revolution worldwide. They include:



- ▶ Ensuring that cheap and improved solar technology is easily available
- ▶ Increasing the percentage of solar energy in countries' national energy mix
- ▶ Encouraging innovation for development of solutions to problems/challenges
- ▶ Ensuring concessional and risk-free funding for solar projects
- ▶ Developing regulatory aspects and norms to speed up adoption of solar technologies, solutions
- ▶ Consultancy support for bankable solar projects in developing nations
- ▶ Ensuring efforts to propagate solar revolution stress on partnerships and assimilation
- ▶ Ensuring creation of a network of centres of excellence that takes into account local circumstances and factors
- ▶ Ensuring solar energy policies are seen in the context of development that will help in achieving Sustainable Development Goals.
- ▶ Making the ISA secretariat a strong and professional body

- **National Solar Mission (NSM)**, launched on 11th January, 2010, had set a target for development and deployment of 20 GW solar power by the year 2022. The Cabinet in its meeting held on 17/6/2015 had approved revision of target under NSM from 20 GW to 100 GW.
- **ISA**- India has been playing a leadership role in encouraging for the establishment of a solar based economy across the globe.
- **Training Programs**- More than 36000 Suryamitras have been trained in the last five years to cater to the growing needs of the solar energy sector. Such initiatives have created employment opportunities at multiple levels. Apart from this, nearly 1450 Varunmitras and Rooftop Solar Grid Engineers were trained during 2018-19.
- **Several new policy initiatives have been taken up during the last four years including**
 - **National Solar – Wind Hybrid policy notified**; Wind-Solar hybrid projects of 840 MW have been auctioned through transparent competitive bidding by SECI, with discovered minimum tariff for hybrid project at Rs.2.67/unit;
 - Tender invited for setting up Solar PV manufacturing capacities linked with assured off-take of 3000 MW;
 - EoI invited for 150 MW floating Solar power plants;
- **Solar Park**- The capacity of the Solar Park Scheme was enhanced from 20,000 MW to 40,000 MW; Two solar parks Kurnool (1000 MW) in Andhra Pradesh and Bhadla-II (680 MW) in Rajasthan are fully operational; Solar Power projects of aggregate capacity of 5,835 MW have been commissioned inside various Solar Parks;
- **Transparent bidding process** – which has led to significant reduction in per unit cost of solar (Rs.6.17 in 2014 to Rs.2.44 in 2018).
- **Viability Gap Funding (VGF) Scheme**- Under VGF Schemes, 750 MW, 2000 MW and 5000 MW of Grid connected Solar Power Projects have been taken up. Solar Energy Corporation of India (SECI) has been designated as implementing agency for these schemes.

Solar Park is a large area of land developed with all necessary infrastructures and clearances for setting up of solar projects. The capacity of the solar parks is generally 500 MW and above. However, smaller parks (up to 20 MW) are also considered in States/UTs where there is shortage of non-agricultural land.

- **Rooftop PV and Small Solar Power Generation Programme (RPSSGP)**
- **Off-grid and Decentralised Solar PV Applications Scheme-** The Off-grid and Decentralized Solar PV Applications Programme as part of the National Solar Mission is primarily focused on providing energy access solutions in the rural and remote areas.
- **Atal Jyoti Yojana (AJAY):** Government in 2016 launched 'Atal Jyoti Yojana' for installation of SSL Systems in the States with less than 50% households covered with Grid Power as per 2011 census these include Assam, Bihar, Jharkhand, Odisha and Uttar Pradesh.
- **Grid-connected Rooftop Programme** is to achieve a cumulative capacity of 40,000 MW from rooftop solar projects by 2022. The programme will be implemented with a total central financial support of ₹11,814 crore.

International initiatives

- India's commitment as part of INDC at Paris climate deal to reduce the emissions intensity of its GDP by 33 to 35% by 2030 from 2005 level.
- To achieve about 40 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with the help of transfer of technology and low-cost international finance, including from Green Climate Fund.
- To mobilize more than US \$ 1000 billion of investments needed by 2030 for massive deployment of solar energy, and pave the way for future technologies adapted to the needs.
- India has announced **One Sun One World One Grid**. In this regard, proposals have been invited from MNRE for making a long-term roadmap.

CHALLENGES IN ADOPTION:

- **Import dependency**-India has a domestic manufacturing capacity of only 3 GW for solar cells. India's solar energy sector is largely dependent upon imported products.
- **Challenges in the utility scale solar market-** The biggest concern for the sector is grid integration of growing renewable capacity followed by poor financial condition of Distribution Companies (DISCOMs).
- **Capital intensive nature** of the business might favour larger businesses over smaller ones. High storage cost also restricts smaller players.
- **WTO clauses**- India's domestic content requirement clause has been facing legal challenges at WTO.
- **Net metering** implementation as the most important challenge.
- The dumping of products is leading to profit erosion of local manufacturers.
- **Land availability** in India for solar plant is less due to high population density.
- **Weather dependency**- Although solar energy can still be collected during cloudy and rainy days, the efficiency of the solar system drops.
- **Solar waste**- India's solar waste is estimated to be around 1.8 million by 2050 also needs to be tackled.

WAY FORWARD

- **Focus on solar-plus-storage technology** because affordable storage technologies are the key to bringing solar energy to scale, not only in India but to the world.
- **The foreign capital** must be encouraged to invest in solar energy projects. There should be fair tariff policies so that investments are not rendered profitless.
- **Subsidized** land acquisition, raw material, and export emphasis can guide India's Make in India to engage heavily in the solar energy sector.
- **Skilling:** If we are to have a robust domestic manufacturing, local R&D and skills are most important.

- **State governments** must be encouraged to invest in solar energy projects.
- **Innovative models** can provide more cost-effective investment opportunities like Floating Solar panel, the solar-wind hybrid energy model etc.
- **Enhanced Incentives** for MSMEs, and other smaller stake holders also to boost up the domestic production side as well as discounted approach on domestic demand side..

CONCLUSION:

Solar power is a powerful energy resource that can provide suitable electricity for your home. It's the cleanest and most abundant renewable resource that can efficiently power your place cost-effectively. Solar energy sector is a solution to most of our pressing issues such as equitable and sustainable development, social sector, employment generation, etc. Hence, utilizing solar energy can provide you benefits such as those mentioned above and help preserve the Earth for the next generations to come.

Supplementary Capsules

SUCCESS STORY

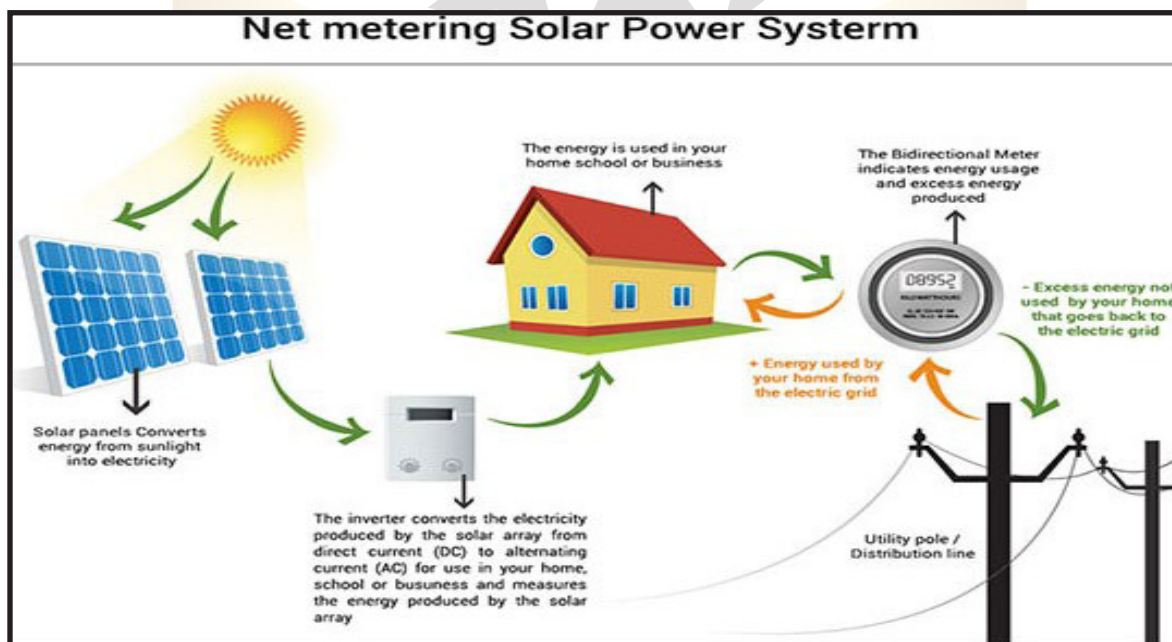
The Kalgidhar Trust, Barusahib, Sirmour, Himachal Pradesh has installed a Scheffler dish based solar cooking system for 5500 people. The solar fields have 28 dishes of 32 square meter each with a cumulative reflector area of 896 square meter. Initially, they used LPG for cooking. The project was completed with a total expenditure of Rs.2.33 crore and Ministry's support of Rs.98,21,952/-. The CST based cooking system is operated for an average of 8 hrs per day delivering an average output 20.26 lakh Kcal/day. This results in an average saving of 218 kgs of fuel, benefitting a saving of about Rs.1322.00 per day.



Cooking food in Solar Kitchen

Specialised institutions for Solar Energy

- National institute of solar energy
- Solar radiation resource assessment (SRRA)
- Solar photovoltaic testing laboratory
- Solar water pumping test facility
- Suryamitra training & placement
- Solar energy corporation of india limited (SECI)



11. CRIMINALIZATION OF POLITICS

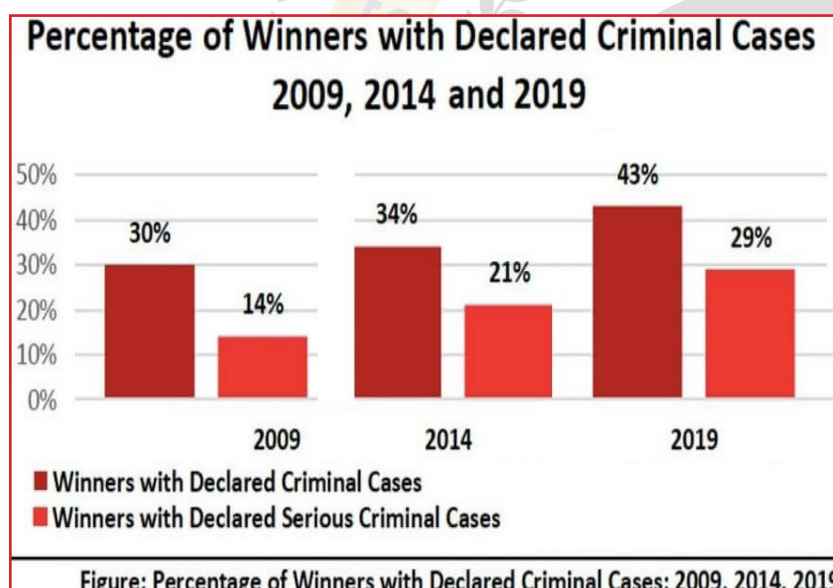
INTRODUCTION

India is a democratic country, and in a democratic form of government, we elect our own representative who is responsible for governing the country, therefore it is extremely important that the people who enter the field of politics have a clear image and high moral character. Almost, all the parties are afflicted with this disease and it exists in all the states. Despite of various efforts the growing rate of criminalization in politics has become a headache for the Indian democracy and it is a harsh reality now.

Why in News?

A report published by the Association for Democratic Reforms (ADR) shows that there has been a rise in the number of candidates with criminal antecedents compared to 2015, despite the Supreme Court ruling earlier this year asking political parties to justify such nominations.

CURRENT SCENARIO



What is Criminalization of Politics?

The criminalization of politics means the participation of criminals in politics which includes that criminals can contest in the elections and get elected as members of the Parliament and the State legislature.

Various Forms- There are many forms of criminalization of politics, the one that is most alarming among them is a significant number of elected representatives with pending criminal charges against them. The criminalization of politics involves intimidation of voters, booth capturing, the proliferation of non-serious candidates, tampered electoral rolls, and other polling irregularities.

RELATED LEGAL AND CONSTITUTIONAL PROVISIONS

- **Section (8)** of Representation of People Act:
 - **Section 8(1):** A person convicted of an offence punishable shall be disqualified, where the convicted person is sentenced to—
 - (i) only fine, for a period of six years from the date of such conviction.
 - (ii) imprisonment, from the date of such conviction and shall continue to be disqualified for a further period of six years since his release.
 - **Section 8(2):** A person convicted for the contravention of any law providing for the prevention of hoarding or profiteering, any law relating to the adulteration of food or drugs, any provisions of the Dowry Prohibition Act, and sentenced to imprisonment for not less than six months, shall be disqualified from the date of such conviction and shall continue to be disqualified for a further period of six years since his release.

- **Section 8(3)** A person convicted of any offence and sentenced to imprisonment for not less than two years [other than any offence referred to in sub-section (1) or sub-section (2)] shall be disqualified from the date of such conviction and shall continue to be disqualified for a further period of six years since his release.
- **Rule 4A of the Conduct of Election Rules, 1961**, prescribes that
 - each candidate must file an affidavit regarding cases, if any, in which the candidate has been accused of any offence punishable with imprisonment for two years or more and
 - cases for conviction for an offence other than any of the offences mentioned in Section 8 of the Representation of the People Act (RPA), 1951 and sentenced to imprisonment for one year or more.
- **The Election Commission** in March 2003, issued an order that candidates must file an additional affidavit stating Section 125A of the RPA, 1951 which prescribes penalties for withholding or providing incorrect information on Form 26, which amounts to imprisonment of up to six months, or fine, or both.
- If a lower court has convicted an individual. He cannot contest an election unless a higher court has overturned his conviction.

Supreme Court Rulings

1- Lily Thomas V. Union of India – Case that barred criminals in politics

- The Court held that Section 8(4) of the RPA, which allows MPs and MLAs who are convicted while serving as members to continue in office till an appeal against such conviction is disposed of, is unconstitutional.
- In 2015 Supreme court directed Center set up courts to fast track cases against legislators.

2-Public Interest Foundation v. Union of India (2018)– Can filing of charge-sheet lead to disqualification?

- Currently Section 8 of the Representation of Peoples Act only disqualifies persons when they are convicted of criminal charges.
- The Bench cited respect for the separation of powers. It recognized that it cannot introduce new rules regarding the disqualification of electoral candidates and asked Parliament to make a law that prevents candidates accused of serious crimes from entering politics
- The Court issued the following directions:
 - a) Candidates must fill up forms containing the particulars
 - b) In said forms, criminal antecedents to be stated in bold
 - c) Candidates must inform the concerned political party of pending criminal cases against them
 - d) Concerned political party to put up such criminal antecedents of candidates on party website.
 - e) Wide publicity by both candidates and parties in press and media of the criminal antecedents. Wide publication meaning at least thrice after filing of nominations

3-Rambabu Singh Thakur v. Sunil Arora, 2020

- In the case the court delivered a judgment in the contempt petition arising out of the Electoral Disqualification case (Public Interest Foundation).
- The Bench re-iterated the Court's 2018 directions and directed the Election Commission to report to the Supreme Court any non-compliance by political parties.

CAUSES OF CRIMINALIZATION OF POLITICS

- **Emergence of vote bank politics:** One of the major reasons of why the political parties bring in such candidates on the election field lies in the services that these rowdies offer to them.
- **Corruption:** The political parties claim to be different and better than the other existing parties but a common characteristic that runs almost through all the parties, is the criminal background of the candidate backed by them.
- **Loopholes in the functioning of Election Commission:** Another reason for the nurturing of felons in the political system of the country is the loopholes in the working of the Election Commission.
- **Denial of Justice and Rule of Law:** Criminalization has become a fact of Indian politics today. The political parties, electors and the whole machinery of law and order of the country are equally responsible for bringing in such a situation
- **Unholy nexus between politicians and bureaucracy:** Individual bureaucrats came increasingly to ally with individual politicians or political parties. When the party they allied with was in power, they get the best postings. In return, they energetically implemented the partisan agenda of the politicians.
- **Interference of politicians in the administration**
- **Caste and religion:** Less qualified and inefficient civil servants get promotion. The quota system is fully responsible. It has been found that a minister of a particular caste or religion will distribute favor to the members of his own caste and religion.
- **System of party government:** The system of party government is also responsible for the criminalization of politics. On the eve of general election, the leaders of the party give promises to the electorate. The purpose is to win the election.



IMPACTS

- **Poor Governance-** The primary sacrifice at the altar of criminalization is that of governance, along with transparency and accountability.
- **Expensive election campaigning** favors candidates with strong financial background. Such candidates, when elected, seek to recover their expenses besides securing a corpus for the future election as quickly as possible.
- **Business of Parliament-** The law breakers today are now the law makers and they do not allow the parliament to enact sufficient laws to effectively administer the country.
- **Moral responsibility-** A criminal is on the wrong side of the law and hence cannot be expected to make positive contributions to the legislative and administrative process.
- **Increased Corruption and money laundering-** The money power used during elections has led to increased corruption in public life. This creates a vacuum created by the non-performance of field level infrastructure affecting the poor and the rich alike. It is the problems created by this void which leads to evils like Naxalism.
- **Politics and Corporate nexus-** The linkage between the corrupt businessmen, politicians, bureaucracy and the criminals has been proven to be the leakage in the democratic structure.
- **Futility-** It brings a sense of futility among the administration particularly the police administration and demoralizes them.

- **International impression-** Presence of tainted candidates in the law-making institutions creates embarrassment for the country as well as the people.
- **Affecting generations-** Rise of a criminal to high levels of powers has an adverse effect on the society. The immunity and success of these people lures more and more youngsters to follow in their footsteps. This brings in degeneration and moral values in the society.

CHALLENGES

- Limited power of Election Commission
- **Ambiguity:** Who defines the threshold on what constitutes a serious criminal charge nowhere written? It could well be a weapon in the hands of the party in power to prevent rivals from fielding strong candidates.
- **Winnability versus Credibility and merit:** Surveys have often found that there is considerable support for candidates who may not be honest but can get your job done as compared to those who are honest but cannot get your job done.
- **Judicial Activisms:** We clearly need a strong legislation to regulate the functioning of political parties and an unbiased and independent authority to implement it. We seem to be taking recourse to judicial activism far too often and making it more the exception than the rule.
- **Special Court:** There need to be special court to deal with criminalization of politics only

WAY FORWARD

- The Election Commission of India (ECI) should have the power to audit the financial accounts of political parties, or political parties' finances should be brought under the right to information (RTI) law.
- Law Commission Report said that disqualification at the stage of charging with proper safeguards to prevent misuse, has significant potential in curbing the spread of criminalization of politics,
- Judicial system needs to be overhauled drastically to ensure that justice is dispensed is swiftly in all cases.
- Currently a large part of population views their problem solvers. Viewing them as lawmakers will slowly change their perception of what they want from their representative.
- Political Parties need to be to have stronger inner party democracy to attract new set of leaders who can win elections without having muscle power or criminal cases against them.

CONCLUSION

Money power, muscle power, corrupt practices and unfair means are being freely employed to win elections. Over the years, several measures have been taken by Parliament, Election Commission with a view to check Criminalization of Indian politics but nothing substantial could be achieved. Nexus between politicians and gangsters is the most formidable problem for the future of Indian politics. Every segment of the Indian society must stand up manfully and fight every adverse influence, political or executive instead of leaving the fortune of the country in the hands of the criminals.

Also, Honest measures can be tackled through legislative route to contain election malpractices. Stringent laws can be passed democratically and assist constitutional institutions like the Election Commission of India or specially established committees in stifling this trend.

SUPPLEMENTARY CAPSULES

Some Important Recommendations:

1- The Vohra Committee (1993)

The committee recommended the creation of a model agency to collect information available with the intelligence agencies about the activities of the mafia organizations and bureaucrats and pursue cases against them. The committee had identified the nexus between criminal gangs, police, bureaucracy and politicians which had become a countrywide phenomenon.

2- Indrajith Gupta Committee (1998)

- a) During elections parties should be financed by the state fund. It should be available to candidates of the parties recognized by the E. Commission. This assistance should be in the form of materials and not in cash. Separate state fund (600 crores) should be created for this purpose.
- b) Elections should be made free from the influence of criminal and use of money and muscle power should be checked.
- c) Restrictions should be imposed on wall writings & display of banners.
- d) All donations above RS.10,000/ upwards should be accepted in the form of cheques or drafts and names of the donors be disclosed.
- e) Political parties must file a return of their income and expenditure after every general election to the Election Commission.

3- The **Second Administrative Reforms Commission (ARC)**, in its report "Ethics in Governance" had recommended that: "Special Election Tribunals should be constituted at the regional level under article 329B of the Constitution to ensure speedy disposal of election petitions and disputes within a stipulated period of six months.

It also supported the proposal of including filing of false affidavits as an electoral offence under Section 31 of Representation of the People Act, 1950.

4- **Law Commission Recommendations:** In its 244th report on Electoral Reforms titled "Electoral disqualifications" had put forward recommendations on de-criminalization of politics

- i. Conviction under Section 125A should be made a ground for disqualification under Section 8(1) of the RPA, 1951.
- ii. The punishment for filing false affidavits under Section 125A be increased to a minimum of two years, and that the alternate clause for ne be removed. Persons with charges pending (punishable by 5 years or more) on the date of the law coming into effect must be disqualified from contesting future elections, unless such charges are framed less than one year before the date of scrutiny of nomination papers for elections or the person is a sitting MP/MLA .
- iii. Expediting trials in relevant courts where a case is led against a sitting MP/MLA and to conduct the trial on a day-to-day basis with an outer limit of completing the trial in one year.
- iv. Retroactive application- from the date the proposed amendments come into effect, all persons with criminal charges (punishable by more than five years) pending on that date are liable to be disqualified subject to certain safeguards.

5-Election Commission Recommendations:

The Election Commission in its "Proposed Electoral Reforms" (2016) recommended that:

- Persons charged with **cognizable offences** should be de-barred from contesting in the elections, at the stage when the charges are framed by the competent court provided the offence is punishable by imprisonment of at least 5 years, and the case is led at least 6 months prior to the election in question

Criticisms: The recommendation has been criticised primarily on two grounds:

- i. ruling politicians will misuse this against the opposition
- ii. the law of the land assumes everyone to be innocent till proved guilty or convicted.

12. GAGANYAAN – INDIA'S MAIDEN MANNED SPACE MISSION

INTRODUCTION:

- The Indian Space Research Organization (ISRO) is expanding its wings to one more vertical - indigenous Human Spaceflight Programme. ISRO is working on an Indian crewed orbital mission – The Gaganyaan.
- Gaganyaan is India's maiden human space mission that would take Indian astronauts to space by 2022 before the 75th anniversary of India's independence in 2022.
- The project aims at sending the astronauts to a lower orbit of the earth and the spacecraft will have a capsule with adequate supply of oxygen and other essential material and facilities for the astronauts. ISRO is working in tandem with the IAF for the mission.



CONTEXT:

- Union Minister of Space, Dr Jitendra Singh said that the launch of India's first human space mission "Gaganyaan" will not be affected by COVID pandemic and preparation are carrying on in the right direction.
- Prior to that, the Prime Minister of India in his Independence Day address announced that an Indian astronaut would go into space by 2022, when India celebrates her 75th year of Independence.
- The Indian Air Force has shortlisted 12 potential astronauts for India's first manned space mission, the Gaganyaan project. Of them, seven pilots have been sent to Russia for training.

HIGHLIGHTS OF THE MISSION:

- The Union Cabinet chaired by Prime Minister Shri Narendra Modi has approved the Gaganyaan Programme with demonstration of Indian Human Spaceflight capability to low earth orbit for a mission duration ranging from one orbital period to a maximum of seven days.
- **Launch vehicle:** A human rated GSLV Mk-III will be used to carry the orbital module which will have necessary provisions for sustaining a 3-member crew for the duration of the mission.
- **Infrastructural Facilities:** The necessary infrastructure for crew training, realization of flight systems and ground infrastructure will be established to support the Gaganyaan Programme.
- **Other Institutions in collaboration:** ISRO will collaborate extensively with National agencies, laboratories, academia and industry to accomplish the Gaganyaan Programme objectives.
- **Expenditure:** The total fund requirement for the Gaganyaan Programme is within Rs.10,000 crore and includes cost of technology development, flight hardware realization and essential infrastructure elements.
- **Programme Includes:** Two unmanned flights and one manned flight will be undertaken as part of Gaganyaan Programme.
- **Vyom Mithra:** A half-humanoid robot has been developed by ISRO for an unmanned space mission later in 2020.



IMPLEMENTATION STRATEGY AND TARGETS:

- Gaganyaan Programme will be a national effort in collaboration with Industry, Academia and other scientific agencies and laboratories as stake holders along with ISRO.
- ISRO will be responsible for realizing the flight hardware through Industry.
- National agencies, laboratories and Academia will participate in crew training, human life science technology development initiatives as well as design reviews.
- First human space flight demonstration is targeted to be completed within 40 months from the date of sanction.
- Prior to this, two unmanned flights in full complement will be carried out to gain confidence on the technology and mission management aspects.

Human Space Flight Centre (HSFC)

- ISRO created a Human Space Flight Centre (HSFC) in January 2019 at the ISRO Headquarter campus in Bengaluru.
- The responsibilities of the HSFC include end to- end mission planning, development of engineering systems for crew survival in space, crew selection and training and also pursuing activities for sustained human space flight missions.
- The HSFC will function as a nodal agency with the existing ISRO centres support the implementation and testing of spacecraft.

PROSPECTS OF THE MISSION:

- **Spurs research and development:** The programme is expected to spur research and development within the country in niche science and technology domains.
- **Positive externalities on other sectors:** the programme has huge potential for technology spinoffs in areas such as medicine, agriculture, industrial safety, pollution, waste management, water and food resource management etc.
- **Provides micro gravity platform in space:** Human spaceflight programme will provide a unique micro-gravity platform in space for conducting experiments and test bed for future technologies.
- **Provides economic impetus:** The programme is expected to give impetus to economic activities within the country in terms of employment generation, human resource development and enhanced industrial capabilities.
- **Boost to industries:** The Indian industry will find large opportunities through participation in the highly demanding Space missions. Gaganyaan Mission is expected will source nearly 60% of its equipment from the Indian private sector.
- **Generates employment opportunities:** According to the ISRO chief, the Gaganyaan mission would create 15,000 new employment opportunities, 13,000 of them in private industry and the space organization would need an additional manpower of 900.
- **Fosters Technological development:** Human Space flights are frontier field in the science and technology. The challenges the Human Space Flights provide to India, and the benefits accruing from taking up those missions will be very high and will lead to further thrust for technological developments in India
- **Motivates young generation towards space activities:** Human space flight will provide that inspiration to the youth and also the national public mainstream. It would inspire young generation into notable achievements and enable them to play their legitimate role in challenging future activities

INDIA'S TRYST WITH ITS MAN IN SPACE

April 2, 1984: Rakesh Sharma becomes the first and only Indian citizen to travel in space

2016 - Then director of Vikram Sarabhai Space Centre, K Sivan announced 'Pad abort' test for the mission capsule

2007 - First proposals for ISRO's manned space mission

2008 - India and Russia sign MoU for manned space mission; plan abandoned in 2010

Dec 2014 - Experimental flight of the manned mission launcher - GSLV Mk-III - tested



2017 - Initial estimates of the successful manned space mission

July 2018 - Pad abort test conducted successfully in Sriharikota

2022 - PM Narendra Modi's new target for manned space mission

ISRO'S FUTURE SPACE ENDEAVOURS

- ❖ Chandrayaan 2
- ❖ XPoSat mission in 2020
- ❖ Aditya-L1 in 2021
- ❖ Mangalyaan2 in 2022
- ❖ Lunar Polar Exploration in 2024
- ❖ Venus mission in 2023
- ❖ Exo-worlds in 2028

- **Helps India to become a global space power:** India will be the fourth country to launch human space mission. The Gaganyaan will not only bring about prestige to the nation but also establish India's role as a key player in the space industry.

CHALLENGES ON THE WAY:

Re-entry & Recovery technology:

- Reentry and recovery technology is vital for any manned mission to be successful. Any manned spacecraft needs to come back carefully which involves mastering of the highly complicated and dangerous re-entry and recovery ability.
- While re-entering Earth's atmosphere, the spacecraft needs to withstand very high temperatures, which is created due to friction and the spacecraft needs to reenter the atmosphere at a very precise speed and angle, and even the slightest deviation could end in disaster.
- Therefore this is going to be a big challenge for the mission to be successful.

Efficient Crew Escape System:

- Crew escape system is a crucial safety technology which involves an emergency escape mechanism for the astronauts in case of a faulty launch.
- The mechanism ensures the crew module gets an advance warning of anything going wrong with the rocket, and pulls it away to a safe distance, after which it can be landed either on sea or on land with the help of attached parachutes.
- Achieving such an efficient crew escape system is going to be another challenge in the mission.

Ensuring Continuous Life support mechanisms:

- In any manned mission replicating the earth like conditions for astronauts and ensuring the comfortable and suitable conditions for them are important pre requisites.
- However, establishing such ambience could be very difficult throughout the mission. So, this will be another potential challenge which needs to be handled very carefully.

Establishing Space Communication:

- Sustained and continued space communication will be pivotal in helping the ground control room to uniformly monitor the space crew and communicate with them at any given point of time. Establishing such space communication is also the need of the hour.

ISRO'S ENDEAVORS TO TACKLE THE CHALLENGES

- **The first successful experimental flight of GSLV Mk-III in 2014:**
GSLV MK III has returned back to the Earth after being taken to an altitude of 126 km into space, it is an attempt to develop Reentry technology by ISRO.
- **Successful test flight of Pad Abortion Test:** ISRO has successfully tested Gaganyaan's launch abort system from launch pad of Satish Dhawan space centre.
- **The Crew module Atmospheric Re-entry Experiment (CARE) spacecraft:** The CARE spacecraft has re-entered the atmosphere at about 80 km altitude and landed in the sea near the Andaman and Nicobar Islands. This is another achievement by ISRO in developing the Reentry and Recovery technology.



GSLV MK III - ROCKET LAUNCHER

- **Successful test flight of the Crew Escape System:**

Recently, ISRO completed the first successful flight of the crew escape system. A simulated crew module weighing about 3.5 tonnes was launched from Sriharikota.



ISRO'S CREW ESCAPE SYSTEM TEST FLIGHT

- **ISRO announced to launch the Indian Data Relay Satellite System (IDRSS):** The Indian Space Research Organization (ISRO) has announced that it aims to launch its own satellite pair for space communication purposes, called Indian Data Relay Satellite System (IDRSS) for efficient space communication purpose.

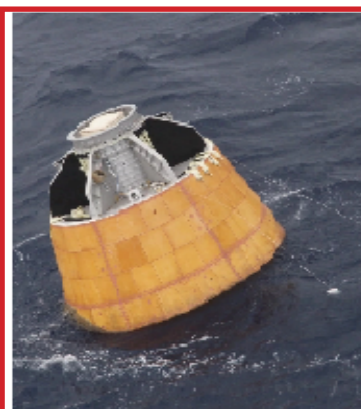
Scaling new heights

The Indian Data Relay Satellite System (IDRSS) is a set of satellites that will track, send and receive information from other Indian satellites

- The project will aid the crew of Gaganyaan mission helping them in maintaining contact with the mission control throughout
- Work on two IDRSS satellites has already begun
- First satellite will be launched by 2020-end and the second one by 2021

We require the IDRSS system when our astronauts are in space. But I would prefer the relay spacecraft to be in place even before we launch the unmanned mission

K. SIVAN,
ISRO chief



PAD ABORTION TEST

- **The Environmental Control & Life Support System (ECLSS):** ECLSS is meant to ensure that the conditions inside the crew module are suitable for humans to live comfortably. The crew module is a twin-walled sealed structure that will recreate Earth-like conditions for the astronauts.

CONCLUSION:

In terms of space technology, a manned space programme is the obvious next step for India. Gaganyaan's success will put India into the elite club of global space superpowers. If completed in meantime, India will become the fourth nation to conduct independent human spaceflight after the Soviet Union/Russia, United States and China.

It will help India to put a step forward in developing its own space station. However, it is important to overcome the technological challenges to ensure a safe, successful manned space mission. International collaboration is important for acquiring needed technology.

"Empowering Endeavours"

13. CHALLENGE OF LEFT WING EXTREMISM AND TACKLING THE RED CORRIDOR

INTRODUCTION:

Left-wing extremism has been a major internal security challenge to India since the 1960s. Many of these militant groups, for many years, had held the mineral-rich lands under their influence.

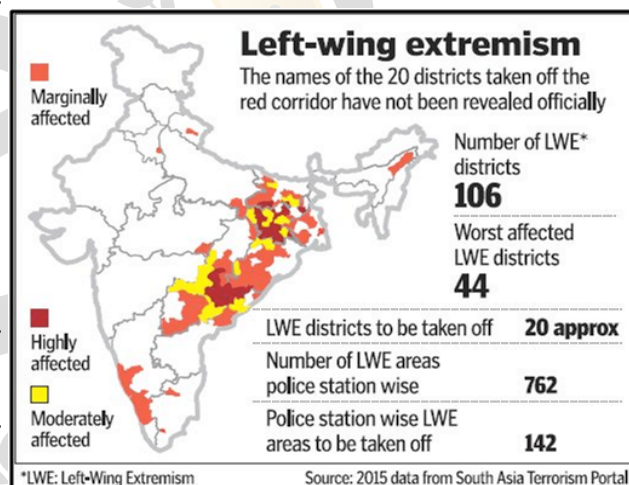
Both the states and Central government, through a series of measures, had significantly improved their presence in the Naxal-infested regions.

Currently, these militant groups are only operating in a few isolated regions. However, they still pose a substantial threat to India's national security.



BACKGROUND:

- The term Naxalism derives the name of the Naxalbari village in West Bengal where a peasant revolt took place against local landlords who had beaten up a peasant over a land dispute in 1967.
- The Naxalites are considered to be the far-left communists who support Mao Zedong's political ideology.
- Initially, the Naxalite movement originated in West Bengal and had later moved to the less developed rural areas in Southern and Eastern India, including in the states of Chhattisgarh, Odisha, Andhra Pradesh, and Telangana.
- Some Naxalite groups have legal organisations as representatives in the parliament like the Communist Party of India (Marxist-Leninist) Liberation and the Communist Party of India (Marxist-Leninist) Janashakti.
- As of April 2018, the states where Naxalites are most visible are Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Maharashtra, Odisha and Telangana.



The Red Corridor

- ❖ The Red Corridor is the region in the central, eastern and southern parts of India that experience severe Naxalite-Maoist insurgency.
- ❖ The districts affected by this and part of the Corridor are among the poorest in India.
- ❖ Most of the region has a high tribal population. The region is also marked by severe caste and economic disparities.
- ❖ Roughly, the Corridor stretches from the Indian border with Nepal and extends to the northern fringes of Tamil Nadu.
- ❖ The region also has a significantly lower literacy rate compared to the national average.

WHAT ARE THE CAUSES OF NAXALISM?

Political Factors

Nature and apathy of the political system towards tribals

- Lack of political participation by the tribal community
- Inability of political authority in India to provide the avenues for structural upliftment of the deprived sections of the society.

Economic Factors

- Poverty and economic inequality and underdevelopment in the naxal affected regions.
- Entry of mining companies in Tribal lands and forests, posing threat to the livelihood of the tribals.
- Indigenous tribal population deprived of their lands, uprooted from their traditional source of livelihood.
- The benefits of the resource exploitation are not passed on the tribals.

Environmental Degradation

- Environmental degradation in the form of destruction of land and water resources due to mining and industrial activities.

Lack of basic facilities

- Lack of basic facilities like education, freedom, sanitation and food.
- The socially backward tribals form the major support base for Naxalites because of inequality, illiteracy and lack of opportunities.

Forest Mismanagement

- Forest mismanagement was one of the main causes of the spread of Naxalism. Following the globalization in the 1990s, the situation worsened when the government increased the exploitation of the forest resources.
- This led the traditional forest dwellers to fight for their aspirations against the government through violence.

Ineffective implementation of tribal policy

- Haphazard tribal policy implementation, marginalization, and displacement of the tribal communities worsened the situation of Naxalism.

Regional inequalities in development

- The increase in the interregional and intraregional differences and inequalities led to people choosing Naxalism. Naxal-groups mostly consist of the poor and the deprived like the anglers, small farmers, daily laborers, etc. The government policies have failed to address this issue.

Rise in unemployment and unemployed youth

- The unemployed youth in India is one of the major supporters of the Naxalism movement. This group mostly consists of medical and engineering

What is Urban Naxalism?

In an intelligence report titled “**Urban Naxalism: Growing Menace and Remedies**,” Ministry of Home Affairs described Urban Naxalism as an old Maoists strategy to focus on urban centers for leadership, organize masses in urban areas through democratic means, build a united front and engage in military tasks such as providing personnel, material and infrastructure.

Do You Know about the gravity of the situation?

- **According to the South Asia Terrorism Portal**, at least 122 Maoists have been killed across the country in the first six months of 2018, highest number over the same period in last 8 years.
- **The geographical area of naxal influence has significantly reduced** after the review brought down the number of affected districts from 126 to 90 by exclusion of 44 districts.
- A number of central committee and politburo members have been neutralized.

WHAT HAS BEEN DONE SO FAR TO TACKLE

- **Operation Green Hunt:** It was started in 2010 and massive deployment of security forces was done in the naxal-affected areas. From 223 districts that were affected due to Naxalism in the year 2010, the number has come down to 90 in nine years.
- **Police Modernization Scheme** in areas affected by Naxal movements.
- **Mine Protected Vehicles (MPV)** to reduce the number of casualties due to use of IED by the Naxalites.
- **Augmenting the strength of Central Armed Police Forces**
- **Establishment of National Security Guard (NSG) hubs** at Chennai, Kolkata, Hyderabad and Mumbai;
- **Strengthening and re-organizing of Multi-Agency Centre** to enable it to function on 24x7 basis
- **Sanctioning of new Specialized India Reserve Battalions (SIRB).**
- **Special Infrastructure Scheme** for funds to the States of Bihar, Chhattisgarh, Jharkhand and Odisha to raise Special Task Force to combat LWE.
- **Unlawful Activities (Prevention) Act, 1967** has been amended to strengthen the punitive measures.
- **Security Related Expenditure (SRE) Scheme:** Under this the central Govt. reimburses security related expenditure to the LWE affected state Governments.
- **Civic Action Programme** - To bridge the gaps between Security Forces and local people through personal interaction and bring the human face of SFs before the local population.
- **Media Plan:** Under the scheme activities like Tribal Youth Exchange programs organized by NYKS, radio jingles, documentaries, pamphlets etc. are being conducted.
- **Pradhan Mantri Gram Sadak Yojana (PMGSY)** - offers tremendous opportunities for rural road connectivity.
- **National Rural Employment Guarantee Programme (NREGP)** is being implemented in 330 districts affected by Naxalism so as to universalize the demand-driven programme for wage-employment.
- **Bharat Nirman, National Rural Health Mission (NRHM), Sarva Shiksha Abhiyan (SSA), Integrated Child Development Services (ICDS)** and other income generating and social security schemes of the Ministry of Rural Development, Agriculture, Panchayati Raj and Tribal affairs.
- **Aspirational District programme:** Monitoring of Aspirational districts programme in 35 LWE affected districts.
- **SAMADHAN strategy**
 - It is a counter Naxalism strategy announced by ministry of home affairs which is launched in 2017.
 - Its aim is to enhance the government's anti-Maoist initiatives, even the basic components of the counter-insurgency campaign.

THE STORY OF SALWA JUDUM

- **Salwa Judum** (which means Peace March» or «Purification Hunt» in Gondi language) was a militia that was mobilised and deployed as part of anti-insurgency operations in Chhattisgarh, India.
- It is aimed at countering Naxalite violence in the region. The militia, consisting of local tribal youth, received support and training from the Chhattisgarh state government.
- However, It has been outlawed and banned by a Supreme Court order, but continues to exist in the form of Armed Auxiliary Forces, District Reserve Group and other vigilante groups
- **Salwa Judum-2 / Vikas Sangharsh Samiti** was born in Bastar region in 2015 to fight against the Maoists.

ANDHRA PRADESH GREY HOUNDS FORCES

- Greyhounds is a police special forces unit operating in Andhra Pradesh and Telangana .
- It is specialized in anti-insurgency operations against Naxalite and Maoist activities.
- It is one of the successful initiatives to fight against the Naxalism issue which is still operating.

- Speedy infrastructure development with special focus on solar lights, mobile towers and road-rail connectivity in inaccessible areas of Chhattisgarh and Jharkhand.

SAMADHAN STRATEGY

SAMADHAN strategy has been launched in 2017. It stands for:

S – Smart leadership

A – Aggressive strategy

M – Motivation and training

A – Actionable intelligence

D – Dashboard Based KPIs (Key Performance Indicators) KRAs (Key Result Areas)

H – Harnessing Technology

A – Action Plan for each theatre

N – No access to financing.

WHAT NEEDS TO BE DONE

- **Strengthen law and order and adopt an effective national strategy:** The presence of Naxals in the country also reveals the loopholes in the law and order of the country which has failed to curb the menace. Central government needs to implement a coherent national strategy to end Naxalism.
- **Amicable Dialogues should be conducted:** Dialogues between the Naxal leaders, and the government officials can be a way work out a solution. The government should initiate sincere dialogue with Naxalites.
- **Generate more employment and channelize the energy of youth:** Insecure livelihood and unemployment in the areas have left the people with no option but to join the Naxals. If we are actually thinking of ways to end Naxalism, we'll first have to provide the people of the area with proper employment opportunities with increased wages
- **Emphasis on Rehabilitation and Resettlement:** Mining grounds, developmental works etc in the areas without any provision for the resettlement of the displaced people has just added to the woes of the poor and there needs to be more emphasis on rehabilitation of this affected population
- **Stop the political marginalization of weaker sections:** the downtrodden sections don't enjoy equal participation in casting and contesting politically, making them as soft targets of Naxals. Therefore political marginalization of weaker sections should be stopped.
- **Address economic disparities between rich and poor:** Economic disparity and the growing distance between rich and the poor is one of the main problems that has contributed to the growth of Naxalism. this distance needs to be filled to an extent hastily to stop Naxalism
- **Take necessary steps towards the welfare of the tribals:** The socially backward tribals form the major support base for Naxalites because of inequality, illiteracy and lack of opportunities. It's important to prevent these people from falling in the Naxal trap.
- **Modernize law enforcement agencies:** The major policing lies in the hands of the state governments. At federal level, many agencies are under the command of Union Ministry of Home Affairs. The Central government should support and assist the poorly-equipped agencies of the state.

CONCLUSION:

India has made some success in containing Naxalism but the root causes have not been addressed yet however, the concerted effort from both the Centre and Naxal-affected states is a rare example of cooperative federalism. Yet, the Naxalites still remain a formidable force that can nevertheless be considered a threat to India's national security.

Governments at centre and states should deal the issue with Iron fist and it's the need of the hour to implement the SAMADHAN strategy in letter and spirit to tackle the issue effectively. Latest reports of Ministry of Home affairs shows reduction in Naxal affected red corridor. However, to completely eradicate the naxal movement, it needs collective multi-pronged approach from government, civil society as well as common masses.



*The credit goes to the dedicated &
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