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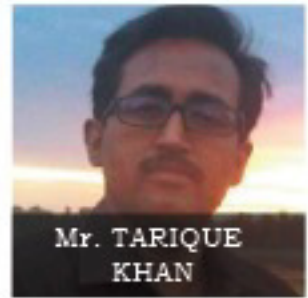
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**DECEMBER**

**Week 02**

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TELUGU LITERATURE

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# Polity and Governance

## 1. Citizenship Laws of India

India has single citizenship and there is no dual citizenship except for minors where the second nationality was involuntarily acquired. A citizen of India is a citizen of all Indian territories. This feature is a unitary feature in contrast with the double citizenship prevailing in several countries. For example in USA, a citizen of US at the same time is also a citizen of California or other states.

The single citizenship also reflects the social and political conditions created at that time by partition. During communal riots, large number of Hindus and Muslims migrated to and from Pakistan. At that time, it was necessary to respond to situation created by lots of refugees. At the same time it was necessary to respond to situation created by lots of refugees. At the same time, many people who lived abroad applied for Indian Citizenship because now they had decided to live in newly freed country. All these factors had made the matter of citizenship very complicated.

### How one can become Indian Citizen?

Constitution of India did not codify permanent laws for citizenship and put this onus on parliament. Using the powers of article 10 and 11, the parliament enacted Citizenship Act 1955 which has been amended from time to time. This act mentions four ways in which a person may be Indian citizen viz. by birth, by descent, by registration and by naturalization. Citizenship by birth and descent are called natural citizens. Summary of these provisions are as follows:

**Citizenship by Birth:** Every person born in India on or after Jan 26, 1950 is a citizen of India provided his / her father is not an enemy alien or representative of a diplomatic mission.

**Citizenship by Descent:** A person born outside India on or after Jan 26, 1950 shall be a citizen of India by descent if his father or mother is a citizen of India at the time of his birth; provided such birth is registered in any of Indian consulates.

**Citizenship by Registration:** A person can acquire citizenship by registering themselves with prescribed authority. Such categories of persons are:

- Persons of Indian origin (PIO) residing outside the territories of undivided India.
- Those persons of Indian origin who are ordinarily residents in India and have been so resident for 6 months immediately before making application for registration.
- Women who are married to citizens of India
- Children of Indian citizens
- Adult citizens of commonwealth country or republic of Ireland

**Citizenship by Naturalization:** A foreign citizen not covered by any of the above methods can get Indian citizenship on application of Naturalisation to the Government of India; with the following conditions

- Belongs to a country where the citizens of India are allowed to become subjects or citizens of that country by naturalization.
- Renounces the citizenship of his country and intimates the renunciation to the Government of India.
- Has been residing in India or serving the government for 12 months before the date of making application for naturalization.
- Possess a good character
- Possess working knowledge of Indian Languages
- Intends to reside in India after naturalization.

Further, Government of India can waive any or all of the above conditions in case of a person who has rendered distinguished service in the cause of Philosophy, science, literature, arts, world peace etc.

**Citizenship by incorporating a new territory** If a new territory becomes a part of India, the government of India specifies the persons of that territory who shall be citizens of India.

### **Commonwealth Citizenship**

Every person who is born in commonwealth country, by virtue of that citizenship enjoys the status of Commonwealth Citizenship in India. The act empowers the government of India to make provisions of reciprocity for the enforcement of all or any rights of Citizens of India on citizens of commonwealth countries.

### **How a person can lose Nationality?**

The Citizenship Act envisages three situations under which a citizen of India may lose his Indian nationality. Section 9 deals with the automatic termination of citizenship and Section 10 deals with the deprivation of citizenship.

- 1. By Renunciation:** If any citizen of India who is also a national of another country renounces his citizenship through declaration of in the prescribed manner, he ceases to be Indian Citizen.
- 2. By Termination:** Any person who acquired Indian Citizenship by naturalization, registration or otherwise, has voluntarily acquired citizenship of another country at anytime between January 26, 1950 to December 30, 1955 shall have ceased to be an Indian Citizen.
- 3. By Deprivation:** Section 10 of the Citizenship Act 1955 empowers the government to deprive a citizen of his citizenship by issuing an order. However this power may not be used in case of every citizen. It applies only to those, who acquired Indian Citizenship. This might be because of obtaining citizenship on false documentations etc.

**Recent Changes:****Citizenship (Amendment) Act 2015**

- Merger of Overseas Citizen of India and Persons of Indian Origin schemes: Persons of Indian Origin enjoy fewer benefits than Overseas Citizens of India. For example, they are entitled to visa free entry into India for 15 years, while Overseas Citizens of India are provided a multiple entry, life-long visa.
- Bill also introduces a new provision which allows the central government to register a person as an Overseas Citizen of India cardholder even if s/he does not satisfy any of the listed qualifications. This is permissible if special circumstances exist.
- Renunciation and cancellation of overseas citizenship: The Act provides that where a person renounces their overseas citizenship, their minor child shall also cease to be an Overseas Citizen of India. The Bill extends this provision to cover spouses of Overseas Citizen of India cardholders where they have divorced or married another person.

**Citizenship Amendment Bill 2016**

The Bill seeks to amend the Citizenship Act, 1955 and is presently being examined by a joint parliamentary panel.

- The Bill seeks to make illegal migrants who are Hindus, Sikhs, Buddhists, Jains, Parsis and Christians from Afghanistan, Bangladesh and Pakistan, eligible for citizenship.
- Under 1955 Act, one of the requirements for citizenship by naturalisation is that the applicant must have resided in India during the last 12 months, and for 11 of the previous 14 years. The 2016 Bill relaxes this 11 year requirement to six years for persons belonging to the mentioned religions and countries.
- The Bill provides that the registration of Overseas Citizen of India (OCI) cardholders may be cancelled if they violate any law.

**Positives:**

- Bill recognizes and protects the rights of refugees
- Bill, when passed, would be of immense benefit to the Chakmas and Hajongs of Bangladesh displaced because of the construction of the Kaptai Dam who have been refugees for nearly 65 years.
- Most of the persecuted minorities in Pakistan, Bangladesh and Afghanistan are of the mentioned religions.
- Considering that more populated countries like Pakistan and Bangladesh are primarily Muslim countries, putting Islam in the list may lead to influx of people.

**Limitations of the proposed bill:**

- The Bill makes illegal migrants eligible for citizenship on the basis of

religion. This may violate Article 14 of the Constitution which guarantees right to equality.

- The Bill allows cancellation of OCI registration for violation of any law. This is a wide ground that may cover a range of violations, including minor offences (eg. parking in a no parking zone).
- The bill covers minorities only from Bangladesh, Pakistan and Afghanistan.
- Due to inclusion of Bangladesh there is resentment among many people of Assam as the cutoff date for citizenship will be increased to December 31, 2014 from March 25, 1971 which was added after Assam Accord of 1985 as section 6A in Citizenship Act 1955.
- The Bill does not take note of the refugees in India from among the Muslim community who have fled due to persecution
- It does not provide citizenship to the people of Indian origin from Sri Lanka who fled to Tamil Nadu as refugees
- Muslim sects like Shias and Ahmediyas also face persecution in Sunni-dominated Pakistan but the Act doesn't have provision for them.
- It can pose as a security threat, how we decide if the applicant was actually under threat in his homeland.

### **Suggestions:**

- It would have been appropriate if the Bill had used the term "persecuted minorities" instead of listing out non-Muslim minorities in three countries.
- Though the bill takes a positive step towards addressing an issue pending over decades but, there is a need to standardize what amounts to religious persecution.
- Caution is needed to differentiate between genuine migrants and migrants coming in search of better prospects.
- Some other standard rather than religion of the migrants could have been devised. Eg- those contributing positively to the economy, not been persecuted under major violation of law etc.

### **Recent Amendments to Citizenship Rules, 2009**

- The contentious Citizenship (Amendment) Bill, 2016, is pending in Parliament, but the Union Home Ministry has notified amendments to the Citizenship Rules, 2009, to include a separate column in the citizenship form for applicants belonging to six minority communities from Pakistan, Afghanistan and Bangladesh.
- Under the amendments, a separate entry in the form will ask the applicant: "Do you belong to one of the minority communities from Afghanistan, Bangladesh and Pakistan — Hindus, Sikhs, Buddhists, Parsis, Sikhs and Christians?" The Centre has made the changes



under Section 18 of the Citizenship Act, 1955. New rules were notified on December 3.

- A parliamentary committee has been examining the Citizenship (Amendment) Bill, 2016, that proposes citizenship to six persecuted minorities — Hindus, Jains, Sikhs, Parsis, Christians and Buddhists — from Pakistan, Afghanistan and Bangladesh, who came to India before 2014. It has run into strong resistance in the BJP-ruled Assam because it will pave the way for giving citizenship mostly to illegal Hindu migrants from Bangladesh in Assam, who came after March 1971, in violation of the 1985 Assam Accord.

## 2. Lingayat's and Veerashaiva community

### Context:

The state government of Karnataka recommend the Centre that the Lingayats to be granted religious minority status and to include Veerashaivas who follow Basavanna as a group within the community.

The Union government rejected the recommendation of the State government to grant religious minority status to Lingayat and Veerashaiva community. It has reiterated the earlier stand of the Centre that Lingayat/Veerashaiva community is part of Hindu religion.

### Background:

The community has been demanding status of a separate religion. One part of the community demands the minority status for both Veerashaiva and Lingayats considering them the same, while another wants it only for the Lingayats as it considers Veershaivas to be Hindus.

Minorities Commission of Karnataka formed a seven-member committee, headed by retired high court Judge HN Nagamohan Das on the issue. The Nagamohan committee has recommended minority status for only the Lingayats and has kept Veershaivas out.

The Karnataka government, in March this year, decided to declare Lingayats as a religious minority and include the Veerashaivas who follow Basavanna as a group within the community.

**Lingayats:** Lingayats are followers of social reformer Basavanna and his vachana (verses) philosophy. Their beliefs, practices and faith are different. Veerashaivas worship Lord Shiva, the one mentioned in Hindu mythology. However, the Shiva that Basavanna referred to in his vachanas (verses) is not the Hindu god Shiva but the ishtalinga (formless God), which people of the community wear around their neck.

**Veerashaivas:** Veerashaivas are a sub-sect of Lingayats and ardent followers of Lord Shiva. They preceded Basavanna, the founder of Lingayatism. Veerashaivism has its roots in the Vedas and Agamas, and Veerashaivas do not worship any god other than Shiva; they can be found spread across Karnataka, Kerala, Maharashtra, Andhra Pradesh and Telangana.

**Basavanna:** He was a 12th-century social reformer, Kannada poet, and philosopher. The revolution led by Basavanna came years after the Buddha. It was Basavanna and his contemporary Sharanas who launched a very strong spiritual, social and religious rebellion against Brahminical hegemony. Basavanna had declared that “work is worship”. He gave women equal status in his movement through the vachanas (verses). In order to take the social movement closer to the people, Basavanna and all the other Sharanas voiced their concerns in simple Kannada vachanas so that even lay people could comprehend them.

### **Recent demand:**

- A section of the Lingayat community seeks legal recognition as a faith outside all-subsuming Hinduism.
- They demand for assertion of the Lingayat caste identity in opposition to a Hindu religious identity.
- They claim that though Lingayats worship Shiva, the concept of ‘Ishta Linga’ or personal god and rules of conduct prescribed by Basaveshwara cannot be equated to the Hindu way of life.
- They emphasize that Basaveshwara defied the caste system and Vedic rituals which are part and parcel of the established Hindu order.

However, another section of the Lingayats argue that Basaveshwara’s propositions were reformist and they were not aimed at breaking away from the Hindu fold.

## **3. Criminal Laws (Amendment) Bill, 2018**

### **Context:**

The state assembly of Jammu and Kashmir has passed law to ban sexual extortion of woman in offices and became the first state in the country to amend law on Sextortion. The State Administrative Council headed by

Governor Satya Pal Malik has given approval for Prevention of Corruption (Amendment) Bill, 2018 and Jammu and Kashmir Criminal Laws (Amendment) Bill, 2018.



### **Features of the bill:**

- The Bill seeks to amend the Ranbir Penal Code, whereby specific offence under section 354 E is being inserted to provide for the

offence of 'Sextortion'.

- Amendments are being made in section 154, 161 and Schedule of Criminal Procedure Code and section 53 A of the Evidence Act so as to bring sextortion at par with similar offences prescribed under Ranbir Penal Code.
- The amended section 354 E has the provision related to sexual harassment and practice of extorting money at workplace by those who are in position of authority, having a fiduciary relationship or a public servant.
- Amendment is also being made in the Prevention of Corruption Act to amend the definition of misconduct and provide that demand for sexual favours would also constitute misconduct within the meaning of section 5.

### **Provisions of the bill:**

- The bill stipulates stringent punishment for perpetrators of rape, particularly of girls below 12 years and the death sentence has been provided for rapists of girls under 12 years.
- In case of rape of a girl under 16 years, the minimum punishment has been increased from 10 to 20 years, extendable to life imprisonment.
- The punishment for the gangrape of a girl below 16 years will invariably be imprisonment for the rest of life of the convict. The measure also provides for speedy investigations and trial.
- The time limit for the investigation of all cases of rape has been prescribed, which has to be mandatorily completed within two months.
- The deadline for the completion of the trial in all rape cases will be two months.
- In case of Repeated offenders, will be punished with life imprisonment or death.
- A six-month time limit for the disposal of appeals in rape cases has also been prescribed
- It has also been prescribed that a court has to give notice of 15 days to a public prosecutor and the representative of the victim before deciding on bail applications in case of rape of a girl under 16 years of age.

### **Ranbir Penal Code:**

Indian Penal code is not applicable to Jammu and Kashmir and in place of IPC, a similar criminal law Ranbir Penal Code applies in the state. The code was introduced by Ranbir Singh during the Dogra Dynasty and it came in effect from 1932. The provision of code was prepared by Thomas Babington Macaulay.

**Need for Amendments:**

The amendment came after an order was passed by Jammu and Kashmir High Court. The court had directed the state to examine the concept of 'Sextortion; in the context of applicable laws. "So that illegal acts, unwarranted demands for sexual favors and inappropriate contacts by the person in authority are made punishable."

**Significance:**

With this, Jammu and Kashmir has become the first state in the country to have a law banning sexual exploitation of women by those in positions of authority, having a fiduciary relationship or a public servant.

**Issues involved in death penalty:**

The death penalty breaches two essential human rights. Both rights are protected under the Universal Declaration of Human Rights, adopted by the UN in 1948.

**1. The right to life****2. The right to live free from torture.****Laws related to death penalty:**

The following international laws explicitly ban use of the death penalty, except during times of war:

- The Second Optional Protocol to the International Covenant on Civil and Political Rights
- Protocol No. 6 to the European Convention on Human Rights
- The Protocol to the American Convention on Human Rights to Abolish the Death Penalty.
- The European Convention on Human Rights (Protocol No. 13) bans use of the death penalty at all times, even during war.
- Although international law says that the death penalty can be used for the most serious crimes, like murder, Amnesty believes that the death penalty is never the answer.

**Execution methods:**

There are many and varied types of execution used around the world today, including:

- Beheading
- Electrocution
- Hanging
- Lethal injection
- Shooting in the back of the head and by firing squad

**Problems related to death penalty:**

1. Irreversible and mistake happen: Execution is the ultimate, irrevocable

punishment. The risk of executing an innocent person can never be eliminated.

2. Does not deter crime: Countries who execute commonly cite the death penalty as a way to deter people from committing crime. This claim has been repeatedly discredited, and there is no evidence that the death penalty is any more effective in reducing crime than imprisonment.
3. Often used within skewed justice systems: Some of the nations executing the most people have deeply unfair legal system. The top three executing nations –China , Iran and Iraq, have issued death sentence after unfair trials.
4. Many death sentences are issued after ‘confessions’ that have been obtained through torture.
5. Poor and marginalized groups are more likely to be sentenced to death because of discrimination in the justice system. Poor and marginalized groups have less access to the legal resources needed to defend themselves.
6. The authorities in some countries, for example Iran and Sudan, use the death penalty to punish political opponents.
7. Miscarriage of justice is one of the biggest concerns about the death penalty **Constitutional provisions:**

**Article 72(1)** of the Constitution of India states:

The President shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence

- (a) in all cases where the punishment or sentence is by a Court Martial;
- (b) in all cases where the punishment or sentence is for an offence against any law relating to a matter to which the executive power of the Union extends;
- (c) in all cases where the sentence is a sentence of death.

**Death penalty in India:**

- Capital punishment is a legal penalty in India
- At least 100 people in 2007, 40 in 2006, 77 in 2005, 23 in 2002, and 33 in 2001 were sentenced to death (but not executed), according to Amnesty International statistics.
- The Supreme Court in *Mithu vs. State of Punjab* struck down Section 303 of the Indian Penal Code, which provided for a mandatory death sentence for offenders serving a life sentence.
- In December 2007, India voted against a United Nations General Assembly resolution calling for a moratorium on the death penalty.

- In November 2012, India again upheld its stance on capital punishment by voting against the UN General Assembly draft resolution seeking to end the institution of capital punishment globally.
- On 31 August 2015, the Law Commission of India submitted a report to the government which recommended the abolition of capital punishment for all crimes in India, excepting the crime of waging war against the nation or for terrorism-related offences.
- The Law Commission report cited several factors to justify abolishing the death penalty, including its abolition by 140 other nations, its arbitrary and flawed application and its lack of any proven deterring effect on criminal

### **Global report on death sentences:**

- As per the global report on death sentences and execution, India awarded as many as 136 death sentences in 2016 as compared to 75 death sentences in 2015 and the crimes for which capital punishment was awarded mainly included murders
- The figure almost doubled in 2016 on account of the new anti-hijacking law, which allowed for capital punishment even in cases of hijacking
- As per the report, India did not register a single execution in 2016 but it had more than 400 prisoners who were to be executed at the end of the year.
- Comparatively, Pakistan recorded a significant dip of 73 per cent in the number of executions. More than 320 people were executed in Pakistan in 2015 while last year, only around 87 people were executed in the country.

### **The Amnesty International report:**

- According to the report India is among the few countries that imposed death penalty for drug-related offences.
- The death penalty was imposed or implemented for drug-related offences in a number of countries, including China, India, Indonesia, Iran, Kuwait, Laos, Malaysia, Saudi Arabia, Singapore, Sri Lanka, Thailand, United Arab Emirates and Vietnam.
- A total of 1,032 persons were executed in 23 countries in 2016 in comparison to 1,634 executions in 25 countries in 2015, adding that two of the 25 countries that had executed death penalty in 2015 abolished it in 2016.
- Of the total executions in 2016, most took place in China, Iran, Saudi Arabia, Iraq and Pakistan, in that order.
- The report states that though China continued to be the world's top executioner, the true extent of the use of death penalty is unknown as this data is considered a state secret



- Among India's neighbours, Pakistan had the highest number of death sentences at 360, followed by Bangladesh at 245. Sri Lanka had 79 death sentences last year
- For the first time since 2006, the USA was not one of the five biggest executioners, falling to seventh behind Egypt.

### **Conclusion:**

- An eye for an eye makes the whole world blind," said Mahatma Gandhi. On the same thought of Mahatma Gandhi, Death penalty should be banned in India. There is need to eradicate crime and not the criminals.. Legalising the capital punishment will not help removing the crime .There is need to provide counseling and therapy to criminals
- Ideally, India should join the majority of nations that have abolished death penalty. It should certainly absorb the sentiment behind the increasing support by the comity of nations to the UN's camp

## **4. Issue of Nizamuddin Dargah**

### **Background:**

Women were barred from entering into the sanctum sanctorum of the Hazrat Nizamuddin Aulia Dargah in Delhi. Petition has been moved before the Delhi High Court seeking entry of women into the Dargah.

The move comes two months after the Supreme Court lifted the centuries-old practice of prohibiting women from entering the Sabarimala temple in Kerala.

### **Note in Plea:**

- Three women, who are studying law, filed a petition arguing that Nizamuddin Dargah is a public place.
- The petition has claimed that there is a notice outside the Dargah — clearly stating in English and Hindi that women are not allowed inside.
- The entire nation is professing and advocating the entry of women in all religious institutions without discrimination and the same having been further allowed and promoted by the Supreme Court in the recent Sabarimala judgment.
- While women in the national capital — are being discriminated against with their entry into the Dargah of the Hazrat Nizamuddin.

### **Issue similar to Nizamuddin Dargah:**

- **Haji Ali for all movement:-** 'Haji Ali for all' is a feminist movement launched by Bharatiya Muslim Mahila Andolan & Bhumata Brigade to secure equal 'right to pray' even near sanctum sanctorum i.e. traditional patriarchal prohibited area. On 26 August 2016, the Bombay High Court ruled that women could enter the sanctum sanctorum. The trust of the shrine informed the Supreme Court on 24 October that women will be allowed to enter it in a month. Women were allowed

to enter the shrine on 29 November 2016, after a ban imposed on them in June 2012.

- **Sabarimala issue:** In 1991, the Kerala High Court in their ruling against the Travancore Devaswom Board, banned entry of women between ages above the age of 10 and below the age of 50 from offering worship at Sabarimala Shrine during any period of the year stating that such restriction was in accordance with the usage prevalent from time immemorial.

On 28th September 2018 the Supreme Court of India, in a 4-1 majority decision, overturned the ban on women between the ages of 10 and 50 entering the temple. SC stated that the selective ban on women was not an “essential part” of Hinduism, and instead a form of “religious patriarchy”.

### **Articles guaranteeing religious and gender equality:**

- **Article 15:-** Article 15 of the Indian constitution states that no person shall be discriminated on the basis of religion, race, caste, sex or place of birth.

Every person shall have equal access to public places like public parks, museums, wells, bathing ghats and temples etc.

- **Articles 25:-** Article 25 states that every individual is “equally entitled to freedom of conscience” and has the right “to profess, practice and propagate religion” of one’s choice.
- **Articles 25 to 28** states make India a secular state.

42nd Amendment inserting the word “secular” make the assertion firmer.

### **Violation of Article 25:-**

- This constitutional provision does not give individuals the right to conduct animal sacrifice and perform religious rituals on a busy street or public place that causes inconvenience to others.
- Though the right to perform rituals is protected under this Article, yet the state retains the power to formulate laws to regulate “economic, financial and political.

### **India’s stand on women rights:-**

- The rights available to woman in India can be classified into two categories, namely as constitutional rights and legal rights.
- The constitutional rights are those which are provided in the various provisions of the constitution.
- The legal rights, on the other hand, are those which are provided in the various laws (acts) of the Parliament and the State Legislatures.

### **Constitutional Rights to Women:**

The rights and safeguards enshrined in the constitution for women in India are listed below:

- The state shall not discriminate against any citizen of India on the ground of sex [Article 15(1)].
- It shall be the duty of every citizen of India to renounce practices derogatory to the dignity of women [Article 51-A(e)].

### **Article 26 in the Constitution of India 1949**

- Freedom to manage religious affairs subject to public order, morality and health, every religious denomination or any section thereof shall have the right
- to establish and maintain institutions for religious and charitable purposes;
- to manage its own affairs in matters of religion;
- to own and acquire movable and immovable property; and
- to administer such property in accordance with law

### **Way forward**

- When a religious practice goes so far as to deny women equal status in society and when notions of purity and pollution are employed to perpetuate discrimination, the Constitutional mandate must prevail.
- The real test is to assess whether an exclusion founded on religious belief, essential or otherwise, encroaches on a person's basic right to dignity.
- Discrimination couched as plurality cannot be allowed to undermine the Constitution's basic "quest for equality".
- It is essential to prevent monopolization of religious rights by a few under the guise of management of religious institutions.

### **Conclusion:**

There are many Dargah's in other States which do not prohibit the entry of women, including Ajmer Sharif Dargah in Rajasthan and Hajji Ali Dargah in Maharashtra.

It was contended by the petitioners that Nizamuddin Dargah by its very nature is a public place and prohibition of entry of anyone in a public place on the basis of gender is contrary to the framework of the Constitution.

# International Relations

## 5. Criminal-justice reform need in Japan

### Context:

Recently, Japan's police threw the chairman of Nissan Motor Co., one of the country's largest auto manufacturers, into a jail cell. Carlos Ghosn, a Brazilian-born executive with French and Lebanese citizenship, has been accused of falsifying financial reports and hiding \$44 million of personal income.

### Criminal justice system of Japan:

Three basic features of criminal justice system of Japan

- 1) The institutions—police, government prosecutors' offices, courts, and correctional organs—maintain close and cooperative relations with each other, consulting frequently on how best to accomplish the shared goals of limiting and controlling crime.
- 2) Citizens are encouraged to assist in maintaining public order, and they participate extensively in crime prevention campaigns, apprehension of suspects, and offender rehabilitation programs.
- 3) Officials who administer criminal justice are allowed considerable discretion in dealing with offenders.

Officially, under Japanese law, a suspect can be held and questioned for 23 days without being charged. During this time, he can be interrogated for as long as eight hours a day with no lawyer present. Unofficially, the holding period is much longer, because after the 23 days are up, the police can just re-arrest you for an additional crime and start the clock over again—Ghosn has already been re-arrested. Eventually, like almost all suspects in Japan, he will probably be forced to sign a confession, regardless of whether he is guilty.

### Problem in Japan's Justice System:

- To some, this might sound like justice—holding corporate executives accountable for white-collar crime is good.
- The problem is that Japan's justice system is focused on forcing confessions, not on determining whether a suspect is engaged in wrongdoing.
- This inevitably leads to miscarriages of justice.
- For example, In 2008, a Japanese court reversed a lower court's ruling and declared that three Japanese bank executives hadn't broken the law. But their wrongful conviction had come almost a decade earlier and, by the time they were exonerated, the three were old men, their lives and careers ruined. Two other executives had already committed suicide when the bank came under investigation. Such suicides are not uncommon.

- And most of the people unfairly imprisoned by Japan's unfair and arbitrary justice system are not high or mighty.
- Most people who are intimidated (or beaten) into signing false confessions by the Japanese police are simple blue-collar citizens who were arrested and charged because the police and prosecutors needed someone to blame for a crime.
- Japan's fabled 99% conviction rate isn't anything to brag about—it's a sign that the rule of law is sacrificed to the desire to maintain the appearance of order.

### **loop holes of Japan's justice system:**

- 1) Japan's lack of rule of law almost certainly makes companies less efficient. Because police and prosecutors are so determined—and so easily able—to convict anyone who gets accused of a crime, executives tend to avoid making tough but necessary economic decisions.
  - For example, Nocera notes that Ghosn was arrested just as he was planning to merge Nissan with his old company, Renault.
  - The merger was opposed by Nissan chief executive officer Hiroto Saikawa, whom Ghosn had reportedly planned to fire.
  - Saikawa denounced Ghosn immediately after his arrest, raising suspicions that the whole thing is just a corporate coup.
- 2) Japan's weak rule of law discourages entrepreneurship. A young businessman has the choice of either striking out on his own and trying to build a new company, or taking the safe path and working his way up through the ranks as a salaryman. But if success simply paints a target on an entrepreneur's back, the risk will be so high that few will start businesses—no one wants to end up like Horie.
- 3) Weak rule of law deters highskilled foreigners from wanting to work in Japan. For years, under the leadership of Prime Minister Shinzo Abe, Japan has been liberalizing its immigration laws. But so far, the vast majority of its immigrants have been low-skilled workers rather than the highly productive professionals, businesspeople and entrepreneurs that the leadership would like.

Part of this is due to Japan's relatively low white-collar salaries and rigid hiring system. But part of it might be that elite foreigners feel uneasy about living under the threat of an unfair, arbitrary justice system that could turn them from professionals to prisoners at any moment.

### **Conclusion:**

The first step is to change the law governing the 23-day holding period. Suspects should be given the right to have a lawyer with them at all times, and to be able to refuse questioning. Judges should Noah Smith is a Bloomberg (**Bloomberg** is a major global provider of 24-hour financial news and information, including real-time and historic price data, financials

data, trading news, and analyst coverage, as well as general news and sports.)Opinion columnist

## **6. Why Qatar does not need OPEC**

### **Why in news:**

Qatar has announced its decision to move out of Organisation of the Petroleum Exporting Countries (OPEC) on January 1<sup>st</sup> 2019

### **Important Facts:**

#### **What is OPEC?**

1. The Organization of the Petroleum Exporting Countries (OPEC) is a permanent intergovernmental organization of oil producing nations.
2. It was formed in 1960 in Baghdad to negotiate with oil companies on matters like oil production and price.
3. The members of OPEC include: Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Qatar, Indonesia, Libya, the United Arab Emirates, Algeria, Nigeria, Ecuador, Gabon, Angola, Equatorial Guinea and Congo.
4. OPEC's key goal is to safeguard the interests of member countries and maximise their profit from oil exports.
5. OPEC influences global petroleum prices by fixing a production quota for its members.

#### **Criticisms of OPEC:**

1. Over-dependence on oil is the major problem of OPEC countries.
2. Critics allege that there has been strong influence of Western countries like USA on OPEC. At present, with the withdrawal of West's support to OPEC and its reduced dependence on OPEC, its relevance has decreased.

#### **Why Is Qatar Leaving OPEC?**

1. Decisions of OPEC are largely unilateral as they are guided by Saudi Arabia with whom Qatar does not share a cordial diplomatic relation.
2. Also, at present, Qatar is among the largest exporters of natural gas and is no longer dependent solely on oil.

#### **Is OPEC's Relevance declining Over the Years?**

Compared with the 1970s, OPEC's influence on the global energy market has significantly reduced due to:

1. Technological advancement and discovery of other energy resources in the West
2. Withdrawal of Western support and increasing non-OPEC induced oil price fluctuations



## 7. Britain's 'Golden Visas'

### Context:

The UK government has put on hold plans to suspend “golden visa” category in reference to its use by super-rich foreign nationals, including Indians, to acquire fast-track settlement rights in Britain.

### What are Golden Visas?

- A “golden visa” is a permanent residency visa issued to individuals who invest, often through the purchase of property, a certain sum of money into the issuing country.



- Golden visas are also called as Tier 1 Visas. They provide a faster route for wealthy investors coming from outside the European Union and Switzerland to settle in Britain. The program was introduced in 2008 to attract wealthy foreign nationals willing to invest large amounts of capital in Britain.

### Origin of Golden visas:

- The roots of golden visas have been traced back to the 1980s when tax havens in the Pacific and Caribbean began “cash-for-passport” programs that facilitated visa-free travel and provided tax advantages.
- For example, in 1984, St Kitts and Nevis began its program which offered not only permanent residency but citizenship to foreign nations.
- The issuing of golden visas expanded dramatically during the 21st century with around 25% of all countries issuing such visas as of 2015.
- Statistics on the issuing of golden visas is scarce but the IMF estimated in 2015 that the vast majority of golden visas are issued to Chinese nationals.

### Process to get Golden visa:

#### Criteria:

- To qualify, foreign nationals must put down a minimum of 2 million pounds (around \$2.5 million) as an investment in Britain. Such an investment in United Kingdom bonds, share capital or companies allows investors to apply for permanent residency within five years.
- For a £5 million investment, they can apply for permanent residency after three years.
- An investment of £10 million can open the door to permanent residency after two years. After that, the nationals theoretically could apply for citizenship.



### Criticisms:

- Billions of pounds have poured into London over the past decade, following an influx of global elites who have benefited from the program.
- The visa program has always had its critics, with anticorruption campaigners railing against Britain's openness to ill-gotten riches from overseas and the foreigners who invest them.

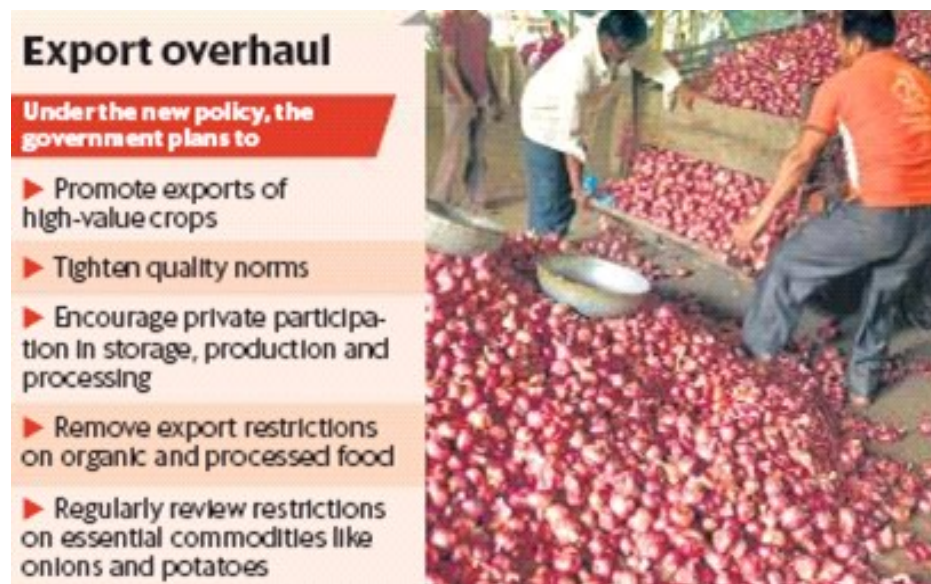
A survey found that the scheme brought limited economic benefits because most of the investors had bought fixed-interest loan securities known as gilts, meaning that they were effectively loaning the government money instead of investing in the country.

## Economy

### 8. Cabinet approves Agricultural export policy to double farmers' income by 2022

#### Why in news?

- The Union Cabinet chaired by Prime Minister Narendra Modi has approved the Agriculture Export Policy, 2018 with an aim to double farmers' income by 2022.



- Exports of agricultural products would play a pivotal role in achieving this goal.

- The Cabinet has also approved the proposal for establishment of Monitoring Framework at Centre with Commerce as the nodal Department

with representation from various line Ministries/Departments and Agencies and representatives of concerned State Governments, to oversee the implementation of Agriculture Export Policy.

#### Policy to double farmers' income by 2022:

- The Government has come out with a policy to double farmers' income by 2022. Exports of agricultural products would play a pivotal role in achieving this goal.
- In order to provide an impetus to agricultural exports, the Government has come out with a comprehensive "Agriculture Export Policy" aimed at doubling the agricultural exports and integrating Indian farmers and agricultural products with the global value chains.
- The Agriculture Export Policy has the following vision: "Harness export potential of Indian agriculture, through suitable policy instruments, to make India global power in agriculture and raise farmers' income."
- It aims at doubling the agricultural exports from present USD 30+ Billion to USD 60+ Billion by 2022 and reach USD 100 Billion in the next few years thereafter, with a stable trade policy regime.
- It also aims to diversify our export basket, destinations and boost high value and value-added agricultural exports including the focus on perishables and to promote novel, indigenous, organic, ethnic, traditional and non-traditional Agri-products exports.



- It also strives to double India's share in world agricultural exports by integrating with global value chain at the earliest and enable farmers to get the benefit of export opportunities in the overseas market.

### Objectives:

Objectives of the Agriculture Export Policy areas under:

- To double agricultural exports from present ~US\$ 30+ Billion to ~US\$ 60+ Billion by 2022 and reach US\$ 100 Billion in the next few years thereafter, with a stable trade policy regime.
- To diversify our export basket, destinations and boost high value and value added agricultural exports including focus on perishables.
- To promote novel, indigenous, organic, ethnic, traditional and non-traditional Agri products exports.
- To provide an institutional mechanism for pursuing market access, tackling barriers and deal with sanitary and phyto-sanitary issues.
- To strive to double India's share in world agri exports by integrating with global value chain at the earliest.
- Enable farmers to get benefit of export opportunities in overseas market.

### Elements of Agriculture Export Policy:

The recommendations in the Agriculture Export Policy have been organised in two categories – Strategic and Operational – as detailed below:

Strategic	Policy measures
	Infrastructure and logistics support
	Holistic approach to boost exports
	Greater involvement of State Governments in agri exports
	Focus on Clusters
	Promoting value-added exports
	Marketing and promotion of "Brand India"
Operational	Attract private investments into production and processing
	Establishment of strong quality regimen
	Research & Development
	Miscellaneous

## 9. M.S Swaminathan's Review Article and its Criticism

Context:

A review article titled “Modern Technologies for Sustainable Food and Nutrition Security,” authored by Dr P.C Kesavan and Prof. Swaminathan was published recently. Their analysis of the whole matter was criticized by India's Principal Scientific Adviser (PSA), K. Vijay Raghavan as ‘deeply flawed’.

The article is a review of crop development in India and transgenic crops — particularly Bt cotton, the stalled Bt brinjal as well as DMH-11, a transgenic mustard hybrid. The latter two have been cleared by scientific regulators but not by the Centre.

### **The salient points mentioned in the Paper:**

- The most ‘modern’ technology is modern biotechnology, i.e. ‘molecular breeding’ using recombinant DNA (r-DNA) technology. The unique aspect of this technology is that genes from widely different taxa can be ‘inserted’ into a chosen recipient genome; sexual reproductive barriers to gene transfer from one species to another are broken. The basic problem with the r-DNA technology (i.e. genetic engineering) is that all the molecular and cellular events which are triggered with the insertion of ‘exogenous DNA’ (whether cis or trans), are as yet not precisely understood.
- Mutations and natural selection are predominant evolutionary mechanisms to induce variations in flowering plants but these are being tampered with.
- Since cost of GE seeds and inputs as in Bt Cotton are exorbitant, small farmers are unable to withstand the losses especially when the crop fails. Huge socio-economic cost is borne by farmers from hybrids in Bt Cotton. Bt cotton farmers are asked to revert to traditional pest management, displaying failure of Bollgard II cotton.
- The site of insertion of exogenous DNA into the recipient genome is at random, and not controllable. ‘Position effect’ leading to alterations in gene expression is known to occur. In many GE organisms, ‘unintended’ effects raising health safety concerns have been and are being encountered.
- The guiding principle has been set aside. The precautionary principle (PP) has been done away with and no science-based and rigorous bio-safety protocols and evaluation of GM crops are in place. The adoption of ‘substantial equivalence’ has been recommended, which is unscientific.
- Bt cotton occupies greater than 95% of India's cotton acreage. Yields have stagnated at around 500 kg/ha (lower than yields in China and Egypt)

- Bt Cotton in India failed to live up to its promises in 10 years, on high yields from pest resistance and reduction in insecticide use.

### **Criticism of Dr Swaminathan's article:**

- The paper has argued that the Genetic modification is the technology of choice for solving abiotic problems like drought flood, salinity, etc. It may not be equally effective in the case of biotic stresses since new strains of pests and diseases arise all the time. This is why MSSRF [M.S. Swaminathan Research Foundation] chose mangrove for providing genes for tolerance to salinity." But the critics say that abiotic stress in crops is a major hazard and does not fall under the less than 1% category mentioned in the review article.
- The authors in the article were critical of GM technology but major science academies of the world such as the U.S.'s National Academy of Sciences, the African Academy of Sciences and the Indian National Science Academy have supported GM technology. The U.S. National Academy of Sciences, after a massive consultation process, published a report in 2016 with the observation that "Bt in maize and cotton from 1996 to 2015 contributed to a reduction in the gap between actual yield and potential yield under circumstances in which targeted pests caused substantial damage to non-GE varieties and synthetic chemicals could not provide practical control".
- Data from a large number of peer-reviewed publications have shown that, on average, GM technology adoption has reduced pesticide use by 37%, increased crop yield by 22%, and increased farmer profits by 68%. Yield gains and pesticide reductions are larger for insect-resistant crops than for herbicide-tolerant crops. Yield and profit gains are higher in developing countries than in developed countries.
- Data from a billion animals fed on GM corn have not indicated any health hazards. Those in the Americas and elsewhere consuming Bt corn or soybean for over 15 years have not reported any health issues. Even reports based on faulty studies in experimental animals that stated that GMOs cause cancer were withdrawn. Major food safety authorities of the world have rejected these findings.
- The yields hovering around 300 kg/ha at the time of introduction of Bt cotton (2002) have increased to an average of over 500 kg/ha, converting India from a cotton-importing country to the largest exporter of raw cotton. There was a small dip for a couple of years and the yield has now increased to over 550 kg/ha.
- According to the critics, It is unfortunate that farmer distress is being wrongly attributed to Bt cotton failure. Farmers continue to grow Bt cotton. The development of resistance can be tackled through practices like Integrated Pest Management and by stacking Bt genes to fight secondary pests. The priority is to accelerate development of Bt cotton varieties that can be packed densely in fields and increase the yields to over 800 kg/ha, as is the case with other countries.



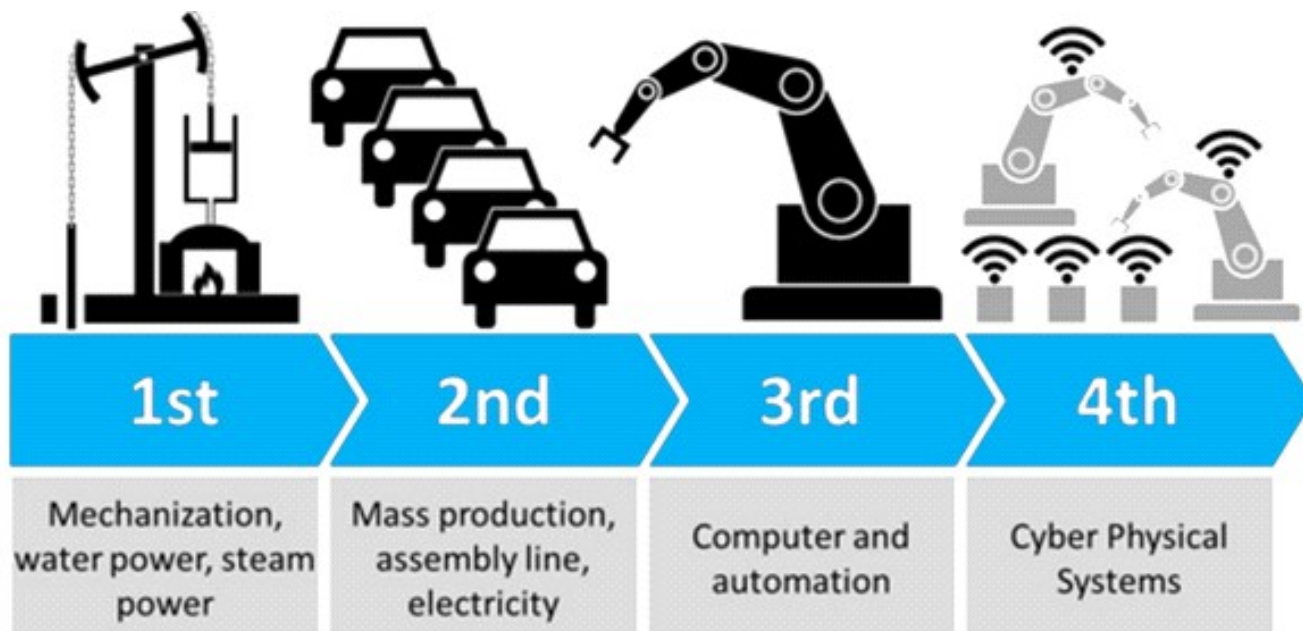
- GM mustard (DMH-11) is a technology to create mustard hybrids. Being a self-pollinator, mustard is difficult to hybridize through conventional methods. Genetic modification allows different parents to be combined easily, helping yields go up substantially. The herbicide glyphosate is only used for selection of hybrids and is not meant for farmer fields. In any case, reports on the probable carcinogenic potential of the herbicide have not been accepted by major science academies.
- India has one of the strongest regulatory protocols for field trials of GM crops. Many scientists have been part of the monitoring processes.

### Way Forward

Scientific integrity and social responsibility are not negotiable. No technology may be exempt from these values. Having said that, it needs to be understood that GM technology is not a magic bullet. It needs to be evaluated on a case-by-case basis. There is definitely scope for improvement in terms of technology and regulatory protocols.

## 10. Industrial Revolution 4.0

The fourth Industrial Revolution describes the present technological age ongoing in 21<sup>st</sup> century that has come up since the first such revolution took place in 18<sup>th</sup> century. India's Prime Minister Narendra Modi has launched the Centre for the Fourth Industrial Revolution, an initiative of the World Economic Forum. The fourth Industrial Revolution describes the huge changes brought about by smart technologies.



### Industrial Revolution:

First to Fourth Industrial Revolution

Industrial Revolution involves introduction and uses of new manufacturing processes and technologies during a time period. The transitions, thus,

Serial number	Time period	Remarks
FIRST	18 <sup>th</sup> to 19 <sup>th</sup> centuries	<b>Iron and textile</b> industries, and <b>steam engines</b> developed in Europe and America. People moved from farm to factories. Spinning jenny, spinning mule, etc were used.
SECOND	1870 – 1914 (before WW I)	Growth of pre-existing industries and expansion of new ones ( <b>steel, oil and electricity</b> ) took place. Telephone, light bulb and internal combustion engine were developed.
THIRD	Ongoing since 1980s	Advancement of technology was made from analog electronic and mechanical devices to <b>digital technology</b> . Personal computer, internet, etc were developed.
FOURTH	Phrase first used in 2016	It includes <b>emerging technologies</b> like robotics, artificial intelligence, quantum computing, biotechnology, Internet of Things (IoT), 3D printing, etc. It merges physical, digital and biological spheres.

gives improved and faster means of production. Four such revolutions that have occurred are TABULATED BELOW.

## INDIA AND FOURTH INDUSTRIAL REVOLUTION

- India has become the fourth country in the world where World Economic Forum has opened its centre for Fourth Industrial Revolution. India is thus, preparing for a massive digital and technological transformation.
- The centre for Fourth Industrial Revolution works as a network that includes USA, China and Japan. It will work in collaboration with Niti Aayog in India to codesign new policies and protocols for emerging technologies.
- Initial focus of India will be on Artificial Intelligence, Blockchain and drones.
- Schemes like Skill India, Startup India, Atal Innovation Mission and Digital India are developing youths to use new technologies. India's diversity, demographic potential, fast growing market size and digital infrastructure have the potential to make India a global hub for Research and Development.
- Industrial Revolution 4.0 can help in transforming India by:
  1. Alleviating poverty

## 2. Better and low-cost healthcare

- Enhancing farmer's income

## 1. Providing new technology and equipment to farmers

## 2. Strengthening infrastructure, improving connectivity

## 3. Improve ease of living and ease of doing business

### **INDUSTRIAL REVOLUTION IN INDIA:**

- India dominated global cotton textile markets in 18<sup>th</sup>
- Indian textile industries took a hit when industrial revolution began in Great Britain.
- Britain became a leading world exporter of textiles, displacing India in the process.
- To protect its new textile industry, Great Britain began to restrict textile imports from India and other countries by putting tariffs and other restrictions.
- British protectionist laws hastened India's deindustrialisation.
- Colonial laws forced Indian farmers to devote fields to cotton crops. India thus, became an exporter of cotton and importer of textile.
- India faced widespread famine and poverty during initial periods of industrialisation.
- First steam powered cotton mill in Asia opened in Bombay in 1854. More such mills were opened in later years.
- So, Industrial Revolution came late to India and could develop properly only since it gained independence in 1947.
- In 2018, at present, India is now focussing on the Fourth Industrial Revolution.

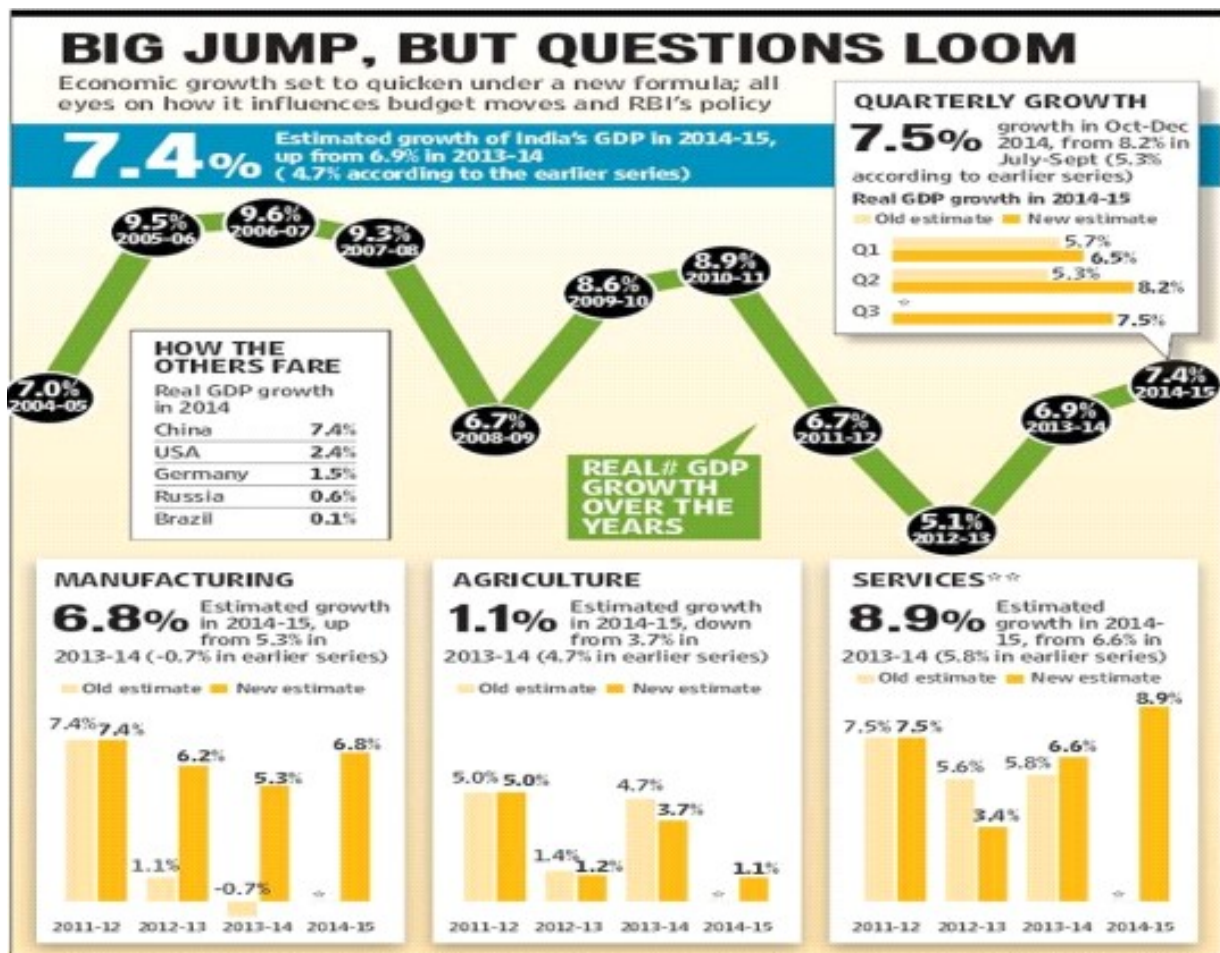
### **CONCLUSION:**

Industrial Revolution that first began in Great Britain and later in United States (after end of Civil War) has helped nations in developing faster and easier means of mass production. It has transformed lives of people in many ways over about 250 years. India is also catching up with focussing on Industrial Revolution 4.0. Development of new technologies in this era can help the nations in many ways if these technologies are used effectively for the welfare of mankind.

## **11. New GDP Series**

In January, 2015 the Central Statistics Office (CSO), using a new method, said that India's real or "inflation adjusted" GDP in 2013-14 grew 6.9% instead of the earlier 4.7% and by 5.1% in the year before compared to 4.5% in the earlier system. Advance estimates for 2014- 15 released in February projected India's GDP during the year to grow at 7.4%, making it the world's fastest growing economy surpassing China.





## Changes made in new methodology

- 1. Changing the base year:** The CSO changed the base year from 2004-2005 to 2011-2012. The change in base year is being done in accordance with the recommendation of the National Statistical Commission, which had advised to revise the base year of all economic indices every five years. The new base year has been selected in line with the latest quinquennial round of employment-unemployment survey.
- 2. Replacing factor costs with market prices:** From now on, the Central Statistical Office will measure gross domestic product (GDP) by the gross value added (GVA) method – a way of calculating GDP at basic prices instead of at factor cost. The industry-wise estimates will be presented as gross value added (GVA) at basic prices while GDP at market prices will be referred to simply as GDP. The concept of GVA is considered to be a better indicator to measure economic activities as it includes not only the cost of production but also product subsidies and taxes. The new method was recommended by the United Nations System of National Accounts in 2008 and will make India's GDP growth numbers comparable with that of developed nations. The United Nations System of Accounts, 2008 (UNSNA, 2008) differentiates between product taxes and production taxes. It defines taxes on products as taxes on goods and services that become payable as a result of the production, sale, transfer, leasing or delivery of those

goods or services, or as a result of their use for own consumption or own capital formation. Taxes on production consist mainly of taxes on the ownership or use of land, buildings or other assets used in production or on the labour employed, or compensation of employees paid. (Refer figure)

- Also earlier, the services sector was overestimated while the manufacturing sector was underestimated. The new data corrects that anomaly. In the earlier method an integrated firm which was in manufacturing and services would have the two activities put into these sectors. Under the revised method the entire value addition for such a firm would count either under manufacturing or services depending on which of them is the primary activity.

**3. Widening of the data pool:** The new GDP incorporates more comprehensive data on corporate activity than the old one. Earlier, data from the Annual Survey of Industries (ASI), which comprises over two lakh factories, was used to gauge activity in the manufacturing sector. Now, annual accounts of companies filed with the Ministry of Corporate Affairs — MCA21 — has been used. This is said to include around five lakh companies, bringing in more companies from the unlisted and informal sectors. Also, the new 2011-12 series will incorporate results of the recent national sample surveys such as enterprise survey (2010-11), employment-unemployment survey (2011-12), all India debt and investment survey, situation assessment survey of farmers and survey on land and livestock holdings (2013). It will also take into account the population census (2011), agriculture census (2010-11) and livestock census (2012).

- Improved coverage of financial corporations: Financial corporations in the private sector, other than banking and insurance, in the earlier series was limited to a few mutual funds (primarily UTI) and estimates for the Non-Government Non-Banking Finance Companies as compiled by RBI. In the new series, the coverage of financial sector has been expanded by including stock brokers, stock exchanges, asset management companies, mutual funds and pension funds, as well as the regulatory bodies, SEBI, PFRDA and IRDA.
- Improved coverage of local bodies and autonomous institutions: Earlier, estimates for local bodies and autonomous institutions were prepared on the basis of information received for seven autonomous institutions and local bodies of four States – Delhi, Himachal Pradesh, Meghalaya and Uttar Pradesh. In the new series, there has been an improved coverage of local bodies and autonomous institutions, covering around 60% of the grants/transfers provided to these institutions.

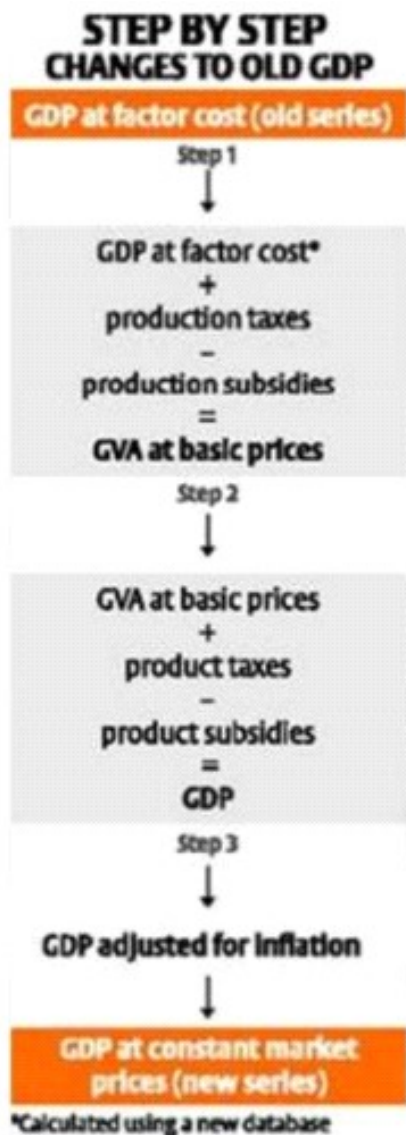
**4. Changes in calculation of labour income:** In the old series, due to lack of annual surveys, output in the unorganized, or informal, manufacturing and services sectors is calculated using the Labour

Input (LI) method, which uses a benchmark-indicator process and then calculates output as the estimated labour input times the value added per worker, making all kind of labour equal. In the new series, an Effective Labour Input (ELI) method is used. This method distinguishes workers on productivity by assigning weights to different categories of workers (such as owner, hired professional or a helper), changing overall output contributed by these sectors.

- 5. Changes in calculation of agricultural income:** Value addition in agriculture is now taken beyond farm produce. Livestock data is critical to new method. Value attached to by-products of meat including “heads and legs”, “fat” “skin”, “edible offal and glands” of cattle, buffalo, sheep, goat and pig.

### Impact of the changes

- A higher growth rate in 2014-15 will help the government achieve a better fiscal deficit and current account deficit ratios calculated as a percentage of GDP. The government had set a fiscal deficit target of 4.1% of GDP for the year to March. Despite crossing the limit in value terms, a favourable base due to higher GDP growth may help the government achieve the target.



- The change in method of calculation has brought Indian GDP calculations more in line with global practice.

- For example, IMF's world economic outlook projections are not based on factor costs. This used to create confusion in the past, with IMF's projections turning out to be very different from the Government's.

- The base year change ensures that the products and services included in the GDP calculation do remain contemporary and reflect the present state of the economy. For instance, the latest change in base year from 2004-05 to 2011-12 has included the recycling industry which didn't figure in the earlier GDP computations.

- There is more incentive for the Government to raise indirect taxes and reduce subsidies. This may have an impact on sectors such as agriculture which receive a lot of subsidy.

- Foreign /domestic investors may view India in more favourable light due to increase in GDP.



## Criticism of the new methodology

- The strong economic recovery which the new series suggests is out of sync with other macroeconomic indicators such as revenue growth of listed firms, credit offtake, tax collections, project announcements and data on India's balance of payments. The charts plot the revenue growth of listed industrial firms (excluding oil and gas companies) along with the quarterly growth in GDP. As the charts show, while the old series moved largely in sync with the performance of listed firms, there is now a wide divergence.
- The new GDP numbers overturn a fundamental principle of economic growth as they suggest the growth acceleration of the past three years occurred even as the rate of investment fell. The rate of investment or the gross fixed capital formation (GFCF), as a percentage of GDP, has steadily fallen from 33.6% in 2011-12 to 31.9% in 2012-13, to 30.7% in 2013-14, and finally to 30% in 2014-15 even as GDP growth accelerated. Such acceleration with declining investments is possible if there is increased capacity utilization of existing plants and machinery. But as successive rounds of Order Books, Inventories and Capacity Utilisation Survey (OBICUS) survey show, capacity utilization has also been steadily falling over this period.

### VARIED PATHS

While quarterly GDP Industry growth according to the old series moved largely in sync with the performance of listed firms, there is now a wide divergence.

CHART 1

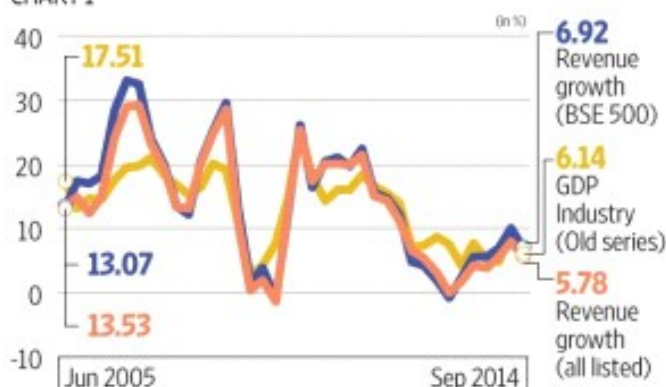


CHART 2



Note: Revenue growth refers to revenue growth of all industrial firms (excluding oil and gas companies) for which past data is available. GDP Industry growth refers to nominal growth of industry.

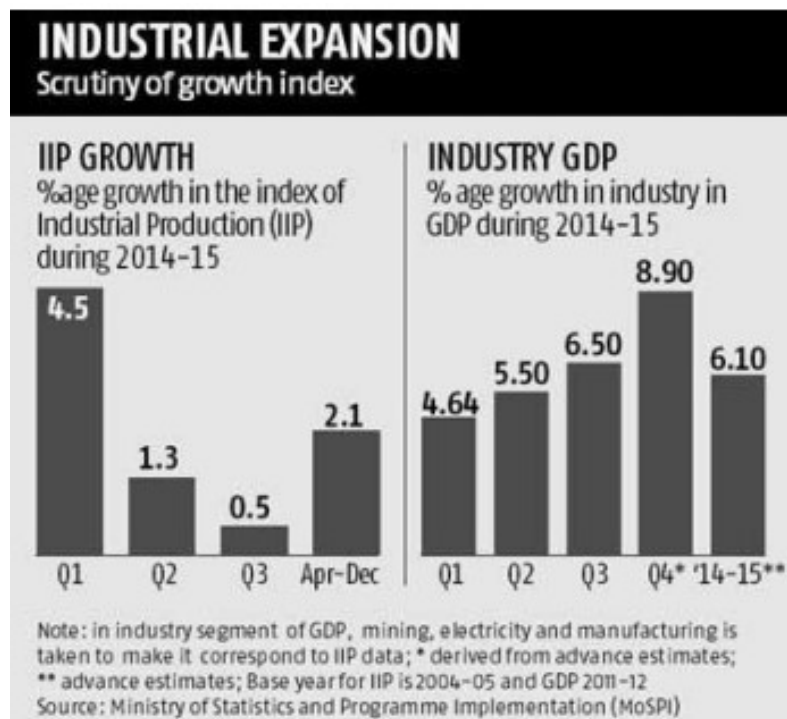
Source: Capitaline

line with the new UN system of national accounts 2008 (SNA 2008). But as critics have pointed out, several of these changes have been mechanically applied without taking into account data limitations in the Indian context. For instance, a new category called "quasi-corporates" was introduced in the new series to capture that segment of household enterprises which are unincorporated but maintain accounts. The savings of this set of firms is then imputed based on

survey data. But in the absence of detailed balance sheet data, such imputations are not credible.

- Similarly, the use of service tax as a proxy for growth of certain services, and the use of growth rates of the organized manufacturing industry to estimate growth for unorganized manufacturing could potentially be over-estimating growth. After all, the growth in service tax partly reflects tax deepening (as new services are brought under the tax net) and does not accurately capture tax buoyancy. The assumption that unorganized manufacturing is growing at the same rate as organized manufacturing appears unrealistic. There is evidence to show that unorganized manufacturing has not kept pace with the growth of organized manufacturing over the past few years.
- Critics have pointed out that although the MCA-21 database is much larger than the sample covered by RBI, detailed accounts are available

for only a small set of companies. The MCA-21 database consisted of half a million companies but detailed accounts were available only for around 30,000 firms. The lack of detailed data for the larger set of small companies makes it difficult to trust the corporate sector estimates.



- With the new GDP series there is growing divergence between Index of Industrial production and industrial data in GDP. While industrial

growth in the new GDP numbers, with a revised definition and base, is officially pegged at 6.1 per cent for 2014-15, it was just 2.1 per cent in April-December in terms of the IIP. However, there is a need to bring the IIP methodology in line with the new GDP series by changing its base year to 2011-12.

- The new estimation methodology is in line with global norms where increased value addition, as against an actual increase in quantity of production, leads to a higher GDP. This approach can work seamlessly in an economy where all value addition is tracked formally and recorded in well-codified data. But for a country like India, where 93 per cent of labour works in the informal sector and where there is no credible data on employment, this method requires a more nuanced appreciation.

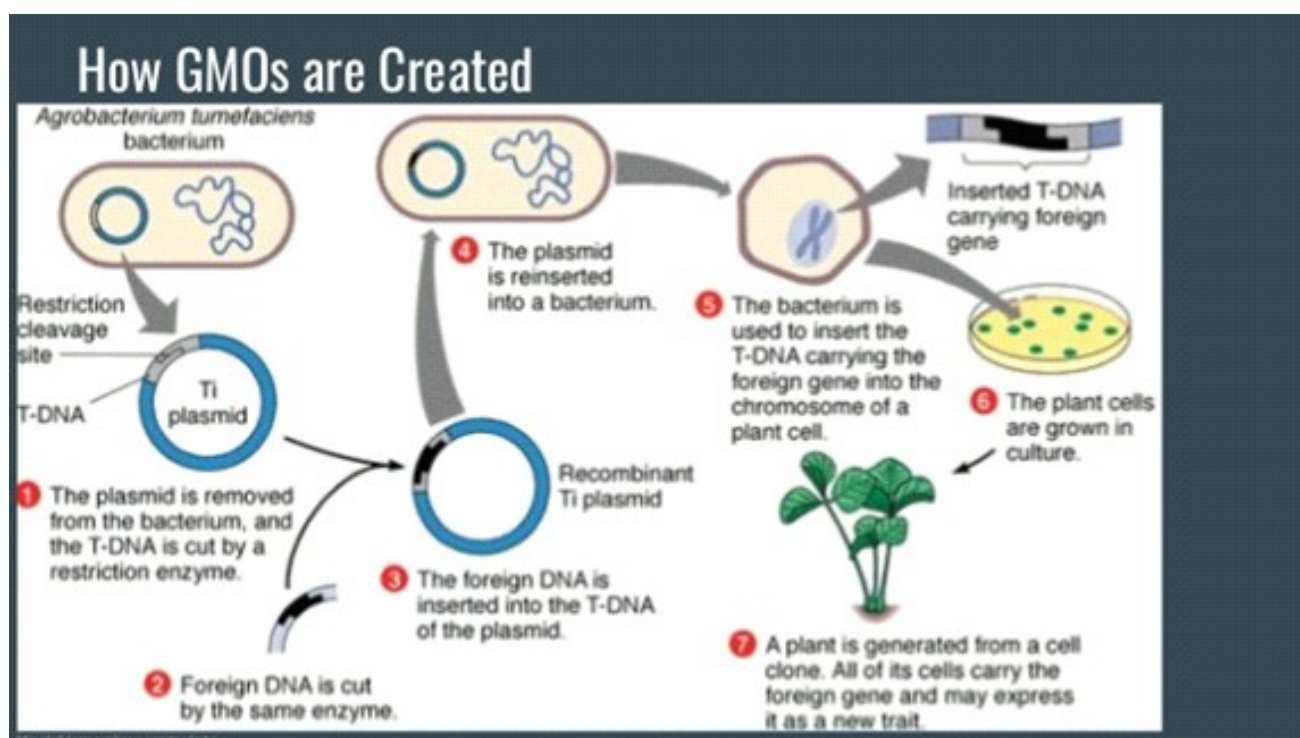
## 12. GMO campaign

### Background:

Modern technologies for sustainable food and nutrition security—issue of the peer-reviewed journal Current Science describes Bt cotton as a “failure”. The Principal Scientific Adviser to the Government of India, K. VijayRaghavan, rightly said, this paper is “deeply flawed”. It has the potential to mislead the public and the political system.

### Scientific evidence:

- Genetic modification is the technology of choice for solving abiotic problems like drought flood, salinity, etc. It may not be equally effective in the case of biotic stresses since new strains of pests and diseases arise all the time. This is why MSSRF [M.S. Swaminathan Research Foundation] chose mangrove for providing genes for tolerance to salinity.



- Genetic engineering technology has opened up new avenues of molecular breeding. Choose the one which can take us to the desired goal sustainably, safely and economically.
- Abiotic stress in crops is a major hazard and does not fall under the less than 1% category mentioned in the review article.
- In 2016, 107 Nobel laureates signed a letter challenging Greenpeace to drop its anti-genetically modified organism (GMO) technology stance. They stated that the anti-GMO campaign is scientifically baseless and potentially harmful to poor people in the developing world.
- Data from a large number of peer-published have shown that, on average, GM technology adoption has reduced pesticide use by 37%, increased crop yield by 22%, and increased farmer profits by 68%.

- Yield and profit gains are higher in developing countries than in developed countries.
- Data from a billion animals fed on GM corn have not indicated any health hazards. Those in the Americas and elsewhere consuming Bt corn or soybean for over 15 years have not reported any health issues.
- Even reports based on faulty studies in experimental animals that stated that GMOs cause cancer were withdrawn. Major food safety authorities of the world have rejected these findings.

### **GM crops success in India:**

- Introduction of Bt cotton (2002) have increased to an average of over 500 kg/ha, converting India from a cotton-importing country to the largest exporter of raw cotton.
- Farmers continue to grow Bt cotton. The development of resistance can be tackled through practices like Integrated Pest Management and by stacking Bt genes to fight secondary pests.
- GM mustard (DMH-11) is a technology to create mustard hybrids. Being a self-pollinator, mustard is difficult to hybridise through conventional methods.
- The herbicide glyphosate is only used for selection of hybrids and is not meant for farmer fields.
- Bangladesh has used India's data to successfully cultivate Bt brinjal, despite all the negative propaganda. Reports indicate that as many as 6,000 Bangladeshi farmers cultivated Bt brinjal in 2017.

### **Conclusion:**

GM technology is not a magic bullet. It needs to be evaluated on a case-by-case basis. There is definitely scope for improvement in terms of technology and regulatory protocols. But it is time to deregulate the Bt gene and lift the embargo on Bt brinjal. A negative review from opinion-makers can only mislead the country. In the end, it is India that will be the loser.

## **13. Decoding GST's future course in India**

### **Important Facts:**

#### **GST**

1. Goods and Service Tax (GST) is a single tax on the supply of goods and services.
2. It is considered to be a destination based tax as it is applied on goods and services at the place where final/actual consumption happens.

### **Issues with GST:**

1. Tax slab classification and Product Rationalization: The structure of the tax rate has led to complexity. With different tax slab categories, it



has become difficult to classify goods and has further added to confusion among consumers

2. **Exemptions:** Many goods and services are outside the ambit of GST such as electricity, alcohol, petroleum goods and real estate which further adds to the complexity and confusion over GST. Further, exemptions of these goods and services indicate that the cascading effect continues and the consumers are not benefited.
3. **Input Tax credit:** In the present GST system there are certain items where input tax credit is not allowed which breaks the chain. Example: Restaurants (GST rate on restaurants is 5% but without input tax credit), transport vehicles, oil or gas pipelines, telecom tower. Exclusion of items from availing input tax credit results in accumulated credit and has a cascading effect.
4. **Centre's Revenue:** The compensation mechanism in which 14% incremental growth rate of revenue is assured for states. However, the revenue for the centre is not certain.

### **Reforms Suggested**

1. Eventually the tax slabs should be converged to remove complexity in the GST tax structure.
2. To effectively deliver the promise of 'one nation one tax economy', products such as petroleum goods should be brought under GST. This will not only expand the tax base but will further remove the cascading effect and benefit the citizens
3. A clear roadmap should be prepared and steps should be taken to stabilise revenue for both states and the Centre.

## **14. Farmers' Suicides in India – Reasons, Initiatives, Challenges & Solutions- In brief**

Recently, farmers from various regions of the country marched to Delhi to register their protest against the government's neglect of farmers' demands. Poor earnings of the farmers led to the never-ending distress in the agricultural sector and this resulted in the increasing number of farmer suicides. These worrying realities call for an appropriate policy response and sustainable alternatives to the current agricultural methods.

### **What are the reasons for the agrarian distress?**

#### **Vagaries of nature**

- When compared to other developing economies, Indian agriculture heavily depends on monsoon, limiting crop diversification to a great extent.
- Thus risks include weather, a weak monsoon or even a delayed monsoon, poor soil fertility, pests, and plant diseases, perishability of crops etc. are the major causes for the agrarian distress in India.

- Further, climate change and global warming cause frequent events of drought and flood which further add to their woes.

### **Land fragmentation**

- There is a huge pressure of population on land led to a low land-man ratio in rural areas.
- The landlessness and the existence of marginal farming households are the results of decades of land fragmentation initiated after independence.
- Fragmented land holdings result in low productivity and hinder infusion of technology and new farming techniques.
- The landless or marginal farmers lack the resources to either buy or lease more land or invest in farm infrastructure to compensate for the scarcity of land. And they also lack adequate access to institutional finance.

### **Rising agricultural costs**

- Despite subsidies on power, fertilizers etc. input costs have been rising faster than sale prices, squeezing the meager income of the small farmers and driving them into debt.
- In addition to this, hiring laborers and animals has become expensive and the fixed costs associated with agricultural equipment like tractors and submersible pumps have also been on the rise.
- Also, small farmers do not have enough profit to justify the cost of transporting the crop to government corporations in towns.
- Most farmers prefer cash crops such as cotton. However, they don't realize that the input costs of such crops are very high. If the crop fails, it causes a huge distress.
- Moreover, as agricultural prices rise, the rural wages are depressed resulting in rural distress causing migration towards cities.

### **Lack of institutional credit**

- The National Crime Records Bureau (NCCB) report clearly underlines that indebtedness is the single largest cause of farmers' suicide.
- As the farmers don't get access to institutional credit, they move towards informal moneylenders who demand exorbitant interest rates and consequently the farmers end up with huge debt.
- Expenditure on costly social ceremonies and health expenses, which are not part of regular household expenditure, also force the farmers to borrow especially from informal sources.

### **Problem with MSP**

- Government procurement at the minimum support price (MSP) is supposed to protect the farmers but it mostly benefits the large traders.



- Over 70% of the farmers in India seldom receive MSPs for want of official market intervention.
- Moreover, the Public Distribution System (PDS) does not have the capacity to undertake procurement operations for 24 crops for which MSP is announced.

### **Agricultural marketing**

- Lack of enough cold chain and storage infrastructure and processing capacity result in a huge post-harvest loss
- Uncertainty with the price of the produce is a major concern. Many farmers continue to be at the mercy of the trader.
- Agricultural Produce Market Committees (APMCs) is also unfavorable since the farmers have to sell their produce via auctions in regulated markets controlled by cartels of licensed traders. These cartels fix low purchase prices, extract large commissions, delay payments etc.
- APMC is a statutory market committee established by a state government with respect to trade in certain notified agricultural or horticultural or livestock products under the APMC Act of the respective state government.
- Though the purpose of APMC Act is to protect farmers from the exploitation of intermediaries and traders, however, the licensing of traders results in the monopoly and prevents farmers to participate in direct and free marketing.
- The value chain in the agricultural sector has been exploitative i.e., only about 1/3 of the retail prices paid by final consumers reach the farmers, unlike 2/3 in case of milk.

### **Ineffective government response**

- The government's response is focused on credit and loan, rather than income, productivity, and farmer prosperity.
- Loan waiver or the assistance in paying o outstanding principal and interest helps the money lenders, however, failed to create reliable and good sources of income for the farmer.

### **What are the measures taken by the government?**

- In recent years, the Central government has taken various measures like the PM Fasal Bima Yojana (PMFBY), PM Krishi Sinchai Yojana (PMKSY), electronic National Agricultural market (e-NAM), Soil health card, Neem-coated urea etc.
- Agriculture is a major component of Priority Sector Lending (PSL), and the target for bank lending to agriculture has been revised upwards every year.
- In addition to food subsidy under PDS, the government also provides fertilizer subsidy year after year.

- The announcement in budget 2018 for farmer's Union budget has announced MSPs at 50% above the production cost. It proposed to launch "Operation Greens" in the agriculture sector on the same lines of the milk sector's "Operation Flood".
- It will be used for the marketing of highly perishable commodities like tomato, onions, potato, and others, which undergoes severe price fluctuations.
- Create parallel marketing infrastructure by upgrading the existing 22,000 rural haats into gramin agricultural markets. These mandis will be exempted from the APMC regulations to enable the direct sale to consumers and bulk purchasers.
- It also encourages farmer producer companies and cooperatives by fully exempting their profits from income tax.
- It seeks to promote agriculture's allied activities such as animal husbandry and fisheries, which are more profitable than crop farming. The budget also proposes to provide a Kisan credit card like facility to those engaged in these ventures.

## **What are the shortfalls in the government's measures?**

### **Ineffective Schemes**

- Most of the agricultural development schemes focus mainly on boosting crop productivity and production = disregards the negative impact of higher output on prices in a surplus situation.
- PMKSY aims at enabling farmers to install solar water pumps to irrigate fields. It is ironic since the government seeks to install tube wells while being worried about depleting groundwater. PMFBY gives protection against crop failure, but farmers are facing market failure for which they do not have any cover.

### **MSP**

- Government is yet to resolve the concerns of farmers who produce crops that are outside the MSP.
- Procurement is restricted to major crops such as paddy/rice and wheat.
- The National Commission for farmers had recommended that MSP for crops be fixed at 50% above the C2 cost.
- However, the government is still using a 50% margin of Cost A2 or maybe cost A2+FL, which is lower than cost C2.
- The Commission for Agricultural Costs and Prices (CACP), gives 3 definitions of production costs – A2, A2+FL, and C2.
- A2 costs – covers all paid-out expenses incurred on inputs. A2+FL costs – covers Actual paid out costs (A2) + value of unpaid family labour (FL).

- C2 costs – It is the comprehensive cost that covers rentals, interest forgone on owned land and fixed capital assets, in addition to A2 + FL.

### **Agricultural Trade**

- External trade policy is focused more on managing inflation than on maintaining the price line to safeguard the farmers' interests.
- An export opportunity is generally denied for agricultural products by imposing import and export limits, which makes it harder to sell the surplus produce in the country = fall in the price level. Furthermore, frequently modifying duties and minimum export prices in the name of controlling inflation aggravate the problem. What are the solutions?

### **On vagaries of nature**

- Location-specific policy for irrigation with the identification of suitability of irrigation facilities required to protect farmers from the adverse impacts of climate change. It must be supplemented with timely completion of canal irrigation projects and timely advice on the weather. More investment is needed in agricultural R&D in order to develop more drought and pest-resistant crops, along with better irrigation technology.
- Technological interventions that update farmers about sowing and harvesting time and extension services can help prevent misfortunes. Sooner implementation of interlinking of rivers will help solve the water stress in agriculture. But it needs to be implemented carefully as it has ecological costs as well. Crop diversification should be implemented to reduce crop failure rates across the country.
- Zero Budget Natural Farming can be implemented which involves the applications of nature's principles in farming. It is the practice of no-till, no chemical use in farming. [Click here to read more about Zero Budget Natural Farming.](#)

### **On input costs**

- The government policies should encourage integrated pest management that combines, biological, chemical, mechanical and physical means to combat pests with a target to eliminate/considerably reduce the need for pesticides.
- The local fertilizer industry requires support and the timely delivery of subsidies would improve their capital needs, allowing them to manage costs through internal sources instead of external loans. State seed policies should encourage contract farming, identification of new genotypes for treating pest and disease syndromes, as well as adverse weather conditions.
- Precision farming techniques such as Systematic Rice Intensification (SRI) can help increase seed production in this respect. [Click here to read more about precision farming in India.](#) Our farm equipment policy needs to be revamped with a focus on improving manufacturing

equipment in the country rather than importing them which is costly. Introduce modern entrepreneurship to Indian agriculture under the start-up India scheme. This can help bring in modern technology and inputs to farmers.

- Cooperative farming on a national scale should be implemented to reduce input costs and improve agricultural productivity and production. The cooperation may range from collective action in accessing credit, acquiring inputs, marketing to production. It also includes land pooling, labour pooling, joint investment, joint water management, and joint production.

### **On institutional credit**

- Ensure that institutional financing is available and accessible. Village-wise lists of deeply indebted farmers must be prepared annually to identify farmers on the path to potential suicide.
- NABARD, along with local administration, should come up with local policy interventions and also devise timely loan restructuring initiatives, insurance claim settlements, and better counselling. Nationalised banks need to change their way of functioning in order to expand rural outreach.

### **On land fragmentation**

- Long-term leasing of farmland without withdrawing the land ownership can be implemented. This is in line with Niti Aayog's Model Land Leasing Act i.e., no change in ownership, no tenancy rights, and the land revert back to the owner on the expiry of the lease.
- Long-term leasing can also facilitate the entry of the private sector into agriculture. The private sector can bring in crop diversification, the introduction of high-value crops, mechanization, new farming techniques and technologies, investment in post-harvest management and processing, and more employment opportunities.

### **On agricultural marketing**

- The long chain of intermediaries between the farm and the consumer should be reduced as they negatively impact farmers' income. Delisting fruits, vegetables and other perishables from the ambit of APMC can give farmers the freedom to sell directly to retailers and food processing companies.
- Grouping farmers into Farmer Producer Organizations (FPOs) could facilitate improved market access and better bargaining capacity. Create Agro clusters in important production zones to ensure aggregation of produce. Commodity options (rights to buy or sell) in agricultural products can protect the farmers from the vagaries of distress sale during the periods of bumper harvests. This will ensure farmers the post-harvest prices at the time of planting the crop itself.

- Public-Private Partnership (PPP) which worked successfully in other sectors can be implemented in agricultural marketing as well. The private sector must be allowed to procure, store and distribute grains even starting with the public distribution system = reduce storage cost for the government and result in the establishment of storage capacities. Increased storage and processing capacity can reduce post-harvest losses, ensure price stability and protect farmer interests.

### **Creating rural job opportunities**

- The focus has to be shifted from farm income to farmers' income i.e., boosting farmers' earnings through expansion of job opportunities in and around rural areas. Promoting the lucrative allied activities of agriculture such as horticulture and floriculture also helps boost farm incomes.
- Gobardhan Yojana should be implemented all over the country. It aims at keeping the villages clean and also generates energy while improving the income of farmers and cattle herders. (Click here to read more about Gobardhan Yojana) Thus a multi-featured income-generation plan, rather than MSP hikes and loan waivers, can help mitigate farmers' distress.

## Geography and Environment

### 15. Fighting climate change in the shadow of Mount Everest

Scientists have warned that climate change and consequent melting of glaciers could lead to swelling of Himalayan lakes like Imja and lead to a catastrophe

#### Important Facts:

##### About Lake Imja

1. Located at a height of nearly 5,000m in eastern Nepal, Imja lake is a glacial lake.
2. The lake is fed primarily by the Imja glacier. In the 1960s, melt water began collecting at the foot of the glacier, creating Imja Lake.

#### Concerns over Lake Imja:

1. The Imja glacial lake is the fastest growing lake in the Himalaya and has been identified as one of the potentially dangerous glacial lakes in the Nepal Himalaya.
2. As the glacier has been melting faster due to global warming, the lake's water levels are on constant rise. This threatens downstream communities with the potential for a glacial outburst flood.

#### Steps taken:

- The Government of Nepal and Nepal's Army, with support from the Global Environment Facility and UN Development Programme, have built a canal system to relieve pressure on the lake.
- In 2016, the lake was lowered by 3.5 meters by draining more than 5 million cubic meters of water.

### Himalayan lake





## 16. Structural reforms for decarbonising India

### Important Analysis:

- India is one of the world's fastest-growing economies, poised to become the third-largest by 2028. Rapid economic growth is often driven by an increase in energy demand and consequently higher carbon dioxide emissions.
- In Paris climate deal India committed to cut its emissions intensity of GDP by 33% to 35% below 2005 levels by 2030, and to achieving **40% of its electricity-generation capacity from non-fossil sources by the same year.**
- Research by the Council on Energy, Environment and Water (CEEW) finds that in the business-as-usual scenario, the industrial sector would account for one-third of India's carbon dioxide emissions in 2050.
- But to achieve the targets the structural reforms are needed to facilitate India's decarbonisation, similar to structural reforms that are critical for achieving higher and equitable economic growth.

### Four key Structural Reforms.

- **India's electricity pricing policy**
  - Current policy subsidizes electricity prices for agricultural and residential consumers, while penalising commercial and industrial consumers.
  - However, how pricing reforms could help decarbonise India's industrial sector has been ignored. Electricity is expensive for industrial users compared with the cost of fossil fuels, especially coal. Hence, more than 80% of India's energy use is based on fossil energy.
  - Mitigating the emissions via renewable and other low-carbon electricity sources would be an effective strategy.
- **Revamping the market design of India's electricity** – For absorbing a greater percentage of variable renewable energy (VRE), i.e. solar and wind, into the grid, conventional power plants, especially those running on coal, would need to operate differently.
- **Banking sector reforms** – The banking sector has been plagued by the issue of non-performing assets. A risk-averse banking sector means less capital and high interest rates for unconventional energy businesses, invariably the renewable energy sector.
- **Need for strong India's bond market** – Experts have highlighted that while green bonds are being issued for supporting renewable energy, India ironically does not have a well-functioning larger bond market. Proceeds from green bonds provide critical financial support for environment-friendly investments. Already, over \$6 billion has been raised via green bonds in India. Market reforms at a larger scale for

deepening of capital markets in India will have immense potential which is largely untapped.

### **Deep Decarbonization Pathways Project**

- The Deep Decarbonization Pathways Project (DDPP), an initiative of the Sustainable Development Solutions Network (SDSN) and the Institute for Sustainable Development and International Relations (IDDRI), aims to demonstrate how countries can transform their energy systems by 2050 in order to achieve a low-carbon economy and significantly reduce the global risk of catastrophic climate change.

### **Other Reforms:**

- Under a changing climate, extreme weather events like the floods in Kerala are becoming more common across the country. India needs to meet its decarbonisation goals not only for meeting its climate commitments and economic targets, but also for fulfilling its human development objectives.
- Governments will need to utilise other public policy levers as well, including power market and tariff redesign, to encourage renewables, adoption of technical standards and other regulations to drive energy efficiency improvements, and a comprehensive approach to urban and transport planning.
- The role of policymakers will be crucial in enabling strategies. A critical ask of developing countries like India has been for financial support for appropriate research and development.
- Governments will also need to recast their spending priorities and incentive schemes in ways that support higher investments in renewables, low-carbon technologies.
- India will need to look at all flexibility options, including an increasingly interconnected grid, storage and demand side measures. An integrated approach would help enable the transition to a low carbon power system, but also requires addressing considerable regulatory challenges, such as the pricing of electricity.

## Science and Technology

### 17. Why aircraft carriers are needed

#### Why in news?

- Navy Chief Admiral Sunil Lanba has made a strong case for a second indigenous aircraft carrier or IAC-2. While govt considers it too expensive, the Chinese expansion in the Indian Ocean Region cannot be overlooked.
- This statement was unexpected because the government has deferred the decision on the proposal for IAC-2, which it reckons will be unaffordable to build and operate.
- The Navy has reportedly budgeted for funds for IAC-2 in its financial plans from 2024 onwards.

#### INS Vikramaditya:

- India currently has only one aircraft carrier, INS Vikramaditya, the erstwhile Russian Admiral Gorshkov and inducted into service in 2013.
- The country's first Indigenous Aircraft Carrier (IAC-1) — to be formally named INS Vikrant — is being built in Cochin Shipyard.
- The 40,000-tonne warship has been delayed — the Ministry of Defence approved it in 2003, construction began in 2005, and it was supposed to be ready this year, but it is now expected to be out for sea trials only by 2020.

#### Need for Carriers:

- The ability of a country to project military force away from its shores is largely dependent on the components used for force projection, key among which are aircraft carriers.
- The Indian Navy has reached a minimum essential requirement of two operational aircraft carriers to carry out its mandated tasks in the country's Areas of Interest, and to meet its overall maritime security requirements.
- In the maritime strike role too, shore-based aircraft have limited range with inherent time delays, considering the distance to targets at sea.
- The surety of support from a shore-based fighter is intrinsically linked to the unpredictable factor of weather.
- But the biggest concern for India is the aggressive effort by China to gain a foothold in the Indian Ocean Region.
- China currently operates two carriers, and is likely to have four by 2028 — with the eventual aim of 10 by 2050.
- This would be a quantum leap for the People's Liberation Army Navy, which plans forays deep into the Indian Ocean Region by 2020.

**Design for third carrier:**

- The concept design of the third aircraft carrier is still on the drawing board, and its specifications are fluid. The Navy Chief said the project would start in the next three years, which is ambitious.
- This is especially because the Indian Naval concept of operations requires a Catapult Assisted Take-Off But Arrested Recovery (CATOBAR, a system of launching and recovering aircraft) carrier, which is capable of operating aircraft with higher payloads. Such would typically displace about 65,000 tonnes, Admiral Lanba confirmed.
- Until now, steam, generated preferably by a nuclear plant, has been considered the optimum propulsion for a ship this size. But with advancement in technology, the Navy thinks an all-electric propulsion will provide a more economical and efficient solution.
- For launch and recovery of aircraft, electromagnetic aircraft launch system and advanced arresting gear have replaced the older systems, and will be more suitable for a new project that is likely to remain in service for the next four decades.

**Affordability vs requirement:**

- It would appear that India simply cannot afford a third aircraft carrier even if it is desirable for power projection and in order to ensure maritime security in the Indian Ocean Region.
- However, an aircraft carrier is a dynamic capability that can be deployed over the entire area of maritime interest for as long as four decades, and is, therefore, one of the most optimum utilisations of resources spent on such an acquisition.
- The decision to spend public money to build and operate a third aircraft carrier will be taken by the government, which will consider all aspects.
- But given the time it will take to construct IAC-2, and the speed and determination of the Chinese naval progress, this decision will have to be made soon.

**Service Record:**

1. **INS Vikramaditya:** 45,400 tonnes, modified Kiev-class carrier, formerly Admiral Gorshkov. In service since 2013
2. **INS Vikrant:** 19,500 tonnes, Majestic-class carrier, formerly the HMS Hercules. In service from 1961 to 1997. Used as a museum until 2012, and scrapped in 2014-15
3. **INS Viraat:** 28,700 tonnes, Centaur-class carrier, formerly HMS Hermes. In service from 1987 to 2016. Decommissioned on March 6, 2017
4. **INS Vikrant (IAC-1):** 44,000 tonnes, Vikrant-class carrier. Under construction at Cochin Shipyard, sea trials scheduled in 2020

## 18. Red Biotechnology

The Importance of biotechnology is in the field of health care and medicine. This field of biotechnology is known as red biotechnology. Biotechnology medicines and therapies use proteins, enzymes, antibodies and other substances naturally produced in the human body to treat diseases, including genetic disorders. Biotechnology also uses other living organisms plant and animal cells, bacteria, viruses, and yeasts - in the large-scale production of medicines for human use.

- It deals with pharmacogenomics, designing organisms to produce antibiotics and vaccines, clinical research and trials, gene therapy and diagnostics. The technology is useful in veterinary science and poultry farming as well.
- Intensive research in this field has not only assured a ray of hope for various life-threatening diseases but has also enhanced the quality of life.

Challenges in the field of red biotechnology

Though red biotechnology offers various new opportunities and can open new frontiers in the field it faces certain challenges:

### **Regulation:**

- The state's capacity to regulate the red biotechnology field is limited especially in the case of developing countries. It raises the issues regarding intellectual property, pricing etc. How to ensure a balance between all will be seen. Laws, rules & regulations and institutional structures are absent in countries like India.
- The field has not been duly recognized in India and allocations for the sector are minimal. The availability of resources (financial, human resource etc) for countries like India is a challenge.
- The result of gene transplantation and organ transplantation needs to be verified for whole life. In many cases, the genetically corrected liver cells were recognized as foreign and rejected by the healthy immune system in the patients (as happened in the treatment of Hemophilia case).
- Ethical issues regarding cloning, ART (wherein India became a destination for fertility tourism) needs to be settled. Otherwise, these things will result in exploitation of the poor and the commoditization of body parts.
- Privacy issues will crop up with the increasing use of biotechnology. As medical practitioners become well versed in using gene therapy or genetic engineering, they will have access to personal information which if revealed will lead to a violation of the privacy of the patients.
- It will be possible to know the future health problems an individual is going to encounter, but this will also create an ethical issue like whether

that information should be revealed or not because it may have a negative impact on employment, insurance and in other areas.

**Equitable access:**

- The cost issues of these technologies are going to create a divide among the citizens. A situation may be created wherein certain people are dying because of hunger or TB or dengue and at the same time some persons are getting the facility of gene therapy at very high costs.

**Bioprospecting and biopiracy:**

- As the field grows there will emerge issues regarding biopiracy. How countries tackle these issues will determine the future of the technologies.

**Biological terrorism or war:**

- Rogue nations or individuals can use the advancements in biotechnology for the purpose of terrorism; various viruses can be used to infect individuals or populations etc. How to control the possibility of such events remains a challenge.
- Red biotechnology as a field offers great opportunities for individuals, societies, and countries to get rid of various diseases and health problems which have prevented them from making the lives of individuals dignified and worth. There is a need to establish cooperation among all the countries and stakeholders to ensure equitable benefits arising from these so that humanity as a whole benefit from this.

**Use of biotechnology for societal development:**

- Biotechnology offers immense opportunities for improving quality and quantity of life. Diseases impact the lives of individuals and impede national development. Many families fall into the vicious circle of poverty because of health problems.
- Many medicines, such as vaccines for treating malaria and cholera, can be delivered to patients in the form of new antigens synthesized within common fruits and vegetables bred by modern biotechnology. These foods will reduce the rates of illness, death and associated expenditure by individuals and governments in many countries.
- Various types of hereditary disabilities and mitochondrial DNA related diseases like Parkinson disease can be solved by using red biotechnology. This will not only improve the quality of life but also help in removing the associated tensions in the family.
- New advances in the field will provide entrepreneurial and employment possibilities and will help in reaping the digital dividend.
- Many of the healthcare and medicinal products can be derived from plants using biotechnology. This combined with green biotechnology can help in revolutionizing agriculture.



## 19. Significance of development of Cryogenic Engine

Cryogenic engine is considered as an advanced technology which is considered a frontier in rocket science technology.

- The cryogenic stage on the GSLV is the third stage and uses liquid hydrogen as fuel and liquid oxygen as an oxidiser. Cryogenic stage is a highly efficient rocket stage that provides more thrust for every kg of propellant it burns compared to solid and earth-storable liquid propellant stages.
- India has mastered the PSLV technology with successful launch of many satellites using this technology. However, it still had to depend on foreign countries to launch heavier satellites. But with the development of cryogenic engine India will have significant advantage.
- The success of India's cryogenic engine, GSLV D-5 would enable India to place satellites with a weight of upto 2000-2500kg in space. At present, Indian satellites of this category are launched by foreign space agencies like Arianespace. The space agency spends around Rs 500 crore for the launch of heavyweight satellites by a foreign space agency. However, the Indian Space Research Organisation (ISRO) could launch these satellites onboard its own launch vehicle like the GSLV at nearly half the cost.
- Its deployment would free India from its dependence on the Ariane-5 vehicle of the European space transportation company, Arianespace,



for getting its two-tonne plus GSAT/INSAT satellites off the ground.

- India can also consolidate its position in the global commercial launch market by offering the services of GSLV-MKII for launching the satellites of international customers on commercial terms.
- Cryogenic propellants are preferred when rockets have to carry payloads of high mass because they have the greatest efficiency in terms of thrust generated. This helps in bringing down the cost. The fuel used is also cheap so the technology is economical.
- This will give India a significant position in the world as it would place India equivalent to the few countries that have their own cryogenic engines and place India into a select group of nations - “cryo club” - which have developed their own cryogenic rocket engine technology.
- It can launch the satellites for the other developing countries in the region from where it can get to be successful in the technology by launching more satellites.
- National Aeronautics and Space Administration (NASA) and the Indian Space Research Organization (ISRO) have launched a joint mission, NISAR.
- Using advanced radar imaging that will provide an unprecedented, detailed view of Earth, the NASA-ISRO Synthetic Aperture Radar, or NISAR, satellite is designed to observe and take measurements of some of the complex processes, including ecosystem disturbances, icesheet collapse, and natural hazards such as earthquakes, tsunamis, volcanoes and landslides.
- Data collected from NISAR will reveal information about the evolution and state of Earth’s crust, help scientists better understand our planet’s processes and changing climate, and aid future resource and hazard management.
- Such missions have a great significance as such mission lead to establishment of enhanced cooperation between the two.
- Such missions are also useful in the field of research as it leads to sharing of information and further research in new fields.
- This collaboration can be used in future for launching joint missions in other fields also and study some complex processes.

#### Cryogenic Engine and its Principle –

- A cryogenic rocket engine is a rocket engine that uses a cryogenic fuel or oxidizer, that is, its fuel or oxidizers (or both) are gases liquefied and stored at very low temperatures.
- In this Oxidiser /fuel or both are held at very low temperatures. This mixture is then allowed to expand and gases are allowed to pass through the convergent -divergent nozzle. This helps in getting the necessary Thrust to the rocket, required to move out of earth’s blanket.

- Cryogenic engine follows the Newtonian law i.e every action has an equal and opposite reaction.
- Propulsion of rocket is achieved by the thrust force produced by the ignition of the fuel acting against the gravitational force of Earth. The fuel is liquified and compressed gases at very low temperatures. This not only reduces the weight and size of the fuel tank but also increases its efficiency and load bearing capacity.

India's development of a cryogenic engine:

- Designing a cryogenic engine is an extremely challenging task mainly because thermal and structural problems associated with the low temperatures. Realising this, India launched a programme to develop a one-tonne cryogenic engine in 1986 itself.
- Subsequently, in order to speed up the process, India entered into a technology transfer agreement with Russia. But with the Russians unwilling to reveal necessary information, this deal did not bear any significant fruits. Eventually ISRO undertook theoretical studies and besides studying a procured Russian cryogenic rocket.
- In February 2000, the first indigenous cryogenic engine began to be test-fired on the ground, but failed. By December 2003, three engines had been ground-tested.
- In 2008, first flight model with cryogenic engine was tested successfully for 200 seconds meeting all parameters. In 2009, the process of indigenisation accelerated when indigenous cryogenic engine was declared fully qualified after a successful flight test. In 2012, ISRO tested the cryogenic ignition in vacuum conditions at high altitude test facility.
- In 2014, GSLV D5 with GSAT-14 was successfully launched and placed in geostationary orbit marking the success in indigenising the cryogenic technology.

## Miscellaneous

### 20. Telecom Disputes Settlement & Appellate Tribunal (TDSAT)

#### Context:

- Telecom Disputes Settlement & Appellate Tribunal (TDSAT) has rejected TRAI's order that had changed the definition of '**significant market power**' (**SMP**) to identify predatory pricing, offering substantial relief to India's older telcos.
- The Telecom Disputes Settlement & Appellate Tribunal (TDSAT) also set aside a rule in the Telecom Regulatory Authority of India (Trai) **predatory pricing regulation** that required top telcos to report all tariffs in the interests of transparency and non-discrimination.

#### About TDSAT:

- In order to bring in functional clarity and strengthen the regulatory framework and the disputes settlement mechanism in the telecommunication sector, the TRAI Act of 1997 was amended in the year 2000 and TDSAT was set up to adjudicate disputes and dispose of appeals with a view to protect the interests of service providers and consumers of the telecom sector.
- In January 2004, the Government included broadcasting and cable services also within the purview of TRAI Act. The jurisdiction of TDSAT stands extended to matters that lay before the Cyber Appellate Tribunal and also the Airport Economic Regulatory Authority Appellate Tribunal.

#### Composition of TDSAT:

The Tribunal consists of a Chairperson and two Members appointed by the Central Government.

- The **Chairperson** should be or should have been a Judge of the Supreme Court or the Chief Justice of a High Court.
- A **Member** should have held the post of Secretary to the Government of India or any equivalent post in the Central Government or the State Government for a period of not less than two years or a person who is well versed in the field of technology, telecommunication, industry, commerce or administration.

#### Powers and Jurisdiction:

- The Tribunal exercises jurisdiction over Telecom, Broadcasting, IT and Airport tariff matters under the TRAI Act, 1997 (as amended), the Information Technology Act, 2008 and the Airport Economic Regulatory Authority of India Act, 2008.
- The Tribunal exercises original as well as appellate jurisdiction in regard to Telecom, Broadcasting and Airport tariff matters. In regard to Cyber matters the Tribunal exercises only the appellate jurisdiction.

## 21. Shyama Prasad Mukherji Rurban Mission

The **Shyama Prasad Mukherji Rurban Mission (SPMRM)** is under implementation across the country (launched in 2016).

It is a unique programme, designed to deliver catalytic interventions to rural areas on the threshold of growth.

### Funding Support:

- There is a funding support of up to 30% of the estimated investment for each Rurban cluster, given as Critical Gap Funding (CGF), while 70% of the funds is mobilized by the States through convergence with synergic State and Central programmes and private investment and institutional funding.
- The CGF is now shared between the Centre and the State in a ratio of 60:40 for Plain area States and 90:10 for Himalayan and NE States.

### Various Provisions:

#### Provision of basic amenities –

- Provision of 24/7 Water Supply to all households,
- Solid and Liquid Waste Management facilities at the household and cluster level

#### Provision of Inter and Intra village roads –

- Adequate Street Lights and Public Transport facilities using green technologies

#### Provision of Economic Amenities –

- Various thematic areas in the sectors of Agri Services and Processing, Tourism, and Skill development to promote Small and Medium Scale Enterprises

### Background:

- As per Census of **India Statistics**, the rural population in India stands at 833 million, constituting almost 68% of the total population.
- The rural population has shown a growth of 12% during the 2001-2011 period and there has been an increase in the absolute number of villages during the same period.
- Large parts of rural areas are not stand-alone settlements but part of a cluster of settlements, which are relatively proximate to each other. These clusters typically illustrate potential for growth, have economic drivers and derive location and competitive advantages.
- Hence, making a case for concerted policy directives for such clusters; these clusters once developed can then be classified as '**Rurban**'.

### Mission's Objective:

The objective of the **National Rurban Mission (NRuM)** is to stimulate local economic development, enhance basic services, and create well planned Rurban clusters.



## 22. Partners' Forum

### Context:

The fourth Partners' Forum was recently held in New Delhi. It was hosted by the Government of India, in association with the Partnership for Maternal, Newborn and Child Health (PMNCH).

- The previous chapters were held in Johannesburg, South Africa (2014), New Delhi, India (2010) and Dar es Salaam, Tanzania (2007). This is the second time India is hosting the Partners' Forum.

### What is Partners' Forum?

- Partners' Forum is a global health partnership launched in September 2005 to accelerate efforts to reduce child and maternal mortality, improve adolescent, child, newborn and maternal health.
- **An alliance:** This partnership is an alliance of more than 1,000 plus members, across 10 constituencies in 92 countries: academic, research and teaching institutions; donors and foundations; health care professionals; multilateral agencies; non-governmental organizations; partner countries; global financing mechanisms and the private sector.

**PMNCH's mission** is to support the global health community to work successfully towards achieving the Sustainable Development Goals (SDGs), particularly the health related SDGs.

The programme of the Partners' Forum will be framed around the objectives of the Global Strategy of Survive – Thrive – Transform.

## 23. Makedatu Dam project

Tamil Nadu Chief Minister E K Palaniswami recently wrote about Makedatu Dam project to the Prime Minister urging him to stop the process of a feasibility study for the Makedatu dam. The study has been cleared by the Central Water Commission (CWC), which has also asked for a detailed project report.

About Makedatu dam project:

Being set up by the Karnataka government, the project is near Makedatu, in Ramanagaram district, across the river Cauvery from Tamil Nadu.

Its primary objective is to supply drinking water to Bengaluru and recharge the groundwater table in the region.

About the conflict:

Tamil Nadu has moved the Supreme Court. Its main argument is that the project violates the final award of the Cauvery River Water Tribunal and that the “construction of the two reservoirs would result in impounding of the flows in the intermediate catchment below the Krishnaraja Sagar and Kabini reservoirs, and Billigundulu in the common border of Karnataka and Tamil Nadu”.

Karnataka says, the project will not come in the way of releasing the stipulated quantum of water to Tamil Nadu, nor will it be used for irrigation purposes.

About CWC:

- It is a premier Technical Organization of India in the field of Water Resources and is presently functioning as an attached office of the Ministry of Water Resources, River Development, and Ganga Rejuvenation, Government of India.
- The Commission is entrusted with the general responsibilities of initiating, coordinating and furthering in consultation of the State Governments concerned, schemes for control, conservation and utilization of water resources throughout the country, for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development.
- Central Water Commission CWC is headed by a Chairman, with the status of Ex-Officio Secretary to the Government of India.

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