

**VISION IAS**

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# **CURRENT AFFAIRS SEPTEMBER 2017**

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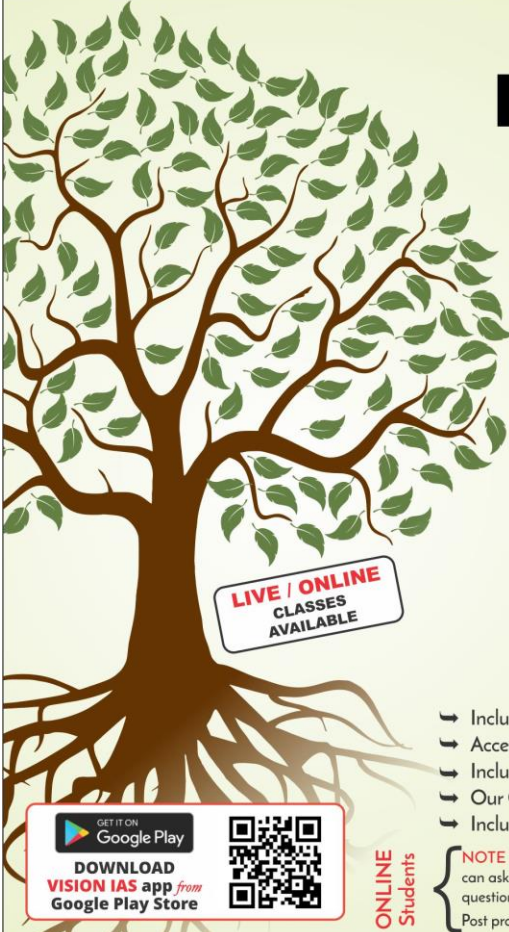
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# 1. POLITY AND CONSTITUTION

## 1.1. CO-OPERATIVE MOVEMENT IN INDIA

### Why in News?

Recently the Prime Minister talked about the importance and the contribution of the Cooperative Sector in Indian society. Cooperative Movement in India is one of the biggest cooperative movements in the World with over **8 Lakh Cooperative Societies** in India.

### History of Cooperatives in India

- By the end of the 19th century, farmers found a way out of their debt and consequent agrarian problems in Cooperatives.
- The experience gained in the working of cooperatives led to the enactment of **Cooperative Credit Societies Act, 1904**.
- Under the **Montague-Chelmsford Reforms of 1919**, cooperation became a provincial subject and the provinces were authorised to make their own cooperative laws. This categorization carried on to **GOI Act, 1935**.
- To cover Cooperative Societies with membership from more than one province, the Government of India enacted the **Multi-Unit Cooperative Societies Act, 1942**.
- After independence, with the advent of the planning process, cooperatives became an integral part of the **Five-Year Plans**. In 1958, the **National Development Council (NDC)**, also, had recommended a national policy on cooperatives.
- To obviate the plethora of different laws governing the same types of societies, the **Multi-State Cooperative Societies Act, 1984** was enacted by Parliament.
- As a result, there have been many success stories of Cooperatives in India, the two most important being- **Green Revolution and White Revolution**.
- Government of India announced a **National Policy on Cooperatives in 2002**. The ultimate objective of the National Policy is to-
  - ✓ Provide support for promotion and development of cooperatives
  - ✓ Reduction of regional imbalances
  - ✓ Strengthening of cooperative education, training and human resource development

### Importance of Cooperative sector for India

Cooperation in a vast country like India is of great significance because it is an organization for the poor, illiterate and unskilled people.

- **Penetration into crucial areas:** It supplies agricultural credit and funds and has the potential to deliver goods and services in vital areas where state and private sectors have not been able to do very much.
- **Crucial Inputs:** The village cooperative societies provide strategic inputs for the agricultural-sector, consumer societies meet their consumption requirements at concessional rates. It overcomes the constraints of agricultural development.

### Cooperative Movement

- A cooperative is an **autonomous association** of persons united voluntarily to **meet their common economic, social and cultural needs** and aspirations through a jointly owned and **democratically controlled enterprise**.
- Cooperatives as business enterprise possess some **basic interests such as ownership and control** but these interests are directly vested in the hands of the user.
- Therefore, the need for profitability is balanced by the needs of the members and **the wider interest of the community**.

### Constitutional Provisions-

- **Part IV, Article 43** as a Directive Principle which enjoins the State Government to promote cottage industry on an individual or cooperative basis in rural areas.
- It is a **State Subject** under entry No.32 (7<sup>th</sup> schedule) of the State List of the Constitution of India.
- Right to form cooperatives can also be construed as a **Fundamental Right**, Article 14 – (Right to Equality) and Article 19(1)(c) as 'Right to form Associations or Unions.'

### Committees appointed to go into various issues of cooperatives

- All-India Rural Credit Survey Committee Report (1954)
  - Choudhary Brahm Prakash Committee (which proposed a model law) (1990)
  - Mirdha Ccommittee (1996)
  - Jagdish Kapoor Committee (2000)
  - Vikhe Patil Committee (2001) and
  - V. S. Vyas Committee (2001 and 2004)
- These Committees strongly advocated the **need to replace the existing government dominated cooperative laws by a new people centric legislation**.



- **Benefits for the farmers:** Marketing societies help the farmers to get remunerative prices and co-operative processing units help in value additions to the raw products.
- **Building Infrastructure:** In addition, co-operative societies are helping in building up of storage go-downs including cold storages, rural roads and in providing facilities like irrigation, electricity, transport and health.
- **Beyond bureaucratic morass:** It reduces the bureaucratic evils and follies of political factions. It creates conducive environment for flourishing agriculture and allied activities.
- **Unity among members:** Co-operative movements help in all round development of the rural areas, which is possible through unity, trustworthiness and consistency of membership. It is an institution of mutual help and sharing.
- **Beyond class conflict:** in a country divided on social basis, it softens the class conflicts and reduces the social cleavages.
- **Encourages democratic values:** Encourage the 'values of self-help, democracy, equality, and solidarity. Co-operative members believe in the ethical values of honesty, openness, and social responsibility and caring for others.

### Challenges for Cooperative movement

- **Inability to ensure active membership,** speedy exit of non-user members, lack of member communication and awareness building measures.
- Serious **inadequacies in governance** including that related to boards' roles and responsibilities.
- **Lack of efforts for capital formation** particularly that concerning to enhancing member equity and thus member stake.
- **Lack of cost competitiveness** arising out of issues such as overstaffing, and overall competitiveness due to entry of MNCs in Indian market.
- **Politicization and excessive role of the government** chiefly arising out of the loopholes and restrictive provisions in the Cooperative Acts.
- The vital link in cooperative finance system i.e. **cooperative banks itself remains very poor.** They are too small to operate properly and some of them are existing only on the paper.
- The **NPAs of the cooperative** banks are higher than those of commercial banks i.e. in NPAs to asset ratios.
- Along with lesser than expected shareholders participation in working, these banks are facing **infrastructural weaknesses**, thereby hindering the overall working of the Cooperatives.
- **Regional variations in cooperative movement** - cooperatives have done well in areas where land reform had met with a greater degree of success. However, limited success of cooperatives in some of the most fertile and populous regions points towards the link with demographic and cultural factors as well.

### Way Forward

- Cooperatives have immense potential to deliver goods and services in areas where both the state and the private sector have failed. Agriculture and its allied activities are areas which have benefitted due to greater role of cooperative movements.
- However, members should realise that their eternal vigilance alone could guarantee autonomy, independence and progress of their cooperative. It is necessary to spread the movement as people's movement. To ensure this following steps may be taken-
  - Incorporating provisions in the law quantifying the minimum level of participation required by a member of cooperative annually
  - Legally specifying the contours of democratic participation by members
  - developing effective leadership who can even influence policy formulation by government favourable to cooperatives
  - Infusing professionalism as it is key requirement for conversion of ideas/policies into tangible outcomes. Professional management would also help in survival in the present competitive environment.
  - Strengthening arrangements for ensuring sound human resources management practices in cooperatives such as recruitment, training, social security etc.

## 1.2. WHIP

### Why in News?

Recently, the issuing of whip by political parties on multiple issues has been questioned.

### What is Whip?

- Every Political Party has its own whip, who is appointed by the party to serve as an assistant floor leader.
- He has the responsibility of ensuring the attendance of his party members in large numbers and securing their support in favour of or against a particular issue.
- He regulates and monitors their behaviour in the Parliament.
- He communicates the decision of the party leader to the members and the opinion of the party members to the party leader.
- The members are supposed to follow the directives given by the Whip. Failing to do so can invite disciplinary actions like disqualification from party membership or expulsion under the Anti Defection Law.
- The office of Whip, in India, is mentioned neither in the Constitution nor in the rules of the house, nor in the Parliamentary statutes.
- It is based on the conventions of the Parliamentary government. In India, the concept of the whip was inherited from colonial British rule.

#### Whip in USA and UK

In the USA, the party whip's role is to gauge how many legislators are in support of a bill and how many are opposed to it — and to the extent possible, persuade them to vote according to the party line on the issue. In the UK, the violation of certain whips is taken seriously — occasionally resulting in the expulsion of the member from the party. Such a member can continue in Parliament as an independent until the party admits the member back into the party.

#### Significance of Whip

It may be possible that all the members of parliament, irrespective of their party affiliation, may hold different views (even different from the one held by their respective party leadership). In such a case, s/he might deviate from the party view/stand in times of voting.

### Problem

- Critics note that with the increasing issuance of whip, the political parties restrict the internal democracy of the party. The individual members are therefore not allowed to represent their individual views. It impacts the freedom of speech and expression of the party members.
- It creates a 'forced consensus' on various issues and defeats the purpose of democracy as the institution of whip makes it mandatory for the party members to follow the decision of the party, this restricts the ability of the party members to put forth their individual views or views of the people of their constituency.

### Way Forward

- There is a need to build a political consensus so that the room for political and policy expression in Parliament for an individual member is expanded. This could take many forms. For example, the issuance of a whip could be limited to only those bills that could threaten the survival of a government, such as money bills or no-confidence motions.
- A widespread debate, over such issues in the country, must be undertaken by the government, which would encourage beneficial people's participation in the long run.

## 1.3. DECLARATION OF ASSETS OF MPS

### Why in news?

A private member's bill will be presented in winter session of Parliament with the aim that MP's must declare their assets at the end of their tenure.

### Details

- **Declaration of assets** - Members of Parliament should declare their assets within 90 days after their tenure ends. This provision is to be inserted as sub section 75B(1) in the Representation of People Act, 1951. Currently they need to declare asset only while taking charge as MP.
- Taking cognisance of the issue, Supreme Court had also recently demanded the necessary information against politicians whose assets have taken a massive jump by as much as 500% between two elections and asked CBDT to probe the issue.

## Significance

- The proposed bill can help in maintaining **transparency and accountability** of people's representatives at the apex level.
- It can also help in **preventing victimisation** of legislators if there is a justified increase in their assets and property.
- It can also prove to be a deterrent to people taking up public office for private financial gains and thus help putting a leash on corruption in Indian Politics.

## General issues with private member bills

- Only 14 private member's bills have been passed in Parliament's history and last one of them was in 1970.
- The Rights of Transgender Persons Bill passed by the Rajya Sabha in 2014 was the first private member's bill to get the upper house's approval in around 47 years. But it was reintroduced with substantial changes in Lok Sabha and is currently pending with Parliamentary Standing Committee.
- In 15<sup>th</sup> Lok Sabha 372 private member bills were introduced but only 11 of them had any discussion whatsoever in the house. It means more than 96% private member bills lapsed without a single debate in the house.
- Thus the problem with private member bills is twofold. First the Non Passage of them and second little or no debate is held on them.
- Even if the debate is held then generally the concerned MP withdraws the bill at the request of a minister without the assurance from government that it will introduce such bill later robbing the Parliament of an opportunity to consider a piece of legislation which was debated in the house

### Private Member's Bill

- All MPs other than ministers and the presiding officers are referred to as the private members.
- The bills introduced by Private members are called Private member's bills unlike government bills which are introduced by Ministers.
- The second half of every Friday, when parliament is in session, is reserved for debating private member bills and other business raised by private members.

## 1.4. NOTA IN RAJYA SABHA POLLS

### Why in News?

In the context of the recent Gujarat elections (April, 2017) for Rajya Sabha, following issues have been raised regarding the Proportional representative election system followed in RS polls, viz-

- None Of The Above
- Open Ballot system

### What is the Issue?

- In recent elections in Gujarat for the Rajya Sabha membership, the option of **NOTA** has been challenged through a petition to the Election Commission.
- The election also highlighted the secrecy debate over the procedural matrix of the **'open ballot' system under Rule 39AA of the Conduct of Election Rules of 1961**.
- In the petition to the Election Commission, it was said that use of NOTA during the Rajya Sabha elections was contrary to the mandate of the Constitution, the Representation of People's Act, the conduct of election rules.
- The petition further said that use of NOTA in "indirect elections" was in direct conflict with and militates against the system of proportional representation by means of single transferable vote.
- The petition reflects the apprehensions of political parties about the defection and rebellious party members. Use of NOTA by such members may lead to the defeat of their representative.
- Both Supreme Court and the Election Commission, however, upheld the use of NOTA in Rajya Sabha elections.

### None Of The Above (NOTA)

- When a voter is not satisfied with any of the candidates posed by the political parties in an election they can register their discontent through NOTA.
- The Election Commission had issued a circular in January 2014 that the provisions of NOTA be included in the Rajya Sabha elections too, after it was included as one of the options in the Electronic Voting Machines in 2013.

## Elections to Rajya Sabha

- Elections to one-third of the RS seats happen every two years.
- Members of a state's legislative assembly vote in the Rajya Sabha elections in what is called the **proportional representation with the single transferable vote (STV)** system. Each voter's vote is counted only once.
- To win a Rajya Sabha seat, a candidate should get a required number of votes. A candidate requires one-fourth of the total number of votes plus one to get elected.
- Each voter ranks his preferences and if the first choice candidate has enough votes already or no chance of being elected, the vote is transferred to the second choice and so on.
- Only the elected members of the Legislative Assemblies participate in the election of the members of Rajya Sabha.
- In Rajya Sabha polls, the MLAs have to show their ballot paper to an authorised party agent before putting it in ballot box.

## Implications of NOTA in RS

- If a voter (MLA) defies the party directive and votes for someone else or uses NOTA option, he cannot be disqualified as a legislator. But the party is free to take disciplinary action. The party high command can issue a whip for a Rajya Sabha candidate, but anti-defection law provisions do not apply, and a defiant MLA cannot be disqualified from membership of the House.
- In principle, the presence of the NOTA option for the legislator allows the possibility of a protest vote against the party high command for choosing candidates who are not agreeable to them, without having to choose candidates from opposing parties.

## Rule 39AA of the Conduct of Election Rules of 1961

- This rule says that a voter may show his/her marked ballot paper to the authorised representative of his/her political party before dropping it into the ballot box.
- The EC has observed that Rule 39AA "is very clear that the elector has to show his ballot paper only to the authorised representative of his party and to no one else. While, in case of independent MLAs, they do not have to show their votes to anyone at all.
- However, Rule 39AA is silent on who would be the authorised representative for a rebel MLA.
- In the **Kuldip Nayar v.s Union of India, 2006, case**, the five-judge Constitution Bench of the Supreme Court said that "free and fair elections" would not stand defeated by "open ballot" to give effect to concept of proportional representation.

### Kuldip Nayar v.s Union of India, 2006 case-

It challenged amendments made in the Representation of People Act, 1951 (for short, 'the RP Act', 1951') through Representation of People (Amendment) Act 40 of 2003 which came into force from August, 2003.

In the writ petition, Open Ballot System was also challenged which, according to the petitioner, violates the principle of 'secrecy'.

## 1.5. DEMAND FOR A HYBRID ELECTORAL SYSTEM

### Why in News?

Various political parties have told a Parliamentary panel that the existing first-past-the-post-system needs to be replaced with a hybrid format.

### What is Hybrid Electoral System?

- A hybrid/mixed system refers to an electoral system in which two systems are merged into one combining the positive features from more than one electoral system.
- In a mixed system, there are two electoral systems using different formulae running alongside each other. The votes are cast by the same voters and contribute to the election of representatives under both systems.
- One of those systems is a plurality/majority system (or occasionally an 'other' system), usually a single-member district system, and the other a List PR system.
- There are two forms of mixed system-
  - When the results of the two types of election are linked, with seat allocations at the PR level being dependent on what happens in the plurality/majority (or other) district seats and compensating for any disproportionality that arises there, the system is called a **Mixed Member Proportional (MMP) system**.



- Where the two sets of elections are detached and distinct and are not dependent on each other for seat allocations, the system is called a **Parallel system**.
- While an MMP system generally results in proportional outcomes, a Parallel system is likely to give results the proportionality of which falls somewhere between that of a plurality/majority and that of a PR system.

### Why is there a Demand for Hybrid System?

- It is argued that the majority aspirations and the will of the people is not getting reflected in election results with the current electoral system.
- The situations have changed since the current system of FPTP was adopted (one party rule). But now because of a division of votes, a party with even 20% share does not get a single seat, while a party with 28% can get disproportionately large number of seats. Example, Uttar Pradesh Assembly elections held in March, 2017.
- This system is followed by various European countries successfully.
- The **Law Commission's 170th and 255th report** also have suggested that 25% or 136 more seats should be added to the present Lok Sabha and be filled by Proportional Representation.
- Many point out that the current system reflects a "**Minority democracy**" which has been ruling the country since independence.

#### Various types of Electoral Systems

- First Past The Post System
- Proportional Representation
- Mixed systems also sometimes referred to as Hybrid System

In India, we follow both FPTP as well as Proportional Representation systems of voting. For example, in the elections for the Lok Sabha we have FPTP and for the Presidential Elections we follow Proportional Representation.

### What is FPTP?

- The First Past the Post system is the simplest form of plurality/majority system, using single member districts and candidate-centred voting.
- The voter is presented with the names of the nominated candidates and votes by choosing one, and only one, of them.
- The winning candidate is simply the person who wins the most votes; in theory, he or she could be elected with two votes, if every other candidate only secured a single vote.
- It is used in the UK to elect members of the House of Commons, both chambers of the US Congress and the lower houses in India and Canada as well as other place that used to be British colonies.

### Why we chose FPTP?

The country chose FPTP for of election system because of following reasons-

- **Simplicity** - most of the Indian population was not literate at the time of independence, and unable to understand the complexity of the PR SYSTEM.
- **Familiarity** - Before independence several elections were held regularly on the basis of FPTP system which made this process more familiar to the general public of the country.
- PR SYSTEM establishes party as a major centre of power whereas FPTP gives an individual as a representative of the people of certain specific area. Given India's condition at the time of independence this was a big concern for our leaders as people connected more to their leaders rather than a certain political party.

### Difference between FPTP & PR

	Proportional Representation		First Past The Post
1)	Faithfully translate votes cast into seats won.	1)	It does not completely translate the number of votes into seat.
2)	Facilitate minority parties' access to representation depending on the or the district magnitude.	2)	It might not encourage minority parties.
3)	Makes power-sharing between parties and interest groups more visible.	3)	The power sharing between various groups is not as visible.
4)	The single party dominance is difficult to achieve.	4)	It gives rise to single-party governments.
	This system does not exclude the smaller parties from representation		It excludes smaller parties from 'fair' representation.

## 1.6. PANCHAYAT STAFFING RULES

### Why in news?

Centre will soon release a report on guidelines related to recruitment of non-elected panchayat staff.

### Background

- At present, some governments such as Haryana and Rajasthan have **educational qualifications** for candidates contesting elections for PRI's. But no state has clear rules on how the non-elected staff at panchayats should be appointed.
- Ministry of Panchayati Raj and Ministry of Rural Development (MoRD) had earlier issued a circular recommending at least a Panchayat Development Officer (**PDO**)/Secretary, a Technical Assistant (**TA**) and an **Accountant** for a Gram Panchayat or a cluster of Gram Panchayats with 5000 population. But the implementation of it by state governments has been tardy at best.
- Government also appointed an **expert committee** under former finance secretary Sumit Bose on performance-based payments for better outcomes in Rural development programmes.
- The report will further cover the **administrative structure** of the Mahatma Gandhi National Rural Employment Guarantee Act, the Pradhan Mantri Awas Yojana, the National Rural Livelihood Mission and that of the district rural development agencies (DRDAs).

### AT A GLANCE: PANCHAYAT REGIME

#### WEAKNESS:

- Multiplicity of cadres not warranted by nature of work or skill sets
- Wide variation in terms of engagement – duration, rates of honorarium, travel and other conditions
- Performance outputs not clearly defined and not linked to payment of honorariums
- Potential unionisation threats among the staff
- District administration uses workers for extra work often at the cost of core activities
- No additional payment paid by other departments for additional work

#### WAY FORWARD:

- A comprehensive social capital policy to be formed with:
  - ▶ Essential skill sets to be determined for all cadres
  - ▶ Core training requirements to be determined for all cadres
  - ▶ Standardisation of community cadres into 3 broad categories:
    - (a) Cadres for discharging mission functions
    - (b) Cadres for supporting management of community institutions, including livelihood collectives
    - (c) Cadres for delivery of livelihood support services to individual households

### Significance of the move

- **Improved monitoring & discipline** - The development programmes and schemes have expanded in last few years but currently they are managed by temporary workers and ill managed cadres.
- **Uniform set of pan India rules** for appointment of core staff which will eliminate the **system of patronage** and nepotism, preferential treatment in recruitment which is plaguing the outcomes of rural development initiatives.
- **Efficiency & effectiveness** - It is expected to promote **more inclusiveness** and better utilisation of massive **funds** being devolved to about 239,000 panchayats across India. The funding has been on the rise since Fourteenth Finance Commission which recommended 1.87 Lakh crore rupees over a period of five years (2015-2020) for Gram Panchayats.
- **Improved service delivery** at ground level - as there will be dedicated workers for ensuring complex work now. Earlier, according to MoRD, in Rajasthan, *anganwadi* workers monitor the government's ambitious Housing for All scheme who are supposed to be only deployed for health activities.
- **Improved accountability:** Trained staff will help in ensuring accountability at panchayat level through better audit reports, statements of account and utilisation certificates in respect of financial assistance provided to them.

## 1.7. PREVENTIVE VIGILANCE

### Why in news?

- Recently, 7<sup>th</sup> edition of vigilance manual of CVC was released.

### What is preventive vigilance?

- It is adoption of a package of measures to improve systems & procedures to

Vigilance administration in India includes:

- Central Vigilance Commission- established on the recommendations of Santhanam Committee
- Administrative Vigilance Division in DoPT
- Central Bureau of Investigation
- Vigilance units in the Ministries/Departments of GOI, Central PSEs & other autonomous organisations
- Disciplinary authorities
- Supervisory officers

**eliminate/reduce corruption**, promote transparency and ease of doing business.

- Vigilance is defined as watchfulness and alertness. Thus, vigilance administration often includes an oversight mechanism to take up preventive and punitive anti-corruption measures and ensure functioning of systems in an efficient way.

### Preventive vigilance measures

As there are various potential areas of corruption such as procurement, human resource management, delivery of services, sale of goods and services, enforcement of rules & regulations etc., there is a need to adopt following preventive vigilance measures:

- **Simplification and standardization of rules** by undertaking a complete review of existing rules and regulations. It will improve clarity and accountability and eliminate discretion and arbitrariness, thus reducing corruption
- **Leveraging technology** – such as E-procurements, E-payments, websites for dissemination of information and creating awareness, CCTV in places of public dealing, GPS enabled devices / RFIDs, computer assisted audit techniques for detecting frauds etc.
- **Automation** – using IT reduces interface / interaction between public officials and common public which removes monopoly in delivery of services and reduces opportunity for discretion
- **Business Process Re-engineering** – helps organisation rework their processes to achieve the objectives of organisation. RE-engineering may also lead to even prevent leakage of revenue
- **Transparency:** Transparency removes the information gap between the public and public officials which in turn reduces corruption.
- **Accountability & Awareness** - A system with clear accountability along with effective punitive action in case of misconduct is necessary for smooth functioning & efficiency. Also Public officials should be made aware of their duties and responsibilities, code of conduct, rules, procedures etc.
- **Control & Supervision:** Regular and routine inspections, surprise inspections, audit and reviews keep a check on aberrant and corrupt behavior. Also early detection of misconducts may enable recouping the loss and facilitate control of further damage
- **Time bound & effective punitive action** – as encourages and emboldens others to take risk of committing misconduct under the belief that nothing would happen to them
- **Providing necessary infrastructural facilities:** as Non-provision of adequate infrastructural facilities such as accommodation, conveyance, utilities etc. also induce corruption.
- **Awareness in public** – about their rights to enable them to raise their voice against arbitrary behavior by public officials.

### Causes of corruption

- Government taking upon itself more than what it could manage by way of regulatory functions,
- Scope for personal discretion to different categories of Govt. servants
- Cumbersome procedures in dealing with various day to day affairs
- Monopoly over delivery of goods/services.
- Lack of transparency & accountability & Inadequacy of regular/periodic/surprise checks
- Poor regulatory framework & Very low rate of detection of corruption
- Lack of awareness about rights, duties, procedure to complain, rules, laws, etc. & poor grievance redressal mechanism
- Absence of a formal system of inculcating values, ethics & integrity

### Recent steps taken by government

- Amendment in PCA to ensure an environment to every officer to perform without feeling intimidated by anyone
- Simplifying laws by repealing redundant laws
- Digitization – such as Government e-market for procurement, BHIM for e-payments
- Amendment to Benami Transactions (Prohibition) Act, 1988
- Bringing more transparency in electoral funding
- Direct benefit transfers to beneficiaries such as for LPGs etc.
- Double taxation avoidance agreement with countries such as Mauritius etc.
- Targeted real estate sector absorbing significant chunk of corruption

### Key findings in the report of Transparency International on corruption in Asia-Pacific region

- People in India were most positive about their governments' efforts in fighting corruption, with 53% saying that Government is doing well to tackle corruption.
- Only 41% respondents in India think that the level of corruption has increased. This is substantially lower than countries like China (73%), Indonesia (65%) etc.
- Police forces are perceived to have the highest level of corruption of all the public services accessed by the people.
- India has the highest bribery rate of 69%.

- **Conducive work environment** – includes identification of sensitive posts and keeping a person with integrity at such posts, protection to whistleblowers etc.
- **Inculcating moral values** - Inculcating ethical behaviour among public, particularly the younger generation is an important tool of preventive vigilance
- **Integrity pact** – a written agreement between Government/Government Department/ Government Company, etc. and all the bidders agreeing to refrain themselves from bribery, collusion, etc. It is implemented by CVC and sanctions are applied on violation of the pact. It is monitored through CVC nominated IEM (Independent External Monitor)

Although India has taken several measures to root out corruption, but it still has a long way to go. The ranking of Indian in corruption perception index of transparency international is very low, that is, 79 out of 176 countries. Thus, India should undertake measures like operationalizing lokpal, increasing public participation in the war against corruption,

**“You are as strong as your foundation”**

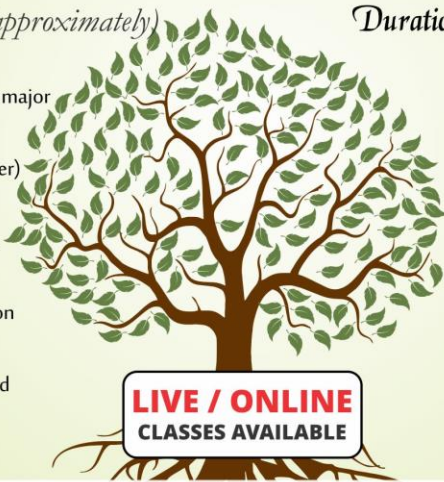
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## 2. INTERNATIONAL/INDIA AND WORLD

### 2.1. BRICS SUMMIT 2017

#### Why in news?

Recently, 9th BRICS Summit 2017 was held in Xiamen, China.

#### Xiamen declaration

Focusing on the theme of '**Stronger Partnership for a Brighter Future**', leaders had issued a joint statement outlining the agendas for this year as well as points the nations agreed to work upon.

#### Highlights of the Xiamen declaration

##### Issue of terrorism

- For the first time in the history of BRICS, very strong and explicit language has been used on the issue of terror.
- Terror attacks were condemned by the leaders and **Pakistan based terror groups** (Lashkar-e-Taiba and Jaish-e-Mohammad) with global terror groups (Haqqani network, Islamic State and al-Qaida) were mentioned from the Chinese territory. This is the first time anti-India groups have been named in a BRICS declaration.
- BRICS leaders called for expeditious finalization and adoption of the **Comprehensive Convention on International Terrorism (CCIT)** by the United Nations General Assembly.
- The declaration also reaffirmed BRICS support to the people of Afghanistan in their as well as international efforts to achieve peace and national reconciliation.

##### Comprehensive Convention on International Terrorism (CCIT)

- Proposed first by India in 1996.
- It includes adoption of universal definition of terrorism, steps for cutting off access of terrorist groups to funds and safe havens and also calls for amending domestic laws to make cross-border terrorism an extraditable offence.

##### North Korea

- BRICS leaders strongly deplored the **nuclear test conducted by the DPRK** and expressed deep concern over the ongoing tension and prolonged nuclear issue on the Korean Peninsula, and emphasized that it should only be settled **through peaceful means and direct dialogue** of all the parties concerned.

##### Climate change

- Leaders commit to further promote **green development, low-carbon economy, expand green financing** and called upon all countries to fully implement the **Paris Agreement**.

##### Global Economic Governance

- BRICS leaders resolve to foster a **global economic governance architecture** that is more effective and reflective of current global economic landscape, increasing the voice and representation of emerging markets and developing economies.
- The **BRICS Contingent Reserve Arrangement (CRA)** represents a milestone of BRICS financial cooperation and development, which also contributes to global financial stability.

The **BRICS Contingent Reserve Arrangement (CRA)** is a framework for the provision of support through liquidity and precautionary instruments in response to actual or potential short-term balance of payments pressures. It was established in 2015 by the BRICS countries Brazil, Russia, India, China and South Africa.

##### Opposition to Protectionist measures

- BRICS leaders while firmly opposing protectionism emphasized the importance of an **open and inclusive world economy** enabling all countries and peoples to share in the benefits of globalization.
- BRICS leaders remain firmly committed to a **rules-based, transparent, non-discriminatory**, open and inclusive multilateral trading system as embodied in the WTO.



### Cooperation on energy

- Continued dialogue on the establishment of a **BRICS Energy Research Cooperation Platform** was encouraged and relevant entities were urged to continue to promote joint research on energy cooperation and energy efficiency.

### BRICS financial cooperation

- BRICS leaders agreed to promote the development of **BRICS Local Currency Bond Markets** and jointly establish a **BRICS Local Currency Bond Fund**, as a means of contribution to the capital sustainability of financing in BRICS countries.

### Importance of Xiamen declaration from India's perspective:

- Terrorism has been mentioned strongly and terror groups listed categorically (especially Pakistan based) which is an **advancement from the Goa declaration**. However, experts point out that the reference to the Jaish-e-Mohammad (JeM) and Lashkar-e-Taiba (LeT) is not a first for Beijing, and must be reinforced by a bilateral commitment on terrorism by China.
- In the entire declaration, there is **no mention of OBOR** as there was a strong reservation by India.

### 10 Noble Commitments:

Indian PM suggested 10 noble commitments to be made by the five-member bloc for their role in global transformation.

- Creating a safer world** by organised and coordinated action on at least three issues: counter-terrorism, cyber security and disaster management.
- Creating a greener world** by taking concerted action on countering climate change, through initiatives such as the India-initiated International Solar Alliance.
- Creating an enabled world** by sharing and deploying suitable technologies to enhance efficiency, economy, and effectiveness.
- Creating an inclusive world** by economic mainstreaming of our people including in the banking and financial system.
- Creating a digital world** by bridging the digital divide within and outside our economies.
- Creating a skilled world** by giving future-ready skills to millions of our youth.
- Creating a healthier world** by cooperating in research and development to eradicate diseases, and enabling affordable health care for all.
- Creating an equitable world** of opportunity to all, particularly through gender equality.
- Creating connected world** by enabling free flow of goods, persons, and services.
- Creating harmonious world** by promoting ideologies, practices, and heritage that are centered on peaceful coexistence and living in harmony with nature.

## 2.2. INDIA-MYANMAR

### Why in news?

Indian Prime Minister paid his first (bilateral) official visit to Myanmar. He had visited the country in 2014 to attend the ASEAN-India Summit.

### Important issues between the two

#### The Rohingya crisis

India does not directly engage with the issue of Myanmar's treatment of its Rohingya Muslim minority.

- But at a time when Myanmar is getting isolated, India underlined its support with its joint statement: "**India condemned the recent terrorist attacks in northern Rakhine State**".
- Both sides agreed that terrorism violates human rights and there should, therefore, be no glorification of terrorists as martyrs.

### China factor

- As China's profile continues to rise in India's vicinity, New Delhi would like to enhance India's presence by developing infrastructure and connectivity projects in the country. India has found it difficult to counter Chinese influence in Myanmar.

Following are the MOUs signed between India and Myanmar

- Maritime Security Cooperation
- Cultural Exchange Programme for year 2017-2020
- Cooperation in Medical Products Regulation
- Cooperation in the field of Health and medicine
- Technical Agreement for providing Coastal Surveillance System
- Establishment of MIIT
- Upgradation of Women's Police Training Centre at Yamethin, Myanmar
- Sharing White Shipping Information between Indian Navy and Myanmar Navy
- In the field of elections between Election Commission of India and Election Commission of Myanmar
- Cooperation between Press Council of India and Myanmar Press Council
- Establishment of India-Myanmar Centre for Enhancement of IT-Skill

## Importance of Myanmar to India

Myanmar is one of India's strategic neighbours and shares a 1,640-km-long border with a number of northeastern states including militancy-hit Nagaland and Manipur.

- Myanmar is at the heart of Indian government's Act East policy with the India-Myanmar-Thailand Asian Trilateral Highway, the Kaladan multimodal project, a road-river-port cargo transport project, and BIMSTEC.
- India is also working closely with the security forces of Myanmar to target the insurgents operating in the country's northeast.

## Areas that have the potential to transform the relationship

### • Strengthening the development cooperation framework

- ✓ No other country has committed as much in grant-in-aid to Myanmar as India. India is developing four major connectivity projects in Myanmar namely
  - the **Kaladan multi-modal corridor**
  - repair of 69 bridges on the **Tamu-Kalewa road**
  - the construction of the 120-km **Kalewa-Yargyi corridor** (both of which are part of the **India-Myanmar-Thailand trilateral highway**), and
  - the **Rhi-Tiddim** road in the Chin state bordering Mizoram.
- ✓ The Archeological Survey of India has recently done a splendid job of restoring the **Ananda temple**, a jewel among all **Bagan pagodas**.

### • Capacity building in Myanmar

- ✓ India has been actively involved in capacity building in Myanmar. Six centres imparting training in diverse subjects, from English language to industrial skills, are running successfully in Myanmar.
- ✓ The Myanmar Institute of Information Technology set up in Mandalay with the collaboration of **IIIT Bangalore** has been a success with all its graduates finding ready employment.
- ✓ The Advanced Centre for Agriculture Research and Education set up in collaboration with India's **ICAR** is a fine example of pooling research efforts on pulses and oilseeds
- ✓ With Myanmar's government emphasizing higher education and vocational training, **more Indian-assisted institutions** can come up in the country.

### • Greater cooperation between Northeast India and Western Myanmar

- ✓ Four states in the Northeast share common borders with Myanmar's Sagaing and Chin provinces. The Kaladan corridor also passes through the Rakhine state till it arrives at the Sittwe port developed by India.

#### Scope for cooperation between N-E India & Myanmar

- Businesses on both sides, especially SMEs in contiguous provinces, and the governments need to come up with **action plans for transforming the evolving corridors into development corridors**.
- Border trade through Tamu/Moreh and Rhi/Zhokhowthar needs to become more formalised with truly **single-window clearances and easier currency arrangements**.
- The border haats can energize exchange of local produce.
- **Cross-border bus services** can promote **people-to-people connectivity**.
- Cross-border **trade in services** can be boosted in sectors like medicine, diagnostics, or even education and training for which there is a large market.

## Way forward

- The various projects undertaken by India have not been completed in time. As a result, India has not got due credit. It is crucial for India to focus **on timely delivery of projects** to improve its legitimacy.
- It is essential that the two countries immediately start **negotiating transit and other agreements** for the smooth movement of goods and vehicles for optimal use of the infrastructure — even though such traffic may not flow before 2020.
- There is a need to bridge the difference between the matriculation system of schooling in Myanmar and India's 10+2 system for the scholarships for undergraduates to work out for the benefit of the two.

- **Commercial trade and investments** stand on narrow bases, primary agricultural and forest products from Myanmar in the case of trade, and oil and gas in case of investments. Thus, there is a strong need to expand, diversify and upgrade commercial ties in ways that also contribute to Myanmar's development needs and meet India's \$3 billion trade target set in 2012.
- There is also potential for cooperation on larger initiatives, such as the **sale of refined petroleum** products from the **Numaligarh refinery** in upper Myanmar. All this will mean that the Northeast will gain from the Act East policy.
- Indian businesses could look for avenues to invest in the power, steel, automobiles and even textile sectors in Myanmar. If called upon, India can certainly help in improving the socio-economic conditions in the area facing violence and also create employment opportunities.

## 2.3. INDIA-JAPAN

### Why in news?

Prime Minister of Japan paid official visit to India. He participated in **12th India-Japan Annual Summit**.

### List of MoUs/Agreements signed during the visit

At the **12th India-Japan Annual Summit**, the two countries vowed to increase mutual cooperation in the areas of manufacturing, civil aviation, science & technology, connectivity and skill development.

India and Japan signed 15 agreements to broad-base their strategic partnership and agreed to strengthen cooperation in the Indo-Pacific region where China is increasing its assertiveness

### Highlights of Joint statement

**"Toward a Free, Open and Prosperous Indo-Pacific"**, the title of the joint statement, gave away the common concern weighing down both countries.

- **Indo-Pacific region**
  - ✓ The joint statement calls for a **"rules-based order"** in the Indo-Pacific region where **"sovereignty and international law are respected, and differences resolved through dialogue, and where all countries, large or small, enjoy freedom of navigation and overflight, sustainable development, and a free, fair and open trade and investment system"**.
- **The Chinese Belt and Road Initiative (BRI)**
  - ✓ The joint statement also took a swipe at China's OBOR initiative by **calling for transparency** in the development of connectivity and infrastructure development in the region, and reaffirmed the India-Japan project to connect Africa and Asia.
  - ✓ The joint statement also endorses the principles on which India decided to sit out the Chinese Belt and Road Initiative (BRI).
- **North Korea**
  - ✓ Displaying strategic convergence, India and Japan asked North Korea to shut down its nuclear and missile programmes.
  - ✓ The statement condemns North Korea, but for the first time, includes **"the importance of holding accountable all parties"** that helped that country develop its nuclear programme, which is not just an allusion to China, but also Pakistan.
- **Terrorism**

At the summit, 15 agreements were signed to broad-base their strategic partnership. Some of the important ones are:

- An agreement was signed for open skies between India and Japan for unlimited number of flights to select cities.
- The India-Japan Investment Promotion Road map between DIPP and Ministry of External Trade & Industry(METI) to facilitate and accelerate Japanese investments in India.
- MoC between METI and the state of Gujarat on 'Japan-India special programme for Make In India' in Mandal Bechraj-Khoraj.

### Joint inauguration of the high-speed rail project

- Indian Prime Minister and his Japanese counterpart laid the foundation stone in Ahmedabad for the country's first, 508 km high-speed rail project between **Mumbai and Ahmedabad**.
- The ambitious project is being implemented with nearly **90% financial support and technology from Japan**.
- India's decision to partner with Japan for the project is as **much about politics as it is about infrastructure** as Japan has been keen to confirm the Japanese contracts while China wins projects along its **Belt and Road** railway line is significant.

- ✓ A joint statement issued after the summit sought the **implementation of Resolution 1267 of the UN Security Council to counter cross-border terrorism.**
- ✓ The clause calling for **zero tolerance** on terrorism referenced China's veto on the Jaish-e-Mohammad chief being put on the list of UN-designated terrorists.
- **Joint exercises**
  - ✓ The joint statement emphasised expansion of joint exercises in areas of **humanitarian assistance and disaster relief (HA/DR), peacekeeping operations and counter-terrorism**, which will also include joint field exercises between the Japanese and Indian land forces next year.
- **Help for Northeast**
  - ✓ Japan also stated its interest in the strategically important northeastern region of the country.
  - ✓ Japan, at present, has two infrastructure projects in Meghalaya and Mizoram and more projects are likely to be added to the list after feasibility studies.

### Analysis

- It is clear that the government has set **India-Japan** ties on an **accelerated geopolitical course** that will be a major factor in its dealings with the rest of the world, especially China, at a time when the U.S. is perceived to be retreating from the region.
- However the strategic partnership needs stronger economic ties. Today, India-Japan trade languishes **at around \$15 billion**, a quarter of trade with China while Japan-China trade is around \$300 billion. While Japan is India's largest donor and the third largest provider of FDI, bilateral trade has steadily declined since 2013.
- The two have decided to boost defense ties given the escalating tension in the region in the wake of the nuclear test by North Korea and China's growing assertiveness in the South China Sea.
- The two sides also agreed to commence technical discussions for research collaboration in the areas of Unmanned Ground Vehicles and Robotics.
- Another major initiative is the recently launched **Asia-Africa Growth Corridor** to build connectivity for which Japan has committed \$30 billion and India \$10 billion.
- This adds a critical dimension to the '**global partnership**' between the two countries. However, to make this productive, India needs to change its style of **implementing projects abroad, most of which have been plagued by cost and time over-runs.**

## 2.4. ROHINGYA ISSUE

### Why in news?

According to the UN estimates, over 400,000 Rohingya Muslims have fled Myanmar's Rakhine state into Bangladesh since August 25 when a fresh wave of violence erupted.

### Implications for Myanmar

The nation's civilian government has justified the recent violent crackdown in Rakhine as a counterstrike against "**extremist Bengali terrorists.**" However, present crisis will have serious implication for Myanmar.

- The counter offensive significantly impacted **Myanmar's external relations**, as the world community sympathized with the Rohingya and condemned the violent acts of Myanmar's government.
- Coming soon after liberation from the military rule, the Rohingya issue has brought a **new challenge to the government of Aung San Suu Kyi.**
- The ongoing violence in Rakhine state is negatively impacting its relations with **several of its immediate neighbors**, for example Myanmar & Malaysia.

### Reason for current violence

- Muslim militants in Myanmar staged a coordinated attack on 30 police posts and an army base in Rakhine state on August 25.
- The **Arakan Rohingya Salvation Army (ARSA)**, a group previously known as Harakah al-Yaqin, claimed responsibility for the attacks on.
- In response to attack, Myanmar military launched the "**clearance operations**" to root out ARSA but the violence has engulfed the border region and triggered an exodus of more than 400,000 Rohingya to Bangladesh.

## Implications for the Region

Apart from impinging upon Myanmar's internal security, the Rohingya crisis is also posing a security challenge to the South and Southeast Asia.

- **Humanitarian Crisis:** The most immediate implication is the humanitarian crisis that has been unfolding since the military operations began. The limited humanitarian access to the conflict areas has left many unable to access food and medical care.
- **Risk of Radicalization:** Another growing concern in the region is that if persecution of Rohingyas continues in Myanmar, it is likely that many may be pushed to radicalization and open the door for Islamist extremists to get a foothold in Myanmar.
- **Emergence of ARSA:** International Crisis Group flagged the emergence of a new insurgent group **Arakan Rohingya Salvation Army (ARSA)** - led by Rohingya emigres in Saudi Arabia, commanded by Rohingyas on the ground with international training and abreast with modern guerrilla tactics.
- **Impact on Asia Pacific:** The crisis could also adversely **impact the Asia Pacific**, which is projected to be the economic powerhouse of the near future.
- **Impact on ASEAN:** This crisis has the potential **to weaken the ASEAN organization**, which until now was considered the most successful regional organization after the EU.
- **Human Trafficking:** A large number of those escaping the violence end up in the trafficking networks.

## Implications for India

Peace and stability in the Rakhine state is important for **India's strategic and economic point of view**.

- The continued violence in Rakhine state is affecting India's **Kaladan Multi-modal Transit Transport** project, aimed at developing transport infrastructure in south-west Myanmar and India's Northeast.
- Due to porous border, there are chances that **many illegal migrants** may land up in India's North East that may pose serious challenge to already fragile situation in North-East.
- As India faces an uphill task in combating the **terror threat in Northeast**, ARSA might add a new flavor to ongoing conflicts.
- Cooperation between the **ARSA and the insurgent groups of Northeast** India might open up new bases and territory (Rakhine for Northeast Militants and Northeast India for the ARSA) for both groups in their struggle for survival.
- For India, the problem is that ARSA has a **definite Pakistani link**, with some reports noting that the group may have been trained there, or even in Afghanistan.
- There have been reports of the entry of **Lashkar e Tayyba /Jamaat ud Dawa** cadres into Myanmar since the last several years.

## Why India did not criticize the conduct of Myanmar?

- Under the **Neighborhood First and Act East policies**, Myanmar assumes a key role to connect with Southeast Asia and cut off China from the Bay of Bengal.
- Myanmar helps India tackle insurgency threats in the latter's northeastern states.
- A public condemnation of Myanmar will only push it closer to China. Myanmar is anyway dependent on Beijing's veto in the UN Security Council should the Rohingyas issue reach there.
- India is also aware of the possible role of Pakistan-based terror groups like Lashkar-e-Toiba in the 25 August terrorist attacks by ARSA.

## India's balancing act with Bangladesh

India has assured Bangladesh for all possible help to tackle the large influx of refugees.

- The massive rush of refugees has triggered a domestic backlash by the opposition against the Sheikh Hasina government, which is perceived to lean towards India.
- An unhelpful Indian attitude would only deplete Hasina's position in Bangladesh and strengthen her rival Khaleda Zia, who is known for taking anti-India stands.
- Like Myanmar, Bangladesh too is important to India's counter-insurgency efforts and Act East policy.



- **Operation 'Insaniyat'**: The Ministry of External Affairs has started Operation Insaniyat to provide assistance to Bangladesh in response to the humanitarian crisis being faced by it due to the large influx of Rohingya refugees from Myanmar.

### Way forward

While external factors could alleviate this crisis, they cannot resolve it. The seeds for the solution lie in Myanmar itself.

- ASEAN has to play the leading role here; it needs to formulate a mechanism to deal with the crisis by equitable distribution of the refugees among member nations
- The International community can also play a role by lending financial aid to the countries who will house the refugees.
- The report by the Annan-led commission, which argues for a citizenship verification process—the Rohingyas have been stripped of citizenship under Myanmar's 1982 citizenship law—to increase the social and economic participation of the Rohingyas, may offer some useful suggestions.

## 2.5. NORTH KOREA NUCLEAR CRISIS

### Why in news?

North Korea conducted its sixth and most powerful nuclear test, which it said was an advanced hydrogen bomb for a long-range missile, marking a dramatic escalation of the regime's stand-off with the United States and its allies.

### Reasons behind N. Korea's action

- **To ensure the survival of the regime.**
  - ✓ Kim Jong-un took over in 2011 and, having seen **the outcome of western interventions in Libya and Iraq and Russian intervention in Ukraine**, is convinced that he needs a nuclear deterrent for regime survival.
  - ✓ In addition, he wants direct talks with the U.S. that will provide him recognition and lessen his dependence on China, and finally, an easing of sanctions.
  - ✓ Kim Jong-un may also be playing a **high-stakes diplomatic game for an Iran-like deal** where he could swap his country's nuclear arsenal for international recognition and economic partnership.
- **To break the US' alliance with South Korea and Japan.**
  - ✓ The ICBM capability is a credible tool to **"decouple" the US from its allies.**
  - ✓ South Korea and Japan have every reason to doubt whether the US would risk its major cities in order to come to their rescue against North Korea.
- **Desire for the reunification of Korean peninsula**
  - ✓ This is a more distant goal—North Korea, like the South, **desires the reunification of the Korean peninsula** but on its own terms.
- **Failure of nuclear Diplomacy**
  - ✓ Present crisis clearly demonstrates the failure of the nuclear diplomacy which the U.S. and other major powers were involved in for the past several years.
- **Limited Utility of Economic Sanctions**
  - ✓ Economic Sanctions will have limited utility because China accounts for 90% of North Korea's foreign trade and for China, a nuclear North Korea is a lesser threat than a regime collapse that could lead to a unified Korea allied to the U.S.
  - ✓ Sanctions work only in a country where the **rulers are responsive to their people** through some political process, not in a totalitarian regime whose primary goal is its own survival.

### Implications for India

- For India, the most immediate concern will be any **possible diminution of the US role in Asia**, which is crucial to meeting the China challenge.
- Both the eventuality of a **North Korean-induced decoupling** and the more distant prospect of South Korea and Japan developing their own nuclear weapons have the potential to significantly alter the security role that the US plays in the region.

- Given the history of proliferation networks, some Indian analysts are also concerned about advanced **nuclear technology finding its way from North Korea to Pakistan.**

### India's Response & its Impacts on N. Korea

- India has condemned N. Korea's actions. India has aligned with UN by banning all trade with N. Korea with the exception of shipments of food and medicine. India was North Korea's third largest trade partner in 2015-16, thus the implications on N. Korea can be:
  - ✓ **Impact on Trade:** This decision brought an abrupt end to a decade of growth in India-North Korea trade links. Due to loss of trade, N. Korea will face an already acute hard currency shortage. Loss of trade with India will force the country towards more dependence on China, especially when the ties between the two are not as cordial.
  - ✓ **Collapse of Technology sharing links:** The Center for Space Science and Technology in Asia and the Pacific (CSSTEAP), India, was one of the few institutes in the world that provided technical training for North Korean students after the UN issued its first set of sanctions against North Korea's nuclear program in 2006.

#### Uranium bank for Low Enriched Uranium (LEU) in Kazakhstan

- IAEA will run the bank independently of any country, will purchase and store low-enriched uranium fuel for civilian reactors but not an ingredient for nuclear weapons.
- A Member State which needs to purchase LEU from the IAEA LEU Bank must have a comprehensive safeguards agreement with the IAEA in force and no issues relating to safeguards implementation.
- It will help countries to obtain fuel without domestic enrichment facilities.

### Way forward to resolve the crisis

The old objectives of 'de-nuclearization' and 'reunification' have to be set aside. North Korea's nuclear capability will have to be accepted, at least for the foreseeable future.

- A military solution to the North Korean issue is even more difficult and risky as Mr. Kim could use the country's nuclear arsenal in retaliation. Military action may lead to nuclearization in Japan and South Korea.
- The more honourable option for the US then is **to accept mutual vulnerability**, resume dialogue with North Korea and examine which of the latter's demands can be conceded without significantly affecting the US presence in South Korea and Japan.
- Role of China:** The only country that could reason with North Korea and persuade it to join back talks is China. China has the historical responsibility to lead the efforts to solve the crisis on the Korean peninsula, much like what the Russians did in securing the Iran deal.
- International Actions:** International community needs to come up with various programmes to solve the increasing threat of nuclearization. For example, recently International Atomic Energy Agency (IAEA) has opened a **uranium bank for Low Enriched Uranium (LEU) in Oskemen city** of Kazakhstan to discourage new nations from enriching the nuclear fuel.

## 2.6. INDIA-CHINA JOINT PROPOSAL: WTO

### Why in news?

- India and China had jointly submitted a proposal to the WTO, calling for the **elimination of total 'Aggregate Measurement of Support' (AMS) or 'Amber Box' subsidy.**

### About joint proposal

- It reveals that developed members are providing subsidies, which, at times, exceed 200 per cent of the production value, despite the 5 per cent de minimis prescribed.
- The WTO rules make it possible for rich countries to get away with such high subsidies as their historical bound AMS levels are high.

Under Agreement on Agriculture (AoA), developing countries can give agricultural subsidies or aggregate measurement support (AMS) up to 10% of the value of agricultural production and developed countries give up to 5%.

#### AMS has two components

- 'product-specific' or the excess of price paid to farmers over international price or ERP (external reference price) multiplied by quantum of produce. This is frozen at 1986-88 levels which makes entitlements of developed countries much higher than developing countries
- 'non-product specific' or money spent on schemes to supply inputs such as fertilisers, seed, irrigation, electricity at subsidised rates.

- “Most developing countries’ AMS are bound only by the de minimis of 10 per cent, while many developed nations have their individual AMS levels bound at a much higher level. The discrepancies had crept in when the Agreement on Agriculture was being negotiated. Developed countries exercised an option of either accepting a product specific ceiling of 5 per cent, or an overall cap.
- The developed world, by having an overall ceiling for all farm products, can manipulate the subsidies for individual products. For example - US has continued to provide product-specific support to the tune of 10% of the value of product for 30 products for at least one year during the period 1995-2014. It provided subsidies exceeding 50% of value of production for dry peas (57%), rice (82%), canola (61%), flaxseed (69%), sunflower (65%), sugar (66%), cotton (74%), mohair (141%), and wool (215%).
- At present, developed countries have more than 90% of global AMS entitlements amounting to nearly \$160 billion while India and China do not have any AMS entitlements. Developed countries label most of the sops as non-trade distorting (green-box subsidy at the WTO) which, supposedly, have minimal effect on world trade.

#### Negotiation of Agriculture

- **Nairobi Package** In 2015, WTO Nairobi Ministerial Conference concluded that **export subsidies will be eliminated** by developed countries immediately, except for a handful of agriculture products, while developing countries have no time period to do so.
- **Bali Packages:** An agreement to negotiate a permanent **solution to public stockholding for food security purposes**, and to refrain from challenging breaches of domestic support commitments resulting from developing countries' public stockholding programmes for food security provided certain conditions.

#### India on Agro-subsidies

- India provides a subsistence amount of about \$260 per farmer per annum under ‘**green box**’ compared to over 100 times more in some developed countries.
- Following India's agreement with the US on the issue in 2013, the Bali Ministerial Conference came up with the "**peace clause**", which permitted uninterrupted implementation of India's food security programme till a permanent solution was found.
- On this issue, India has informed the WTO that its **input farm subsidy** which includes those for fertilizers, irrigation and electricity did not go beyond the permissible limit.
- The country is stressing for **amending the formula to calculate the food subsidy** cap of 10 per cent. The reason cited that formula is based on the reference price of 1986-88 or allowing such schemes outside the purview of subsidy caps.

#### The WTO: Subsidies

The three box subsidies pertain to **domestic support** clause of Agreement on Agriculture, concluded in 1993.

#### The subsidies are classified as:

**Green Box Subsidies:** The subsidies which cause no, or at most minimal, trade distorting effects or effects on production. These subsidies are permitted under WTO regime, for instance; Government services such as research, disease control, and infrastructure and food security.

**Amber Box Subsidies or AMS:** All domestic support measures considered to distort production and trade (with some exceptions) fall into the amber box. For instance, MSP, Procurement Price, sum total of subsidies on inputs like fertilizer, water, credit, power, etc.

**Blue Box Subsidies:** It contains direct payment subsidies which can be increased without limit, so long as payments are linked to production-limiting programs. This is the “**amber box with conditions**”, conditions designed to reduce distortion. Any support that would normally be in the amber box, is placed in the blue box if the support also requires farmers to limit production.

**Special and Differential Treatment Box (S&DT):** The S&DT measures generally comprises of

1. **Investment subsidies like tractors and pump sets to farmers**
2. Agricultural input services like fertilizers to farmers. These subsidies should be provided only to **low income and resource poor** producers (or poor farmers) in developing countries.
3. Measures for diversification of narcotics crop in order to rehabilitates the farmers.

## 2.7. PACTS SIGNED BY EXIM BANK UNDER BRICS MECHANISM

### Why in news?

- Recently, Cabinet approved the signing of the **Interbank Local Currency Credit Line Agreement** and **Cooperation Memorandum Relating to Credit Ratings by Exim Bank** under **BRICS Interbank Cooperation Mechanism**.

### Cooperation Memorandum Relating to Credit Ratings

- It would enable sharing of credit ratings information amongst the BRICS member banks and helps to mitigate the credit risks associated with cross-border financing.
- In future, such mechanism could also serve as **pre-cursor** to the proposal of having an **alternate rating agency by BRICS nations**.

### Interbank Local Currency Credit Line Agreement

- It is a **non-binding umbrella agreement** which would serve as an enabler to enter into bilateral agreements with member banks subject to national laws, regulations and internal policies of the signatories.
- Local currencies usage will promote** mutually beneficial economic cooperation, mitigate currency risks, increase trade, and facilitate companies in accessing the BRICS markets.

### Exim Bank

- It finances, facilitates and promotes India's international trade. It provides competitive finance at various stages of the business cycle.
- Exim Bank raises resources in the off-shore market in diverse currencies and swaps to mitigate the risk.

### BRICS Interbank Co-operation Mechanism

- Five banks from the BRIC nations founded it in 2010 with a vision to develop and strengthen economic and investment cooperation among member countries and enterprises.
- It serves as a platform for multi-faceted engagement among member development banks, aimed at mutual resurgence and empowerment.

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## 3. ECONOMY

### 3.1. WAGE CODE BILL 2017

#### Why in news?

Recently, Minister of Labour and employment had introduced the wage code bill 2017 in Lok Sabha on the line of the recommendations of **2<sup>nd</sup> National Commission on Labour**.

#### Why Wage Code Bill is needed?

- **International Labour Organisation report 2010**, highlighted that economic prospect of the country will not yield intended outcome in the absence of unified wage law.
- Labour welfare and reforms is contained in Concurrent **list** of The Constitution of India. There was absence of statutory National Minimum Wage for different regions.
- At present, the provisions of the Minimum Wages Act and the Payment of Wages Act are restricted to the Scheduled Employments/Establishments.

#### Significance of the bill

- It will give further boost to **ease of doing business**.
- The proposed law intends to do away with discrimination among employees on the ground of gender in matters relating to wages by the same employer.
- It will bring clarity in labour legislation, and minimize its multiplicity without compromising on the basic concepts of welfare and benefits to workers.
- The bill will help working class to know their rights and responsibilities, and look forward to larger employment opportunities.
- The proposed legislation would bring the use of technology in its enforcement and thereby bring transparency and accountability for effective enforcement of the law.

#### Highlights of the Bill

- It seeks to consolidate laws relating to wages by replacing: The Payment of Wages Act, 1936, The Minimum Wages Act, 1948, The Payment of Bonus Act, 1965, and the Equal Remuneration Act, 1976.
- The Code will apply to any industry, trade, business, manufacturing or occupation including government establishments.
- Wages include salary, allowance, or any other component expressed in monetary terms. This will not include bonus payable to employees or any travelling allowance, among others.
- It differentiates the central and State Jurisdiction in determining the wage related decision for establishment such as Railways Mines and oil fields.
- The bill specifies penalties for offences committed by an employer, such as paying less than the due wages, or for contravening any provision of the Code.
- A concept of statutory National Minimum Wage for different geographical areas has been introduced. It will ensure that no State Government fixes the minimum wage below the National Minimum Wages for that particular area as notified by the Central Government.
- The proposed payment of wages through cheque or digital/ electronic system.
- Provision for an Appellate Authority has been made between the Claim Authority and the Judicial Forum.

### 3.2. DOMESTIC SYSTEMATICALLY IMPORTANT BANK

Recently RBI listed HDFC as Domestic – Systematically Important Bank (DSIB) under the bucket structure identified last year.

#### What are Domestic- Systematically Important Banks (DSIBs)?

- DSIBs are also referred to as **“Too Big To Fall” (TBTF)** because of their size, cross-jurisdictional activities, complexity and lack of substitute and interconnection.
- Banks whose assets cross **2% of the GDP** are considered DSIBs. If these banks fail, they can have a disruptive effect on the economy.
- D-SIBs are categorised under **five buckets**. According to these buckets the banks have to keep aside the **Additional Common Equity Tier 1 as a percentage of Risk Weighted Assets (RWAs)**.
- At present **State Bank of India** is placed under **Bucket 3**, mandating to maintain an additional 0.45% of RWAs from the start of fiscal year 2018 which will rise to 0.6% from April 2019.



- **HDFC and ICICI** are under **Bucket 1** according to which they have to maintain 0.15% from April 2018 which will rise to 0.2% by next fiscal year.
- D-SIBs are mandated under special provisions and are closely monitored by the central bank to ensure their better functioning and prevent the indulgence of such banks in any grey areas such as money laundering etc.
- The Systematically Important Banks domestically are identified by Central Banks of a country and globally by BASEL committee on banking supervision.

### 3.3. CONSOLIDATION OF PUBLIC SECTOR BANKS

#### Why in news?

The government is working on a consolidation of public sector banks with a view to creating 3-4 global-sized banks and reduces the number of state-owned bank from 21 to about 10-12.

#### Significance of Merger/ Large-Size bank

- The consolidation would impact on cost cutting and acquiring efficiency in the wake of mounting problem of stressed balance sheet and NPA.
- The amalgamation could cater for the massive credit requirements of the growing economy, absorb shocks and have the capacity to raise resources without depending unduly on the state exchequer.
- It would facilitate their resources diversion to other underserved segments.
- Large banks in a consolidated banking system enjoy scale benefits leading to better diversification of risks and stronger overall profitability contributing to higher credit ratings.

#### Challenges

- It would be difficult to arrive at the swap ratio as rights of minority shareholders in proposed consolidated bank have to be protected.
- Obstacle in merger will be large-scale shutting of branches in urban centres, reduction in staff strength and exploring the right business synergy and work culture.

#### Narsihman Committee Report 1991

- Merger of public sector banks to make them stronger.
- It had envisaged a three-tier banking structure with three large banks with international presence at the top, eight to 10 national banks at tier two, and a large number of regional and local banks at the bottom.
- Setting up large number of local bank for banking penetration
- Factors like regional balance, geographical reach, financial burden and smooth human resource transition have to be looked into while taking a merger decision.
- Efficient use of Section 44A of Banking Regulation Act 1949 (lays down the norms for voluntary mergers) and Section 45 of the Act. (Forced mergers).
- Consolidation should be on par of competition in order to avoid oligopolistic practices.

### 3.4. CONTINGENCY FUND OF RESERVE BANK OF INDIA

#### Why in news?

RBI surplus sum transferred from earning during 2016-17 was less than half of previous year. One of the reasons for such low surplus was due to the amount transferred to the Contingency Fund of RBI.

#### Contingency Fund

- It is maintained by RBI to overcome unforeseen contingencies such as **Black Swan** events – the collapse of Lehman Bank in USA or any other bank which may endanger economic stability of the bank.
- It also acts as cushion against events such as unprecedented forex and gold fluctuations or other valuation losses in bond holdings etc.
- However, presently there exists an argument over the amount of funds to be transferred to the Contingency Fund.
- Government is of the view that in case of any exigencies Government being the owner of the bank would infuse additional capital.
- Also Y. H. Malegam Committee in 2012-13 had recommended that Central Bank should transfer entire surplus to the government.

- However, RBI bases its argument on the risk management framework according whose calculations, a certain level of reserves needs to be maintained.

#### Way Ahead

- Presently Indian banking system is battling with the twin balance sheet syndrome along with foreign market fluctuations. In such situations maintenance of Contingency Fund becomes imperative.
- Government should develop a mechanism in which spheres of functioning of RBI and Government should be balanced.

### 3.5. CREDIT RATING AGENCIES

The Securities and Exchange Board of India has proposed measures for credit rating agencies to improve “market efficiency” and enhance “the governance, accountability and functioning of credit rating agencies”.

**Details:** Important provisions include

- to restrict cross-shareholding between rating agencies without regulatory approval to 10%,
- increase the minimum net worth requirement for existing and new agencies from ₹5 crore to ₹50 crore
- at least five years’ experience for promoters of rating agencies.

#### Impact

- The proposed disclosure norms will improve investor awareness about the operations of rating agencies.
- The spin-off of non-core operations of rating agencies will allow SEBI to focus on regulating just their credit rating operations.
- This will prevent rating agencies from resorting to collusion in reaching decisions.

#### Role of CRAs (Credit rating agencies):

It a tool for borrowers to gain access to loans and debt by providing independent evidence- and research-based opinion on the ability and willingness of the issuer to meet debt service obligations, and distinctively attaching a probability of default to a specific instrument.

#### Issues in credit rating in India

- **Conflict of interest:** They work towards maximizing CRA shareholder value by way of increasing revenues from issuers, while trying to provide independent ratings for the consumption of investors.
- **Issuer paid model:** As they depend on issuers for their business, it compromises their objectivity.
- **Information availability:** If the issuer decides not to answer some determinant questions, the rating may be principally based on public information.
- **The system does not permit publishing a rating without the issuer’s consent.** If the rating is not as high as the issuer expects it to be, it can choose to go to another CRA and fish for a better rating. This takes away a lot of freedom from the CRA and puts it in the hands of the issuer.
- **Non-rating activities of CRAs:** They generate significant revenue through non-rating activities undertaken by their specialized subsidiaries. Such non-rating activities generate significant conflicts of interest with respect to the main service that CRAs-ratings of the issuers.

#### Suggestions to address these issues

- CRAs should refrain from providing advisory services to the rated companies, even via subsidiaries.
- Avoid arriving at ratings with limited information, even if it means foregoing that mandate.
- Disclose underlying assumptions, allowing potential investors to factor inbuilt risk in the final rating.
- Operate on fixed fee structure, restricting competition to quality and not pricing.
- Increase objectivity of rating models, thereby reducing subjectivity and cognitive bias.

### 3.6. ECONOMIC ADVISORY COUNCIL

#### Why in news?

Government has announced the constitution of a five-member Economic Advisory Council to the Prime Minister (EAC-PM) under the chairmanship of Bibek Debroy (member Niti Aayog).

#### Details

The EAC-PM is an **independent body** to give advice on economic and related issues to the Government of India, specifically to the prime minister.

- Terms of reference of EAC include:
  - ✓ To analyse any issue, economic or otherwise, referred to it by the prime minister and advising him thereon; to address issues of macroeconomic importance and presenting views thereon to the prime minister.
  - ✓ This could be either suo-motu or on reference from the prime minister or anyone else; to attend to any other task as may be desired by the prime minister from time to time
- Other members include Surjit Bhalla, Rathin Roy and Ashima Goyal along with Ratan Watal.

#### Need

- There have been growing concerns over the pace of growth in the economy and the slow pace of job creation. The 5.7% fiscal first-quarter GDP growth pits the country behind China on the list of world's fastest-growing major economies.
- EAC-PM will help to keep a closer eye on economic developments and provide advisory on addressing macroeconomic and other important issues.
- EAC-PM will push a qualitative shift for advice tender by finance ministry to Prime Minister. Furthermore, PM will have a new source of advice and an opportunity to seek a second opinion within the government system.
- Simultaneously, the presence of the council will secure the much-needed balance between the influence exercised by civil servants on economic policy making and the advice offered by economists within the government system.

**History of EAC (PM):** The Economic Advisory Council to the Prime Minister was first constituted by the then Prime Minister Manmohan Singh on December 29, 2004 under the chairmanship of C Rangarajan.

The work of the council included offering advice to the PM on policy matters from time to time. Besides, it also prepared a monthly report on economic developments at home and abroad for the Prime Minister.

In 2014, the NDA government had disbanded the PMEAC.

### 3.7. SHELL COMPANIES

Ministry of Corporate Affairs (MCA) has cancelled the registration of 2.1 lakh **dormant companies** and directors of about 1.07 lakh shell companies among them will also be disqualified.

#### What are Shell Companies?

- These are companies **without active business operations with significant assets**. They can be set up by for both legitimate and illegitimate purposes.
  - The **legitimate purpose** may include promoting a start-up by raising funds and
  - **Illegitimate purpose** includes hiding ownership from the law enforcement, laundering unaccounted money and avoiding tax.
- In India Shell companies are **not defined under Companies Act, 2013** or any other legislation. However some laws can help curbing illegal activities such as money laundering and can indirectly be used to target shell companies — Benami Transaction (Prohibition) Amendment Act 2016; The Prevention of Money Laundering Act 2002 and The Companies Act, 2013 etc.

#### Difference between Dormant Company and Shell Company

A company is Dormant company if it has chosen to get a 'dormant' status from the Registrar of companies in compliance with the requirements Section 455 of Companies Act 2013.

Or the company has not filed annual returns for two financial years consecutively

A shell company on the other hand is one which is typically suspected of illegal activities mainly tax evasion and financing the illegal activities.

### Significance of the move

- The defunct companies strain the regulatory system. There were about 13 Lakh registered companies prior to action and after closing of around 2.10 Lakh Companies, there will be 11 Lakh companies having Active status in the Registry
- The measure is important in context of government crackdown on shell companies in post demonetisation phase and also curbing the menace of black money. The crackdown has been successful after demonetisation as layering of transactions has been very little in that phase.
- Weeding out of shell companies will improve corporate governance and pave the way for ease of doing business by enhancing investor confidence in Indian regulatory system.

### Concerns

- The companies which are not shell companies may face economic losses and restrictions on trading.
- It may also negatively impact on Start-ups in the country and hurt prospects for Start Up India Programme.
- Apart from the role of Directors of shell companies, role of auditors has also come under the scanner for alleged connivance in facilitating illegal transactions and not raising the red flag when such things came to the fore.
- The MCA is also examining the recommendations of the 3-member expert panel on various issues related to audit firms headed by TERI chairman Ashok Chawla.

## 3.8. SMART AGRICULTURE CONCLAVE

Recently, Department of Biotechnology held **Smart Agriculture Conclave** in partnership with research organisation in order to set the stage for **Farmer Zone** to cater to the needs of the farmers.

### Need

- Smart Agriculture Conclave with international partnership is a step towards scientific and technological integration of agriculture.
- The **Smart Agriculture Conclave** would help to create a roadmap for setting up a cloud-service called "**Farmer Zone**", where the data would be processed to bring out useful and relevant information for farmers.
- At present around **55%** of India's agriculture is **rain dependent** due to which the growth in the sector has been fluctuating since past few years.
- It assist in ensuring nutrition of the growing population, need for reliable data to mitigate risks from climate change and also inclusion of smallholder farmers as stakeholder in data revolution.
- **Sustainable Development Goal 2** also talks about achieving food security, improved nutrition and promoting sustainable agriculture.

#### What is Climate Smart Agriculture?

It is an integrated approach to address interlinked challenges of food security and climate change aim

- Sustainable increase agricultural productivity that will further help to increase the farm income, food security and development.
- Adapting and building resilience of agriculture to climate change.
- Reducing greenhouse emission from agriculture.

### Farmer Zone

- It involves the initiative for cloud based platform to collect, collate and curate **field and remotely sensed data** along with market intelligence to create smart agriculture solutions to smallholder farmers.
- Farmer Zone will be a **multi-purpose window** which will provide solutions to farmer ranging from climate change based information to weather predictions, soil, water and seed requirements to market linkages.
- The information can be accessed by the farmers **throughout the world**. These services could be accessed by the farmer **directly** or **through intermediaries** such as local co-operative.
- It also includes **MarketZone** where farmers can directly sell their produce and the produce can also be directly picked from their farms.
- It will also help to **reduce technological gap** in data acquisition & transfer from farm to cloud and vice versa.



- It will also connect various stakeholders and experts such as farmers, scientists, government official, economists and global companies working in big data analysis and e-commerce. This would ensure that localised technology based solutions and develop **PPP based service delivery mechanism**.

### 3.9. GIS-ENABLED PORTAL MAPS LAND-RELATED INFORMATION

#### Why in news?

Recently, Centre has launched an online database of more than half a million hectares of land assisting industry.

#### Background

- The Government pushing for creating a manufacturing hub in the country by 2020 for which initiatives such as Make in India and Skill India have been launched.
- The government is also developing a new **Industrial and manufacturing policy** which aims to increase manufacturing sector share **from present 16% to 25% by 2020**. It also aims to make India a global manufacturing hub and generate employment.
- Manufacturing sector will not only provide impetus to economic growth but will also harness the demographic dividend of the country.
- Therefore, in order to provide an enabling environment government has launched GIS-enabled portal maps land related information.

#### Geographic Information System

- GIS can be defined as a computer based tool that analyses, stores, manipulates and visualizes geographic information displaying data related to position on Earth's surface.

#### GIS- enabled Database

- It is a database that had been launched by the central government through which industries could access information related to industrial parks or clusters, Special Economic Zones, National Investment and Manufacturing Zones as well as area wise availability of agricultural and horticultural crops and mineral production.
- The database will also have information about warehouses, power grids; financial institutions as well as demand for infrastructure could be captured through the applications made by entrepreneurs for projects.
- Other information available includes:
  - Industrial land use and availability of industrial land.
  - Approved and pending projects
  - Infrastructure like – state and nation highways, airports, ports, railway stations and electricity
  - Investment and employment targets
  - Waste disposal facilities etc.
- It will also provide details about government approved technical institutions and availability of skilled and semi-skilled talent.
- The portal will be highly beneficial for Industrial sector as:
  - It will eliminate information asymmetry.
  - Improve industrial policy making and investment in manufacturing sector.
  - Improve employability of labour in specific job profiles
- The Database is being developed by the **Department of Industrial Policy and Promotion (DIPP)** and **National e-Governance Division of Ministry of Electronics and Information Technology** as well as the **BISAG** – an institute for space applications and geo-informatics under the Gujarat Government.

### 3.10. DAIRY SECTOR

The Cabinet Committee on Economic Affairs has approved a “Dairy Processing & Infrastructure Development Fund” (DIDF) with an outlay of Rs 10,881 crore during the period from 2017-18 to 2028-29.

#### Need of Fund

- The fund will be used to provide loan for building an efficient milk procurement system and other processing infrastructure.
- **Benefit to farmers:** With this investment 95 lakh farmers in about 50,000 villages would be benefitted.

- **Capacity creation in milk processing:** Additional Milk processing capacity, milk drying capacity, milk chilling capacity, electronic milk adulteration testing equipment and value added products manufacturing capacity shall be created.
- **Employment generation:** The implementation of DIDF scheme will generate direct and indirect employment opportunities for skilled, semi-skilled and unskilled manpower. Direct employment opportunities for about 40,000 people will be created under the scheme. About 2 lakh indirect employment opportunities will be created on account of expansion of milk and milk product marketing operations to Tier IV, V & VI cities/towns etc.

#### Dairy sector in India

The Indian dairy sector provides livelihood to 15 crore farmers. India is the world's largest milk producer with 156 MMT of the item produced annually. However, exports of these items from India are negligible (about 0.5 MMT or 0.3% of the production). While New Zealand controls 25% of the global dairy trade and Australia around 5%.

**Importance of dairy sector:** It provides the livelihood to millions of farmers whom belong to marginalized sections of society.

**Potential:** As per a Crisil report the Indian milk economy is worth Rs 5 lakh crore, growing at a CAGR of 15-16 per cent, out of which the organised milk economy is worth Rs 80,000 crore.

#### Growth factors:

- As global dairy consumption stagnates or even dips, Indian consumption is going up. India's per capita consumption of milk at 97 litres a year is way below that of western countries.
- The Indian consumer - especially the affluent urban consumer - is consuming more value-added products. As the Indian cooperatives had largely stuck to basic milk, this had left a gap in the market that allowed some of the new players to come in with new product offerings.
- The phenomenon of working couples with high disposable income also provided the impetus for immediate requirement of complete food (MILK).
- Finally, global prices of milk are dipping because of overcapacity, while the Indian market is still growing, both for basic milk as well as for value-added products.

#### Challenges:

##### International level

- **Impact of FTAs:** Removal of import duties on milk and milk products under Free Trade Agreement (FTA) including the Regional Comprehensive Economic Partnership (RCEP) will make imports cheaper.
- **Low surplus for exports:** India is the world's largest milk producer with 156 MMT annually. However, since there is a huge domestic demand for milk and milk products, exports of these items from India is negligible (about 0.5 MMT or 0.3% of the production). While New Zealand and Australia export 86% and 25% of their production.
- **Export restriction by other countries:** Most RCEP countries have a highly restrictive regime on dairy products — either high import duties or cumbersome procedures with certification and inspection requirements. For eg China does not allow Indian dairy imports. Similarly, Indonesia, Australia classifies India as an FMD (foot and mouth disease)-hit nation and restricts Indian dairy imports. New Zealand's requirement of several veterinary documentation on dairy products also prevents Indian exports to that nation.

##### National level

- **Domination of unorganized sector:** this prevents value addition and large scale investment in infrastructure creation.
- **Infrastructure issues:** cold food supply chain, milk processing facilities, vehicles to transport milk products etc, lack of marketing facilities and extension services; Insufficient Veterinary Services
- **Non availability of fodder:** especially green fodder round the year. By 2025, going by the present way of cultivation pattern, there will be 65% deficit of green fodder.
- **Segment wise problem:** For **the backyard farms**, the main challenge is the reluctance in acceptance of balanced nutrition for their animals. Most of them still feed their animals in the traditional way with unbalanced feed, forage and supplements and this leads to less than expected milk output from the animals. For **semi-organized dairy farms**, the key challenge is the improvement in the herd efficiency and maintaining the consistent milk production round the year.

#### Government steps:

Government of India is making efforts for strengthening the dairy sector through various Central sector Schemes like "National Programme for Bovine Breeding and Dairy Development", National Dairy Plan (Phase-I) and "Dairy Entrepreneurship Development Scheme".

## 3.11. DOUBLING THE FARMERS INCOME

### Why in news?

Agriculture Ministry has recently released a blueprint having 7-point strategy to achieve the vision of doubling farmer's income by 2022. A Committee on Doubling Farmers' Income headed by Ashok Dalwai also gave certain suggestion in the 4 out of 12 reports released earlier.

### About seven-point strategy

- **Increase in production** by improving irrigation efficiency through
  - increased irrigation budget (Madhya Pradesh, which achieved an agricultural growth rate of 9.7% from 2004-2015 against national average of 3.6%, did so on the back of substantial irrigation investment)
  - implementing Pradhan Mantri Krishi Sinchai Yojana
  - expediting pending medium and large irrigation projects
  - fast-tracking watershed development and water harvesting & management projects
- **Effective use of input cost** – Government has taken up different steps for different inputs
  - **Soil** - introduced Soil Health Card Scheme to inform farmers about nutrients status of the soils
  - **Fertilisers** – rationalising the use of fertilisers by giving information about nutrient status of soil, curbing illegal use of urea as well as ensuring adequate supply through Neem Coated Urea scheme
  - **Seeds** – Providing with better quality seeds at affordable prices
  - **Awareness** – giving timely information and advisory services to farmers through online and telecom mediums such as Kisan Call Centre and Kisan Suvidha App
  - **Better Planning** – through adoption of new technologies such as space technology which helping in better planning through forecasting of crop production, agricultural land-use mapping, drought prediction, and utilisation of fallow paddy fields for Rabi crops
  - Encouraging organic farming which sells costly while cost on inputs is less.
- **Reduction of post-harvest losses**
  - **Storage facilities** - government is encouraging farmers to use warehouses and avoid distressed sales at lower cost. Also, loans are being provided against negotiable warehouse receipts are being provided with interest subvention benefits.
  - Integrated cold chains in rural areas.
- **Value Addition**
  - **Promoting quality through food processing** – Under Pradhan Mantri Kisan Sampada Yojana, food-processing capabilities will be developed by working on forward and backward linkage of agro processing cluster, benefitting 20 lakh farmers and creating employment opportunities for about 5 lakh.
- **Reforms in Agriculture Marketing**
  - **Integrating markets through e-NAM** where 455 mandis have been linked to this platform.

### Suggestions by Ashok Dalwai committee

- An additional investment of Rs 6.39 lakh crore is required from both public and private sectors to double farmer income.
- There is need of developing financial & other infrastructure in less developed states of eastern region which lags in private investment
- Stepping up institutional credit on large scale as they are fulfilling only 50-60% investment requirements of farmers
- There is need to enhance public investments in agricultural R&D, irrigation, energy & education in agriculturally less developed states as marginal returns in terms of income here are relatively higher
- Focus on "demand-driven fork-to-farm approach", diversification towards high value crops etc.
- Focus on exports with an aim to raise agricultural export to reach \$100 billion by 2022-23 and going beyond cereals and meat which constitutes bulk of our exports at present.

**Horticulture:** through Mission for Integrated Development of Horticulture (MIDH) scheme which provides better planting materials, improved seed and protected cultivation, high-density plantation, rejuvenation, and precision farming.

**White Revolution** through conserving indigenous breeds under Rashtriya Gokul Mission, improving genetic makeup, increasing milk production, establishing Dairy Processing and Infrastructure Development Fund, generating self-employment opportunities through Dairy Entrepreneurship Development Scheme

**Beekeeping:** is promoted through training large number of farmers/beekeepers, registering bee keepers and honey societies/companies/firms, establishing Integrated Bee Keeping Development Centres (IBDC).

- **Model Agricultural Produce Market Committee (APMC) Act** is being worked upon which also includes private market yards and direct marketing.
- **Contract farming** - the Government is also working on a Model Act to promote contract farming.
- **Risk, Security and Assistance**
  - **Insurance** – through Pradhan Mantri Fasal Bima Yojana (PMFBY) reduces possible risks through fixing lowest rate for Kharif and Rabi crops, covering standing crops as well as pre-sowing to post-harvesting losses, settling 25% of the claim immediately online, carrying out faster assessments of crop loss using new technologies like Smartphones, satellite imagery and drones facilities, increasing compensation amount to 1.5 times, providing compensation if at least 33% of the crop is damaged.
- **Promoting Allied Activities** – includes
  - **Integrated Farming system** which focuses on horticulture, livestock, and bee keeping along with agriculture. This scheme will not only increase farmers' income, it will also mitigate the effect of drought, flood, and other natural disasters.
  - **Blue Revolution:** includes promoting activities such as inland fisheries, Aquaculture, Mariculture undertaken by National Fisheries Development Board (NFDB) under Integrated Development and Management of Fisheries, initiating Deep Sea Fishing scheme etc.
  - **Sub-Mission on Agroforestry:** aims to promote inter-cropping. Under this, "Med Per Ped" campaign has also been included.
  - **Rural Backyard Poultry Development:** This scheme involves providing supplementary income and nutritional support to poultry farmers, sensitizing sheep, goat, pig and duck farmers about opportunities to enhance income etc.

Doubling farmer income will also have possible impacts on achievement of goal number 2 of SDG, i.e., End hunger, achieve food security and improved nutrition, and promote sustainable agriculture. Along with above steps, following measures should also be considered

- **Arresting falling prices by MSP and procurement** – This will also reduce rising debt and thus, farmer protests witnessed in several parts of our country
- **Encouraging innovation in agriculture** – by promoting start-ups on boosting agricultural productivity & yield through newer technology.
- **Land reforms** – includes distribution of ceiling-surplus and waste lands, prevention of diversion of prime agricultural land and forest to corporate sector for non-agricultural use, establishing a National Land Use Advisory Service etc.

### 3.12. ELECTRONIC WAREHOUSING RECEIPTS

#### Why in news?

Ministry of Food Processing Industries has launched negotiable warehousing receipts in electronic format that farmers can use to avail of bank credit easily and without fear of losing or misusing it.

#### More on news

- It also unveiled a web portal for registration of warehouses in a faster and more transparent manner. On the new portal the process of registration with the WDRA has been simplified and fastened.
- It has also launched two repositories, with National Commodity and Derivative Exchange (NCDEX) and Central Depository Services (CDSL), on which these negotiable warehouse receipts will be traded.

#### Warehouse (Development and Regulation) Act, 2007

- To make provisions for the development and regulation of warehouses, negotiability of warehouse receipts etc.
- Warehousing Development and Regulatory Authority (WDRA) is implementing body.
- The WDRA regulates and registers the warehouses in the country. Only a warehouse registered with WDRA can issue Negotiable Warehouse Receipts (NWRs).
- The Act makes the warehouseman liable for loss of, or injury to, goods caused by his failure and also provides for compensation to the depositor of the goods.

#### What is negotiable warehouse receipt (NWR)?

- Warehouse Receipts are documents issued by warehouses to depositors against the commodities deposited in the warehouses, for which the warehouse is the bailee.



- Warehouse Receipts may be either non-negotiable or negotiable. NWRs can be traded, sold, swapped and used as collateral to support borrowing.
- It is defined in the Warehousing (Development and Regulation) Act, 2007 (WDR Act).
- NWR was launched first in 2011 and are regulated by the Warehousing Development and Regulatory Authority (WDRA).

#### Benefits

- It helps farmers to seek loans from banks against NWRs and this way NWRs become a prime tool of trade.
- It allows farmers to extend the sales period of modestly perishable products beyond the harvesting season and avoid distress sale.
- It allows transfer of ownership of a commodity stored in a warehouse without having to deliver it physically.
- NWRs can enhance banks' interest in lending in respect of farm goods deposited by farmers in the registered warehouses which can increase liquidity in the rural areas and encourage scientific warehousing of goods.

### 3.13. SAUBHAGYA YOJANA

#### Why in news?

With an aim to provide electricity to over four crore families in rural and urban areas by December 2018, Prime Minister has launched **Pradhan Mantri Sahaj Bijli Har Ghar Yojana 'Saubhagya'**.

#### Progress of Power to All program till now:

- In 2015, PM had announced to electrify the remaining 18,452 unelectrified villages by May 1, 2018. Now less than 3,000 villages remain unelectrified and all villages will be electrified by the end of this year, much ahead of the schedule.
- The govt had also fixed target to provide 24X7 power to all by March, 2019. India is aiming to achieve the target of power for all by December 2018. At present four crore out of 25 crore families do not have power connection.

#### Why need for new scheme?

- Despite the government's aggressive village electrification programme, under the Deen Dayal Upadhyay Gram Jyoti Yojana, it was realised that the problem of electricity 'access' wasn't resolved.
- With a large number of household still remaining without access to electricity, the scheme aims at ensuring the coverage of households as opposed to only villages.

#### Details of scheme

- **Objective:** to provide electricity to all families in India.
- **Total Outlay:** 16,320-crore scheme, the Gross Budgetary Support (GBS) is Rs 12,320 crore. The scheme is being funded to the extent of 60% by central grants, 30% by bank loans and 10% by states.
  - ✓ The scheme primarily benefits rural areas, which have the vast majority of households without power connections. Of the total outlay of Rs 16,320 crore, rural areas will get Rs 14,025 crore. For the urban households the outlay is Rs. 2,295 crore.
- **Identification of beneficiaries:** The government will use Socio Economic and Caste Census (SECC) 2011 data to identify the beneficiaries for free electricity connections. Un-electrified households not covered under the SECC data would also be provided electricity connections under the scheme on payment of Rs 500 which will be recovered by DISCOMs in 10 installments through electricity bill.
- **Implementation:**
  - ✓ The Rural Electrification Corporation Limited will remain the nodal agency for the operationalisation of the scheme throughout the country.
  - ✓ To ensure on-the-spot registration, mobile applications will be used. While free connections will be provided to below poverty line (BPL) households, even those not covered under this category can avail it by paying Rs500 in 10 instalments with their monthly bill.
  - ✓ For those household where the national electricity grid can't reach, households will be provided with solar power packs along with battery banks.

- ✓ Remote hamlets will be powered with solar panels along with five LED lamps, a DC fan, and a plug point along with repair and maintenance for five years
- ✓ There will be no subsidy component for monthly electricity consumption and the Gram Panchayat and public institutions in the rural areas will be authorised to carry out billing and collection tasks which have been pain points for the discoms.
- ✓ States have also been provided with an incentive of 50% of their loan being converted to grants, if the electrification targets are met by 31 December 2018.

#### Possible Impact of the scheme

- Earlier the electricity distribution companies (discoms) didn't want to supply to the villages even if the electrification has taken place. By providing electricity access to all households with prepaid and smart meters, demand will be created which in turn will force the discoms to supply to these villages.
- The scheme will boost growth. Access to energy is central to development and this initiative to expedite that access is strongly positive for growth.
- Last-mile connectivity has always been a huge challenge due high cost of connections for households and higher supply costs for states. This will attempt to address both, by funding energy efficient equipment.
- It will improve the environment, public health, education and connectivity with the help of last-mile power connections across India.
- It will help reduce the use of kerosene lamps in non-electrified households. Thus it will help India, the world's third-largest energy consumer after the US and China, to help meet its global climate change commitments.
- The scheme would inject Rs 16,000 crore into the economy, create assets and generate employment. Importantly, electricity would be billed without any subsidy.
- Better quality of life, especially for women, in daily chores

#### Way forward

New India will require an energy framework that works on the principle of equity, efficiency and sustainability. After connecting each house with electricity, the government's next target should be to end load shedding and provide 24x7 power.

### 3.14. OIL DISCOVERY IN ARABIAN SEA

#### Why in news

- Recently, State-owned **Oil and Natural Gas Corp. (ONGC)** has made a significant oil discovery to the west of its prime Mumbai High fields in the Arabian sea.

#### Highlight

- The discovery in the well WO-24-3 is estimated to hold an in-place **reserve of about 20 million tonnes.**
- Mumbai High, India's biggest oil field, currently produces 205,000 barrels of oil per day (just over 10 million tonnes per annum).
- The new find, which comes almost 50 years after ONGC began production in Mumbai High, will help the company maintain production levels from the basin for a longer time than currently estimated.

#### Oil and Gas supply chain:

- **Upstream Sector:** They identify oil and natural gas deposits and engage in the extraction of these resources from underground. Eg: ONGC, Oil India Ltd.
- **Midstream sector:** This sector involves transportation of oil and gas from blocks to refineries and from refineries to distribution centers. It also includes storage infrastructure.
- **Downstream sector:** They include refineries and marketing. eg **Indian Oil Corporation Ltd** – It is largest company in India by sales and second largest refiner (31% share).

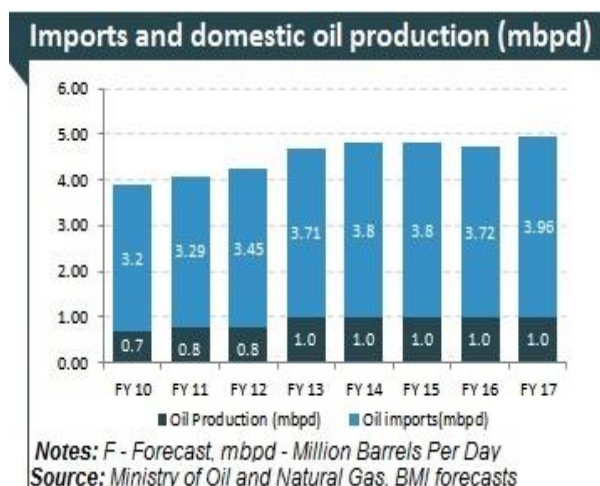
#### Oil Producing region In India

- Brahmaputra valley of north-east India.
- Barmer area of Rajasthan.
- Cauvery on-shore basin in Tamil Nadu.
- Andhra Pradesh has both on-shore and offshore oil reserves.
- The Mumbai High in the Arabian sea

#### Oil & Gas scenario in India:

- India has 0.5% of the oil and gas resources of the world and 15% of the world's population. This makes India heavily dependent on the import of the crude oil and natural gas.

- **India the third-largest oil consuming nation in the world:** India's oil consumption grew 8.3 per cent year-on-year to 212.7 million tonnes in 2016, as against the global growth of 1.5 per cent.
- **India is the fourth-largest Liquefied Natural Gas (LNG) importer** after Japan, South Korea and China, and accounts for 5.8 per cent of the total global trade.
- Government aims to increase the share of gas in the **country's energy mix** to 15 per cent by 2020 from about 6.5 per cent now to curb pollution and carbon emissions.
- **Draft National Energy Policy** target to reduce oil imports by 10% from (2014-15 levels) by 2022
- **According to the Minister of State for Petroleum and Natural Gas,** India's oil demand is expected to grow at a compound annual growth rate (CAGR) of 3.6 per cent to 458 Million Tonnes of Oil Equivalent (MTOE) by 2040, while demand for energy will more than double by 2040 as economy will grow to more than five times its current size.
- **According the Petroleum Planning Analysis Cell (PPAC),** data and policy analysis wing of the oil ministry, India's crude oil import bill is expected to increase 23% from \$70 billion in 2016-17 to \$86 billion in 2017-18 in the current fiscal year.



### 3.15. INTELLIGENT TRANSPORTATION SYSTEMS

#### Why in news?

- Recently, NITI Aayog and the International Road Federation (IRF Geneva) signed a Statement of Intent (Sol) to cooperate in the field of Intelligent Transportation Systems (ITS).

#### More on news

- The objective of the Sol is to create a national platform, involving all relevant Government of India stakeholders, Indian and foreign companies active in the sector, and relevant technical experts for the purpose of developing a **National ITS Policy** covering:
  - ✓ Traffic Management.
  - ✓ Parking Management.
  - ✓ Electronic Enforcement of Traffic Rules and Regulations.
  - ✓ Fleet Management and Monitoring.
  - ✓ Innovation in the field of ITS.
  - ✓ Education in the field of ITS.
- This policy will contribute in reducing urban traffic congestion, improving the situation around parking of vehicles in cities, improving road safety, and improving the security of passenger and goods traffic.

#### International Road Federation

- The IRF is global non-governmental, not-for-profit organisation with mission to encourage and promote development and maintenance of better, safer and more sustainable roads and road networks.
- IRF seeks to promote social and economic benefits of sustainable and environmentally sound road transport infrastructure at all levels of society.
- It helps to put in place technological solutions and management practices that provide maximum economic and social returns from national road investments.
- It provides a wide base of expertise for planning road development strategy and policy for governments and financial institutions in all aspects of road policy and development.

#### What is Intelligent Transportation Systems (ITS)?

- It visualizes information and communication technology (ICT) and advanced vehicular technologies, helping mobile vehicles and infrastructure communicate on a real-time basis.
- It is essentially a multi-disciplinary and cross-functional, and involves the following systems:
  - ✓ **Advanced traffic management systems (ATMS):** Dynamic integration and management of transportation operations to prioritize movements, alleviate congestion and ensure network efficiency and safety.

- ✓ **Advanced traveller information systems (ATIS):** Real-time and dynamic information dissemination to end-users so that informed mobility choices can be made.
- ✓ **Advanced vehicle control systems (AVCS):** Computational and communication systems inside the transit vehicles that ensure passenger safety by employing sensory controls and abort mechanisms to help internal systems coordinate with external infrastructure and other mobile systems.
- ✓ **Commercial vehicle operations (CVO):** Operations control, monitoring, and productivity enhancement of private commercial fleets.
- ✓ **Advanced public transportation systems (APTS):** Systems that enhance the availability and utilization of public transportation.
- ✓ **Advanced rural transportation systems (ARTS):** Systems that facilitate adequacy of transportation services in sparsely populated regions, while fulfilling economic considerations.

### Significance of Adopting ITS in India

- **Smooth public transportation:** It will encourage the use of public transport thereby resulting in lesser traffic congestion.
- **New Economic opportunity:** It would help in developing the market for development of smart phone apps and web based portals.
- **Smart city:** Implementation of ITS will help in better realization Smart cities goal.
- **Improved safety of commuters:** Various online apps like operation Himmat of Delhi police can be used in ITS for security purposes as it allow commuters to keep track of the routes and travel safely. Further, proposed panic button in smart phones by DEITY can also be helpful here.
- **Real time information:** It will provide real time bus arrival info, delays, scheduled bus availability etc. and in turn will help commuters to plan their trips accordingly.
- **Promote Inclusive development:** Efficient and affordable mobility is important so as to ensure easy access for citizens to labour markets and places of education and leisure.
- **Positive environmental impact:** Problems like air and noise pollution, posing serious health hazards for citizens will be reduced as a result of ITS.

## 3.16. INDIA THIRD IN NUCLEAR POWER INSTALLATIONS

### Why in news?

- According to the **World Nuclear Industry Status Report 2017**, India is third in the world in the number of nuclear reactors being installed, while China tops the list.

### Highlight

- Global nuclear power generation increased by 1.4% in 2016 due to a 23% increase in China, although the share of nuclear energy in electricity generation in the world is stagnated at 10.5%.

### Concern regarding future of Nuclear Power Generation

- **Delay in power generation:** Most nuclear reactor constructions are behind schedule, with delays resulting in increase in project costs.
- **Resurgence of renewable energy:** Since 1997, worldwide, renewable energy has produced four times as many new kilowatt-hours of electricity than nuclear power.
- **Financial crisis:** Nuclear industry around is plagued by financial eg: Toshiba filed for bankruptcy of its U.S. subsidiary Westinghouse, the largest nuclear power builder in history.

### Not a steady state

The nuclear power industry is not going through the best of times. A look at the numbers

#### In the works

The number of nuclear reactor units under construction is declining globally for the fourth year in a row, from 68 reactors at the end of 2013 to 53 by mid-2017



#### Loose deadlines

- 5 delayed projects in India
- 37 delayed globally
- 8 projects under construction globally for a decade or more

#### Global Increase In 2016

1.4% nuclear power  
16% wind power  
30% solar power

#### Closures

Russia and the U.S. shut down reactors In 2016, while Sweden and South Korea both closed their oldest units in the first half of the year 2017

SOURCE: WORLD NUCLEAR INDUSTRY STATUS REPORT 2017



- **Closure announcement:** Germany announced plans to end all nuclear power generation by 2022. The Swiss have vowed to end nuclear power by 2034; and the Italians voted down plans to restart the country's nuclear power program.

### 3.17. WEF GLOBAL COMPETITIVENESS INDEX

#### Why in news?

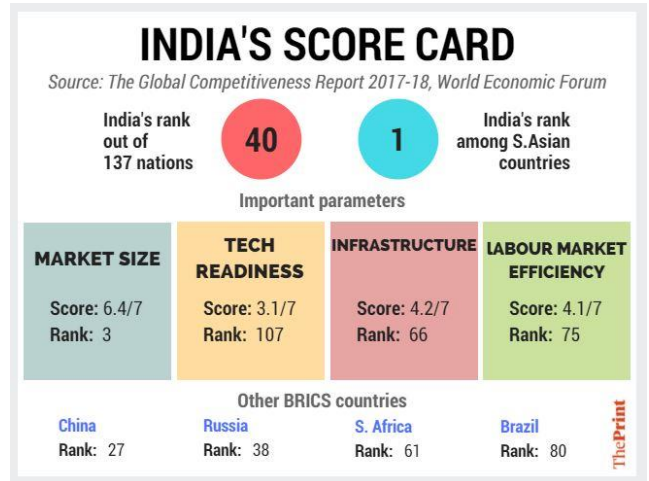
- India has been ranked the 40th most competitive economy, slipping one place from last year's ranking, on the recently released **World Economic Forum's global competitiveness index (GCI)**.

#### GCI report

- GCI scores are calculated on the basis of 12 categories called 'pillars of competitiveness (see infographic), where National competitiveness is defined as a set of institutions, policies and factors that determine a country's level of productivity and prosperity.
- It highlights vulnerability of financial sector and unpreparedness for the next wave of innovation and automation even after 10 years of 2008 global crisis.

#### Observations for India

- According to WEF, India's score is its highest ever according to the current methodology.
- The quality of institutions has increased, especially in terms of efficiency of public spending which is reflected by the score improvement across most pillars of competitiveness.
- India is a labour intensive country, and is thus resistant to adopting tech advancements like automation and robotisation (107 rank) due to which benefits of innovative activities are not widely shared and India is not able to fully leverage its technological strengths across the wider economy
- According to **WEF's Executive Opinion Survey 2017**, Corruption followed by access to finance, tax rates, and inadequate supply of infrastructure are most problematic factor for doing business in India.



#### INDIA'S PERFORMANCE OVERVIEW

India remains the most competitive country in South Asia, appearing at No. 40 in the ranking of 137 countries by the World Economic Forum's Global Competitiveness Report 2017-18. This has been due to the country investing in infrastructure, higher education and training, backed by its state of technological readiness.

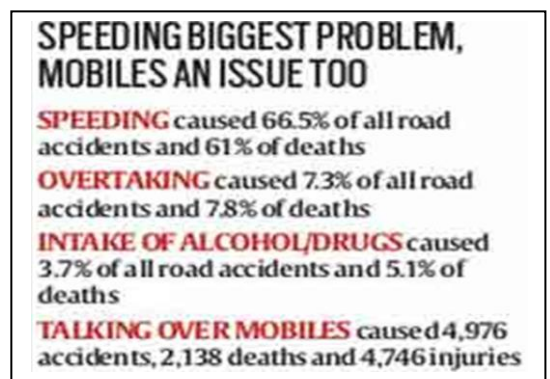
	Rank/137 (2017-18)	Score (1-7)
<b>Global Competitive Index</b>	<b>40</b>	<b>4.6</b>
Institutions	39	4.4
Infrastructure	66	4.2
Macroeconomic environment	80	4.5
Health and primary education	91	5.5
Higher education and training	75	4.3
Goods market efficiency	56	4.5
Labour market efficiency	75	4.1
Financial market development	42	4.4
Technological readiness	107	3.1
Market size	3	6.4
Business sophistication	39	4.5
Innovation	29	4.1

### 3.18. ROAD SAFETY: ROAD ACCIDENT IN INDIA 2016

The Report on Road Accidents in India 2016, released by Ministry of Road Transport & Highways, highlighted the grim reality of road safety in India.

#### Background

- **UN Decade of Action of Road Safety** and the **Sustainable Development Goals (Goal 3.6)**, had urged nations to take necessary actions to reduce road crash deaths by **50% by 2020**.



## Highlights of the report

- As many as 17 people died in 55 road accidents per hour on average last year across the country. It means a death every 3.5 minutes on Indian roads
- There is 3% increase in fatalities over the previous year, even as the number of accidents declined by 4.1%, thereby indicating a rise in the severity of accidents.
- The number of persons injured in road accidents declined by 1.1% and totalled 4.95 lakh in 2016.
- **Accident severity** (defined in terms of the number of persons killed by 100 accidents) stood at an all-time high of 31.4 in 2016, compared with 29.1 in 2015, and 28.5 in 2014.

## Suggestions for road safety

Road safety involves various stakeholders ranging from infrastructure to enforcement agencies such as:

### Road

- Policy shift towards **applied scientific study for roads** instead of widening and extending the length and coverage of road is need of hour.
- **S. Sunder committee 2007** on road safety highlighted the need for scientific study of road infrastructure which includes effective road engineering solutions at the design stage, rectification of accident **hot spots** etc.
- **Road Safety Action Plan** mooted by Asian Development Bank stressed the need of optimal mobility of traffic, promotion of traffic circulation, building the rush-hour lanes and **self-explained roads**.

### People

- **Safe system approach** of World Health Organisation recognised that people' role in road safety cannot be eliminated completely by penalisation methods, rather the policy approach should be shifted towards **education and awareness** for all the strata of society.
- **Pedestrians** constitute 19 percent of total deaths in road accidents in India. This can be attributed to lack of **walking environment and encroached footpaths**.

### Vehicles

- Launch of **Bharat New Vehicle Safety Assessment Programme**, on line of star labelling, can effectively minimise the accidents.
- Modernise the vehicle technology such as collision-avoidance systems, (semi-)autonomous vehicles, stability control, improved road-vehicle interaction, automatic braking systems and air cushion technology and speed limiters on fleet vehicles.

### Government

- **KS Radhakrishnan** panel on road safety advocates the **Zero tolerance policy** towards drunk driving, accidents caused by speeding and more robust methods of issuing driving licences.
- **Good transport and National Freight Policy** should be implemented to ease-out the traffic burden on passenger vehicles.

### Burden of Road Accidents

- **Economic Cost:** Planning Commission of India stated that over 3% of India's GDP is lost to road accidents annually, and this amounted to 3.8 lakh crore rupees in 2016.
- **Social Cost:** Loss of family member, especially earning member leads to poverty and social distress. Moreover, disabilities occurred in accident lead to loss of human productivity and stigma.
- **Administrative cost:** includes traffic management, enforcement of law, resource costs (clearance of damage property) and insurance administration.

### Safe System Approach

It is an approach to road safety management, based on the principle that our life and health should not be compromised by our need to travel.

### Draft road transport and safety bill 2014.

- It proposes the creation of three lead agencies: national authority for road safety, national transport and multimodal coordination authority and state transport authority.
- Provisions for Non-Motorised Transport and pedestrian bicycle infrastructure.
- Improving the system of catching an offender, streamlining issuance of driving licences, penalty and registration of vehicles and introduction of digital systems.
- Unified vehicle registration system and registration to be linked with insurance, vehicle offences and vehicle fitness.

### Government Initiatives for Road Safety

- Adopted the National action plan aimed at halving number of road accident deaths by 2020.
- Pradhan **Mantri Surakshit Sadak Yojana** to eliminate dangerous spots on highways.
- **Motor Vehicles Amendment Bill 2016**, passed in **Lok Sabha**, measures include:
- Amending the existing categories of driver licensing, (ii) recall of vehicles in case of defects, (iii) protection of good Samaritans from any civil or criminal action and (iv) increase of penalties for several offences under the 1988 Act.

- **S. Sundar** committee advocated the establishment of Directorate of Road Safety and Traffic Management for advocacy in changing road safety scenario.
- **Rakesh Mohan** committee on **National Transport Development Policy** advocates setting up of safety departments within operating agencies at different levels for ensuring day-to-day compliance with safety standards and study effectiveness of existing policies and standard.

### Conclusion

The World Health Organization's (WHO) Global Status Report on road safety, 2015, termed the road accidents as global health hazard for the age group of 15-29 years. For effective road safety in the country, new policies and actions should be based on **Brasilia Declaration of 2015** which call for rethinking the transport policies in order to favour more sustainable methods and modes of transport.

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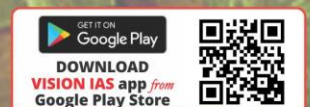
## PRELIMS

- **General Studies** (हिन्दी माध्यम में भी उपलब्ध)
- **CSAT** (हिन्दी माध्यम में भी उपलब्ध)

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## MAINS

- **General Studies** (हिन्दी माध्यम में भी उपलब्ध)
- **Essay** (हिन्दी माध्यम में भी उपलब्ध)
- **Geography** • **Sociology** • **Philosophy**





# 4. SECURITY

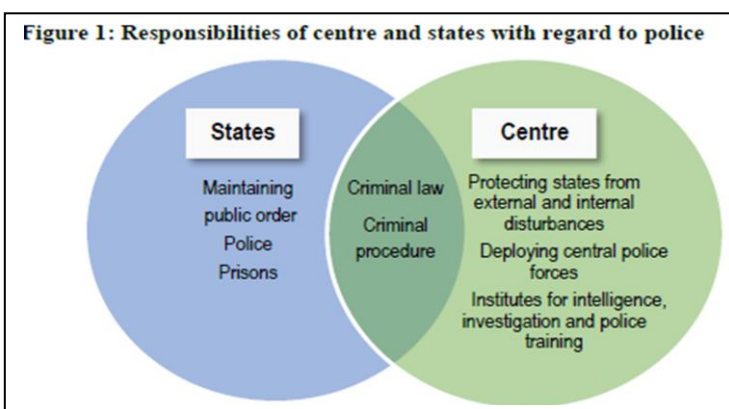
## 4.1. POLICE REFORMS: MODERNISATION OF POLICE FORCE SCHEME

### Why in News?

- The Union Cabinet has approved the implementation of an umbrella scheme of Modernisation of Police Force Scheme (MPF) and has allocated funding of ₹ 25,060 crore for the 2017-18 to 2019-20 period.
- It has been reported that in earlier allocation under the MPF scheme states had utilised only 14% of total grants of ₹ 9,203 crore.

### Background

- Police organization is based on the Police Act of 1861.
- Police is subject matter under the Seventh Schedule of Constitution of India in **State list**. However Constitution provide executive and legislative division of power between centre and state, as mentioned below; (Figure 1).



- The growing complexity and modernisation in Indian Society calls for **Structural, Functions and Personnel reforms** in police organisation.
- Various expert Bodies on Police Reforms were ;
  - **National Police Commission 1977-81**
  - **Ribeiro Committee 1988**
  - **Padmanabhaiah Committee 2000**
  - **Malimath Committee 2002-03**
  - **Supreme Court Decision on Prakash Singh vs Union of India 2006**
  - **Second Administrative Reform Commission 2007**
  - **Police Act Drafting Committee II 2015**

### Police Reforms

- **Overburdened police force:**
  - The crime per lakh population had increased by 28% over the last decade (2005-2015). Whereas the actual strength of police force in various states is **137 police per lakh people**, which is against the sanctioned strength and United Nation recommend strength of 181 police per lakh and 222 police per lakh people respectively.

### Modernisation of Police Forces scheme

- The MPF scheme was initiated in 1969-70, the fund allocation has been double in recent Cabinet Declaration.
- Fund will be utilised for internal security, law and order, women security, availability of modern weapons, mobility of police forces, logistics support, hiring of helicopters, upgradation of police wireless, National Satellite Network, CCTNS project, E-prison project etc.
- Police Stations will be integrated to set up a national data base of crime and criminals' records. It will be linked with other pillars of criminal justice system such as 'prisons, forensic science laboratories and prosecution offices.
- Following the recommendations of the Fourteenth Finance Commission, the MPF scheme would be delinked from central funding from 2015-16 onwards. States were expected to finance the scheme using their own resources.
- It also provides for setting up of a State-of Art forensic science laboratory in Amravati, Andhra Pradesh and upgradation of Sardar Patel Global Centre for Security, Counter Terrorism and Anti Insurgency in Jaipur and Gujarat Forensic Science University in Gandhi Nagar.

### Intended Benefits

- Aimed to achieve **SMART Policing** i.e. Strict and Sensitive, Modern and Mobile, Alert and Accountable, Reliable and responsive, Tech savvy and Trained.
- It will be **catalyst for security challenges** of Left Wing Extremism, Jammu and Kashmir and various fraction groups of North East.
- Upgradation of police infrastructure, forensic science laboratories, institutions and the equipment available with them to plug critical gaps in the **criminal justice system**.



- The 24 % of sanctioned police posts in India were vacant in 2016. 2<sup>nd</sup> ARC highlighted that extra obligations such as traffic management, disaster rescue and removal of encroachments lead to overburdening of the police force.
- **Quality of investigation**
  - The poor quality of investigation of crime lead to only 47 % conviction rate for crimes (**The Law Commission 2012**). The police lack training and expertise required to conduct professional investigations. They also have insufficient legal knowledge and inadequate forensic and cyber infrastructure. The 2<sup>nd</sup> ARC recommended that states should have specialised investigation units within the police force for better investigation of crimes.
- **Police accountability**
  - Control over police by political executive has to lead to abuse of police personnel and interference with their decision-making authority. In this effect Supreme Court issued guidelines, which includes ;
    - ✓ Establishment of three institutions for police organisation (i) a State Security Commission, (ii) a Police Establishment Board, and (iii) a Police Complaints Authority
    - ✓ Director General of Police (DGP) should be selected from three senior-most officers of the state empanelled by the Union Public Service Commission and must have a minimum two-year tenure.
    - ✓ Officers in key positions in the field (Inspector General in charge of Range, Station House Officer) must be given a two-year tenure.
    - ✓ In order to improve the quality of investigation, the investigating police must be separated from law and order police.
- **Boost personnel capacity**
  - Majority of police personnel comprises of constabulary rank (86 %), with low and inadequate training which leads to mismanagement of law and order situation.
  - The high stress levels, erratic working hours, family issues or the thankless nature of the job are some of the reasons for suicide and fight with colleagues amongst policeman. The 5<sup>th</sup> report of 2<sup>nd</sup> ARC suggested the improvement in recruitment, training and service Condition, reducing the working hour and efficient housing facilities for police personnel.
- **Police Public Relation**
  - The perception of police among the people is of trouble creator rather than trouble shooter. On the other hand police personnel relied upon community for being the witness and informers in crime investigation.
  - One the way to address these challenges is through the community policing model. Various states have implemented the programme like ‘Janamaithri Suraksha Project’ of Kerala, ‘Joint Patrolling Committees’ of Rajasthan, Assam through ‘Meira Paibi’, Maharashtra through ‘Mohalla Committees’.

## Conclusion

Law and order, Terrorism, Left Wing Extremism, cybercrime, are such threats which call for a strong and efficient police for internal security. Thus overarching police reform is need of the hour in the light of complex security threats.

## 4.2. ROHINGYA: NATIONAL SECURITY ISSUE

### Why in news?

- In response to Public Interest Litigation on deportation of Rohingya, Centre cited various intelligence reports to Supreme Court about the potential threat of Rohingya immigrants.

### Issue Involved

- **Article 19 of the Indian Constitution** is only available to the citizens of India- right to reside and settle in any part of India is not available to the Rohingyas.
- Rohingya cannot claim the residence on legal grounds, as India is neither a signatory to the **1951 Convention Relating to the Status of Refugees** nor the **1967**

#### Principle of Non-refoulement

- Provide under Article 33(1) of **1951 Convention Relating to the Status of Refugees**.
- It prohibited the government from returning immigrants to a country where they faced threat of persecution.

**Protocol Relating to Status of Refugees** and thus provision of non-refoulement does not extend to immigrants.

- Moreover, **Foreigners Act of 1946**, statutorily empowers the Central government to deport a person who is an illegal immigrant.
- Furthermore, government asserted that immigrants would pose an adverse impact upon Indian citizens as it would deprive the Indian citizens of their legitimate share in the employment sector, subsidized housing, medical and educational facilities. The resource crunch might culminate in hostility towards immigrants resulting into an inevitable social tension and law and order problems.

### Security Threat

- The government's affidavit said there was an organised influx of illegal immigrants from Myanmar through agents and touts facilitating illegal immigrants/Rohingyas into India via Benapole-Haridaspur (West Bengal), Hili (West Bengal), Sonamura (Tripura), Kolkata and Guwahati.
- Inputs from security agencies indicate the indulgence of Rohingya in fund mobilisation through hawala channels, human trafficking and procurement of fake Indian identity documents.
- Intelligence report highlighted the symbolic assertion of ISI and ISIS with Rohingya, which can stir communal violence and destabilise the Buddhist centric Northeast region.

## 4.3. ASTRA MISSILE

- The final Development Flight Trials of **Astra - Beyond Visual Range Air to Air Missile (BVRAAM)** were successfully conducted over the Bay of Bengal, off the Coast of Chandipur, Odisha recently.
- The missile has been developed by the **Defence Research and Development Organization (DRDO)** together with Indian Air Force (IAF).
- It is an all-weather weapon's system capable of destroying an enemy target 60 to 70 km far away. In a typical Astra engagement both the launcher and the target move at a speed in excess of 1000 kmph.
- Built indigenously, development of ASTRA missiles will provide major business opportunities for Indian players.

## 4.4. DRDO SUCCESSFULLY TESTS NAG MISSILE

- The DRDO has successfully tested Nag, the 3rd generation Anti-Tank Guided Missile (ATGM) Nag Missile.
- It is one of the five missile systems developed by the DRDO under the IGDMP.
- The missile is equipped with highly **advanced Imaging Infrared Radar (IRR) seeker** and has integrated avionics technology in its arsenal.
- With successful testing, complete functionality of the Nag missile has been established with **NAMICA (Nag Missile Carrier)**.

The **Integrated Guided Missile Development Plan** was envisioned by former President Dr. A P J Abdul Kalam to help India attain self-sufficiency in the field of missile technology.

Five missile systems have been developed under this programme namely Agni, Akash, Trishul and Prithvi and Nag.

## 4.5. MILITARY EXERCISES

### 4.5.1. YUDH ABHYAS 2017

- It is 13th edition of joint military exercise was conducted by the **Indian and US armies** in Washington, USA from 14 to 27 September 17.
- It allows for an exchange of knowledge between the two militaries using a U.N. peacekeeping scenario. Multiple scenarios will be rehearsed keeping in mind each other's organisational structure and battle procedures.
- Experts from both sides will also hold expert academic and military discussions to share each other's experiences on varied topics for mutual benefit.

#### 4.5.2. SURYA KIRAN EXERCISE

- It is a 12<sup>th</sup> edition of Indo-Nepal joint military exercise commenced in Nepal.
- **Aim:** To enhance inter-operability between Indian and the Nepalese Army units. The training will also focus on counter terror operations in mountainous terrain, Disaster management and joint operations for disaster relief.
- Surya Kiran series of exercises are held alternately in India and Nepal.



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before time runs out.**

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# 5. ENVIRONMENT

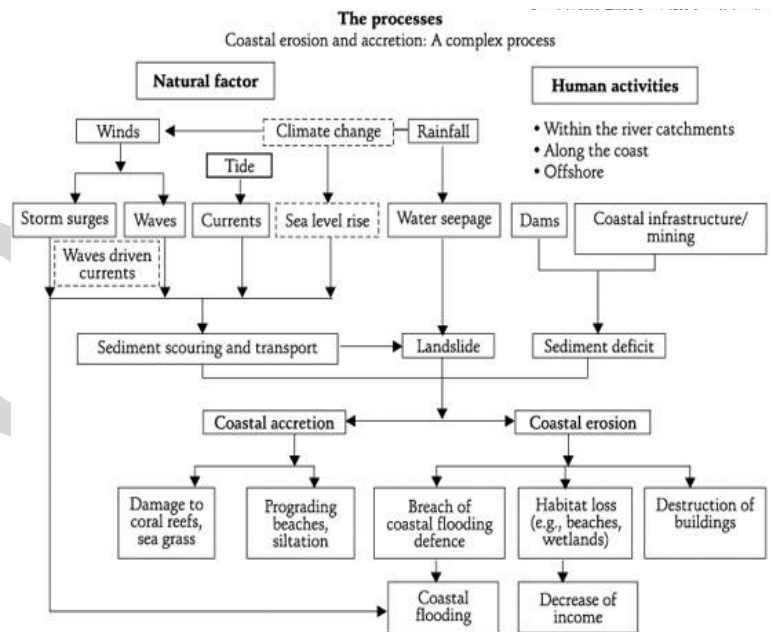
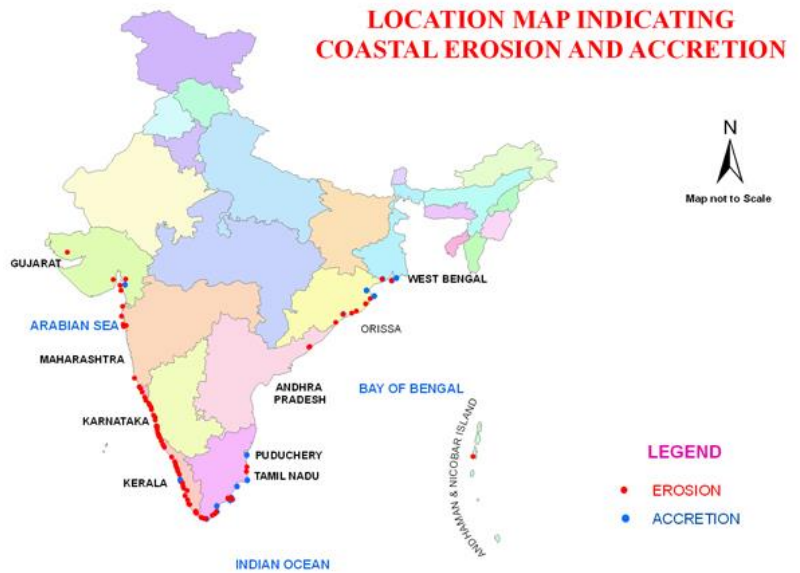
## 5.1. COASTAL EROSION

### Why in News

- According to a study, Parali 1 island (part of Bangaram atoll), one of biodiversity-rich uninhabited islands part of Lakshadweep has disappeared due to coastal erosion and another four such islands in Lakshadweep sea are shrinking fast.

### Coastal Erosion in India

- Like any other maritime country, India's long peninsular region constantly battles erosion. Developmental activities are often carried out without properly understanding the coastal dynamics, leading to long-term damage, particularly to local communities.
- According to MOEF&CC, 40% of the Indian 8,414-km long coastline is subjected to coastal erosion (either high, medium or low).
- The **Earth Sciences Ministry**, monitors the shoreline changes along the Indian coast on an annual basis. Some of the recent finding are:
  - ✓ The Andaman and Nicobar Islands face the **most erosion**, with close to 89% of the shoreline eroded by the Bay of Bengal.
  - ✓ At the other end of the spectrum is Tamil Nadu, which has **gained the most new shoreline (Accretion: a gradual deposition by water of mud, sand to form dry land )**, with 62% of its coast gaining land.
  - ✓ Goa has the highest percentage (52%) of **stable shoreline**.



### Reason for coastal erosion

- Wave energy** is the main cause of coastal erosion.
- Climate Change:** induced global warming and the melting of ice sheets and continental glaciers continually **increase the sea level**, which leads the natural hazards such as Tsunami, storm surges, thermal expansion of sea water and cyclones; these hamper the natural rhythm and precipitate erosion.
- Coast is also subject to a **strong littoral drift** in India, causing an estimated 1.5 million tons of sand to move from the southwest to the northeast in a year.
- Construction of dams in catchment areas of rivers and ports, fishing harbors and jetties have sparked erosion and reduced the flow of sediment from river estuaries that contribute to coastal erosion.
- Sand and coral mining and dredging may affect coastal processes in various ways such as contributing to sediment deficit in the coastal system and modifying water depth that leads to altered wave refraction and longshore drift.



### Measures to deal with coastal erosion:

- **Protect:**
  - ✓ Interventions such as **saline stone-packaging and breakwaters**, structures which are constructed on coasts are traditionally made as part of coastal defence.
  - ✓ To prevent erosion of the coast, **low walls called groynes** are built out into the sea.
  - ✓ **Geo-Synthetic Tubes**, a soft engineering technique, which has been used along Odisha coast.
  - ✓ **Vegetation:** Important for improving slope stability, consolidating sediments and providing some shoreline protection.
- **Coastal Green Belts:**
  - ✓ **Social forestry:** This should not be considered as a source of government or private sector revenue, but to support sustainable livelihood development among the coastal community.
  - ✓ **Eco-development:** This is beneficial for conservation activities, educational and recreational opportunities.
  - ✓ **Participatory planning, implementation and monitoring:** The indigenous knowledge of local communities should be used in decision-making so they receive benefits directly.

## 5.2. PLASTIC BAGS/WASTE MANAGEMENT

### Why in news?

- The National Green Tribunal has recently called for a complete ban on “plastic carry bags” smaller than 50 microns in Delhi’s markets.

### Issues involved

- The NGT order noted the “serious environmental degradation” caused by plastic bags and its harm to public health, animals in the city, and its ability to choke up drains and sewer lines, causing floods during the rainy season.
- Though 17 states and Union territories (including Delhi) have imposed a complete ban on manufacture, sale and use of plastic carry bags but there is no proposal to impose ban on the use of polythene bags completely throughout the country.

### Argument against complete ban

- A blanket ban (on plastic bags) is not advisable. Plastic is inherently not a public health hazard, but the inability to collect plastic waste leads to health hazards.
- Initially plastic bags were introduced to check deforestation. So complete ban may lead to cutting of more trees.
- The maximum usage of plastic bags is to carry vegetables, fruit, meat and fish and they are used because they are convenient, easily available and cost-effective. Before banning we need to provide a viable alternative to plastic.
- In Nilgiri, it was not just a ban that made Nilgiris “plastic free”, but a “people’s movement” that ensured environmentally unfriendly habits along with the seized plastic bags lay buried in a nearby dumping yard.

**(Note: For details regarding problems of Plastic pollution and Plastic Waste Management Rules, 2016; refer to Environment Mains 365)**

## 5.3. DRAFT POLICY ON SEDIMENT MANAGEMENT

### Why in news?

- The Ministry of Water Resources, River Development, and Ganga Rejuvenation recently released the draft Policy on Sediment Management.
- The draft Policy looks at the effect of sand mining and construction of dams and barrages on river sedimentation and recommends principles that should be adopted for sediment management.

The salient features of the Policy include:

#### a) Factors responsible for the siltation/sedimentation are:



- Physical and hydrological characters of the catchment, such as slope, land use, land cover, urbanisation, agricultural practices, flooding, encroachment of river beds, deforestation etc.
- Intensity of erosion in the catchment (sheet, rill, gully and stream channel erosion) including over-exploitation of minerals,
- Quality, quantity and concentration of the sediment brought down by the river,
- Size, shape and length of the reservoir and operation strategies impacting trap efficiency of the reservoir,

**b) Effect of construction of structures on sedimentation:** Dams or barrages reduce the velocity of water and alter the equilibrium of flow of water and sediment in rivers, causing aggradation (increase in land elevation due to deposition of sediments). Although, they also reduce the risk of floods, encroachment of downstream floodplains by local population due to reduced risk of floods exposes them to higher risks of siltation and erosion.

**c) Effect of sand mining on sedimentation:** When done at an optimum level, mining of sand removes excessive sediment deposit in rivers. However, unscientific sand mining depletes river minerals at rates which the river system cannot replenish. Excessive mining undermines the ability of riverbeds and riverbanks to support the infrastructure built on them.

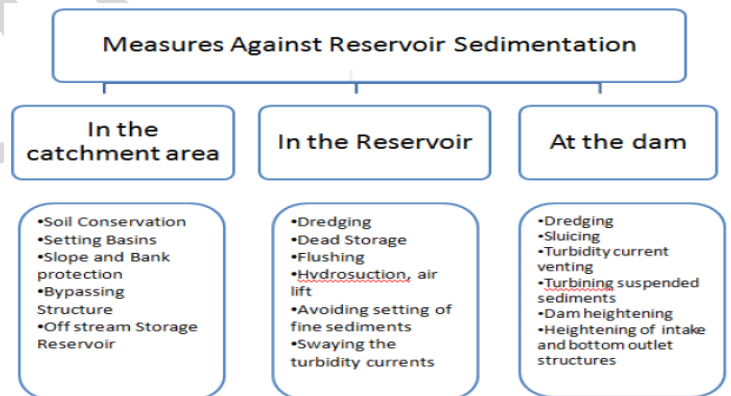
Schemes which are backed by scientific studies, taking into account the site conditions should be implemented. This will help identify suitable sites for mining, appropriate construction material, and take corrective measures for controlling dredging (cleaning out the bed of a river). Sand mining can be done according to GSI guidelines and Sustainable Sand Mining Management Guidelines-2016 of Ministry of Environment, Forest and Climate Change.

**d) Principles for sediment management:**

- (i) making sediment management a part of integrated river basin management, and
- (ii) evidence based removal of silt, using best practices to minimise damage to the river flow.
- (iii) Annual Silt requirement at fast developing infrastructure project may be estimated and critically aggrading river reaches and their sections in the vicinity may be analysed in their physical mode for supplementing

**Approach Of Sediment Managements Of Rivers**

- **Youthful stage-** In this stage, the rivers have steep slopes and high sediment transport capacity.
  - Sediments management practices that can be adopted are: **Catchment Area Treatment, Storage Reservoirs and Boulder/Gravel Mining.**
- **Mature stage-** In this stage, the river enters in plains and has wide bed and flood plain. It is modified through human interventions in terms of huge quantities of water diversion/abstraction and subjected to high degree of pollutant loads from domestic, industrial and agricultural activities.
  - Following sediments management practices may be adopted: **River training works such as bank protection, spurs etc, Sand Mining, Desiltation/ dredging.**
- **Old stage-** In this stage, the river experiences considerable changes in the sediment transport and deposition, causes wide spread flooding, undergoes frequent changes in the channel path/ delta formation.
  - ✓ In these areas dredging/desilting works may be carried out to maintain the flow continuity and sediments transportation to sea.
- **Reservoir Sedimentation Management:** (see figure)
- **Solid Waste Management:** The disposal of solid waste needs to be controlled by the local municipal bodies and government bodies. Special care should be taken for solid waste generated out of industrial processes.
- **Flood Plain Management:** To maintain the hydrological and ecological balance, regulation and prohibition of different activities in the river bed and different zones of flood plain is essential. The River Regulation Zoning for demarcating necessary zones should be implemented as early as possible.



- **Institutional Arrangements:** There is need to establish **River Basin Authority** for all basins as per recommendation of **Doabia Committee**. Clearances from CWC or from River Basin Authority of the concerned basin need to be made necessary for any desilting work of more than one lakh cubic meter on any inter-state/ international river apart from other clearances.

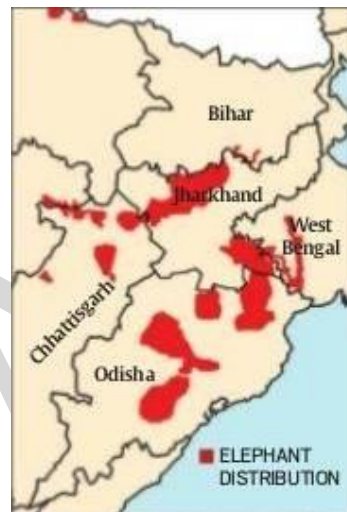
## 5.4. STRATEGIC REGIONAL PLAN TO TACKLE HUMAN-ELEPHANT CONFLICT

### Why in news

- Recently, officials from five states viz. Odisha, Chhattisgarh, Bihar, Jharkhand and West Bengal proposed a number of strategic measures, to tackle human-elephant conflict.

### Background

- In 2016-17, these states reported at least 253 deaths of people, the highest in the country related to this conflict, with crops being destroyed and livelihoods affected.
- Though these states have 10 per cent of the elephant population but accounted for over 50 per cent of elephant deaths due to human-elephant conflict in the country.



### Causes of Elephant-human conflict

- It is a result of habitat loss and fragmentation.
- Since most areas that form elephant habitat or range are close to or adjoining human settlement, there is often conflict between animals migrating or foraging for food, and local people.
- **Changing Habitat region:** In the last two-three decades there has been an increasing dispersal of elephants out of forest areas and a “**range expansion**”. Eg: In the last 10-15 years, they entered Chhattisgarh, an area where there were no elephants since the Mughal period.

### CONFLICT TOLL

Number of people killed by elephants

	2014-15	2015-16	2016-17
Chhattisgarh	32	59	67
Jharkhand	53	66	42
Odisha	64	63	62
West Bengal	89	112	82

Source: Project Elephant

### Significance

- It is a **first step** towards better **inter-state coordination** to tackle over 3,000 elephants in the zone
- Plan divides habitats into three zones:
  - ✓ **Areas with large forest cover** that are relatively intact where elephants can be conserved,
  - ✓ **Elephant-Human Co-Existence Zones** which will serve as an interface between human settlements and elephants
  - ✓ **Elephant Removal Zones** in agricultural areas from where they will be captured and relocated to other forest areas which are intact, but if that fails, they will be kept under captivity.
- **Capacity-building** on the ground by training forest officials on how to tranquilise elephants and capture them.
- **Learning Best Practices:** Chhattisgarh and Jharkhand have developed apps that can track the population of elephants in the region which can be adopted by other states.

## 5.5. DAM SAFETY

### Why in news?

A workshop was organised by the Tamil Nadu Water Resources Department in collaboration with Central Water Commission, with the purpose to increase awareness about dam safety measures and finalising **Emergency Action Plan**.

## Background

- Dams are a **critical infrastructure** which have multipurpose uses such as irrigation, power generation, flood moderation and supply of water for drinking and industrial purposes.
- In India there are about **5254 large dams** and about **447 are under construction**. Of these dams about 4% i.e. 209 are 100 years old, 17% i.e. 876 dams are more than 50 years old. Therefore, Dam safety becomes imperative and should be made an important aspect of planning.
- However, the dams in recent past have not been seen as models of safety. E.g.
  - Threat posed by **Mullaperiyar Dam** – Kerala has been in constant fight with Tamil Nadu over the security issues.
  - **Chennai flood of 2015** which were due to heavy rainfall was also aggravated by the unprecedented release of water from **Chembarambakkam Dam** into the **Adyar River**.
  - In 1979, Machu Dam in Gujarat claimed as many as 25,000 lives.
- According to an analysis by Central and State Level authorities, it was found that almost half of country's dams are not in line with the contemporary safety standards.
- Government is therefore taking certain steps such as Dam Rehabilitation and Improvement Plan, Dam Safety Bill and the recent Emergency Action Plan.

## Dam Rehabilitation and Improvement Plan (DRIP)

- It is an externally-aided project. 80% of the total project is provided by the World Bank as loan/credit and remaining 20% is borne by the States / Central Government (for CWC).
- This project started in April 2012, for repair and rehabilitation of initially 225 Dams across seven states namely Jharkhand (DVC), Karnataka, Kerala, Madhya Pradesh, Odisha, Tamil Nadu, and Uttarakhand (UJVNL).
- At present there are 198 Dams under this project which are scheduled for completion in June 2018.
- Objective of DRIP –
  - to improve the safety and operational performance of selected existing dams and associated appurtenances in a sustainable manner, and
  - to strengthen the dam safety institutional setup of participating States / Implementing Agencies.

## Dam Safety Bill

- In order to bring an institutional mechanism to improve Dam Safety, Central Government is contemplating to bring in a Dam Safety Bill. The proposed bill is expected to control and manage over 5000 dams in the country.
- Previous government also tried to introduce the Dam Safety Bill in 2010 which was opposed by states due to various issues such as
  - overriding powers of legislation passed by the Parliament over state opinion,
  - not recognising the long standing inter-state agreements such as Mullaperiyar, Parambikulam, Thunakkadavu etc.
  - over-riding powers of National Dam Safety Organisation
- The Bill was later referred to Parliamentary standing committee which recommended the passing of bill. However, the bill lapsed due to dissolution of 15<sup>th</sup> Lok Sabha.

## Emergency Action Plan

- The Emergency Action Plan (EAP) for the Dams under DRIP has been proposed. EAP is a formal plan that identifies potential emergency conditions at a dam and prescribes the procedures to be followed to minimize loss of life and property damage.
- EAP help in **streamlining the efforts** and bring about **better coordination** among different agencies to execute rescue and relief activities.
- The need of EAP was also proposed by the Dam Safety Bill 2010.
- Under EAP, clear roles for all concerned agencies as well as Standard Operating Protocols during various stages of exigencies have been clearly mentioned.
- It also contains all technical details about the flood waves moving downstream affecting the downstream habitation.

Other Steps taken by the Government includes setting up of **Central Dam Safety Organisation** under Central Water Commission. The main goals of the CDSO were to

- To encourage and facilitate dam safety practices that will help ensure operation of dams to their full capacities and intended purposes, and
- To reduce the risk to lives and property from the consequences of both structural and operational dam incidents and failures.

## 5.6. AMENDMENTS TO ENVIRONMENT PROTECTION ACT

### Why in news?

- The Ministry of Environment, Forests and Climate Change has proposed an amendment to the Environment Protection Act, 1986 to impose fines of up to Rs 1 crore on polluters.

### Need:

- Under the current system following are the recourse available to punish polluting industry:
  - ✓ Maximum fine of Rs 1 lakh along with a jail sentence of up to five years.
  - ✓ Violation is treated as a criminal offence, making the whole process cumbersome
  - ✓ To shut down a polluting industry or an operation of a part of the industry temporarily. This might be disastrous for economy of the country as industry units have to shut down even in cases where contraventions are minor and reversible
- Lack of power to impose fines was cited as reason for slow progress made on Namami Ganges project.

### Environment (Protection) Act, 1986

- Aims to provide for the protection and improvement of environment
- It describes rules to regulate environmental pollution, laying down procedures and standards for industrial waste, emissions, hazardous waste etc.
- Besides, it deals with the prevention, control and abatement of environmental pollution.

### Significance of the proposed amendment

- To make **pollution a civil offence** for which the government can then demand costs from the polluters without going to the courts
- **An Expert Panel** will be setup to look into cases of pollution and calculate the cost of remediation. **A designated officer** would then be the final authority to decide the cost that needs to be recovered from the polluting entity.
- **1 crore as penalty:** Imposing hefty penalty is supposed to cause restraint over polluting industry.
- **Spot Penalties For Minor Violations:** for Industries which caused neither substantial nor non-substantial damage to the environment.

## 5.7. GUIDELINE FOR ODOUR POLLUTION

### Why in news?

Recently, recognizing the urgent need for abatement of odour from **municipal solid waste (MSW)** disposal facilities in urban India, the **Central Pollution Control Board (CPCB)** has proposed guidelines to tackle it.

### Background

- **Centre's Solid Waste Management Rules, 2016**, identified odour as a **public nuisance**.
- India has regulatory frameworks to control air pollutants but, "no regulation has been made for abatement and control of odour which is now becoming **cause of major problem** with increasing urbanization and industrialization.
- Clean and natural air is essential for sustainable civilization and is treated as a **fundamental right** across the world.

- **Odour** is basically a perception of smell, it may range from being unpleasant (like rotten smell of garbage) to pleasant (fragrance).
- The effect of odour differs from person to person but at sufficiently high concentrations, odorous compounds may have a direct effect on human health.

### Causes:

In urban areas the common source of odour is **garbage (bio-degradable MSW) and sewage**.



### Highlight of the Guidelines

- **Green Belt Around Landfill Sites:** Developing barriers at landfill sites by creating a green boundary with **suitable species of plants/trees as natural media for reduction of odour pollution and restriction of odour in and around landfill sites.**
- **Tapping LFG (Landfill Gases) Efficiently:** MSW Landfill system designed to mitigate fugitive odorous emissions.
- **Integrated With The Urban Development Planning:** Selection of landfill site should be so, that expansions of city in next two or three decades will not encompass the selected MSW site.

### Solid Waste Management Rules, 2016

- Rules have mandated the source segregation of waste in order to channelise the waste to wealth by recovery, reuse and recycle.
- Waste generator will have the responsibility of segregating the waste into wet, dry and Hazardous. They will have to pay user fine to the waste collector and spot fine for littering around; the amount will be decided by the local body.
- Waste processing facilities will have to be set up by all local bodies having 1 million or more population within two years.
- Rules have mentioned about the integration of rag pickers, waste pickers and kabadiwalas from the informal sector to the formal sector by the state government.
- Developers of Special Economic Zone, industrial estate, industrial park to earmark at least 5 per cent of the total area of the plot for recovery and recycling facility.

### Significance

- This is the first scientific step to measure and understand odour pollution in India.
- It will serve as a **useful tool for regulatory agencies** for selection of MSW landfill sites, will improve present MSW sites, and help in monitoring, abatement and management of odour from Urban Municipal Solid Waste Landfill sites.

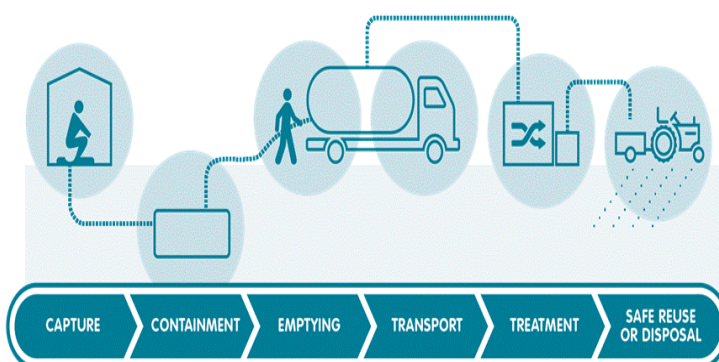
### Suggestion

- **Establishment of Online Monitoring Systems** for odour and odorous compounds and said that initially such systems may be installed at one or two urban landfill sites to assess their utility.
- **Inclusion of Odour as a Parameter** under the regulatory framework and amendment of MSW rules, Bio-Medical Waste rules and Hazardous Waste Management rules to include odour nuisance for compliance.
- **Separate Studies For Odour Monitoring and Management** in odorous industries such as pulp & paper, fertilizer, pesticides, tanneries, sugar and distillery, chemical, dye intermediates, bulk drugs and pharmaceuticals and waste water treatment plants to evolve time-bound standards for odour emission.

## 5.8. FECAL SLUDGE MANAGEMENT (FSM) SYSTEM

### What is FSM?

FSM involves collecting, transporting and treating fecal sludge and septage from pit latrines, septic tanks or other **onsite sanitation systems**. This waste is then treated at septage treatment plants, which can be later reuse or disposed sustainably. (see fig.)



### Background

- Nearly 80 per cent of the sludge — a human excreta and water mixture that bears disease-carrying bacteria and pathogens — remains **untreated** and is dumped into drains, lakes or rivers, posing a serious **threat to safe and healthy living**.
- As per the **2011 Socio Economic and Caste Census**, 1,82,505 households in rural areas are reported as **manual scavengers**. They face serious health hazards due to absence of proper disposal system or safety regulations in place.
- More than 70 per cent households with safe sanitation facilities are based on such onsite systems, and in a majority of cities there are no sewerage networks or sewage treatment plants

## Significance

- **Alternative disposable system:** FSM is an effective alternative to traditional sewerage (coverage 32% in India) networks — both in terms of **construction costs and time-taken**.
- **Improve public health:** Cleaner water bodies mean reduced incidence of water-borne diseases and reduced mortality linked to diarrhoeal diseases — especially among children less than five years old as India lose nearly 1,000 children a day to poor sanitation.
- **Empowerment of manual scavengers:** With appropriate training, sanitation workers can be empowered to own and run FSM businesses.
- **Economic benefit:** As sludge is nutrient-rich, it can be used as **organic compost**. It can even be treated and used for **biogas**, or to manufacture **fuel pellets or ethanol**.
- **Source of water:** Once pathogens and bacteria are removed, the water can be used for irrigation, construction, by industry in cooling plants, by RWAs and housing societies for gardens and flushing and by government agencies for parks.
- **Preventing Pollution:** FSM alleviates the problem of **waste management**, without polluting groundwater.

### National Policy on Faecal Sludge and Septage Management (FSSM)

- **To set the context, priorities, and direction** for, and to facilitate, nationwide implementation of FSSM services in all ULBs such that safe and sustainable sanitation becomes a reality for all in each and every household, street, town and city.
- **Enable and support synergies** among relevant Central Government programs such as SBM, AMRUT and the Smart Cities Mission to realise safe and sustainable sanitation for all at the earliest, possibly by the year 2019.
- **Mitigate gender-based sanitation** insecurity directly related to FSSM, reducing the experience of health burdens, structural violence, and promote involvement of both genders in the planning for and design of sanitation infrastructure.
- **Define the roles and responsibilities** of various government entities and agencies, and of other key stakeholders such as the private sector, civil society organisations and citizens for effective implementation of FSSM services throughout the country.

It is a tool to achieve **Swachh Bharat Mission objective of safe sanitation for all by 2019**.

## 5.9. CARBON CAPTURE TECHNOLOGY

### Why in news?

As part of its climate change commitments in the aftermath of signing the historic Paris agreement India is now exploring the possibility of **carbon capture utilization storage (CCUS)**.

### Need

- **Commercial value of CO<sub>2</sub>:** It has commercial and industrial uses, particularly for Enhanced Oil Recovery (EOR) in depleting oil fields. It has the ability to change the properties of oil and make it easier to extract.
- CCUS will make great contribution to the development of **low carbon economy for the world**.
- CCUS could **improve the contradiction** between economic development and environment protection.
- **CCUS is Imperative:** Despite the adoption of alternative energy sources and energy efficient systems to reduce the rate of CO<sub>2</sub> emissions, the cumulative amount of CO<sub>2</sub> in the atmosphere needs to be reduced to limit the detrimental impacts of climate change [IPCC, 2013]. Therefore, regardless of the deployment of clean and efficient energy solutions, CCUS technologies need to be implemented.

- **Carbon Capture and Storage (CCS):** It is the process of capturing waste carbon dioxide (CO<sub>2</sub>) from large point sources, such as fossil fuel power plants, transporting it to a storage site, and depositing it where it will not enter the atmosphere, normally an underground geological formation.
- **Carbon Capture Utilization Storage (CCUS):** is a process that captures carbon dioxide emissions from sources like coal-fired power plants and either reuses or stores it so it will not enter the atmosphere.
- In **CCS, emissions** are forced into underground rocks at great cost and no economic benefit while **CCUS aims** at using CO<sub>2</sub> emissions by exploiting the resource itself and creating new markets around it.

## 5.10. SEDIMENTARY BASINS OF INDIA

### Why in news?

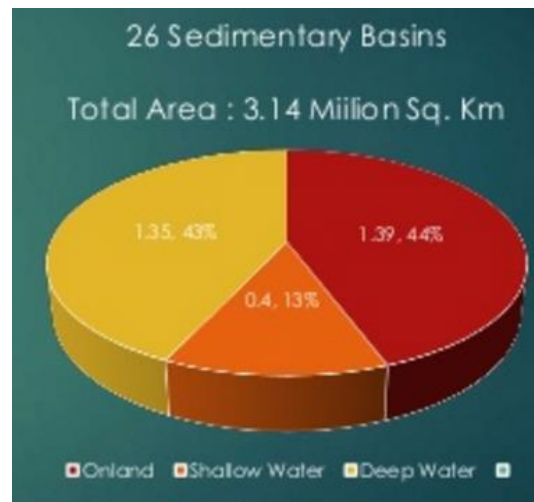
- Recently, Cabinet Committee on Economic Affairs gave its approval to acquire 48,243 Line Kilometer (LKM) **2D seismic data** for appraisal of **Indian sedimentary basins by 2019-20**, for prospecting of oil and natural gas reserves.

### Background

- India has 26 sedimentary basins covering an area of 3.14 Million sq km spread over onland, shallow water and deep water out of which 48% of total sedimentary basin area does not have adequate geo-scientific data.

### Significance

- Increasing GDP:** Project will help in increasing the investments in domestic production of oil and gas.
- Boost Hydrocarbon Exploration and Licensing Policy (HELP):** Data acquisition is important as it helps in giving the initial insight into the basins and helps in planning the future Exploration and Production (E&P) activities.
- Employment opportunity:** Project is likely to generate direct as well as indirect employment for about 11,000 people in the form of skilled and unskilled workers and suppliers for support services. Blocks offered for further E&P activities will further generate employment.



**Sedimentary basins** are regions where considerable thicknesses of sediments have accumulated (in places up to 20 km). Sedimentary basins are widespread both onshore and offshore.

#### Importance:

- They are the **location for almost all of the world's hydrocarbon reserves**
- Other mineral:** Include coal and uranium, large deposits of phosphate (an essential fertiliser mineral) and a host of industrial raw materials, including limestone for cement manufacture, kaolinitic clays, gypsum and salts.
- Metalliferous deposits (in less amount)** include ores of lead, zinc, iron and manganese, and there may also be some bauxite.

## 5.11. SAVING NATURAL CAPITAL

### What is Natural Capital

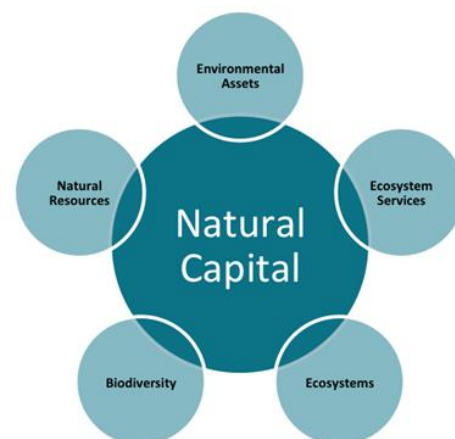
- Natural capital can be defined as the world's stocks of natural assets which include geology, soil, air, water and all living things.
- Critical natural capital (CNC)** is defined as that part of the natural environment, which performs important and irreplaceable functions.

### India's Natural Capital

- India boast 11% of the world's floral and faunal species, India is one of the 17 most ecologically diverse countries. The financial value of India's forests is estimated to be \$1.7 trillion.

### Significance of natural capital

- Ecosystem service:** Humans derive a wide range of services, often called ecosystem services, from natural capital to make human life possible like fresh air, water, food, etc.
- Immaterial And Intangible Nature:** They provide many, socio-economic benefits, which might be assessed through both qualitative and quantitative valuation methodologies.
- Balancing nature:** They capture and store great amount of carbon through carbon sequestration to maintain the composition of atmosphere.
- Economic contribution:** They provide employment and used as a raw material in many economic activities around.



- **Asset to countries:** Natural capital is a critical asset, especially for developing countries where it makes up a significant share (36%) of total wealth.

### Natural capital at risk

- **Affecting humanity:** With increasing economic activity, natural capital assets are on the decline, directly affecting the quality of life and potentially giving rise to future inefficiencies in the economy.
- **Ignoring or Undervaluing Natural Capital:** This is leading to execution of projects with far higher **negative externalities** compared to the benefits.
- **Financial impact:** Unsustainable use of Natural capital leading to phenomena such as water scarcity etc is **directly linked** to lower profitability of an economy. **Indirect effects** can include social pressure that prompts changes in demand and regulation and generates socio-economic unrest due to resource crunch.
- **Depleting planetary boundaries:** This means that human activity has altered the balance of a few delicate equilibriums, the effects of which are reflected by changing weather patterns, accelerated extinction events for both flora and fauna, and global warming.

#### Planetary Boundaries

- They are designed to define a “**safe operating space for humanity**.”
- It indicates that since Industrial Revolution, human actions have gradually become the main driver of global environmental change.
- Scientists have identified **nine earth system processes** to have boundaries, namely **Climate Change, Biosphere Integrity, Land System Change, Freshwater Use, Biogeochemical Flow, Ocean Acidification, Novel Entities, Atmospheric Aerosol Loading and Stratospheric Ozone Depletion**. these nine processes and systems regulate the stability and resilience of the Earth System
- Out of these, four boundaries (**Climate Change, Biosphere Integrity, Land System Change and Biogeochemical Flow**) have now been crossed as result of human activity, which indicate that there is a **risk of irreversible and abrupt environmental change**.

### Way Forward

- **Accounting intangible nature of natural assets:** Making natural capital thinking a norm through policy push and the adoption of valuation frameworks such as the **Natural Capital Protocol** (Protocol provides a standardised framework for organisations to identify, measure and value their direct and indirect impacts and dependencies on natural capital).
- **Factoring natural capital** in the economic, social, cultural and spiritual value of ecosystem services in the calculation of true economic growth and development.
- **Risk Management to Include Natural Capital:** For a comprehensive evaluation system that takes undesirable side-effects of economic activities into account.
- **Maximising Profit:** Proper valuation of natural capital has the potential to optimise resources and thus maximise the net benefits of economic growth and development
- Integrating natural capital assessment and valuation into our economic system is critical to usher in a truly sustainable future for India.

- **Wealth Accounting and the Valuation of Ecosystem Services (WAVES) partnership** aims to promote sustainable development by ensuring that natural resources are mainstreamed into development planning and national economic accounts.
- World Bank Group leads a partnership to advance natural capital accounting internationally.

## 5.12. ANIMAL SPECIES IN THE INDIAN SUNDARBANS

### Why in news?

- Recently, Zoological Survey of India (ZSI) has published an compendium of animal species in the Indian Sundarbans, estimating that there are 2,626 of them in the fragile island ecosystem.

### Significance

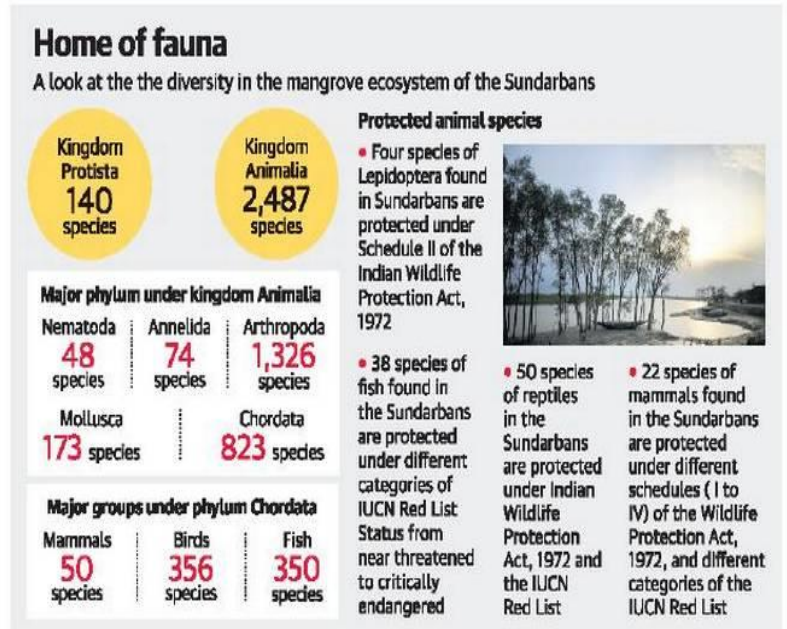
- The Indian segment of the Sundarbans, part of a UNESCO World Heritage site, forms part of the Ganga-Brahmaputra delta across 9,630 sq. km, distributed among 104 islands.



- It is the first consolidated and updated information of the faunal diversity of the Sundarbans.
- Due to pressure on habitat from people and natural threats that have shrunk the mangrove swamp habitat, mammal numbers are declining.

#### About Sundarban Biosphere Reserve

- It is located in the vast delta of the Ganges, south of kolkatta.
- It is **the largest and only mangrove reserve** in the world **inhabited by tigers**
- It is a part of the **Man and Biosphere Programme (MAB)** and second Biosphere Reserve from India, other than Nilgiri Biosphere Reserve, in the global network of Biosphere Reserves.
- Sunderban is the largest contiguous mangrove area in the world and one of **the World Heritage Sites of India** designated by the World Heritage Convention.
- This reserve includes
  - ✓ The Royal Bengal Tiger Reserve.
  - ✓ Sundarban National Park.
  - ✓ Sajnekhali wildlife sanctuary.
  - ✓ Lothian Island wildlife sanctuary.
  - ✓ Holiday Island wildlife sanctuary.



#### Zoological survey of India

- Established : 1916, HQ : Calcutta
- Evolved from **Asiatic Society of Bengal** and **Zoological Section of the Indian Museum: Sir William Jones.**
- Under **Ministry of Environment Forest and Climate Change.**
- Exploration, Survey, Inventorying and Monitoring of faunal diversity in various States, Ecosystems and Protected areas of India.
- Periodic review of the Status of Threatened and Endemic species.
- Preparation of Red Data Book, Fauna of India and Fauna of States.

## 5.13. SNOW LEOPARD

#### Why in news?

- Recently, International Union of Concerned Scientists (IUCN) downlisted the Snow Leopard from its list of endangered species to vulnerable list.
- IUCN has also categorized the Christmas Island **Pipistrelle** (a bat species that is found only in Australia's Christmas Island) as **officially extinct.**

#### Significance

- Removal of the species from the red list indicates that their populations are rebounding and reflect the positive impact of various efforts made in conservation of snow leopard at National and International level

#### Project Snow Leopard (2009)

- It was launched to safeguard and conserve India's unique **natural heritage of high-altitude wildlife populations** and their habitats by promoting conservation through participatory policies and actions.
- It gave Snow Leopard same status of importance in the high altitude as that of Tiger in the terrestrial landscape
- Project is **operational in five Himalayan States** viz. Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh
- **Threat:** Snow leopard — at the apex of ecological pyramid — suffered the most, partly on account of their relatively smaller population and also because of man-animal conflict. This situation got aggravated by the hostile landscape forming its habitat.

#### Status of Snow Leopard:

- **Schedule I** under Wildlife (Protection) Act 1972
  - **Appendix I of the Convention on International Trade of Endangered Species (CITES)**, which makes trading of animal body parts (i.e., fur, bones and meat) illegal in signatory countries
  - **Appendix I** Convention on Migratory Species (CMS)
- The Global Snow Leopard & Ecosystem Protection Program, GSLEP.**
- Under this program, snow leopard range countries have committed to securing 20 landscapes across the cat's range by 2020.

## Concern

- **Ceasing the conservation effort:** Downlisting the species from 'endangered' to only 'vulnerable' would signal that the species does not require the same amount of attention and resources as before.
- **Lack of reliable data:** A group of scientists feels the rationale for removing the species is based on flawed data as the scientific community has been able to assess populations in less than 2% of the global snow leopard range.
- **Threats still Persist:** to snow leopard populations which include poaching, retaliatory killing by farmers, declining prey species, shrinking habitats, and climate change.
- **Need for a continuous Effort:** The factors that pose a threat to the species remain unchanged, and the IUCN down-listing, which changes the classification since 1986, should not be misread by policymakers.

## 5.14. NEW WETLAND CONSERVATION RULES

### Why in News?

- Recently, Central government notified **Wetlands (Conservation and Management) Rules, 2017**.
- Updated rules will supersede the 2010 rules following the notification of draft Wetland Rules in 2016

### Background

- According to a **Centre for Science and Environment report**, the loss of wetlands has been linked to more frequent urban flooding events, as witnessed in Mumbai and Chennai.
- According to key **United Nations finding**, the wetlands -- marshes, swamps, bogs, large or small lakes, and ponds -- are being lost more rapidly than any other kind of ecosystem due to encroachment and rapid urbanization.

### Provision under the new rules

- **Definition of wetlands:** They are defined as "an area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.
- **Decentralisation of Power:** Under the new rules, the central government has empowered the states and union territories to identify and manage their wetlands.
- **Constitute State Wetlands Authority** in each State and union territories that will be headed by the State's environment minister and include a range of government officials. They will determine, the 'wide use principle,' that shall govern the management of wetlands.
- **Setting Up National Wetlands Committee:** it will replace Central Wetlands Regulatory Authority (CWRA), to monitor implementation of these rules and advise the Central Government on appropriate policies and action programmes for conservation and wise use of wetlands
- **The rules prohibit** solid waste dumping, discharge of untreated waste and effluents from industries, cities, towns, villages, and other human settlements into wetlands.
- **Banned activities:** Certain activities are banned in notified wetland like setting up of industries, dumping of solid, electronic, hazardous and construction wastes, poaching of animals, conversion of wetland area into

### Wetland

- Wetlands can be defined as **lands transitional between terrestrial and aquatic eco-systems** where the water table is usually at or near the surface or the land is covered by shallow water.
- It may be **manmade or artificial**.
- **Importance:** They support rich biodiversity and provide wide range of ecosystem services such as water storage, water purification, flood mitigation, erosion control, aquifer recharge, act as carbon sinks and others.
- There are at least 115 wetlands that are officially identified by the central government and of those 26 are identified as wetlands of international importance under **Ramsar Convention**.

### Function of State Wetland Authority

- These authorities will develop a comprehensive list of activities to be regulated and permitted within the notified wetlands and their zone of influence, recommend additional prohibited activities for specific wetlands, define strategies for conservation and wise use of wetlands, and undertake measures for enhancing awareness within stakeholders and local communities on values and functions of wetlands
- The State authorities will prepare a list of all wetlands of the State or union territory within three months, a list of wetlands to be notified within six months and a comprehensive digital inventory of all wetlands to be uploaded on a dedicated website developed by the Union government within a year which will be updated every ten years.

non-wetland purposes, encroachment and even construction of any permanent structure will also be banned at the notified wetlands.

- **Applicability of rules:** These rules shall apply to the following wetlands or wetlands complexes, namely:
  - ✓ Wetlands categorised as 'wetlands of international importance' under the Ramsar Convention
  - ✓ Wetlands as notified by the Central Government, State Government and Union Territory Administration:

#### Issues involved

- **Abuse of rule:** Provisions like “central government may consider proposals from the state government or union territory administration for omitting any of the (prohibited) activities on the recommendation of the authority” in the new rules can be misused.
- **Dilution of Provision:** Environmentalists felt that the rules had watered down priority to wetland conservation under the label of balancing development and environmental concerns.
- **Process of appeal against the decisions of wetland authorities:** According to the 2010 rules, anyone aggrieved with the CWRA’s decisions could have filed an appeal with the National Green Tribunal, but the new 2017 rules are silent on the appeal process.
- Subjective definition of “wise use” (Wise use is defined as the principle of sustainable uses that is compatible with conservation) which is to be determined by the state wetland authority.
- **Poor record of States:** The onus of identification and notification of wetlands has been passed on to states, which have virtually never acted on wetlands protection in the past and have been lax in implementing the old rules.

#### Significance

- This is a step in the direction of fulfilling the promises made in the Ramsar Convention on Wetlands, to which India is a signatory.
- The new rules, the powers have been given to the State governments so that protection and conservation work can be done at the local level.

#### National Plan for Conservation of Aquatic Eco-systems (NPCA)

- For conservation of lakes and wetlands, Ministry of Environment and Forests has been implementing two separate Centrally Sponsored Schemes (CSS), namely the **National Wetlands Conservation Programme (NWCP)** and the **National Lake Conservation Plan (NLCP)**.
- NPCA was proposed to avoid overlap, promote better synergies and to ensure that conservation/ management works.

**Objective of NPCA** are conserving aquatic ecosystems (lakes and wetlands) through implementation of sustainable Conservation Plans, and governed with application of uniform policy and guidelines.

#### Ramsar Convention on Wetland

- The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an international intergovernmental treaty for conservation of wetlands. **India is a party to the treaty.**
- It provide framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
- **Major obligations of countries which are party to the Convention are:**
  - ✓ Designate wetlands for inclusion in the List of Wetlands of International Importance.
  - ✓ Promote, as far as possible, the wise use of wetlands in their territory.
  - ✓ Promote international cooperation especially with regard to transboundary wetlands, shared water systems, and shared species.
  - ✓ Create wetland reserves.

# 6. SCIENCE AND TECHNOLOGY

## 6.1. HOSPITAL ACQUIRED INFECTIONS

### Why in news?

- The **Gorakhpur Tragedy** of 84 children dying in **BRD medical college** followed by **49 others dying in Farrukhabad and 24 other dying in Vidisha District** of MP have raised serious concerns regarding India's healthcare infrastructure and **hospital acquired infections (HAI)**.

### What are Hospital Acquired Infections?

- Also called **nosocomial infections**, HAI are passed onto the patients after being admitted at the hospital facility.
- It usually goes by unacknowledged unless an epidemic situation such as Gorakhpur tragedy happens.

**International Nosocomial Infection Control Consortium** is an international scientific organisation that works to fight against healthcare associated infections.

### Current Status in India

- Despite being unacknowledged by the healthcare system in India, it is very much a reality according to a report published by the **International Nosocomial Infection Control Consortium** in 2015.
- Another study published in the **British Medical Journal** indicates that that the **burden of healthcare associated infections in countries like India is high, with an estimated pooled prevalence of 15.5 per 100 patients, more than double the prevalence in Europe and the US.**
- Inability to improve health outcomes is one of the reasons that India was not able to achieve the millennium development goal of "Good well being and Health".
- India does have various guidelines for patient safety, waste disposal or other standard hospitals procedures. However, they are seldom followed.

### BED BUGS

The risk that a patient will develop a hospital acquired infection is high

● **1 in 20 in the United States**

● **1 in 10 in a European Union country**

● **1 in 4 in developing countries such as India**

(Source: *International Nosocomial Infection Control Consortium*)

### Causes of HAI

- **Lack of proper Equipment:** This includes both **clinical and non-clinical equipments** such as oxygen cylinders in the case of Gorakhpur Tragedy. This **leads to inappropriate methods of treatments** such as putting two infants in the same incubators. According to a **CAG (Comptroller and Auditor General)**, there is 27.21% shortage for clinical equipment and 56.33% for non-clinical equipment,.
- **Poor knowledge and application of basic infection control measures:** This includes absence of sanitisation of the hospital premises such as visitor chair as well as strict rules regarding visitation especially in intensive care units (ICUs).
- **Poor Infrastructure:** Poor infrastructure in general includes proper beddings for patients, separate and disinfected lavatories for visitors and patients.
- **Understaffing and Overcrowding:** This is one of the root causes of non-compliance of the most basic hygiene standards by hospitals.
- **Lack of Procedure:** Lack of standard procedure for dealing with communicable disease patients increases the risk of HAI exponentially.
- **Lack of knowledge of injection and blood transfusion safety:** Lack of proper training for such procedures increases risk of contracting infection such as HIV and Hepatitis B. Moreover, with quackery highly prevalent in India (especially in rural areas), this becomes all the more relevant.
- **Inadequate environmental hygienic and waste disposal mechanisms:** There have been numerous cases of aborted fetuses and hospitals waste being thrown in nearby water bodies. Inadequate waste disposal not only increases chances of HAI but also puts the environment at risk.
- **Absence of local and national guidelines:** Absence of proper guidelines for hospital maintenance, accreditation and laws puts patients at risk.



- **Prolonged and inappropriate use of invasive devices and antibiotics:** Resistant strains have been found in India even for third- and fourth-generation antibiotics like cephalosporin and carbapenem making it difficult to treat patients.
- **Immune-suppression and other severe underlying patient conditions**
- **Insufficient application of standard and isolation procedures**

#### Implications

- Creates **additional suffering for patients** and comes at a high cost for their families.
- It **increases hospital stays and creates long-term disability**
- **Increases resistance to antimicrobials**
- Increases cost burden for healthcare systems and causes unnecessary deaths.

#### Way Forward

- **Identification of local determinants** – Hospitals should have a set protocol in order to identify HAI and curb them.
- **Improving reporting and surveillance systems:** Health is a state subject but the government must come forward with a national surveillance plan for HAI.
- **Standard procedures for infection control** must be adhered at both private and public health care centres. Although **ICMR (Indian Council for Medical Research)** does hold workshops for the same but the lack of standardization creates practical difficulties.
- Strict Adherence to standard precautions such as **hand hygiene** by hospital staff
- **Improving staff education and accountability:** Training for dealing with critical care patients must be provided for all hospital staff especially informal healthcare providers such as nurses and quacks. This can help improve case management.
- Quacks must be surveyed and laws must be put in place to avert them from providing treatment that they are not trained for.
- **Awareness campaigns** must be held for patients and their families for **timely reportage of HAIs.**
- **Immunization and vaccination of staff** must be made mandatory for influenza and other communicable diseases.
- Antibiotics must be sold as **prescription drugs only.** India's **Red Line campaign** is a step in this direction
- India has done ample work on the policy front when it comes to tackle antimicrobial resistance. However, what we need to do is to buck up the administrative setup to implement those policies.
- This could be done **through public-private partnerships.** This will also solve the problem of insufficient funding and human resources.
- Hospitals not following standard treatment procedures, waste disposal methods and other protocols must be held accountable and duly fined.
- The **Indian Medical Association** has proposed that all government hospitals too must be accredited from NABH in line with the private hospitals.
- All blood samples collected for blood transfusion must be tested. **Nucleic Acid Test (NAT)** must be mandatory in order to reduce HIV infections. NAT detects HIV infections of 11 days to two weeks while the currently prevalent ELISA detects the infections of 30 to 40 days of six weeks.

## 6.2. MOTHER-TO-CHILD TRANSMISSION OF HIV

### Background

- HIV transmitted from a HIV positive mother to her child during pregnancy, delivery or breast feeding is called mother-to-child transmission (MTCT).
- NACO Technical Estimate Report (2015) estimated that there are around 29 million pregnancies that occur in India out of which 35,255 occur in HIV positive pregnant women and in absence of any medical intervention an approximate 10,361 infected babies could be born annually.

**National Aids Control Organisation (NACO)**  
It is an organisation which was set up under **Ministry of Health and Family Welfare** for formulation of policies and implementation of programs for prevention and control of HIV/AIDS.

- However, it was found by NACO that the figure could be brought down to 2% by 2030 which is considered elimination according to global standards.
- According to **UNAIDS report** India is one of the ten countries where 95% of AIDS cases were reported. Elimination of **new cases of HIV/AIDS** could also be achieved through prevention of mother to child transmission (PMTCT).
- **SDG goal 3** also stresses to reduce
  - Reduce the number of new childhood HIV infections by 90%.
  - Reduce the number of HIV-related maternal deaths by 50%.
- Therefore it becomes imperative for the government to take steps to control the MTCT of HIV/AIDS.

### Mother-to-child-transmission

- Intervention in MTCT cases usually involves –
  - **Antiretroviral treatment** for the mother and a short course of antiretroviral drug for the baby.
  - **Counselling and psychological support** to help mothers safeguard their children against the infections.
- The current **WHO comprehensive approach to PMTCT**:
  - Providing lifelong Assisted reproductive technologies (ART) to all pregnant and breast feeding mothers
  - Providing ART to those women during MTCT risk period and the continuing it for lifelong.
  - Preventing new HIV infection among women during childbearing age.
  - Preventing unintended pregnancy among women living with HIV.
- **Steps being taken in India**:
  - Earlier in India, '**Single dose therapy**' was being practised wherein the ART was administered 72 hrs before birth. However, in 2014 WHO recommended 'multidrug therapy' was adopted.
  - **Multidrug Therapy** is a combination of three drugs — tenofovir, lamivudine and efavirenz (TLE) which the infected mother is required to take throughout their lives except nevirapine which is supposed to be taken by new born only for six weeks.
  - In 2002, Prevention of Parent to Child Transmission of HIV/AIDS (PPTCT) program was launched. So far, 20,756 integrated counselling and testing centres have been established under the program.
  - PPTCT program also administers Multidrug Therapy.

### Way Ahead

- The huge population of India pose big challenge for health care workers to reach the pregnant women and also women too delay in registering for ante-natal care.
- According to NACO only 52.7% of pregnant mothers seek skilled care out of an estimated 29 million.
- Women should be encouraged through programs such as ICDS, Janani Shishu Yojana, Janani Shishu Suraksha Karyakram, Matri Shishu Suraksha yojana to register themselves in local medical centres. This would help to identify infected pregnant women.
- Women should be advised to provide breast feed only upto six months. Government should further extend support to such women so that the basic nutritional needs of the infants is supplemented through grants.
- Deliveries through C-section should be promoted in women with HIV as normal deliveries increase the risk of being contacted with infection in babies.
- It was recently found that the ART kits were in shortage and the young children were the worst affected. Therefore, it should be ensured that the supply of the ART kit is available for the pregnant women.
- Indian Pharmaceutical companies should be incentivised for research and development of cheap and regular supply of drugs.

## 6.3. 5G

### Why in news?

- The government has set up a high level forum to evaluate roadmaps and formulate a strategy to adopt 5G in the country by 2020.

### Significance of the Forum

- This move to usher in 5G will help companies design and manufacture 5G technologies, products and solutions in India, thus developing some "essential IPR (intellectual property rights) in the 5G standard.
- Using the deployment of 5G technology, the government aims to have 100 per cent coverage of 10 Gbps broadband across urban India and 1Gbps across the rural India.
- By strengthening the domestic telecommunication manufacture market, it will enable local manufacture to capture 50 percent of the domestic market and 10 percent of the global market.

### What is 5G?

- 5G is a wireless communication technology. It is the next generation mobile networks technology after 4G LTE networks.
- The final standard for 5G will be set up by the **International Telecommunications Union (ITU)**.

### Advantages of 5G

- As per the **OECD (Organization for Economic Cooperation and Development) Committee** on Digital Economic Policy, 5G technologies rollout will help in **increasing GDP, creating employment and digitizing the economy**.
- The 5G technology will offer far greater upload and download speed available today. This will help cloud systems to stream software updates, music, and navigation data to driverless cars. In other words, it will help aid incorporate **Artificial Intelligence** in our lives.
- It will enable Smart devices to exchange data seamlessly providing the ecosystem for **Internet of Things (IoT)**.

### Challenges

- India lacks a strong backhaul to transition to 5G. Backhaul is a network that connects cells sites to central exchange. As of now 80% of cell sites are connected through microwave backhaul, while under 20% sites are connected through fiber. The former has bandwidth issues as it uses traditional bands while the latter provides low latency and unlimited capacity (a prerequisite for 5G).
- The Indian market is yet to adapt to 4G completely and has not fully evolved to experience an AI revolution.

### Way Forward

- Fiberization of Backhaul must be carried out for the smooth adoption of 5G.
- Regulatory issues must be revisited in order to overhaul the spectrum licensing regime.
- 5G capable technology must be deployed on a large scale in order to prepare for its adoption.

## Comparison

Technology / Features	1G	2/2.5G	3G	4G	5G
Start/ Deployment	1970/ 1984	1980/ 1999	1990/ 2002	2000/ 2010	2010/ 2015
Data Bandwidth	2 kbps	14.4-64 kbps	2 Mbps	200 Mbps to 1 Gbps for low mobility	1 Gbps and higher
Standards	AMPS	2G: TDMA, CDMA, GSM 2.5G: GPRS, EDGE, IxRTT	WCDMA, CDMA-2000	Single unified standard	Single unified standard
Technology	Analog cellular technology	Digital cellular technology	Broad bandwidth CDMA, IP technology	Unified IP and seamless combination of broadband, LAN/WAN/	Unified IP and seamless combination of broadband,

## 6.4. INDIA JOINS QUANTUM COMPUTING RACE

### Why in news?

Department of Science and Technology is planning to fund a project a project to develop quantum computers.

### What is quantum computing?

- In a classical computer, information is stored using binary units, or bits. A bit is either a 0 or 1. A quantum computer instead takes advantage of quantum mechanical properties to process information using quantum bits, or qubits.
- A qubit can be both 0 or 1 at the same time, or any range of numbers between 0 and 1.
- They function according to two key principles of quantum physics: **superposition and entanglement**.
- Superposition means that each qubit can represent both a 1 and a 0 at the same time.
- Entanglement means that qubits in a superposition can be correlated with each other; that is, the state of one (whether it is a 1 or a 0) can depend on the state of another.
- Using these two principles, qubits can act as more sophisticated switches, enabling quantum computers to function in ways that allow them to solve difficult problems that are intractable using today's computers.
- The computing power of a quantum computer increases exponentially as the qubits are increased.

### Uses of Quantum Computing

- **Research in medicine and organic materials** – It would help researchers to test the new materials in a much faster way as compared to classical computers. It has been found that the quantum computers would require 3.5 million fewer steps as compared to a traditional machine.

- IBM has recently published a research paper in which it has developed a new approach to simulate molecules on a quantum computer.
- **Supply chain and logistics** – It will find better solutions by finding ultra-efficient logistics and efficient delivery mechanism.
- **Financial Services** – It would also help to find better models to process financial data and reduce global risk factor in investment worldwide.
- **Artificial Intelligence** – It will revolutionize AI by creating a faster processing of the complicated data such as images or videos.
- **Faster Communication** – It would help to decode complicated security keys in a very simple manner.

### Challenges

- Quantum computing holds the potential to decode and crack world's encrypted data by breaching the security measures easily and very quickly. It will pose threat to data as well as internal security of the national.
- At present the researchers have also pointed out to the **hardware difficulties** in developing a system as qubits such as those made from silicon atoms only work at a very low temperature, near zero degree kelvin.
- The issue with the existing quantum computers is that they produce errors as the size of the molecule being analyzed grows.

## 6.5. BIOTECHNOLOGY IN NORTH EAST REGION

### Why in news?

Recently Department of Biotechnology (DBT) under Ministry of Science and Technology has announced a series of new programs and missions to bring about paradigm shift in the field of biotechnology in the North Eastern Region (NER).

### Background

- NER is one of the **biodiversity hotspots** of the world. The unique **bio-geographical conditions** of the region provide huge potential to the region for development of agriculture and other activities such as biotechnological research, research in pharmaceuticals etc. thus furthering the economic development of the region.
- In this endeavour to exploit the potential of NER, DBT has been carrying out consistent efforts for biotechnological research and development work which will help to obtain highly profitable patent on endemic species.
- In 2009-10 DBT had also set up a **North Eastern Region – Biotechnology Program Management Cell (NER-BPMC)** for coordinating and promoting the biotechnological activities in the NER with annual investment of 180 crores. DBT also dedicated 10% of the budget to NER.
- As a result of these efforts NER has become a major hub of Biotechnological research with state of the art facility and there has also been a rise in innovation and entrepreneurship in the region.

### Recent Programs and Missions Launched by DBT

- **Phyto-Pharma Plant Mission**
  - The mission would work towards conservation and cultivation of endangered and threatened species
  - Major objectives of the mission are:
    - ✓ **Captive cultivation of selected medicinal plants** of NER which ensure supply of raw materials to user industries.
    - ✓ **Development of packaging technology** for good manufacturing practice grade medicinal plant extracts for export market.
    - ✓ **Production of safe efficacious phyto-pharmaceutical drugs** using modern technology following global standards.
- **Brahmaputra Biodiversity and Biology Boat (B4)**
  - In an effort towards conservation of world's largest riverine island and India's first island district – **Majuli**, B4 program has been launched in collaboration with DONER.



- Majuli is under grave threat from **the excessive erosion** which had shrunk the 1200 square kilometre island to just 500 square kilometres at present.
- Under this program, large boats will be set up in the river which will have a **well-equipped laboratory** along with **cold storage facility** to store samples. It will also have a number of satellite boats and rafts will also venture in the river to collect samples.
- The laboratory would help to monitor all the components of the entire ecosystem thus keeping a constant check on the impact of the various **environmental and anthropological factors** that affect the river and mitigate their effect.
- **Human Resource Skilling Programs**
  - **Twinning R&D Program** – Under this program DBT has initiated establishment of link institutes in NER with the rest of the country. This has resulted in 252 research publications and 600 junior and senior fellowship being awarded to the students in biotechnology research.
  - **Biotechnology Labs in Senior Secondary Schools (BLISS) Program** for promoting biotechnology at school level.
  - **Bioinformatics Centre** – 30 centres have established for conducting research on genomics, proteomics and data analysis.
  - **Biotech Industrial Training Program** - The program has been launched to provide industry-specific training to Biotech students for skill development and enhancing their job opportunities in biotech industry. This will help the biotech industry to raise suitable manpower and the trainees will also be given a stipend.
  - **DBT e-Library consortium (DeLCON)** – This is a unique Electronic Journal Consortium in operation since January 2009 which provides students access to world class journals and publications. At present 16 DBT institutions and 18 NER Institutions provide access to more than 900 high impact journals.
- **Infrastructure and Resource binding**
  - **Infrastructural support** has been provided by establishment of 126 biotech Hubs at various institutions.
  - **Animal House facility at Regional Medical Research Centre (RMRC), Dibrugarh** has been sanctioned a grant of 45 crore which can be accessed by the entire biomedical research facilities in NER for critical animal experiments in disease biology, molecular medicine, vaccinology and pharmacology.
  - **Advance Animal Disease Diagnostic & Management Consortium (ADMaC)** for surveillance and control of trans-boundary, exotic and zoonotic pathogens from NER is also being carried on.
  - **DBT** has also launched a **major network programme on chemical ecology of NER** in collaboration with IISc, NCBS, and UAS Bangalore for conservation of delicate ecology of NER.
  - DBT is also planning for the development of NER-Scented Rice and NER-Banana.

## 6.6. PT. DEEN DAYAL UPADHAYAY VIGYAN GRAM SANKUL PARIYOJANA

### Why in news?

Recently, Ministry of Science and technology has launched **Pt. Deen Dayal Upadhyay Vigyan Gram Sankul Pariyojana** in Uttarakhand.

### About Pt. Deen Dayal Upadhyay Vigyan Gram Sankul Pariyojana

- Under the scheme Department of Science and Technology will adopt and develop a cluster of villages into self-sustainable in time bound manner.
- In this the local resources and manpower will be utilised which will be further imparted value addition in local produce and services.
- At present four clusters have been identified namely - Gaidikhata, Bazeera, Bhigun (in Garhwal) and Kausani (in Kumaon) which will further be expanded after validation these clusters.
- Areas of intervention would include –
  - Processing and value addition in milk, honey, mushrooms, herbal tea horticulture, forest produce etc.
  - Traditional handicraft of Uttarakhand
  - Post-harvest processing of Kiwi, strawberry, cherry, tulsi etc. through solar drying
  - Extraction of apricot through cold press technology
  - Stringent intervention in product and process control will also be maintained for energy and water conservation.

## 6.7. ARTIFICIAL LEAF

### Why in news?

Scientists at CSIR have developed an **artificial leaf** that absorbs sunlight to generate hydrogen fuel from water.

### Mechanism

- Artificial leaf is an ultra-thin wireless device that consists of semi-conductors stacked in such a manner as to simulate the natural leaf system.
- When visible light strikes the semi-conductors electrons move in single direction thus producing electric current which almost instantaneously splits water into hydrogen.
- A palm size artificial leaf can produce six litres of hydrogen fuel per hour thus making it extremely environment friendly.

### Significance

- Artificial leaf can help provide **Sustainable solutions of Hydrogen generation**, as current methods of Hydrogen generation emits a lot of carbon dioxide.
- The hydrogen produced can be used to power **fuel cells** which give energy and their only by-product is water.
- It will boost India's **green energy development** as the only input for artificial leaf is Sunlight which is abundantly available in India.
- In future a car fuelled by hydrogen generated from the artificial leaf process can become a reality thus paving the way for **Greener transport solutions** in India.

#### CSIR

Council of Scientific and Industrial Research is India's premier national R&D organisation established in 1942.

- It operates as an **autonomous body** under Societies Registration Act 1860 and comes broadly under purview of Ministry of Science and Technology.
- **Prime Minister** of India is the chairman of CSIR.

**Bionic Leaf** uses solar energy to split water molecules into oxygen and hydrogen, and hydrogen-eating bacteria to produce liquid fuels from CO<sub>2</sub>.

## 6.8. MONKEY FEVER

### Why in news?

Scientists have traced the source of a re-emerging disease, **Kyasanur Forest Disease (KFD)** or "**monkey fever**", to cashew plantations in Goa.

### What is monkey fever?

- It is caused by **Kyasanur forest disease virus (KFDV)**, a member of the virus family Flaviviridae, which also causes yellow fever and dengue.
- It was first detected in 1957 in Shimoga, Karnataka and is endemic to South Asia.
- Monkey fever is so named because it primarily affects black-faced langurs and red-faced bonnet monkeys and result in death. Even when the monkey dies still the KFD virus gets transmitted through ticks thriving on monkeys.
- The **Hard ticks** (*Hemaphysalis spinigera*) are the reservoir of KFDV. These ticks are known to thrive in the **Western Ghats and transmit the disease to humans**.

#### Monkey Fever Symptoms

- High fever with headache, followed by haemorrhagic symptoms such as bleeding from the nose, throat and gums
- Gastrointestinal bleeding,
- Muscle stiffness, tremors, absent reflexes and
- Mental disturbances.

## 6.9. JEEVAN BINDI

Singapore based marketing agency and Maharashtra based NGO developed a Vermillion (Bindi) named **Jeevan-Bindi** which contains **iodine**.

### Issue Involved

- Over 71 million people in the country are suffering from goitre and other iodine-deficiency disorders (IDD).
- The geomorphic condition such as glaciations, flooding, rivers changing course and deforestation leads to leaching of iodine present in top soil.

- This in turn leads to deficiency of iodine in crops grown on iodine deficient soil with consequently low iodine in the diet for livestock and humans.

#### Jeevan Bindi

- It is medically enhanced version of regular bindi, embedded with iodine along with the adhesive base.
- Bindi deliver the daily requirement of iodine 100-150 adsorption through the skin.
- It need to be worn every day for up to eight hour to be effective.
- This initiative is supplemented with iodine pills available at community health centre.
- The initiative focus pregnant women because the effects of iodine deficiency are most severe in them and reflected in new-born.

#### Iodine

- It is a trace mineral and a nutrient found naturally in the body and can be easily fortified with salt.
- Humans need iodine for the production of thyroid hormones.
- It needed for the cells to convert food into energy.
- **Deficiency leads to** goiter, hyperthyroidism, stunted growth or intellectual disabilities.
- **Source:** seafood, daily products, and other protein food.

#### National Iodine Deficiency Disorders Control Programme 1992

- It aim at bring the prevalence of IDD( to below 5% in the country
- It ensure 100% consumption of adequately iodated salt (15ppm) at the household level.
- Iodate the entire edible salt in the country.

## 6.10. MAPPING LUNAR WATER WITH DATA FROM CHANDRAYAAN-1

### Why in news?

Recently, scientists from Brown University, USA have created the first map of water trapped in the uppermost layer of Moon's soil using the data captured by instrument on Chandrayan-1.

### More on news

- Scientists have stated that the water thus detected by the Chandrayan-1 lunar mission mostly concentrated around the polar region is present everywhere and not just polar region.
- It was also found that the concentration of water changes over the course of Lunar Day at latitudes lower than 60 degrees i.e. wetter in morning and evening and dry during lunar noon with fluctuations up-to 200ppm.

### About Chandrayan-1

- **Chandrayan-1** was launched by India in October, 2009 using **PSLV-C11**.
- The primary objective of the mission was to prepare a three-dimensional atlas of both near and far side of the moon and chemical, mineralogical and photo-geological mapping of moon.
- It had made almost 3400orbits around the moon before it lost contact with Earth in 2009.
- Chandrayaan-1 had payloads from India namely:
  - Terrain Mapping Camera (TMC)
  - Hyper Spectral Imager (HySI)
  - Lunar Laser Ranging Instrument (LLRI)
  - High Energy X-Ray Spectrometer (HEX)
  - Moon Impact Probe (MIP)

#### Lunar Day

- **Lunar Day** refers to time taken by the Earth's moon to complete one rotation on its axis and it is also the time taken by the moon to complete one orbit around the Earth.
- **One Lunar Day** equals to 27 Earth Days, 7 hours, 43 minutes and 12 seconds.
- It is usually the phase between two new moons.

#### Findings of Chandrayan-1

- **Detection of Water** – Major finding was the detection of **Water (H<sub>2</sub>O)** and **Hydroxyl (OH)** on the surface of the moon. The data revealed its presence in **abundance around the polar region**.
- **Magma Ocean Hypothesis** – It confirmed the Ocean Magma Hypothesis i.e. the moon was once completely in molten state using HySi and TMC.
- **Evidences of landing site of Apollo 15 and 17** – TMC found the anomalies in Lunar surface about the landing of USA's Apollo-15 and 17.
- **New Spinel-rich Rock** – Data from TMC, HySI, M3 and SIR2 have led to detection of new spinel-rich rock type on lunar far-side.
- **X-Ray signals detected**– C1XS have detected x-ray signals during weak solar flares thus indicating presence of **magnesium, aluminium, silicon and calcium on lunar surface**.

## 6.11. NATION-WIDE HACKATHON #OPENGOVDATAHACK LAUNCHED

### Why in news?

Recently, Ministry for Electronics & Information Technology launched nation-wide hackathon #OpenGovDataHack with an aim to support and showcase great ideas or talent and enable them to develop apps or infographics by use of Open Government Data.

### Background

- **#OpenGovDataHack** is an on-site 24Hrs Challenge which will be held at 7 centres. The participating teams will be required to submit the App prototype and info-graphics, out of these selected apps will be taken up for further development and the winner will be awarded.
- The theme of the Hackathon was “**Drinking Water & Sanitation, Transport, Education, Crime and Health**”.
- **Open Government Data (OGD) Platform**
- OGD has been set up by the **National Informatics Centre (NIC)** in accordance with **National Data Sharing and Accessibility Policy (NDSAP) 2012**.
- It is a platform which provides
  - single point access to open data sets, it also provides web based workflows to departments so that they can publish their datasets through a predefined metadata.
  - better visualization tools, better user experience and efficient discoverability of resources.
  - Community participation through blogs, info-graphics, visualizations, mobile and web apps etc.
- It has been further assisted by a number of Hackathon, Data meets and Open App Challenges which bring out innovative application of government data.
- OGD platform is currently being supplemented by various sectors such as health and family welfare, home affairs, agriculture, rajya sabha, statistics and programme etc.
- Platform also encourages citizens to contribute through blogs and various forums. Various contests being held by the platform to encourage App developer community are:
  - 12<sup>th</sup> Plan Hackathon
  - In pursuit of an Idea
  - CMA Hackathon etc.

### National Data Sharing and Access Policy, 2012

- The Policy aims to provide an enabling provision and platform for providing proactive and open access to the data generated through public funds available with various departments of Government.
- The policy also facilitates the access to Government shareable data readable and machine readable form though an all India network within the framework of various policies, acts and rules.
- The principle of data sharing and accessibility is based on openness, flexibility, transparency, quality, security and machine-readability.

## 6.12. OSIRIS-REX SPACECRAFT

### Why in news?

Recently, spacecraft **OSIRIS-REx** passed by earth to reach **Asteroid Bennu** using Earth's gravity.

### About OSIRIS-REx

- Spectral Interpretation, Resource Identification, Security-Regolith Explorer (OSIRIS-REx) is NASA's first **unmanned asteroid sampling mission** which was launched in **September 2016**.
- Asteroid Bennu orbits around the Sun however its orbit is more tilted as compared to Earth's and it crosses Earth's orbit only twice a year. Therefore OSIRIS-REx will have to make adjustments in its path to intersect with Asteroid.

### Asteroids, Meteoroid, Meteors and Meteorites

**Asteroids** – Asteroids are small bodies of rocks which revolve around the sun. The Asteroid belt in our Solar System is found between the Mars and Jupiter.

**Meteoroids** – When asteroids smash into each other, small fragments break off. These fragments are called Meteoroids.

**Meteors** – When these meteoroids come closer to Earth and enter its atmosphere they vaporize with a streak of light in the sky. They are then called Meteors or shooting stars.

**Meteorites** – When the meteors do not vaporise completely after entering the Earth's atmosphere, they are called Meteorites.



## 6.13. CASSINI MISSION

### Why in news?

**Cassini mission** to Saturn is ending its journey. It will dive towards the Saturn and burn up in its atmosphere in October.

### About Cassini

- Cassini is an ambitious space missions launched through collaboration between NASA, ESA and the Italian space agency, Agenzia Spaziale Italiana.
- Cassini began the first up-close study of Saturn and its system of rings and moons in 2004. It also became the **first spacecraft to orbit Saturn**.
- Cassini's observations of Saturn's largest moon, Titan, have given scientists clues about the origin of life.

## 6.14. EUROPE UNVEILS WORLD'S MOST POWERFUL X-RAY LASER

### Why in news?

World's most powerful LASER namely **European X-Ray Free Electron Laser (European XFEL)** was recently unveiled in Hamburg, Germany.

### Details

- XFEL is the world's third major X-ray laser facility after projects in Japan (SACLA) and the US (LCLS) which are already operational.
- The 3.4 km facility is housed in a series of underground tunnels which are kept at a temperature of just 2 degrees above absolute zero.

### How European XEFL works?

- As an X-ray free-electron laser, the European XFEL generates X-ray laser beam from accelerated electrons. It does so using undulators (long sections of alternating magnetic fields kept at superconducting temperatures).
- This laser beam of electrons in the end is like flashes of radiation with about 27000 pulses per second which is much higher than its predecessors.

### Applications

- It will help in understanding the molecular mechanics of **how enzymes make antibiotics**, such as penicillin, which may help in developing new ways to produce antibiotics.
- With X-ray beam's tremendous heating effect temperature may be increased to about 200 million degrees on the focal point and thus it can help **simulate the processes in the core of the Sun**.
- Similarly the laser can also be used to exert extraordinary pressures on materials in order to generate pressure 3 times that at the **centre of the Earth** or simply this immense pressure can be used to **morph materials** into previously unseen configurations.

**LASER:** Light Amplification by Stimulated Emission of Radiation

- It is device that generates an intense beam of **coherent monochromatic light** (or other electromagnetic radiation).
- It means unlike the conventional light, LASER has radiation of only one wavelength (Monochromatic) and they are always in same phase in space and time (Coherent).

### Free-electron lasers

They create coherent light by constantly accelerating a beam of electrons. Free-electron lasers can produce radiation with a very short-wavelength, down to just a few tenths of a nanometre i.e. to the level of an atom.

# 7. SOCIAL

## 7.1. ALLOWING FOREIGN UNIVERSITIES IN INDIA

### Why in news?

- NITI Aayog in a letter to the **Department of Economic Affairs** and the HRD Ministry has called for changes in prevalent laws that are restrictive in nature for private investment in higher education.

### What is it?

- The amendments NITI Aayog has called for are in-
  - **Section 10(n) of AICTE Act** gives AICTE the powers to take all steps to prevent commercialisation of technical education.
  - **Paragraph 5.1 of UGC's deemed university regulations** states that all deemed-to-be universities shall be registered as a not-for-profit society under the **Societies Registration Act, 1860** or as a not-for-profit trust under the **Public Trust Act**, or as a not-for-profit company under Section 8 of the **Companies Act, 2013**.
  - **Paragraph 2.1 of UGC (Establishment of and Maintenance of Standards in Private Universities) Regulations** define a private university as one established through a **state/central Act** by a sponsoring body which is either a not-for-profit society or company.

### Current Status

- With 762 universities, India has the **world's largest higher education sector** and ranks second in terms of student enrolment.
- Despite the magnanimity of India's higher education system, Indian institutions fail to feature in the world's topmost as it is plagued with rote learning, lack of employability and skill development.
- The higher education system in India is regulated by various bodies making it difficult for universities and institution to operate autonomously especially foreign universities.
- India opened 100 percent FDI in the education sector (automatic route) in 2002.
- The **University Grants Commission Act** says that only universities set up by Parliament or a state legislature, and those declared deemed universities by the government, can award degrees.

### Why Foreign Universities Have Such a Low Representation in India?

- India as of now lacks the legal framework for foreign universities to open campuses in India.
- The problem is that foreign universities might not like to be registered as a society or trust or companies to award degrees.
- Also, even if they are given the status of deemed universities, they would still be under the UGC and would not have the authority to function autonomously.

### What has been done till now?

- The NITI Aayog proposed two legislative and one executive route to solve this issue in early 2017.
- The Centre can have the UGC Act amended to allow foreign campuses that will operate as full-fledged universities in India, or introduce a new bill allowing them to function as deemed universities.
- The executive route involves getting the UGC to notify a regulation recognising campuses opened by foreign universities as deemed universities.
- The government introduced two bills namely **Foreign Institutions Bill (Regulations of Entry and Operations), 2010** and **Higher Educational Institutions Bill for Higher Education, 2010** which are still pending.
- The T. S. Subramanian Committee has also recommended allowing the top 200 universities of the world to operate in India and given the authority to award the same degree which is acceptable in the home country of the said university.

### Government Initiatives for the Higher Education Sector

- The government has put its plans on hold to ease the entry of foreign institutions to the higher education sector and instead is focusing on developing world class institutions.

- An inter-ministerial committee has been formed to re-work the world class institutions plan also to be called **institutes of eminence**.
- The world-class university plan aims to provide academic and financial autonomy and end the influence of the University Grants Commission (UGC). Such public institutions will get financial support of Rs10,000 crore from the HRD ministry.
- The government has also formed a new committee under Dr. K Kasturirangan in order to draft the National Education Policy.

#### Other Recommendations by the NITI Aayog for the Higher Education Sector

- **Designation of World Class Universities:** 20 universities (10 private and 10 public) are to be identified for autonomous governance. Also, tiered system of funding is to be adopted for public funding.
- **Autonomy for Top Colleges:** Colleges with an excellent track record must be given the opportunity to function autonomously and also convert into unitary universities.
- **Reform of the regulatory system:** It recommends overhaul of the UGC as a regulatory body and adopt a system that focuses on information disclosure and governance rather than micromanagement of universities.
- Universities are to be segregated in terms of research hub and employment-focused while other are to be designated with the primary function of higher education
- Establish a system of project and scholar specific research grants.
- Increased focus on vocational and profession led education

## 7.2. PUBLIC HEALTHCARE IN INDIA

### Why in news?

- The deaths of more than 70 children in Gorakhpur's hospital and 49 in Farrukhabad recently, reflect the appalling state of public healthcare in India

Public health is the science of protecting and improving the health of families and communities through promotion of healthy lifestyles, research for disease and injury prevention and detection and control of infectious diseases. Overall, public health is concerned with protecting the health of entire populations. It includes various components such as public healthcare infrastructure, preventive public health, hospital management etc. The appalling state is due to reasons analysed in subsequent sections:

### 7.2.1. INADEQUATE RESOURCES- INFRASTRUCTURE & HUMAN

On all accounts, our public healthcare infrastructure is inadequate, as can be observed from following statistics:

- **Doctors**
  - According to a WHO report, only one in five doctors in rural India are qualified to practice medicine, highlighting the widespread problem of quackery.
  - Only around 10% of India's 1 million modern medicine doctors, work in the public health sector
- **Hospitals**
  - The number of primary health centres is decreasing in some areas such as in rural areas of U.P., the number went down from 3,808 in 2002 to 3,497 in 2015. It is horrific considering the population has increased significantly during the same period.
  - In India, there is one government allopathic doctor for every 10,189 people, one government hospital bed for every 2,046 people and one state-run hospital for every 90,343 people

#### Related National health policy 2017 recommendations

- Increase utilization of public health facilities by 50% from current levels by 2025.
- Ensure availability of paramedics and doctors as per Indian Public Health Standard (IPHS) norm in high priority districts by 2020.
- achievable target of raising public health expenditure to 2.5% of the GDP in a time bound manner.
- targeted approach to reach under-served areas in infrastructure and human resource development.
- enhanced outreach of public healthcare through Mobile Medical Units.
- Retain a certain excess capacity in terms of health infrastructure, human resources, and technology to effectively handle medical disasters.
- establishing cadres like Nurse Practitioners and Public Health Nurses to increase their availability in most needed areas.
- CSR should be leveraged for filling health infrastructure gaps in public health facilities.

- **Equipments**

- According to a recent CAG report, there is 27.21% shortage for clinical equipment and 56.33% for non-clinical equipment, of which oxygen supply is a part.
- Also, critical medical equipment had not been used for more than five years because there was no annual maintenance contract.

- **Finances**

- Public expenditure contributes to less than 30% of the total health expenditure in India. These figures are 80-90% in most countries of the European Union, North America etc.
- Total public spending on healthcare in the country is just 1.2% of GDP. India has one of the highest out-of-pocket expenditures of 78% which put people into poverty each year

### Steps that should be taken

- Strengthening traditional systems of medicine to offer first line of treatment.
- Ensure insurance coverage of people to prevent them from health shock and slipping into poverty. Countries such as Germany, Japan and Thailand also have built effective healthcare systems by insisting on some form of pre-payment & pooling of resources, either through taxation or insurance.

**National Health Assurance Mission** promises more than 50 free drugs, a dozen diagnostic tests and insurance cover to all by 2019.

**Vajpayee Arogyashree Scheme**, Karnataka provided health insurance for catastrophic illnesses to households below the poverty line. It lowered death by 64% and halved out-of-pocket spending.

## 7.2.2. LESS FOCUS ON PREVENTIVE PUBLIC HEALTH

There is disproportionate significance to curative care ignoring overwhelming evidence that it is preventive health care and public health actions that have brought down periodic episodes of infectious disease outbreaks or epidemics. Preventive public healthcare include checking social determinants such as:

- **Sanitation & hygiene:** It includes providing safe drinking water as well as having drainage and waste management system. It will also help in containing vector borne diseases. Studies show that major Indian rivers now contain antibiotic-resistant matter which can threaten immunity to available drugs.
- **Good nutrition** to build immunity & reduce the population's exposure to disease
- **Preventing Communicable Diseases:** through Integrated Disease Surveillance Programme in which districts respond to the communicable disease priorities of their locality. It may be through network of well-equipped laboratories backed by tertiary care centers and enhanced public health capacity to collect, analyze and respond to the disease outbreaks
- **Screening & vaccination:** for active case detection and disease surveillance including from the private sector.

### Related NHP 2017 recommendations

- Strengthen health surveillance system & establish registries for diseases of public health importance by 2020
- Empower public health cadre to address social determinants of health effectively, by enforcing regulatory provisions
- In public hospitals – from user fees & cost recovery to assured free drugs, diagnostic and emergency services to all.
- Towards strengthening disease surveillance, the private sector laboratories could be engaged for data pooling and sharing.

## 7.2.3. FAILURE IN PROCUREMENT MANAGEMENT

Procurement is one of the crucial parts of public healthcare system that about 26% of the healthcare budget is spent on procurement of drugs, vaccines and medical supplies. Inefficiency in procurement may lead to shortage and wastage which may result in disastrous consequences such as death of children in UP due to cut in the supply of oxygen cylinders by the vendor. Various issues in public procurement system are:

- Low budgets, delay in settlement of tenders, non-payment or delay in payment of dues leads to delayed supplies. At times, delivery of essential items and services has taken 6-12 months
- Dearth of expertise - inaccurate quantification, delays in tender decisions, doctors have been given the role of procurement officers. A doctor's sole job is to concentrate on patients and research
- Embedded corruption – Procurement agency charges commission when departments procure through it and because of the opacity of process, the cut varies



- Inadequate monitoring - There is manual collection of data and absence of any credible Information System for proper stocking and inventory management. It leads to delays in estimation of quantities

### Steps that should be taken

- Introduce e-tendering and direct transfer of payment into the bank account of the vendor or service provider to maintain transparency and avoid delays in service delivery
- Introduction of a functional and online MIS (management information systems) to keep track of drugs and their timely storage across various warehouses
- Robust data management systems to track inquiries regarding smart cards, payment approval, patients' records and utilization rate
- Learning from the best such as setting up a central procurement agency along the lines of the Tamil Nadu Medical Services Corp. Ltd (TNMSC), which has performed well in the last 15 years. Some other states, such as West Bengal, Madhya Pradesh etc. also have good procurement models
- Strategic purchasing according to population needs, national health priorities and cost-effectiveness to effectively allocate funds as advocated by WHO.

#### Tamil Nadu

- A centralized offline procurement system to procure essential drugs, special drugs, surgical items, sutures, veterinary drugs and equipment.
- Equipment is purchased by the equipment division of the Tamil Nadu Medical Services Corp. Ltd (TNMSC). The respective directorates provide a list of required equipment with clear specifications to the corporation after approval from the government.
- The decision on prices of drugs is based on the National Pharmaceutical Pricing Authority and Drug (Prices Control) Order standard rates.
- TNMSC acts as a mediator in negotiating prices, and all the payments are made online.

There are also issues of degrading quality of public healthcare due to which people are preferring private hospitals. Every year, around 60 million people become impoverished through paying health-care bills in India. Also more than 20% do not even seek health care, despite being unwell due to this reason. Thus government should take following steps apart from addressing the above issues:

- **Fixing accountability for negligence** – As of now public hospital seems to be of little consequence to them as the privileged rely mainly on private medical facilities. This should be changed and concerned authorities should be penalized
- **Public engagement** in priority setting, implementation of health programmes and monitoring of outcomes. It will hold elected representatives accountable for the availability, cost and quality of health services in their region.
- **Capacity building** – There is a need to train more doctors as there is shortage of about 5 lakh doctors as per WHO prescription. Thus, faculty dedicated to training doctors need to be appointed unlike current faculties who also continue their private practice alongside diverting their attention
- **Increased investment in infrastructure** – As of now the component of salaries has increased while combined share of medicine supplies, equipment, infrastructure & maintenance fell.

## 7.3. INDIA'S AMBITIOUS 'ZERO HUNGER' PROGRAMME

### Why in News?

Three districts --Gorakhpur in Uttar Pradesh, Koraput in Odisha and Thane in Maharashtra- have been chosen for the launch of India's ambitious '**Zero Hunger**' programme through interventions in farm sector on **October 16 (World Food Day)**.

### About the Programme

- It will be initiated by the **Indian Council of Agricultural Research (ICAR)** in association with the **Indian Council of Medical Research (ICMR)**, the **M S Swaminathan Research Foundation** and the **Biotechnology Industry Research Assistance Council (BIRAC)**. The concerned **state governments** will also be involved in the programme.

A **genetic garden for bio-fortified plants/crops** contains the germplasm of naturally bio-fortified crops or such crops through plant breeding. It has plants and crops that help supplement micro-nutrient deficiencies, including iron, iodine, vitamin A and zinc among others.

**Biofortification** is the process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology.

### Other Government Initiatives to fight Malnutrition

- Integrated Child Development Scheme
- Mid-Day Meal Scheme in Schools
- Targeted Public Distribution System
- National Nutrition Strategy

- It will focus on agriculture, health and nutrition in a **sybiotic manner** to develop an integrated approach to deal with hunger & malnutrition.
- It will consist of organising farming systems for nutrition, setting up **genetic gardens** for biofortified plants crops and initiation of a **'Zero Hunger' training**.
- It will ensure suitable methods of measuring the **impact of intervention**.
- There will be intensive training programme in order to **identify the nutritional maladies** in each district and the appropriate agricultural/horticultural and animal husbandry remedies.
- It will work in addition to the government's other plans to make India malnutrition free by 2022 and attaining the **SDG (No. 2) for 'Zero Hunger'**.
- Global Nutrition Report-2016 clearly indicates how India still lags behind in tackling malnutrition effectively. Over the years, the Government has accorded the highest priority to combat malnutrition among its people. However, there is a lack of multi-sectoral coordination which is most essential to address the intergenerational and multifaceted nature of malnutrition. This has been, to a certain extent, addressed by this programme.



## 7.4. HEALTH MINISTRY LAUNCHES TWO NEW CONTRACEPTIVES

### Why in news?

The Ministry of Health and Family Welfare has launched two new contraceptives, an injectable contraceptive named 'Antara' and a contraceptive pill 'Chhaya', to meet the emerging needs of couples.

### Details

- Antara is an injection of Medroxyprogesterone acetate (MPA), a birth control hormone and it will be effective for 3 months
- 'Chhaya' is a non-steroidal, non-hormonal oral contraceptive pill which will be effective for 1 week.
- The contraceptives will be available for free in Medical Colleges and District Hospitals.
- Recently Maharashtra has become the first state in the country to provide women an injectable contraceptive.

### Need

- Currently only 56% of currently married women use some method of family planning in India. A majority of them (37%) have adopted permanent methods like sterilization.
- According to the recent National Family Health Survey (NFHS) IV data, the unmet need of contraceptives is 12.9% and this contributes to undesired fertility due to lack of access.

### Significance

- Research has shown that increasing one contraceptive method in an existing basket of choice has resulted in an 8-12% increase in the use of modern contraceptives.
- Access to contraceptives not only increases access and choice to quality family planning in developing countries but also has a positive impact on indicators of maternal mortality, infant mortality and women empowerment.
- The newly launched contraceptives will help meet the changing needs of couples and help women plan and space their pregnancies.
- Free distribution of contraceptives will also help in achieving the goal of Total Fertility Level (TFR) of 2.1 by 2025 as enunciated in Mission Parivar Vikas and thus attaining Population Stabilization by 2045 as desired under India's National Population Policy, 2002

- The efforts are in line with MoH&FW's sustained family planning efforts to achieve its goal of increasing modern contraceptive usage and ensure that 74% of the demand for modern contraceptives is satisfied by 2020 with continued emphasis on delivering assured services, generating demand and bridging supply gaps.

## 7.5. CHALLENGES OF AGEING IN INDIA

### Why in News?

Recently the report, “Caring for Our Elders: Early Responses, India Ageing Report – 2017 (UNFPA)”, has been released that takes stock of ageing concerns and policy response in the country.

**Article 41-** “The state shall, within the limits of its economic capacity and development, make effective provision for securing the right to public assistance in cases of old age”.

### Challenges of Aging in India

- **Migration and its Impact on the Elderly:** Due to the migration of the younger people, elderly are left living alone or only with the spouse. They face social isolation, poverty and distress. However, they stay in touch with their children.
- **Loopholes of Healthcare:** The health system is ill-equipped to deal with surging NCDs; nor is the staff well trained to treat/advise the aged suffering from dementia or frailty, and for early diagnosis and management of conditions such as hypertension. The quality of medical care is abysmal, and hospitalisation costs are exorbitant and impoverishing.
- **Impact of social disharmony:** The proportion of those suffering from NCDs living in villages that experienced inter-caste or other conflicts has more than doubled during 2005-2012. Lack of social harmony induces helplessness, disruption of medical supplies and network support.
- **Digital illiteracy** - Due to inability of older family members to understand the modern digital language of communication and more demanding lifestyle, there is lack of communication between elderly and younger members. They also feel difficulty in getting benefits under schemes which are being digitized.
- **Feminization of Ageing:** Currently all the states have higher life expectancies at old ages for women than for men (sex ratio among elderly- 1033 women to 1000 males in 2011). Outcome of feminization of ageing is the discrimination and neglect experienced by women as they age, often exacerbated by widowhood and complete dependence on others.
- **Ruralization of the Elderly:** According to 2011 Census, 71 percent of the elderly live in rural India. Income insecurity, lack of adequate access to quality health care and isolation are more acute for the rural elderly than their urban counterparts. It is also noted that poorer states such as Odisha, Bihar and Uttar Pradesh have a larger percentage of the rural elderly.

### Background

- Three **key demographic changes**—declining fertility, reduction in mortality and increasing survival at older ages—contribute to population ageing, reflected in a shift in the age structure from young to old.
- When populations age rapidly, governments are often unprepared to mitigate the consequences; this has implications for the socio-economic and health status of the elderly.
- The share of population, in India, over the age of 60 is projected to increase from 8 percent in 2015 to 19 percent in 2050.

### Policy Response to Ageing

- **National Policy on Older Persons (NPOP), 1999:** It envisages State support to ensure financial and food security, health care, shelter and other needs of older persons, equitable share in development, protection against abuse and exploitation, and availability of services to improve the quality of their lives.
- **Maintenance Act 2007:** This act provides a legal framework for the maintenance of the elderly parents & grandparents and was promulgated by the States and Union Territories in stages.

### Recent Initiatives Relevant to NPOP

- Pradhan Mantri Suraksha Bima Yojana
- Atal Pension Yojana
- Health Insurance for Senior Citizens
- Varishtha Pension Bima Yojana 2017
- Scheme for providing Aids and Assisted Living Devices to Senior Citizens below Poverty Line
- Senior Citizens Welfare Fund
- **South Asia Partnership on Ageing: The Kathmandu Declaration 2016-** signed during the 18th SAARC Summit meeting in 2014 with focus on the special needs of the elderly population in the region.

- **Integrated Programme for Older Persons:** provides financial assistance (up to 90 percent) to PRIs/local bodies, NGOs, educational institutions, charitable hospitals/nursing homes etc. for implementing a variety of facilities such as old-age homes, day care centres, physiotherapy clinics, provision of disability aids, etc. for elderly.
- **Health care for Older Persons:** The health care programme for the elderly is being implemented by the MOHFW from 2011 under the **National Rural Health Mission**. The ministry launched **National Programme of Health Care for Elderly (NPHCE)** during 2010-11.
- **Social Pensions:** The **National Social Assistance Programme** was launched to provide social assistance to the poor and the destitute.
- The **National Policy on Senior Citizen, 2011**, also, focused on various aspects related to old age like Income security, healthcare, safety security, housing, productive aging, welfare, multigenerational bonding, etc. it also established a **National Council for Senior Citizens**, to suggest required policy changes for the elderly.

### Way Forward

- It is crucial to **enhance policy and programme relevance** by adopting various practices like getting feedback from the field, encouraging policy and programme audit, and adoption of good policies and programmes by the state governments.
- Better outcomes can be achieved by **creating a supportive environment** like nourishing better bonding between generations, ensuring their safety & security and that the intended benefits are better availed.
- **Undertaking the capacity development** of the agencies involved like the mid-level managers, PRIs, capacity of health professionals and service providers, etc.

## 7.6. WOMEN RESERVATION BILL

### Why in news?

Government is considering to introduce Women's Reservation Bill in the Parliament, which seeks to reserve one-third of seats in the Lok Sabha and state assemblies for women.

### Background

- There has been a historical social exclusion of women due to various social and cultural reasons and patriarchal traditions, due to which even after 70 years of independence there is no adequate representation of women in political and decision making realm of the country.
- The percentage of women in the Lok Sabha has gone up by only a small margin from **4.4% in 1951 to 11% in 2014** and at this pace, it will take another 180 years to reach the gender balance.
- **Reservation in Panchayat was more effective** than expected in energising women and has **underscored the need for reservation** in higher bodies such as State Legislatures and Parliament.
- The **Constitution (One Hundred and Eighth Amendment) Bill, 2008** was introduced in Rajya Sabha with an aim to reserve 33% seats in Lok Sabha and state legislative assemblies for women. However, bill lapsed with the dissolution of the 15th Lok Sabha.

#### Women representation at state level

- The situation is **worse at the state level**, where the average representation ratio of women is around 7%.
- Nagaland or Mizoram for example, have no women MLAs. Other worse performers are Jammu and Kashmir (2.27%) Goa (2.5%) and Karnataka (2.65%).
- India's best performing state is Haryana (14.44%), followed by West Bengal (13.95%), Rajasthan (13.48%) and Bihar (11%).

### Highlights of the Bill

- It seeks to reserve one-third of all seats for women in the Lok Sabha and the state legislative assemblies.
- The allocation of reserved seats shall be determined by such authority as prescribed by Parliament. ☐
- One third of the total number of seats reserved for Scheduled Castes and Scheduled Tribes shall be reserved for women of those groups in the Lok Sabha and the legislative assemblies.
- Reserved seats may be allotted by rotation to different constituencies in the state or union territory. ☐
- Reservation of seats for women shall cease to exist 15 years after the commencement of this Amendment Act.



## Challenges

- **One-size-fits-all policies designed** in New Delhi without accounting for local and varied granularities have indeed been problematic as can be seen from Nagaland agitation over reservation in local bodies and constitutional protection provided to their unique culture under Article 371(A)
- **Incompetency of candidate:** it would perpetuate the unequal status of women since they would not be perceived to be competing on merit.
- **Diversion from critical issues:** Policy diverts attention from the larger issues of electoral reform such as criminalisation of politics and inner party democracy.
- **Right to choice:** Reservation of seats in Parliament restricts choice of voters to women candidates.
- **Promote Nepotism:** Reservation might promote wives and daughters of politicians whose constituencies fell under the reserved category defeating the purpose of the bill.
- **Panchayat Pati Syndrome:** Male exercising undue influence on the work of their wives elected to power.

### Joint Parliamentary Committee (1996) chaired by Geeta Mukherjee recommendations.

- Reservation for a period of 15 years
- Including sub-reservation for Anglo Indians
- Including reservation in cases where the state has less than three seats in Lok Sabha (or less than three seats for SCs/STs)
- Including reservation for the Delhi assembly
- Reserving seats in Rajya Sabha and Legislative Councils
- Sub-reservation for OBC women after the Constitution extends reservation to OBCs.

In the Women's bill, first four recommendation were incorporated leaving last two

### Parliamentary Standing Committee (2008) recommendation:

- Every political party must distribute 20% of its tickets to women
- Even in the current form, reservation should not exceed 20% of seats
- There should be a quota for women belonging to OBCs and minorities
- To require political parties to nominate women for a minimum percentage of seats.
- To create dual member constituencies, with women filling one of the two seats from those constituencies.

## Significance

- **Political empowerment:** Reservation for seats for women is a valid and necessary strategy to enhance women's participation in the decision/policy making process. It would ensure considerable political empowerment of women and pave the way to the achievement of political justice to women as promised in Preamble and Article 38 of the Constitution of India.
- **Social empowerment:** Reservation is certainly needed to enable women to cross the socio-gender hurdles and to give them a level playing ground/ equal opportunities as their male counterparts because inadequate representation of women in Parliament and State legislature is a primary factor behind the general backwardness of women at all levels.
- **To attain Equality:** Reservation is needed for women belonging to the SC/ST communities to enable them to have fair competition with women belonging to the forward classes.
- **True Democratization:** Reservation is a sociological concept evolved to bring about **social reengineering** and reservation for women is needed to make the **democratic process inclusive**. Representation of women in policy making machineries is critical to the nation building process
- **Positive of reservation in Panchayat:**
  - ✓ Through 1/3rd reservation of seats for women in Panchayats and Nagarpalikas, they have been able to make meaningful contributions and that the actual representation of women in Panchayati Raj institutions has gone upto 42.3% i.e., beyond the reservation percentage. This has led the Government to make 50 percent reservation for women in local bodies.
  - ✓ Representation & Performance of women in Panchayats is largely due to statutory reservation of seats for them.

### Reservation in Panchayat Polls

- Reservation of seats for women in Panchayati Raj institutions through the Constitution (73rd and 74th Amendment) was a pioneering step in political empowerment of women.
- According to the 73rd and 74th Amendment Act of the Constitution, passed in 1993, one-third of the seats in all rural and urban local bodies are reserved for women.
- However, 16 states have laws in place that **reserved half their seats** in rural local bodies for women.

## Way forward

- **Providing reservation in Upper House:** reservation for women in Rajya Sabha and the Legislative Councils needs to be examined thoroughly as the upper Houses of the Parliament and State Legislatures play equally important role under the Constitution and by applying the principle of equality women should also get their due share in the second or upper chamber of Parliament and State Legislatures.
- **Inclusive development of society:** There is evidence that political reservation has increased **redistribution of resources in favour** of the groups which benefit from reservation. Women elected thus invest more in the public goods closely linked to women's concerns
- **To uphold the principle of our constitution:** Reserving seats for women in Assemblies and Lok Sabha should not be left to the discretion of Political Parties, rather it should be guaranteed in the Constitution itself and enforced by all means.
- **Bill as a Stepping Point:** Bill in itself is not an entirety, rather it is a formula to achieve Political Empowerment of women. Bill only lays down the principle/ basic framework for reservation of women in State Assemblies and Lok Sabha.

## 7.7. LAWS ON BEGGARY IN INDIA

### Why in news?

- Recently, union minister of women and child development, emphasized on need to enact a new comprehensive law on beggary.

### Current situation

- Currently, there is no central law on begging & destitution and most states have adopted the Bombay Prevention of Begging Act, 1959.
- The act of begging is a crime in 21 states (including Uttarakhand which recently banned begging) and two union territories of India. It is treated as cognisable and non-bailable offense.
- The draft Bill, called the Persons in Destitution (Training, Support and Other Services) Bill, was formulated in 2013 and submitted to the Maharashtra government. It recognised destitution as a situation of extreme vulnerability and placed a constitutional obligation to protect them and address the vulnerabilities that arise from it.
- In 2016, the ministry of social justice and empowerment came up with a new draft model bill for destitute people, namely, The Persons in Destitution (Protection, Care and Rehabilitation) Model Bill of 2016.
- However, recently centre in its response to Delhi High Court made a U-turn from its stance a year ago and dropped the proposal to decriminalizing beggary through legislation.

### Issues with current legislations

- **Police powers** - It gives huge discretionary powers to the police to arrest someone on just a hunch. It infringes individual liberties and provides powers to State authorities to round up beggars and imprison them without trial.
- **No distinction between beggars and homeless** – It results in detention of not only poor beggars but also of disabled persons and persons trying to make out a living by offering small articles for sale, rag pickers, people earning paltry sums by singing, dancing etc.
- **Contradicts the Juvenile Justice Act 2015** – as it identifies child beggars as “children in need of care and protection” and provides for their rehabilitation and re-integration in the society through Child Welfare Committees rather than seeing them as criminal

### Who is a 'Beggar'?

Based on the 2011 census, more than 400,000 destitute people across the country are classified as “beggars, vagrants, etc.

This number fell 41% since the last Census of 2001, which recorded the number of beggars at 6.3 lakh.

(But this figure is contested, and the government admits there are no authentic data available. Activists say government statistics underreport the number of beggars).

### Bombay Prevention of Begging Act, 1959

- It considers begging as a crime rather than a social issue.
- Anyone perceived as having “no visible means of subsistence” and “wandering about” in public place can be branded a beggar and detained for a period of not less than one year and up to 10 years for second time offenders.
- If convicted court can also order detention of all those who it thinks are dependent on the beggar.

- **Constitutional right** - Under Article 21 of the Constitution, every beggar or juvenile or dependant has a fundamental right to live. Begging is one of the methods of survival of people which should be taken away only when alternative routes are being open for them
- **Different definitions** – For example - Karnataka and Assam keep religious mendicants out of the the definition of beggars while Tamil Nadu does it for street artists, bards, jugglers and street magicians.

#### Changes done in The Persons in Destitution (Protection, Care & Rehabilitation) Model Bill of 2016

- **Right based approach** – It gives right to the destitute to demand help from the state
- **Decriminalise begging** - It decriminalized beggary except for repeat offences. Rather than criminalizing destitute, it cracks down on those who run organised beggary syndicates.
- **Identifying destitute** – by setting up of outreach or mobilisation units in each district which will identify and provide assistance to those who fit into the category of a destitute.
- **Rehabilitate beggars** – through rehabilitation centres with qualified resident doctors, recreation and other facilities in each district. Some states like Bihar have undertaken such programmes.
- **Setting up referral committees** – to identify the needs of persons in destitution and refer them to the respective institutions according to their requirement, be it medical services, shelter, employment opportunities etc.
- **Setting up counselling committees** – to interact with them & assist them in opting for specific vocational training as per their preferences. It will enhance their skills and make them self-reliant.
- **Constituting monitoring and advisory board** - to coordinate implementation of the schemes and advise the government on matters related to care, protection, welfare and rehabilitation of destitutes.

#### Way forward

State needs to take a more humane approach towards the destitute. A law is needed which respects the dignity of the destitute rather than penalizes them for being poor. Thus existing anti-beggary laws should be repealed and replaced with welfare and social security laws – on the lines of the MGNREGA to provide employment to beggars. Apart from this following measure should be undertaken:

- **Creating awareness about their rights** such as right of free legal aid to poor
- **Issuing smart cards and Aadhaar numbers to beggars** – to enable easy census, easy tracking, ease in opening bank accounts and low cost insurance policies and policy plans for their welfare
- **Constituting databank** – to make available status of rehabilitation, counselling institutions etc. through visiting committees which periodically visits these institutions
- **Follow-up** after coming out of beggar’s home or after skill training to assist in any challenges faced by them in integrating with the mainstream society
- **Sensitizing people and authorities** - Popular perception about begging that it is the preferred way of making easy money, needs to be changed & people need to be sensitive about their circumstances.
- **Access to food** – A mechanism needs to be developed to bring them under the ambit of the Right to Food Act
- Instead of people giving food and clothes on street in an undignified manner, state should provide a helpline for the hungry where the system would reach any hungry person anywhere.
- The government should engage different stakeholders such as NGOs working with street children, traffic policemen etc. to eradicate beggary especially child beggary.

## 7.8. CENTRE PLANS HALFWAY HOMES

### Why in news?

- The Centre has proposed to establish “**halfway homes**” in an attempt to rehabilitate the mentally ill.

### Background

- After the **Mental Healthcare Bill, 2017** got the President’s approval, the **Union Health Ministry** formed a committee

#### Salient features of Mental healthcare Act, 2017

- Decriminalising attempt to commit suicide.
- Bans use of electric shock therapy for treating children with mental illness.
- Permits conditional use of shock therapy on adults, after they have been given anaesthesia and muscle relaxants.
- Emphasises on ensuring no intrusion of rights and dignity of people with mental illness during any stages of treatment and rehabilitation.

comprising of experts in the field of mental health to frame rules and regulations under the act.

- The proposition for “halfway homes” is one of the many proposals under the **draft Mental Healthcare Rules 2017** open for comments.
- The rules also propose that the State government shall establish and provide hospitals and community based rehabilitation and services, of the minimum acceptable standard.
- The Mental Healthcare Act, 2017 replaces the Mental Health Act, 1987 and harmonises the country’s laws to **UN Convention on Rights of Persons with Disabilities (India ratified the convention in 2007)**.

#### What are “Halfway Homes”?

- Halfway homes are **transitional living facilities for mentally ill patients** who have been discharged from hospital but are not fully ready to live on their own or with the family.
- Such halfway homes will run outside the campus of mental health establishments and will be registered as mental health establishments under the Act.
- They will be required to comply with all the standards and other requirements to be observed by mental health establishments.
- The patients will be encouraged to do various activities and will be paid for their services
- They will be allowed to move freely with the establishment and form relationships within in the community. They shall also be allowed to move out under supervision at the discretion of the medical officer in-charge within fixed timings.
- Such an initiative will give persons with mental illness a second chance to mingle in society and start afresh and will help them overcome their fears and inhibitions before they are actually exposed to the real world.

*Please refer to Vision IAS Current Affairs March 2017 Issue to know more about the Mental Healthcare Act, 2017.*

## 7.9. GLOBAL HUMAN CAPITAL INDEX

#### Why in news?

- India has been placed at a low 103 rank among 130 countries on the WEF’s Global Human Capital Index.
- The report measures 130 countries against four key areas among (shown in figure) five distinct age groups to capture the full human capital potential profile of a country.

#### Performance of India

- India has **improved its rank by 2 places** to 103 from 105 last year but it still ranks **last among G-20** and **lowest among BRICS** countries.
- Even among its South Asian neighbours India is ranked lower than Sri Lanka(70) and Nepal(98)
- India has also performed among lowest in Gender gap but has **fares well on skills needed for future** with a rank of 65 among 130 countries.

#### Reasons of Low Performance

- **Low educational attainment** - For e.g. primary education attainment among 25 -54 year olds is poor in India
- **Low deployment** of its human capital which means the skills available are not getting put to good use
- The report shows India rank as 118 for **labour force participation** among the 35-54 year old demographic which shows a large number of

#### World Economic Forum

It is a not-for-profit foundation established in 1971 and headquartered in **Geneva, Switzerland**.

#### Major Reports and Indices by WEF

- Global Competitiveness Report
- Global Gender Gap Report
- Global Human Capital Report
- Inclusive Development Index
- Travel and Tourism Competitiveness Report
- Global Energy architecture performance index report.

## INDIA'S SCORE CARD

Source: The Global Human Capital Report 2017, World Economic Forum





Indians are engaged in **informal or subsistent employment**.

- Although the country's current educational attainment rate has improved markedly over past generations, its **youth literacy rate** is still only 89%, well behind the rates of other leading emerging markets.

## 7.10. NEW PARADIGM FOR DETERMINING SEXUAL ASSAULT

### Why in News?

- A recent Delhi High Court judgment on the issue of sexual consent has raised divergent views in the legal community on the **grey line between consent of a woman and rape**.
- A similar issue of consent was raised in the judgement passed by the Punjab and Haryana High Court, in a rape case in Sonipat.

### Judgements by the High Courts

- The Delhi high court acquitted director Mahmood Farooqui, accused of rape. One of the grounds for acquittal was that the negation of consent was not clear enough under the circumstances and that the complainant merely resisted "feebly".
- The accused was given the benefit of doubt because he had no intention to rape her and it was unclear that she had refused consent.
- While the Punjab and Haryana HC characterised the victim as a person with a "promiscuous attitude and a voyeuristic mind" and also sought to suggest that the young woman enjoyed a certain comfort level with the offenders.

### Defining consent

Consent is what distinguishes sexual intercourse from rape. However, consent is also something that is difficult to determine and prove, especially in rape cases where more often than not, there are no eyewitnesses.

- **The Justice Verma Committee** pointed to the need to define consent. This definition given by the committee was added to IPC.
- The explanation states that consent means an **unequivocal voluntary agreement** when the woman by words, gestures or any form of verbal or non-verbal communication, communicates willingness to participate in a specific sexual act.
- Besides this, various SC judgements have stated that to prove an offence of rape, a woman is not required to prove that there was active resistance on her part during the commission of the act of rape. Absence of these factors does not indicate that a woman has given consent.

### Arguments against the Judgements

- The judgment is alleged to have created a new defence for the rapist which does not exist in law. There is a double presumption – absence of intention to rape (by the accused) and non-communication by the woman despite a clear 'no' from her.
- The judgment shifts the burden to prove consent or refusal to a sexual act onto the woman
- Also the Punjab HC used language about the young victim that feeds into the tendency of **victim blaming**.

Rape is a crime against basic human rights and also violates right to life contained in **Article 21**. Two sections 375 and 376 of Indian Penal Code deal with the offense of rape in India.

### Laws on Consent in different countries

The **Canadian Criminal Code** states that consent has to be categorically given and nothing short of voluntary consent/agreement would suffice (Section 273). The burden is on the accused to prove that he took steps to ascertain that the victim was consenting.

Similar is the case in the **UK's Sexual Offences Act**.

In **Australia** too, there has been an increasing focus on consent as a determinative factor while deciding on sexual assault offences and the burden is on the accused to prove that he took the consent of the victim.

## 7.11. DBT FOR INTEGRATED CHILD DEVELOPMENT SCHEME (ICDS)

### Why in News?

- Ministry of Women and Child Development **is considering** cash transfers instead of cooked meal under the Integrated Child Development Scheme (ICDS).

### More on News

- Various performance reports of ICDS highlighted the issues of leakages, corruptions, poor quality food supplement and take home ration has not been linked **with inflation**.
- Ministry suggested that apart from cash transfer, nutrient packets should be dispatched through postmen directly to the beneficiaries instead of serving hot, cooked meals at Anganwadi centres.
- Food distribution plays a critical role in **attracting women and children to the anganwadi** and ensuring that they receive other essential services related to growth monitoring, nutrition counselling, and ante-natal care.
- The Supreme Court in 2004 had passed an order **banning private contractors for ICDS** and encouraging decentralised production and distribution through village groups, mahila mandals, and self-help groups.
- **The Schedule II of the NFSA** states that children in the three to six-year-old age group should be given a snack and a meal each day and that other beneficiary groups are entitled to take-home rations.

### Integrated Child Development Scheme

- Launched in 1975, Beneficiary: children (6 months to 6 years) and pregnant & lactating mothers irrespective of their economic and social status.
- Intended to achieve the **Goals 2 and 3 of SDGs** (improvement in nutrition and ensuring healthy lives & promoting well-being for all at all ages respectively).
- Categorised as **Core Scheme** under Centrally Sponsored Scheme.
- Provides an **integrated package of six services** which include; i) Supplementary nutrition programme ; (ii) Immunization; (iii) Health check-up; (iv) Referral services; (v) Pre-school non-formal education; and (vi) Nutrition & health education.
- Schemes are provided at Anganwadi Centre (AWC).
- 5-tier monitoring and review mechanism at National, State, District, Block and Anganwadi Levels.

### Supplementary Nutrition Programme (ICDS)

- Designed to bridge the gap between the Recommended Dietary Allowance (FDA) and the Average Daily Intake (ADI).
- Provide Take Home Ration (THR) in the form of Micronutrient Fortified Food and/or energy-dense food marked as 'ICDS Food Supplement' for various age groups of children.

### NITI Aayog Suggestions

- NITI Aayog under National Nutrition Strategy, mooted the reform in Take Home Rations (THR) under ICDS.
- The **cash transfer must be linked with** service guarantee, improvement in complementary service (such as health nutrition and food) and behavioural change plan.
- Moreover on the structural reform NITI Aayog suggests;
  - ICDS should be linked with banking outreach.
  - Low cost locally acceptable nutrition plan.
  - Adjust cash transfer with monthly child nutrition status.
  - Introduce care counseling with prioritised home visiting of Anganwadi Workers.
  - Local suited approach for counselling and tracking the lactating mothers.
  - Linking of state specific incentives schemes with Pradhan Mantri Matru Vandana Yojan.
  - Incentivise teams of ASHA, Anganwadi and ANMs.

### Cash Vs Kinds Transfer

Cash Transfer	Kinds Transfer
<p><b>In Favour</b></p> <ul style="list-style-type: none"> <li>○ It eliminates the bottlenecks of service delivery which suffers from serious leakages.</li> <li>○ It is free from market distortions (Supply-Demand, microeconomics conditions of commodities).</li> <li>○ Reduced the bureaucratic involvement (Storage, Distribution and record keeping) in transfer.</li> <li>○ Successful integration with basic technology, cash transfer can save up to 0.5% of GDP per year.</li> <li>○ Cash transfers afford recipients greater flexibility in tailoring their consumption to their tastes and circumstances.</li> </ul> <p><b>Against</b></p> <ul style="list-style-type: none"> <li>○ It might lead to utilisation of cash for untargeted</li> </ul>	<p><b>In Favour</b></p> <ul style="list-style-type: none"> <li>○ It helps in <b>better targeting</b> and systematic self-section of beneficiary.</li> <li>○ Easy to modify the scheme in short run by evidence based research.</li> <li>○ Help in improve a particular type of deprivation by managing the supply side of services. E.g Fortified food for malnourish child and iron folic tablets Iron Deficiency in adolescence girls.</li> <li>○ It is a decentralised approach for various scheme involving local and grass root level community.</li> </ul> <p><b>Against</b></p> <ul style="list-style-type: none"> <li>○ High prevalence of leakages and corruption in transfer if benefits <b>(Shanta Kumar Committee 2015)</b>.</li> <li>○ It generates price distortion for a particular commodity which</li> </ul>

<p>forms of deprivations.</p> <ul style="list-style-type: none"> <li>○ It might lead to increase in aspirational consumption.</li> <li>○ Even in the cash transfer corruption cannot be eliminated e.g. Ghost Beneficiary.</li> </ul>	<p>can lead to black marketing. Eg Different price for rice under PDS and open market.</p> <ul style="list-style-type: none"> <li>○ It distorts the consumption patterns of people in favour of subsidized commodity. E.g people tend to consume more than actual demand.</li> </ul>
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## 7.12. REFORMS IN HIGHER EDUCATION

### Why in News?

- In September 2017, High Powered Panel had submitted its report on short term reforms for higher education to Ministry of Human Resource.

### Background

- India's higher education segment is the largest in the world, and is expected to increase to US\$ 37.8 billion by 2020.
- Gross Enrolment Ratio in higher education has risen from 20.8% in 2011-12 to 24.5% in 2015-16.

### Problems in Higher Education

- UGC and AICTE at apex are not able to manage properly. Besides political influence in its structure has led to inefficiency and erosion in autonomy of institution.
- Shortage of faculty leads to **Ad-hoc expansion** even in premier institution,
- Lesser incentives for independent researchers and difficult to recognise valuable work in absence of enrolment.
- Most of premier universities and colleges are centred in metropolitan and urban city, thereby leading to the regional disparity in access to higher education.
- Social structure biases and prejudices towards downtrodden and women is still rampant even in higher education.
- Lack of finance and on time availability of finance is the root cause of underutilised potential of higher education.
- Issue related to plagiarism, copyright and lack of reference material for research.
- Good faculties are reluctant to join newer institutions as they lack infrastructure and because many of them are in remote areas.

### Higher Education Action Agenda (NITI Aayog)

- **Designation of World Class University:** Identify 20 universities (10 Private 10 Public) to be free from regulatory regime. Adopt the Tiered based funding model for only two out of ten public universities.
- **Autonomy for Top Colleges:** Take out the top college from centralized control, allow greater flexibility in academic matter and option to convert into unitary university. It will boost the competition within cluster of colleges in the university.
- **Reform of regulatory system:** Archaic UGC Act of 1956, should be reformed, from every aspect such as student fee, grants, curriculum and course hours responding to the evolving world education system.
- **Establish a specific project/scholar specific research grants:** A system of public funding for research in specific areas of public importance has driven much of the innovation in Science and technology. A **prize system** should be established in which funding would go to the research which delivered solution to clearly specific problem.
- **Increased focus on vocational and professional led education:** establish outcome based certification for institution that focus on skill and trade closely tied to employment. Focus should be on skill and vocational training required in public sector such as nursing, paramedical and teaching.

### High Powered Panel suggestions

- Introduce a three-tier autonomy in which top ranking institutions will get full academic, administrative and financial autonomy. While the institutions ranked poor would remain under government control.
- Academic collaborations should be permitted only with foreign institutions that are ranked among the top 500 of world institutions.
- Government-Unaided institutions should be free, to open constituent colleges, offer online programs without geographical restrictions, open research park or incubation centres, academic collaborations with foreign higher educational institutions, admit foreign students up to 20% of domestic students.

- Institutions may build in merit-based incentive structure from its own resources to attract talented faculty on the basis of UGC norms.
- Consistent evaluation of Faculty by reviewing of journals by subject-wise committees comprising eminent academicians.
- Feasible legislative modification is required for setting up foreign educational campuses in India.
- Allow third party agencies for assessment and accreditation of institutions. It also suggests to make it mandatory for institutions and programmes to prominently display accreditation grade or unaccredited status on every information material.
- It has also made mandatory accreditation for online and distance learning programs for various universities.

**Note: For recent initiatives of Government in Higher Education, refer Mains 365 Social Issues 2017.**

## 7.13. SWACHTA HI SEVA

### Why in news?

- The government recently asked companies to contribute 7 percent of their CSR (Corporate Social Responsibility) funds to **Swacchta Hi Seva Campaign**.

### What is a Swacchta Hi Seva Campaign?

- Swacchta Hi Seva Campaign is a 15 day campaign undertaken by the government under **the Swacch Bharat Mission (SBM)**. The campaign was co-ordinated by the **Ministry of Drinking Water and Sanitation**.
- Under this campaign, people from all walks of life were encouraged to undertake **shramdaan (voluntary labour)** to make SBM a **janandolan (mass movement)**.
- The campaign targeted the cleaning of public and tourist places. It mobilised the masses for cleanliness and toilet construction.
- The campaign was significantly successful as the participation ranged from the President of India, legislators, common citizens, celebrities, army personnels, schools kids and more.
- The campaign culminated on October 2 Gandhi Jayanti which is also **Swacch Bharat Diwas (Clean India Day)**.

*Please refer to Vision IAS Current Affairs August 2017 to know more about Swacch Bharat Mission.*

#### Corporate Social Responsibility

- It is a management concept where companies take up the responsibility to assess the impact of their corporate plans on the environment and social well-being of the people and integrate it in their business models.
- According to Companies Act, 2013, companies with a net worth of Rs500 crore or revenue of Rs1,000 crore or net profit of Rs5 crore should spend 2% of their average profit in the last three years in pursuance of its Corporate Social Responsibility.

#### Other Similar Initiatives Under Swacch Bharat Mission

- **Swacch Sankalp se Swacch Siddhi** – Under this campaign, essay, short films and painting competitions were organised for general public with a special focus on school children.
- **Swacchathon-The Swacch Bharat Hackathon** – It invited innovative technology based solutions to some of the most challenging questions being faced by **Swacch Bharat Mission (Gramin)** such as usage of toilets in non-intrusive manner at scale, how to spark behaviour change at scale, frugal technology designs for difficult terrains etc.

## 7.14. LPG PANCHAYAT

### Why in news?

- The Centre has launched **LPG Panchayat** in order to back-up its scheme **Pradhan Mantri Ujjawala Yojana**.

### Need of LPG Panchayat

- The average usage of LPG among the three crore beneficiaries of Ujjwala Yojana is around three cylinders a year, as against seven-and-a-half cylinders of others.

#### Pradhan Mantri Ujjawala Yojana

- It aims to provide 500 crore LPG connections to BPL families by 2019.
- It was launched in May 2016 under the **Ministry of Petroleum and Natural Gas**
- LPG Connections under the scheme will be issued under the name of women of the household in order to empower women.
- Identification of BPL families under the scheme will be done through Socio Economic Caste Census Data.
- It will not only provide additional employment and business opportunity but will also boost the “Make in India” campaign.



- Through officials of the oil PSUs, NGOs, Asha workers and social workers, the Panchayat aims to connect with the beneficiaries of the Ujjwala Yojana to resolve issues and misconceptions regarding LPG being unsafe.

#### How will the LPG Panchayat Work?

- The centre plans to organise one lakh LPG panchayat across the country in the next one and half year.
- LPG Panchayats will bring together about 100 LPG users of an area and create an interactive platform to discuss safe and sustainable usage of LPG, its benefits and linkages between using clean fuel and empowering women as their health risks are reduced.
- The panchayats will also include safe practices, quality of service provided by distributors and availability of refill cylinders.

## 7.15. PENCIL PORTAL

#### Why in news?

- Recently, the **Ministry of Labour and Employment** launched an online portal named **PENCIL (Platform for Effective Enforcement for Child Labour)** in order to **combat the menace of child labour, trafficking and menace.**

#### Need

- Despite numerous laws and provisions to prevent child labour, trafficking and sexual abuse, the implementation and subsequent conviction are very poor.
- The genesis of portal stems from the need for to create a robust implementing and monitoring mechanism for both enforcement of the legislative provisions and effective implementation of the **National Child Labour Project.**
- Labour is in **Concurrent list** and a portal like this will help enforce the legislative provisions in different states in tandem with the Central government.

#### Constitutional Provisions Against Child Labour

- **Article 23(1)** provides that traffic in human beings and beggar and other similar forms of forced labour are prohibited and any contravention of this provision shall be an offence punishable in accordance with law
- **Article 24** provides that no child below the age of fourteen years shall be employed to work in any factory or mine or engaged in any other hazardous employment.
- **Article 39(e)** provides that the state shall, in particular, direct its policy towards securing that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength.

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## 8. CULTURE

### 8.1. KONKANI

- Konkani is the official language of the state of Goa and it is one of 22 scheduled languages mentioned in the 8<sup>th</sup> schedule of the Constitution.
- It is spoken all along the Konkan and Malabar coasts. Konkani speakers are an influential minority in Karnataka and Kerala too.
- Konkani is the only language that is written in five different scripts – **Roman, Devnagri, Kannada, Persian Arabic and Malayam.**
- One of the first firm evidence of this language was through the verses of Marathi poet Namdev(1270-1350).
- Few written records of the existence of Konkani are there prior to the Portuguese invasion of Goa in 1510.
- In Kerala, the migration of Konkani speakers dates back to the 12th century. The migration of Konkani speakers to the Mangalore region began in the 15th and 16th centuries.
- Konkani became the first Asian language ever to be printed in 1556.
- During the Portuguese invasion, Konkani came to closely interlinked with Marathi. In the old conquest region, there was no use of Marathi while in the new conquest regions, Marathi dominated.
- The Portuguese did not back Konkani or Marathi, instead attempted to make Portuguese the language of Goa.
- The late 19<sup>th</sup> century saw the revival of Konkani. It was being viewed not merely as a dialect of Marathi but as language which has its own ground.
- Konkani was accorded the official language of Goa status in 1987.

### 8.2. BONDA TRIBE

#### Why in news?

- The **Bonda Development Agency (BDA)** has started an inquiry and survey in the remote Bonda-inhabited villages in Malkangiri district of Odisha following reports that these primitive tribals are migrating to other States in search of employment and that some of their women are being sexually exploited.

#### About the Bonda Tribe

- Bonda are one of the ancient tribes living in the Malkangiri district of southwestern Odisha, India.
- They are considered as scheduled tribes and are divided into two groups- Upper Bonda and Lower Bonda.
- As per an official survey in 2015, around 8,000 Bonda tribals live in 32 villages of four panchayats under Khairaput block.
- Bondas have their own languages - "**Remo**" language - sans a script - which belongs to the Mundari group of languages. Researchers believe them to be members of the Austro-Asiatic language family.
- Modern civilization has not changed the Bondas. They still maintain their primitive social customs and tradition.
- Bondas have a unique marriage tradition showing matriarchal dominance. Older women marry much younger men.

### 8.3. CAUVERY MAHA PUSHKARAM

#### Why in news?

- Thousands of devotees from various parts of the country took holy dip in the Cauvery at various ghats along Thanjavur and Nagapattinam districts, on the occasion of the Cauvery Maha Pushkaram recently.

#### About Maha Pushkaram

- Pushkaram is the Indian festival of worshipping rivers. It is celebrated along the banks of 12 rivers in India.
- The celebration happens annually, once in 12 years along each river. Each river is associated with one zodiac sign. The river for each year's festival is based on which zodiac the planet Jupiter is in.

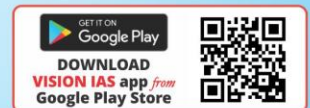
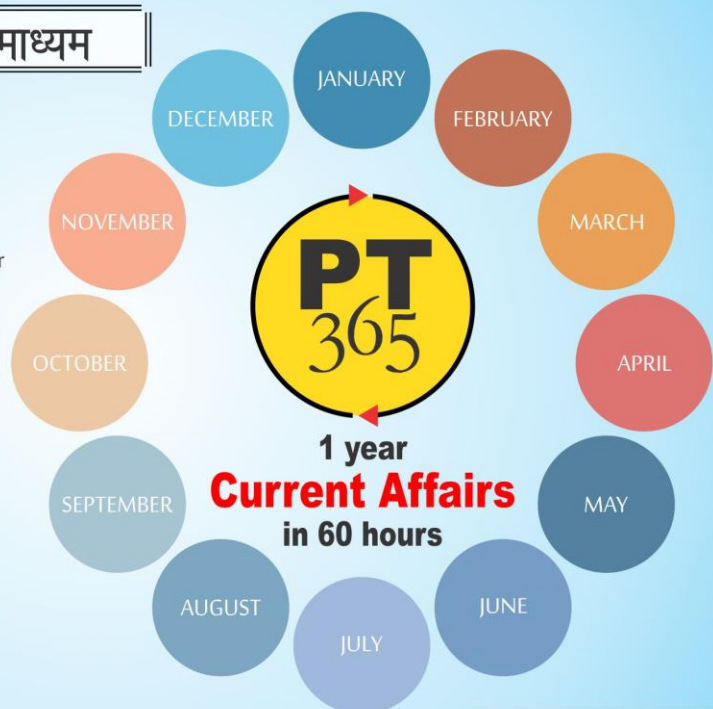
- The 12 rivers at which Pushkaram is celebrated are: Ganga, Narmada, Saraswati, Yamuna, Godavari, Krishna, Kaveri, Bhima, Tapti, Tungabhadra, Sindhu (Indus) and Pranhita.
- The celestial transit of Planet Jupiter from Kanni Rasi to Thula Rasi in the Hindu almanac is said to be the Maha Pushkaram period. The celestial event is said to occur once in 144 years.

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# 9. ETHICS

## 9.1. ETHICS AND SUPERSTITION

Karnataka Cabinet approved anti-superstition Bill to eliminate black magic, witchcraft, inhuman evil practices and other superstitious beliefs. Recently two peaceful protest marches also happened. One by scientists, researchers and university students against growing obscurantist and anti-science thinking in India and other by rationalists and anti-superstition activists demanding the arrest and prosecution of the killers of rationalists in last couple of years or so.

Superstition can be defined as a kind of blind faith or irrational belief usually founded on ignorance or fear and characterized by obsessive reverence for omens, charms, etc. Superstitions are deeply ingrained in the society. There are various factors which promote superstitious beliefs in society.

- **Upbringing** – Beliefs running in the family & religion are the most fertile breeding grounds for superstitions
- **Entertainment sources** – Such as TV serials etc. portray the superstitious elements into real-like stories which affect the mindset of viewers especially children.
- **Uncertain environment** – It leads to the triggering of certain kinds of ritualism such as many successful sportspersons have practised all kinds of superstitions
- **Sense of security** – Human has a general tendency to be secure. This pushes them to readily believe in supernatural elements controlling them which may help eliminate some uncertainties
- **Belief in leadership** – the usage of examples such as existence of plastic surgery or aviation technique in ancient India by leaders, also solidify the similar beliefs in their followers

Although, some superstitious beliefs are seen to have some positive consequences such as

- **Boost in confidence** in one's good luck & abilities due to certain false beliefs such as lucky clothes, good-luck charm etc. This affects a person at psychological level which may affect his performance positively.
- **Conservation of nature** – such as 'Charpat Bani' sacred grove in Pathankot remains completely untouched as it is believed to be the seat of a local deity.

However, various ethical issues involved in superstitious beliefs outweigh the good that it may do in certain cases. The issues are:

- **Violation of human rights** – eg:- human sacrifice, coercing to perform fire-walks, piercing jaw with rods
- **Animal rights** – eg:- evil practice of *gaavu* such as killing an animal by biting its neck, animal sacrifice etc.
- **Indignity** – It also leads to violation of human dignity such as practice of witch hunting, *Made Snana*, subjecting women to humiliating practices such as parading them naked in the name of worship, sexual exploitation as in devadasi tradition etc.
- **Irrationality** – It involves creating fear in the minds of people and promote illogical practices such as claim to be changing the sex of foetus in the womb
- **Discrimination** – such as banishment of women during menstruation due to supposed notions of impurity, forcing people from backward classes to perform difficult rituals
- **Fatalistic attitude** – such as in some neighboring countries it was seen that parents refused polio vaccination of their children because they were told that it is a matter of fate.

Law alone cannot eliminate such superstitions. However, legislative interventions will go some way to prevent exploitation of the vulnerable sections as well as in increasing awareness about these practices. Also, there is a thin line between faith and blind faith. This line can be understood with educating the children to develop scientific temper and inculcate spirit of enquiry from a young age itself. Further, laws cannot be eliminated overnight. It is a strenuous process and demands a lot of dedication and patience.

## 9.2. BLUE WHALE CHALLENGE

The Blue Whale challenge is an online game where an online administrator assigns 1 task, each day for 50 days, to participants. Players are supposed to record or take photos of them while undertaking the challenge as a



proof for curator's approval. The last challenge in this series is to commit suicide. This points out various ethical issues involved in the game.

- **Seeking out the players/victims** - The game is not freely downloadable game or application. It is shared among secretive groups on social media networks. Thus, it specifically seeks out its victims.
- **Pleasure in other's pain** – The series of tasks involve harming oneself with sharp objects, punishing oneself through series of psychedelic and scary videos
- **Blackmailing and cyberbullying** – to make participants complete the game
- **Tendency to control** – The desire to control someone's life seems to be giving a thrill to the curator of the game.

However, bluewhale challenge itself is not the only danger around. There are various other important issues involved as well such as

- **Thrill** - For teenagers, trying something that is banned definitely ups the thrill-level and further feeds on their curiosity. Their temptation to take up a challenge involving self-destruction is even more disturbing
- **Lack of emotional and psychological well-being** – which in general would have improved children's and adolescent's resilience to cope with whatever life throws at them
- **Issues in Social health** –includes lack of healthy family relationships, family circumstances or peer group circle
- **Lack of Values** – The teens does not seem to imbibe values of non-violence or have aversion to self-inflicted injuries, unnecessary daring and adventure etc.

These puts responsibility on parents, teachers as well as society to take steps to secure their children who are the most vulnerable group of social media and thus are most prone to this blue whale challenge as well. Steps that need to be taken in this direction by parents, teachers, society or media etc. are discussed below:

- **Seeing mental health** as a component of overall health and thus, removing stigma attached to mental disturbances which will enable children to be open about such problems. Media should be productively used to spread awareness on child mental health.
- **Build a support network** – Lack of interaction & information between parents and children gives them a sense of isolation which makes them more susceptible to media frenzy around this issue as they tend to be glued to their screens all day long
- **Giving attention to them** so that they don't seek it from anywhere else. Thus spend time with them, be a role model to your child.
- **Parental control** such as limited screen time, ensuring that your child accesses internet from a computer placed in the family space, keeping an eye on their online activities to ensure access to only age appropriate online sites.
- **Checking anti-social behavior** – As children spend considerable amount of time in school, teachers should also keep an eye on falling grades or personally talk to such children who don't interact with the other children much or are aloof etc.
- **Positive use of technology** - Education institute must imbibe the right culture to use tools such as internet or social media for self-development
- **Educating and Awareness** - sensitizing about the pros and cons of the internet from time to time, about ethical and safe online behavior such as not sharing your entire data online as in bluewhale challenge which gave curator the control over their movements, activities etc.

# 10. MISCELLANEOUS

## 10.1. KHELO INDIA

### Why in news?

- The Union Cabinet has approved the revamped 'Khelo India-National Programmer for Development of Sports' scheme.

### Need

- Sport policies till now have majorly focused on improving sports infrastructure and not harnessing the sports talent in the country.
- Young talents from remote areas do not get the funding or platform to excel in their chosen fields.
- Over the years, there has been too little or no focus on revamping the sports sector especially in comparison to the education, both of which should be dealt hand in hand.
- With this new revamped Khelo India programme, the government is trying to harness the sports talent in the country by giving them opportunities to excel.

### Background for Khelo India

- The Khelo India Programme was launched in 2016 by subsuming three different scheme into one namely: Rajiv Gandhi Khel Abhiyan (RGKA), Urban Sports Infrastructure Scheme (USIS) and National Sports Talent Search Scheme (NSTSS).

### Objectives of the Programme

- This programme strives to promote **"Sports for All"** as well as **"Sports for Excellence."**
- It aims at mainstreaming sport as **a tool for individual development, community development, economic development and national development.**
- It aims at impacting the entire sports ecosystem, including infrastructure, community sports, talent identification, coaching for excellence, competition structure and sports economy.
- The programme also aims at engaging youth living in disturbed and deprived areas, in sporting activities, to wean them away from unproductive and disruptive activities and mainstream them in the nation-building process
- It also aims at creating an active population with healthy lifestyle.

### Salient Features of the Program

- **Pan India Sports Scholarship Scheme** – This would cover 1,000 most talented young athletes each year across select sports disciplines. Each athlete selected under the scheme shall receive an annual scholarship worth Rs. 5.00 lakh for 8 consecutive years.
- **Sports Hub at the University Level** – 20 universities across the country are to be promoted as sporting hubs which would enable talented sports persons to pursue the dual pathway of education and competitive sports.
- **National Fitness Drive** - The Programme would cover about 200 million children in the age group of 10-18. It will not only measure the physical fitness of all children in the age group, but also support their fitness related activities.
- **Use of Latest User-friendly Technology** – Latest technology shall be used in all aspects of sports promotion such as, use of mobile apps for dissemination of sports training; National Sports Talent Search portal for talent identification; interactive website for indigenous sports; GIS based information system for locating and using sports infrastructure, etc.

## 10.2. DIVYANG SARATHI MOBILE APP

- The GoI recently launched a mobile app named **"Divyang Sarathi"** for easy information dissemination to **Divyanjans (Persons with disabilities)**
- This mobile application **aims at providing all relevant information pertaining to the Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment, including its various acts, rules, regulations and guidelines, schemes, information about the various outreach institutions, employment opportunities, and the disability market in an accessible format.**

- The application is also an integral part of the ICT (Information and Communication Technology) component of the **Accessible India Campaign**.
- One of the unique features of the app is its audio notes. This is so because the app comes embedded with **(text-to-voice conversion software)** which converts the written information into an audio file as well as the adjustable font size which can be altered as per the user's requirement.

### 10.3. NORTH EAST CALLING FESTIVAL

#### Why in news?

Recently the Minister of State of Ministry of Development of North Eastern Region (MoDNER) inaugurated the North East Calling festival.

#### About the Festival

- The "North East Calling" Festival is an event to promote the **art, culture, heritage, cuisine, handicrafts, business and tourism** of North East India.
- This Festival has been organised by the MoDNER's "**Destination North East**".
- On the occasion the Minister also launched
  - ✓ **North East Venture Fund** as a joint venture of Ministry of DoNER and **North Eastern Development Finance Corporation** to attract young entrepreneurs in North East region.
  - ✓ **North East Tourism Development Council** with the objective to promote **sustainable tourism** in North East India.

#### Destination North East

- It is an event which is being organised to promote North East Region through Business Summit, exhibition stalls showcasing best of North Eastern Features and attract investment in tourism, skill, start-up, handloom and handicrafts, horticulture, medicinal and aromatic plants.
- Destination North East is one of the steps taken by MoDNER towards assimilation with rest of the country and its diversity.

#### North Eastern Development Finance Corporation

- It is a Public Limited Company registered under the Companies Act 1956 in August 1995.
- It provides financial assistance to micro, small, medium and large enterprises for setting up industrial, infrastructure and agri-allied projects in the North Eastern Region of India and also Microfinance through MFI/NGOs.

### 10.4. FARMER CONNECT APP

- Agricultural and Processed Food Products Export Development Authority (APEDA) has developed an android app named **Farmer Connect**
- It is part of a traceability system named Hortinet developed by APEDA to facilitate farm registration, testing and certification of **grape, pomegranate and vegetables** for export from India to the European Union in compliance with standards.
- It will increase accessibility and reach of services among farmers and other stakeholders.
- The app will also assist State Horticulture/ Agriculture Department in registration of farmer, geo locating farms and products.
- It will make laboratory testing of horticulture products easier through samples collected by APEDA authorized laboratories.

#### About APEDA

- It was established under **Agricultural and Processed Food Products Export Development Authority Act, 1985**.
- It functions under **Ministry of Commerce and Industry**.

#### Functions

- Development of industries by providing financial assistance
- Registration of persons as exporters
- Improving packaging and marketing
- Export oriented promotion and development of agricultural products

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