



ECONOMY

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1. EMPLOYMENT AND SKILL DEVELOPMENT

1.1 EMPLOYMENT, UNEMPLOYMENT AND WAGE ESTIMATES

1.1.1. HIGHLIGHTS

- As per Employment-Unemployment Survey (by NSSO) of 2011-12 (latest available), total workforce employed stands at 47.36 crore; with 23.16 crore in agriculture and 24.2 crore in industry and services
- Economic Survey 2017-18 has estimated formal employment as:

Perspective	Number	% in non-agricultural workforce
Social Security cover	~7.5 crore	31%
Taxation filings	~12.7 crore	53%

- According to the fifth Annual **Employment-Unemployment Survey (EUS)** conducted between April and December 2015, 83% of the workers in India were self-employed, casual or contract workers.
- As per **Economic Census, 2013-14** (latest available), total workforce employed in all establishments stands at 13.1 crore. Further, own-account enterprises (OAEs), which do not employ any regular workers, and enterprises with < 10 workers together accounted for almost 79% of India's workforce
- Beginning from 2017-18, the NSSO has launched **periodic labour force surveys (PLFS)** to produce annual estimates of formal employment in the economy. This would also help India to meet the IMF's Special Data Dissemination Standards (SDDS) for releasing quarterly data on macro-economic indicators
- In April 2018, for the first time, India released report on monthly payroll for the formal sector to facilitate analysis of new and continuing employment, based on EPFO's, ESIC's and (NPS) PFRDA's payroll data and subscriptions. The period between September, 2017 and February, 2018 was covered and reported 31.10 lakh new additions across all age groups (those in the 18-25 age group, considered a proxy for new jobs, amount to 18.5 lakh). The payroll data from these three organisations would now be released every month (see box)
- Report of the NITI Aayog's **Task Force on Improving Employment Data** was released in 2017 (discussed later)
- Committee under Dr. T.C.A. Anant, former Chief Statistician of India, is also examining various approaches with a view to reducing redundancy and avoiding duplication of efforts in estimation of employment through the establishment approach. It will also look into whether the monthly payroll data released by EPFO, ESIC and PRFDA can replace the quarterly enterprises-based survey on job creation by the Labour Bureau.

Definition of 'formal' worker

In India, there exist various definitions of 'formal worker', such as:

- Those employed with enterprises registered under the Factories Act, 1948 (thus excludes those in services sector)
- Those in enterprises with 10 or more workers and all government workers
- Those who have a contract regardless of the size of the enterprise in which they work (Arjun Sengupta Committee Report)

A formal job is generally understood as regular salaried job in government establishments or private enterprises and one that comes with entitlement to one or more of the following social security benefits: provident fund, pension, and gratuity, healthcare and maternity.

Organized versus Unorganized

In India, the term "organized enterprise" was originally used to refer to the enterprises registered under the Factories Act, 1948. Industrial enterprises with 20 or more workers if not using power and 10 or more workers if using power are required to register under this Act. But in some contexts, the term has been widened to include all enterprises with 10 or more workers in both industry and services. By implications, enterprises with less than 10 workers are called unorganized enterprises.

Limitations of payroll data from EPFO, ESIC and NPS:

- It measures growth in the employees on payroll, and not the actual jobs created; thus it uses limited data points.
- It might be the case that the increase in the formal jobs is complimented by the decrease in the informal jobs (which is difficult to measure); so there is actually little job creation but only change in the nature of the job.
- It needs seasonal adjustment and needs to take into account the structural and frictional changes in the job market.
- Existence of duplicate as well as inactive accounts needs to be eliminated by Aadhaar-linking and other tools.

- EPFO-enrolled employees also include temporary or casual employees, who cannot be counted as formal employees.

CLASSIFICATION OF SURVEYS AND STUDIES TO STUDY EMPLOYMENT AND ITS COMPOSITION IN INDIA

TYPE AND NAMES	DESCRIPTION	LIMITATIONS
Household Surveys:		
<ul style="list-style-type: none"> • (+) Comprehensively cover the entire labour force • (-) These are conducted every five years • (-) Time lag between data collection and availability of the results • Eg. - Employment-Unemployment Survey (NSSO), Annual Labour Force Survey (Labour Bureau) 		
Enterprise Surveys:		
<ul style="list-style-type: none"> • (+) Better accuracy than Household surveys, in accessing industry structure, wages and other employment characteristics • (-) Available sample frames may not cover small, unorganized enterprises • (-) Self-employed and farm workers are excluded • Eg. - Economic Census (by MOSPI), Annual Survey of Industries (MoSPI), Unorganized Sector Surveys of Industries and Services (NSSO), Quarterly Employment Survey (QES) (Labour Bureau) 		
Social Security Schemes:		
<ul style="list-style-type: none"> • (+) Wide coverage of new job additions • (-) Highly partial coverage and potential double-counting of jobs • (-) Substantial overlap across the government schemes • Eg. - Employees' Provident Fund Organization (EPFO), Employees' State Insurance Corporation (ESIC) 		
Other sources:		
<ul style="list-style-type: none"> • Administrative data: it includes tax returns and filings, pension and medical insurance programs etc. <ul style="list-style-type: none"> ○ (+) Good measure of formal employment ○ (-) Partial coverage ○ (-) Difficult to gauge addition of jobs • Data from government schemes: it includes estimates via MGNREGA, MUDRA, job creations under programs such as ICDS, PMKVY, DDUGKY etc. • Emerging sources: GSTN, Big Data analytics 		

1.1.2. REASONS FOR NON-CLARITY AND LOWER CREDIBILITY OF EMPLOYMENT DATA IN INDIA

- Available estimates are either out-dated or based on surveys with design flaws.
- Large part of the labour force in the informal sector, making information very difficult to collect on a monthly basis.
- Structural shifts happening in the composition of labour force due to formalization of Indian economy.
- Withdrawal of women from the labour force over the past 15 years makes the sample survey data difficult to compare.
- With more youth staying back in college, than seeking jobs, estimation of employment numbers gets difficult further.

1.1.3. IMPROVING EMPLOYMENT DATA

Report of the NITI Aayog's Task Force (released in 2017) made recommendations to create a 21st century statistical system in India for the generation of comprehensive employment, unemployment and wage estimates on a sustained basis. These include:

- Conduct of household surveys on annual basis.
- Introduction of time-use survey, that be conducted every three years (such surveys also help in measuring women's participation in unpaid work).
- Use of technology for faster and better data collection, processing and assimilation.
- Introduction of annual enterprise survey using enterprises registered with the GSTN as the sample frame.
- Separate annual survey of enterprises excluded from the GSTN database (i.e. those in health and education sectors, and those with turnover < INR 20 Lakh in other sectors).
- Adoption of inclusive and wider definition of 'formal workers'.
- Adoption of GSTN across all legislations, ministries and departments as the universal establishment number.

1.1.4. FORMALIZATION OF INDIAN ECONOMY

- Formalization means creation and expansion of formal jobs, essentially, that come with social security, financial inclusion and legal empowerment of the workforce.
- **Advantages of formalization**
 - Increased tax revenues for the government due to better reporting under taxation laws
 - Coverage of population under social protection plans, saving from financial distress during difficult times
 - Increase workers' welfare and the opportunities for decent jobs
 - Reduce unfair competition between formal and informal enterprises arising from tax or regulatory arbitrage
- **Downsides of formalization**
 - Exclusion of population, if knee-jerk steps are taken e.g. demonetization
 - Poverty and destitution as rapid formalization imposes additional costs on informal economy
- **How should we go about it?**
 - Stress on creation of high-productivity high-paying jobs (more under 'job creation').
 - Build synergies between different sectors of economy, by inter-Ministries' coordination.
 - Ensure employability by addressing skill-mismatch, formal skill training and re-training.
 - Improve women's participation in the economy, in line with SDG 5 on Gender Equality.
 - Slow transition of informal sector into formal economy, to avoid downsides of formalization process.

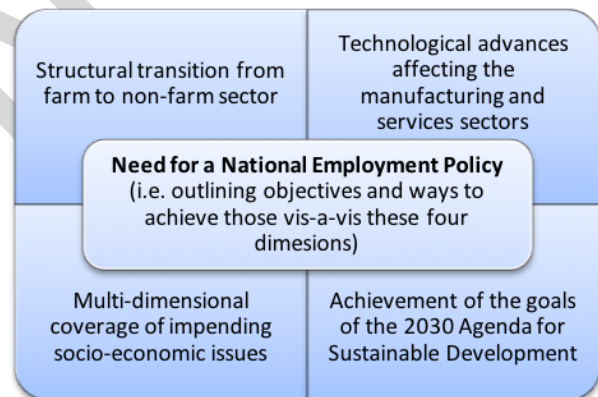
Devising a **National Employment Policy** would go a long way in ensuring coherent and converging actions for formalization of Indian economy.

Vulnerable Employment

- It is a part of set of categories, developed by ILO around its "Decent work agenda" for improving the working condition of labours
- Workers in this group tend to be in informal work arrangements, with 'inadequate earnings, low productivity, located in informal sector and difficult conditions of work that undermine workers' fundamental rights.
- In India the vulnerable employment level is higher than those of the world or the South Asia region
- Majority of jobs created in India are of poor quality and nearly 77% of workers in India will have vulnerable employment by 2019
- Consequences: poverty, premature deindustrialization, no power for collective bargaining, widening income inequality, gender disparity.

Gig Economy

It implies an environment in which temporary positions are common and organizations contract with independent workers for short-term engagements



1.1.5. JOB CREATION

- As outlined in the NITI Aayog's Action Agenda, India suffers more from the problem of underemployment (i.e. low-productivity, low-wage jobs) than unemployment as for example:
 - In 2011-12, agriculture engaged nearly 50% of the workforce but contributed 15% to GDP
 - In 2010-11, within manufacturing, small firms (<20 workers) employed 72% but output was only 12%
 - In 2006-07, in services sector, MSMEs employed 98% of workforce but produced 62% of services
- Opportunities for creation of well-paying and high productivity jobs:
 - Expansion of the organized sector to create well-paid high productivity jobs
 - Shift towards labour-intensive goods and services e.g. apparel, footwear, food processing, tourism etc.

Coastal Employment Zones

These can be a solution for creation of high productivity, high-paying jobs, if following features are incorporated:

- These should be large areas with flexible land-use conversion rules.
- These should provide liberal economic environment and tax incentives.
- Their proximity to deep draft ports will help docking of big ships.
- Adoption of easier administrative and management systems for trade facilitation and liberalization.

- Expansion in export market by developing **Coastal Employment Zones**, using better technology, and improving on quality to remain competitive
- Leverage on economies of scale offered by exports market potential
- Filling in for ageing workforce of China and also rising labour wages there
- Reformation of labour laws (outlined in the next section)
- Significant employment generation also takes place as a direct result of public investment in infrastructure and expenditure on government schemes. Such jobs, being more manual or non-cognitive, do add to the numbers but miss focus on development of cognitive abilities that are going to be indispensable for the Fourth Industrial Revolution.

1.2. LABOUR LAW REFORMS

Labour is a concurrent list subject, thus there is multiplicity of laws at Centre and the State levels. Amidst this, the focus of labour reforms should be twin-fold: to promote creation of formal sector jobs, and to not stifle employers by over-protection of workers.

In the organized sector, entrepreneurs choose to stay away from labour-intensive industries and opt for highly capital- or skilled-labour-intensive technologies in the industries that they enter. In order to incentivize entrepreneurs to accelerate the creation of regular salaried jobs, greater flexibility in labour laws is required.

Agenda for Labour Reforms

- Consolidation and simplification of numerous States' and Centre labour laws
- Introduction of fixed term employment, to curb tendency for employing (socially insecure) contract labour
- Definition of start-ups, to ease burden of compliance.

Four Labour Codes in the Making

The 2nd National Commission of labour had recommended simplification, amalgamation and rationalisation of Central Labour Laws and following 4 Labour Codes are being drafted on the same lines:

- Labour Code on Wages Bill, 2017,
- Labour Code on Industrial Relations Bill 2015,
- Labour Code on Social Security & Welfare, 2017 and
- Labour Code on Occupational Safety, Health & Working Conditions, 2018

1.2.1. CODE ON WAGES BILL 2017

Need for such a Code arises in the absence of statutory National Minimum Wage for different regions. Also, ILO report 2010, highlighted that economic prospect of the country will not yield intended outcome in the absence of unified wage law. Given that it also gives boost to the ease of doing business, brings clarity in labour legislation, and minimizes its multiplicity without compromising on the basic concepts of welfare and benefits to workers, Minister of Labour and Employment had introduced the Wage Code Bill 2017 in Lok Sabha, with the following highlights:

- It seeks to consolidate laws relating to wages by replacing:
 - Payment of Wages Act, 1936
 - Minimum Wages Act, 1948
 - Payment of Bonus Act, 1965
 - 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

Minimum Wage

It is one which is paid by an employer/industry to its workers irrespective of its ability to pay. It must provide not only for the bare sustenance of life, but for the preservation of the efficiency of the workers.

Living Wage

It should enable the earner to provide for himself and his family not only the bare essentials of food, clothing and shelter but a measure of frugal comfort including education for his children, protection against ill-health, requirements of essential social needs and a measure of insurance against the more important misfortunes including old age.

Fair Wage

It is linked with the capacity of the industry to pay. Factors such as labour productivity, prevailing wage rates, the level of national income and its distribution etc. are variables in determining fair wage. It is above the minimum wage but below the living wage.

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
- It proposes 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.

Note that **Payment of Wages (Amendment) Bill 2017** (passed in the Parliament) is a separate legislation to promote less cash economy and digital payment of wages

1.2.2. LABOUR CODE ON INDUSTRIAL RELATIONS BILL 2015

This proposed code would replace three laws i.e. Trade Unions Act, 1926; Industrial Employment (Standing Orders) Act, 1946 and the Industrial Disputes Act, 1947. It aims to create greater labour market flexibility and discipline in labour – to improve upon ease of doing business and also to encourage entrepreneurs to engage in labour-intensive sectors. Key Provisions of the Draft Bill are as follows:

- It increases the employee limit from 100 to 300 above which, the government approval is needed for layoff/retrenchment/closure – **this provision has been criticized sharply by the labour groups and trade unions**
- It provides that 10% of workers shall apply (be applicant) for registering a trade union – this has also invited opposition from various worker groups and trade unions
- It prohibits a person from holding office in more than 10 unions
- Registration of a trade union may be cancelled if it fails to hold bi-annual elections and fails to submit annual returns
- For employers employing < 50 employees, the requirement to provide a minimum of 1 months' notice and retrenchment compensation (severance) is to be removed
- It raises the retrenchment/closure compensation payable to workers from 15 days wages to 45 days wages for every completed year of service.

With the Centre's plans to amend the Industrial Disputes Act 1947 taking time due to protest from the trade unions, States are going ahead with their own labour law changes to ease retrenchment norms in a bid to attract business locally. Till date, Assam, Madhya Pradesh, Haryana, Rajasthan, Andhra Pradesh, Uttarakhand and Jharkhand have allowed larger firms to retrench workers without seeking its permission by bringing their own amendments to the Industrial Disputes Act.

1.2.3. LABOUR CODE ON SOCIAL SECURITY & WELFARE, 2017

The need for this Code arises from the fact that almost 90% of the current workers are not covered under any social security and current thresholds for wage and number of workers employed for a labour law to be applicable creates tenacious incentives for the employers to avoid joining the system which results in exclusions and distortions in the labour market. The Labour Code derives its understanding of Social Security from the fundamental **ILO Convention on Social Security (C102)**. Key provisions include:

- **Definition of employee and categorization of workers** covers all kinds of employment including part-time workers, casual workers, fixed term workers, piece rate/commission rated workers, informal workers, home-based workers, domestic workers and seasonal workers
- **Funding of social security** will be a combination of
 - employer / employee funded and

Types of Social Security covers, under the ILO Convention on Social Security (C102):

- Pension
- Sickness Benefit
- Maternity Benefit
- Disablement Benefit
- Invalidity Benefit
- Dependent's benefit
- Medical Benefit
- Group Insurance Benefit
- Provident Fund
- Unemployment Benefit, and
- International worker's pension **benefit**

- taxpayer funded (for workers belonging to poorest socioeconomic category)
- A proper percentage based structure for contribution, vis-à-vis socio economic category and minimum notified wage, has been put in place under the Code
- It introduces new approaches to ensure a transparent and fair financial set up, such as:
 - Time bound preparation of Accounts within six months of the end of the financial year;
 - Provision for social audit of social security schemes by State Boards after every five years
 - Accounts of Intermediate Agencies to be subject to CAG Audit on the same lines as that of Social Security Organizations.
- It requires all workers (who are currently active) to get registered under the (Aadhaar based) Universal Registration system envisaged in the Code for universal applicability and portability of registration
- It defines separately the terms - **Entity, Establishments, Enterprise and Business**, to distinguish between the enterprises which engage workers for any economic activity and households who engage workers for domestic requirements
- It prescribes a detailed **grievance redressal mechanism**, in order to make social security a right of each and every worker
- **Wage Ceiling and Income Threshold:** The term 'wage ceiling' is for the purpose of determining a maximum limit on contribution payable; whereas the term 'income threshold' is for the purpose of enabling the government to provide for two different kind of schemes (for same purpose) for two different class of workers
- Borrowing form western jurisdictions, it provides for **Community Service Order** i.e. to undertake unpaid work as directed by the court, in an offence with regard to social security legislation
- **Contribution Augmentation Funds** would be established through which governments could contribute to the social security in respect of workers who are unable to pay contribution
- **National Stabilization Fund** will be used for harmonizing the Scheme Funds across the country and will be managed by the Central Boards
- It prohibits unauthorized access, download, stealing, tampering or destroying of the data of any Social Security Organization (SSO) and strive to **protect privacy of personal data**

Once put into effect, this Labour Code will replace nearly 15 social security legislations.

1.2.4. DRAFT LABOUR CODE ON OCCUPATIONAL SAFETY, HEALTH AND WORKING CONDITIONS, 2018

The proposed code is the first single legislation prescribing standards for working conditions, health and safety of workers and it will apply on factories with at least 10 workers. It will amalgamate 13 labour laws including the Factories Act, 1948; the Mines Act, 1952; the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996; the Contract Labour (Regulation and Abolition) Act, 1970 etc. Highlights include the following:

- Centre has been empowered to prescribe standards on occupational safety and health
- **Annual health check** to be made mandatory in factories and its charge will be borne by the employers
- **Appointment letters** for all workers (including those employed before this code), underlying their rights to statutory benefits
- **At least 50% of penalty** levied on employers could go towards providing some relief to families of workers who die or are seriously injured while working
- Employers will need to **register under one law**, instead of going for separate registrations under labour laws for construction, contracts, plantations etc.
- **National Occupational Safety and Health Advisory Board** has been proposed to recommend standards on related matters. Similar body such as State Occupational Safety and Health Advisory Board at the state level as well as safety committee and safety officer in certain factories and establishments is also proposed
- **Appointment of facilitators** with prescribed jurisdiction for inspection, survey, measurement, examination or inquiry has been proposed
- **Mandatory license for** every contractor who provides or intends to provide contract labour. Also, license is needed for industrial premises as well
- Various allowances such as **journey allowance and displacement allowance** have been proposed for inter-state migrant workers

- **Site Appraisal Committee** is proposed to be established by state government to examine applications for the establishment of a factory involving hazardous process and make its recommendation to the State Government
- Various welfare provisions regarding washing facilities, working hours, extra wages for overtime, prohibition of overlapping shifts etc. are included in the code.

1.3. SKILL DEVELOPMENT

As we aspire to become a knowledge-based economy, development of highly skilled human capital is the key to raise innovation quotient of the workforce along with actualization of full potential of India's demographic dividend.

1.3.1. HIGHLIGHTS

- Based on formal skilling data for working age population from NSSO (68th Round) 2011-12, it is estimated that only 4.69% of the total workforce in India has undergone formal skill training as compared to 68% in UK, 75% in Germany, 52% in USA, 80% in Japan and 96% in South Korea.
- India presently faces a **dual challenge** of paucity of highly trained workforce, as well as non-employability of large sections of the conventionally educated youth, who possess little or no job skills.
- According to 68th round survey of the NSSO (2011-12), about 68% of graduates, 52% of post-graduate degree holders and 51% of graduate or post-graduate diploma holders were unemployed.
- According to a **2017 World Bank report 'Skilling India'**, more than 12 million youth in the age group 15 and 29 are expected to enter India's workforce every year in the next two decades.
- A 2018 **World Economic Forum** report ranked India at 103 (out of 130 countries) in terms of prepared of talent.
- By 2026, 64% of the population is expected to be in the age bracket of 15 to 59 years; and 13% above the age of 60.
- As per the **Economic Survey of India 2017 report** released by the OECD, over 30% of youth aged 15-29 years in India are NEETs (not in education, employment or training).
- According to the **Centre for Monitoring Indian Economy (CMIE) data** (figure below), number of the unemployed youth that is seeking jobs has fallen – leading to the phenomenon of voluntary unemployment (see image 'Dwindling numbers').

Dwindling numbers

Period	People employed* (million)	Unemployed and looking for jobs** (million)
Jan 2016	406.7	39.0
May 2016	413.2	44.0
Oct 2016	413.9	29.9
Jan 2017	408.4	25.9
May 2017	405.7	16.9
July 2017	405.4	13.7

* Organised, unorganised, agricultural & non-agricultural sectors
 ** Persons above 15 years of age looking for employment in all sectors
 Source: Centre for Monitoring Indian Economy data



1.3.2. GOVERNMENT INITIATIVES AND INFRASTRUCTURE FOR SKILL DEVELOPMENT

- National Policy for Skill Development and Entrepreneurship (NPSDE) 2015:
 - It sets the target at skilling 300 million people by 2022.
 - Special focus on skill development and entrepreneurship programmes for women and Equity.
- Institutions such as the Industrial Training Institutes (ITIs) and the Industrial Training Centres (ITCs) and polytechnics which come under the Ministry of Labour and Employment.

Skill India Mission Operation (SIMO)

- **World Bank-assisted national-level project**, incorporating vision of NPSDE 2015.
- Targeted at training of 400 million Indian people between 2017 and 2022 through with special emphasis on reaching women, poor and other excluded communities.
- Comprises of two components:
 - A program support component (tentatively about US\$ 950 million)
 - A capacity building (or Technical Assistance) component (tentatively US\$ 50 million)

- Includes four key result areas, namely:

Results Area 1(a): Institutional strengthening at the national level – planning, delivery and monitoring of high-quality market relevant training

Results Area 1(b): Institutional Strengthening at the state and district levels

Results Area 2: Improving the quality and market relevance of skill development programs at the training provider level

Results Area 3: Enhancing Access for Women and Disadvantaged Groups

Result Area 4: Expanding skills training through private-public partnerships (PPPs)

- National Skill Development Agency (NSDA) (it is set up as a **Society**), National Skill Development Corporation (NSDC) (it is a Public Private Partnership **Company** – Section 25 under Companies Act 1956) and the Directorate General of Training (DGT) under the **Skill India** mission:
 - NSDC and **Sector Skill Councils (SSCs)** exist in partnership with the industry
 - NSDC has the mandate of designing standards for skill development
 - NOSs and QPs are laid down by the SSC with the participation of the industry
- Skill Development Missions, set up by all states
- Adoption of National Skills Qualifications Framework (NSQF)
- Pradhan Mantri Kaushal Vikas Yojana (PMKVY): aims to skill 2.4 million people in diverse trades within a year
- Other schemes: SANKALP, UDAAN, STAR (Standard Training Assessment and Reward).

Sharda Prasad Committee's take on SSCs

- Abolish SSCs, since many of these have over-lapping roles and also, SSCs memberships were discovered to have conflicts of interests
- Introduce oversight mechanism on NSDC
- Keep only 21 councils in accordance with the national industrial classification of different sectors
- Exclude chairperson of NSDC from National Skill Development Fund to curb compromising tendencies

NOSs – National Occupational Standards (NOSs) specify the standard of performance, knowledge and understanding when carrying out a particular activity in the workplace. Each NOS defines one key function in a job role. Example: For a Sales Associate, one of the NOS would be to 'To help customers choose right products'

QPs – A set of NOSs, aligned to a job role, called Qualification Packs (QPs), would be available for every job role in each industry sector. These drive both the creation of curriculum, and assessments. These job roles would be at various proficiency levels, and aligned to the NSQF. Example would be Qualification Pack of a Sales Associate

NSQF Highlights

- Scope for multiple “entry and exit” within and between vocational education, skill training, general education, technical education and the job market
- Integration of vocational with formal education by introducing vocational training classes linked to the local economy from class nine onwards in at least 25% of the schools, over the next five years
- Courses are run for four years from Class IX to Class XII pertaining to a Qualification Pack prescribed by the SSCs
- SSCs would conduct assessments and provide certification aligned to the NSQF along with the State Education Board
- Being piloted in about 10 States across 1000+ schools for various trades like auto, healthcare, retail, security, IT-ITeS, beauty and wellness and sports, gems and jewellery, and tourism

Recognition of Prior Learning (RPL): The RPL framework is an outcome-based qualification framework linked to NSQF against which prior learning through formal/informal channels would be assessed and certified. The RPL process would include a pre-assessment, skill gap training and final assessment leading to certification of existing skills in an individual

1.3.3. ISSUES WITH THE EXISTING SKILL DEVELOPMENT INFRASTRUCTURE AND OUTLOOK

- Spread across nearly 20 ministries and hence lacks coherency and holistic approach; same applies to the state-level Skill Development Missions where convergence cannot be ensured without robust coordination and monitoring mechanism
- Multiplicity of norms, procedures, curricula, certification etc.
- Non-alignment with the demand – due to lack of relevant data and studies
- Non-availability of good trainers

- Reluctance of the industry in providing a wage differential for skilled workers, leading to low absorption of skilled manpower
- Society is “obsessed” with a person's “degree” more than his earning potential
- Low aspirational value
- Lack of integration with formal education
- Lack of focus on outcomes
- Low participation of women in the workforce
- Concerns with educational, vocational and professional academic bodies

1.3.4. NEED FOR SKILL DEVELOPMENT INDICATORS

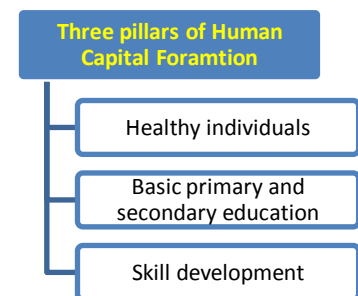
- To address the **paradoxical situation** where industry is looking for skilled manpower and skilled youth are looking for jobs.
- To meet the challenges of ageing-India and reap the potential of growing-India: the southern States – due to higher median age now and early fertility transitions – would be ageing, while the States such as UP, Bihar, Jharkhand, Rajasthan – with low median age – have different policy requirements
- To measure the outcomes of various interventions and to institutionalize a focus on improving outcomes
- To skill the population for overseas opportunities.
- Scene at world level: Internationally, OECD established **the world indicators of skills for employment (WISE)** includes a focus on contextual factors in a country, such as the GDP, population, employment in informal sector; factors affecting skill acquisition, such as educational attainment, literacy rate, enrolment ratios, vocational programme, participation in training/apprenticeship, factors affecting skill requirement, such as employment share by level of education, occupation, incidence of self-employment, skill use and outcomes in terms of growth in GDP, labour productivity, employment rate, earnings, etc.
- The indicators can be classified under broad parameters of access, equity, quality, relevance and finance.

1.3.5. CONCERNS

- Unavailability of suitable jobs for the skilled youth (over-education)
- Voluntary unemployment preferred over low-paying jobs (especially when one paid high educational fees) i.e. adopting the ‘wait-and-watch’ policy for the right job profile and remuneration
- Downgrading of employment i.e. hiring of candidates, with higher but superfluous qualifications, for elementary positions (e.g. news reports of PhD holders applying for peon vacancies)
- Disparity between colleges/universities’ curriculums and industry requirements/expectations
- Inability of the teaching staff to cope with varied and dynamic needs of the industry
- Need to distinguish between enhancement of skills by education versus on-the-job training
- Devaluation of skill-focussed learning – vocational education is deemed as undignified and equated with blue collar jobs
- Stress on life skills including language and communication skills, work ethics is missing.

1.3.6. WAY FORWARD

- NITI Aayog’s programme ‘Sustainable Action for Transforming Human capital’ (SATH) is the much need intervention to harvest the demographic dividend
- Establishment of National Skills University will help in addressing the false perception of society with vocational education and setting up higher standards of skill
- Partnership with the industry experts is needed for creation of a pool of trainers and instructors
- Technology should be exploited to expand the reach of skilling programmes and institutes
- Mechanism to harness the Non-resident Indian (NRI) talent pool for mentorship, skill development and expertise (as recommended by Tarun Khanna-headed Expert Committee on Innovation & Entrepreneurship) are being worked upon e.g. VAJRA



1.4. RECENT GOVERNMENT INITIATIVES

1.4.1. SANKALP & STRIVE SCHEMES: SKILL INDIA MISSION

SANKALP stands for Skills Acquisition and Knowledge Awareness for Livelihood Promotion and **STRIVE** stands for Skill Strengthening for Industrial Value Enhancement. Both the Schemes are assisted by the World Bank.

Highlights of the Schemes

- These are **outcome focused projects** marking a shift in government's implementation strategy in vocational education and training from inputs to results.
- SANKALP, a centrally sponsored scheme (funded directly by Central Ministries and implemented by States or their agencies), addresses this need by **setting up national bodies for accreditation and certification**. The bodies shall regulate assessment and certification in both long and short term vocational education and training (VET).
- STRIVE, a central sector scheme (funded and implemented by the Central Government machinery), aims to modernize 500+ ITIs through outcomes and reform linked funding.
- The architecture shall help to **converge the efforts** of various central, state and private sector institutions thereby avoiding duplication of activities and bringing about uniformity in vocational training.
- The schemes aim to strengthen institutions such as **State Skill Development Missions (SSDMs), National Skill Development Corporation (NSDC), Sector Skill Councils (SSCs), ITIs and National Skill Development Agency (NSDA)** etc. and ensure greater decentralization in skill planning.
- They support **universalization of National Skills Qualification Framework (NSQF)** including National Quality Assurance Framework (NQAF) across the skill development schemes of central and state output.

1.4.2. START-UP SANGAM INITIATIVE

- It was launched for bringing in **innovations and disruptions in the technology** in heavy oil and gas industry
- Under the initiative a **corpus of 320 crore** has been put together by contribution of various PSUs like - India Oil Corporation, ONGC, Engineers India etc.
- It will be used to fund more than 30 start ups for the next three years
- The selected start-ups will work in various energy fields such as converting **waste plastics to petroleum fuels, solar stove, multipurpose fuel from agricultural waste biomass and leak detectors for liquefied natural gas (LNG) cylinders** etc.
- It is expected to **reduce fuel import dependence** through innovations in alternative fuels.

Start-Ups in India

- India is the third largest start up hub in the world with 20% of the start-ups emerging from tier 2 and tier 3 cities
- The major start-ups in India comprise of tech based (close to 45%) and about 72% being young founder below the age of 35 years
- The growth drivers of the flourishing start-up ecosystem are – government focused on policy start-ups, demographic dividend, rapid urbanisation, large number of internet users and India being an emerging market.

1.4.3. INDIA BPO PROMOTION SCHEME (IBPS) AND NORTH EAST BPO PROMOTION SCHEME

India BPO Promotion Scheme (IBPS): IBPS was launched in 2014 with an outlay of 493 crore up to 31 March 2019. It has been approved under the Digital India Programme to incentivize the BPO/IT-ITES operations sector in the country.

- **Software Technology Park of India (STPI)** is the implementing agency of the scheme.
- The Scheme aims to **incentivize the establishment of BPO firms** and their extension to **Tier 2 and Tier 3 cities** providing about **1.45 lakh jobs**, distributed across various states in proportion to the population of State with **financial support** in form of **Viability Gap Funding**.
- **Features of the scheme**
 - Financial support up to 50% of the expenditure towards Capital Expenditure and/or Operational Expenditure subject to an upper limit of 1 Lakh per seat.
 - Special incentives for employing women and persons with disability, generating employment beyond target and wider dispersal within state.
 - Encouragement of local entrepreneurs

- Special consideration for Hilly areas and **rural areas**.
- **Significance**
 - It will **create employment opportunities** for youth, by promoting IT-ITES services through setting up of BPOs/ITES Operations.
 - Promote **investment in IT/ITES sector** to expand the base of IT industry and secure balanced regional growth.
 - Expanding the reach of BPOs in Tier 2 and Tier 3 cities will help the companies to retain their cost arbitrage as expenses are soaring in Tier 1 cities
 - It is significant for the women empowerment and benefits for people with disabilities as well.

Recently, it was reported that under the India BPO promotion scheme, 11,000 people have been employed out of which 40% are women.

BPO Sector in India

- India holds a total share of 38% in global BPO industry due to advantages such as skilled manpower, high-quality low cost technology etc.
- However, according to the Nasscom projection the growth prospects of Indian BPO sector had lowered to 10% in 2016-17 from 12% in 2014-15.
- Some of the reasons for lowered projections are rapidly shifting technology, Brexit, changes in visa and immigration norms, protectionist policies of USA, growing automation and robotics.
- India's BPO sector which is primarily concentrated in few Tier 1 cities which is currently facing issues such as rising cost of real estate and salaries to the skilled manpower. Thus increasing the running cost and loss of their edge over other countries.

फाउंडेशन कोर्स सामान्य अध्ययन

इनोवेटिव क्लासरूम प्रोग्राम के घटक

○ प्रारंभिक और मुख्य परीक्षा के लिए

DELHI 11 Sept	JAIPUR : 24 Aug LUCKNOW : 18 Sept AHMEDABAD : 23 July
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हिन्दी माध्यम में

ऑनलाइन कक्षाएं भी उपलब्ध

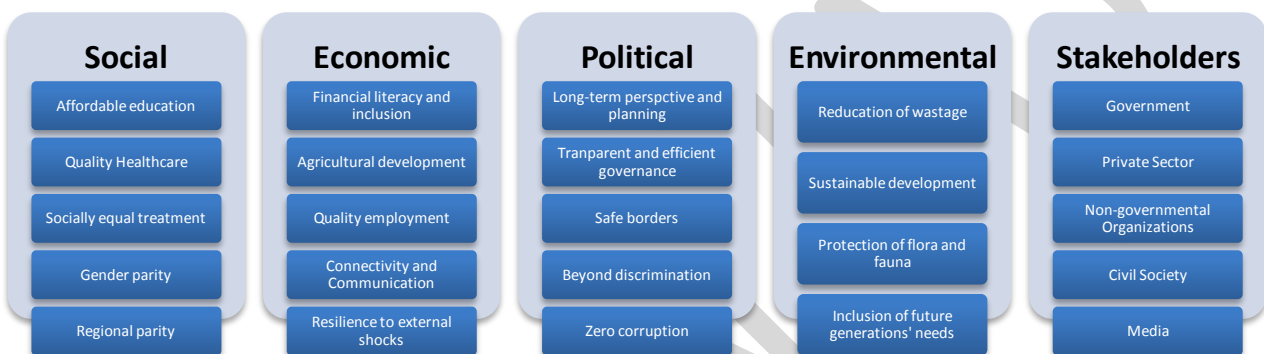
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- ▶ प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- ▶ मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- ▶ एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- ▶ अंतर - विषयक समझ विकसित करने का प्रयास
- ▶ योजनाबद्ध तैयारी हेतु करेंट ओरिएंटेड अप्रोच
- ▶ नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- ▶ कॉम्प्रीहेंसिव स्टडी मटेरियल
- ▶ **PT 365** कक्षाएं
- ▶ **MAINS 365** कक्षाएं
- ▶ **PT** टेस्ट सीरीज
- ▶ मुख्य परीक्षा टेस्ट सीरीज
- ▶ निबंध टेस्ट सीरीज
- ▶ सीसैट टेस्ट सीरीज
- ▶ निबंध लेखन - शैली की कक्षाएं
- ▶ करेंट अफेयर्स मैगजीन

2. INCLUSIVE GROWTH

- Inclusive growth, sustainable development and poverty alleviation are intimately interlinked.
- Inclusive growth has been India’s policy focus throughout and the 12th Five Year Plan was even titled as – “Faster, sustainable and more inclusive growth”.
- Numerous programmes associated with inclusive growth include: MGNREGA, IAY, NHRM, NSAP, SSA, JNNURM, NAPCC, Digital India, Skill India and so on.
- Yet, for India, high growth rate over the past two decades had not been equitable.
- India was ranked at the 62nd position on the Inclusive Development Index (IDI) of the World Economic Forum, released in January 2018.
- An Oxfam report titled ‘**Reward Work, Not Wealth**’ highlighted that the richest 1% in India cornered 73% of the wealth generated in the country last year. Besides, 67 crore Indians comprising the poorest half saw their wealth rise by 1%.

DIMENSIONS OF INCLUSIVE GROWTH



SAMAVESH - Promoting Excellence For Transformative Policy Reform

What: Programme by the NITI Aayog, launched in pursuance of the Prime Minister’s call for a New India 2022 – this is the first ever initiative taken to bring the large number of institutions cutting across diverse domain themes to deliberate together on the way forward for inclusive development of the country

Why: to achieve sustainable and more inclusive development in line with SDGs as well as the 15 year Vision, 7 year strategy and 3 year action plan being developed by the NITI Aayog

How: It will link together various lead Knowledge and Research Institutions to catalyse development processes, deepen and extend the institutional capacity, create an ecosystem of **evidence-based policy research**. NITI Aayog will also execute MoUs with selected Partner Institutions. As part of Samavesh initiative, a new link on NITI’s website has been launched which would eventually emerge as a major repository of knowledge-based reports and case studies across different sectors.

Inclusive Development Index – WEF

- It is an annual assessment of 103 countries’ economic performance that measures how countries perform on eleven dimensions of economic progress in addition to GDP
- It has 3 pillars– growth and development; inclusion and; intergenerational equity
- It takes into account the “living standards, environmental sustainability and protection of future generations from further indebtedness
- Despite its low overall score, India is among the 10 emerging economies with ‘advancing’ trend.

2.1. MEASUREMENT OF POVERTY

Poverty is broadly defined as unacceptable deprivation of well-being which is multidimensional. Thus, an objective assessment of poverty should essentially recognize its multidimensionality.

- **Absolute poverty:** it is described in terms of the inability to satisfy one’s basic minimum needs that are necessary to maintain a minimum

Criticism against estimations of poverty by various Committees:

- Inappropriate adjustment procedure for consumption levels
- Use and uniform application of WPI as a deflator to represent price change in the poverty line
- Use of fixed consumption basket over time
- Debates on recall periods

essential standard of living e.g. minimum essential level of food and nutrition

- **Relative poverty:** it is defined in reference to the position of a household/an individual in relation to the distribution of average income or consumption in a specific region or economy
- Studies conducted in India to define poverty and fix a poverty line:
 - **Working Group Poverty Line (1962):** it took a household of five members as a unit; the line was fixed at INR 20 per capita (at 1960-61 prices).
 - **Task Force Poverty Line (1979) under Dr. Y K Alagh:** It defined the poverty line as **per capita consumption expenditure** level, which meets the average per capita daily calorie requirement of 2400 kcal in rural areas and 2100 kcal in urban areas **along with the associated quantum of expenditure on non-food items** such as clothing, shelter, transport, education, health care, etc.
 - **Expert Group (1993) under Prof. D T Lakdawala:** It disaggregated the national level rural and urban poverty lines as defined by the Task Force (1979) into state-specific poverty lines.
 - **Expert Group (2009) under Prof. Suresh Tendulkar:** It advocated the use of Mixed Reference Period (MRP) based estimates of consumption expenditure as the basis for future poverty lines as against the previous practice of using Uniform reference period (URP) estimates of consumption expenditure.
 - **Expert Group (2012) under Dr. C. Rangarajan:** It provides an alternate method to estimate poverty levels and examine whether poverty lines should be fixed solely in terms of a consumption basket and purchasing power parity.

NITI Aayog Task Force: NITI AAYOG also proposed four options to arrive at a poverty line with due considerations from other stakeholders. Other highlights:

- Track progress over time of the bottom 30% of the population.
- Track progress along specific components of poverty such as nutrition, housing, drinking water, sanitation, electricity and connectivity.
- **NITI Aayog is favouring for the Tendulkar line which set poverty ratio to 21.9% as compared to Rangarajan committee which had a higher poverty ratio of 29.5%.**
- To remove any criticism that many poor would be left behind if poverty line as per Tendulkar committee is adopted, NITI Aayog has underlined that it will only be used to track progress in combating poverty rather than identifying the poor for entitlements.
- **SECC data as suggested by Saxena and Hashim committee will be used for entitlements.**

Way Forward

- Combating Poverty can be achieved through growth, jobs, and expanding the central role of agricultural growth
- Effectiveness in government programme such as National Food Security Act (NFSA), 2013, Mid-day Meal Scheme (MDMS), Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is direly needed
- Identification of five poorest families in the village and endeavour to lift them out of poverty and Jan Dhan Yojana, Aadhaar, Mobile (JAM) trinity could play a vital role in widening the reach of poverty elimination to the vulnerable sections.

2.2. STRATEGY ON RESOURCE EFFICIENCY

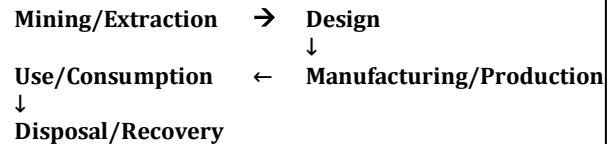
NITI Aayog in collaboration with the European Union delegation to India released the Strategy on Resource Efficiency (RE). Various countries have taken relevant steps and pioneered in RE highlighting the need for similar steps to be taken by India, for example German Resource Efficiency Programme (ProgRes), and European Commission's Roadmap to a Resource Efficient Europe.

- MoEFCC and Indian Resource Panel (InRP) (in April 2017), launched the **Indian Resource Efficiency Programme (IREP)** to make resource use economically and environmentally sustainable
- IREP recommended the **development of Strategy on Resource Efficiency** for enhancing resource-use efficiency in Indian economy and industry.
- Since a single universally applicable indicator does not exist, the strategy recommends India to use **GDP per Domestic Material Consumption** for measuring RE in the initial phase

- The strategy **focuses on abiotic material resources** (excluding fossil fuels) of two strategic sectors: Construction & Mobility (these sectors have witnessed high growth rate, are biggest consumers of materials, contribute significantly to GDP and employment in the country)
- In 2010, **India's material demand** was the third largest in the world, after China and the United States. India consumed about 7.2% of globally extracted raw materials in that year.
- Consumption patterns remain highly differentiated in India with an urgent need to reconcile the oversupply of resources and materials to the upper and middle classes and an undersupply along with severe lack of access of basic minimum resources for the poor.
- Thus, concerns over larger **economic, social, political and environmental consequences** like resource depletion, price shocks and rapid degradation of natural resource base have emerged which calls for a judicious use of resources urgently
- The **SDG 12 (Responsible consumption and production)** also recognizes the potential of resource efficiency in resolving the short-term trade-offs between growth and environmental sustainability towards enhancing the overall security of human beings.

Resource Efficiency

- **It is the ratio between a given benefit or result and the natural resource use required for it.** In a way, it advocates using the Earth's limited resources in a sustainable manner while minimising impacts on the environment.
- It is closely linked with the concept of **Circular Economy** (which implies reusing wastes back into new products and uses, instead of wasting such potential resources).
- However, resource efficiency encompasses a wider range of strategies through the entire life-cycle of products:



Global Context

- Globally, the extraction of primary materials increased from 24 billion tonnes in 1970 to 70 billion tonnes in 2010 (UNEP, 2016).
- The highest increase in use of natural resources can be found in Asia, where the extraction of primary materials more than quintupled in just 40 years, particularly after 1990.

Benefits of Resources Efficiency

- **Economically:**
 - Improves resource availability which translates into reduced price spikes due to supply constraints or disruptions.
 - Improves industrial competitiveness and profitability, since material cost is typically the largest cost for the manufacturing sector.
 - Creates new industries, including those in the recycling sector, as well as in innovative design and manufacturing.
 - Improves the country's trade balance and promote economic stability by reducing import dependence.
- **Socially:**
 - Reduces extraction pressures, which may reduce conflict and displacement in mining areas, as well as improve health and welfare of local communities (since India's mineral rich areas are under dense forests and inhabited by indigenous communities).
 - Contributes to improved affordability of and access to resources critical for poverty reduction and human development
 - Leads to job creation, not only in the recycling sectors, but also high skilled jobs in innovative design and manufacturing.
 - Contributes towards preserving resources for future generations.
- **Environmentally:**
 - Helps to reduce ecological degradation and pollution associated with mining.

Components of RE Strategy

- Impact Assessment of RE measures (through various concepts and indicators)
- Assessing material use in selected sectors
- Enhance material efficiency in selected sectors

Recommendations for RE Strategy

- **Promotion** through ways like Eco-labelling, standards, technology development, green public procurement, industrial clusters, awareness, etc.
- **Regulations** using economic instruments like viability gap funding, policy reforms across life cycle stages, etc. to facilitate viable ways to decouple economic development from material consumption.
- **Institutional development** like capacity development, institutional set-up and strengthening, database and indicators, resource index as a part of economic survey, etc.

- Provides opportunities for undertaking landscape restoration and regeneration of degraded mined areas.
- Reduces waste generation which will not only reduce pollution associated with disposal but also save related costs.
- Reduces GHG emissions, since resource extraction and use is highly energy intensive.

Existing Policy Context in India

- There are many existing policies influencing resource use at different lifecycle stages, viz.
 - **Mining stage**- National Mineral Policy includes zero-waste mining as a national goal and emphasizes the need to upgrade mining technology.
 - **Design stage**- Policies like the National Housing and Habitat Policy, 2007 and the Pradhan Mantri Awas Yojana (PMAY), 2015 emphasize on developing appropriate ecological design standards for building components, materials and construction methods.
 - **Manufacturing stage**- “Make in India” provides special assistance to energy efficient, water efficient and pollution control technologies through Technology Acquisition and Development Fund (TADF).
 - **End-of-life stage**- Policies to tackle all types of waste ranging from hazardous waste to Municipal Solid Waste (MSW), Construction and Demolition (C&D) waste, plastic waste and e-waste.

However, their design, emphasis, integration or implementation is often suboptimal in terms of achieving RE goals.

2.3. HILL AREA DEVELOPMENT PROGRAM

HADP has been launched on pilot basis in the hilly districts of Manipur, and would be expanded over other states of the Northeast

- The basis for selection of the districts for this programme is the Composite District Infrastructure Index – by discovery of the districts that have fallen behind in terms of development
- Such a dedicated programme is designed due to the distinct geo-physical nature of the Northeast States – to ensure development based on dedicated research and deliberation
- The approach of the Government is twofold:
 - To ensure equitable development of every area, every section of society and every tribe living in the North Eastern Region and;
 - To bring the eight North Eastern Region States at par with the more developed states in the rest of India.

Composite District Infrastructure Index

- It has been prepared by Ministry for DoNER to help the in better targeting of schemes and projects within the North Eastern Region (NER) in order to reduce intra-regional disparity.
- It is based on seven broad indicators:

- Transport facilities	- Energy
- Water supply	- Education
- Health facilities	- Banking facilities
- Communication infrastructure	
- The index is also expected to serve as a useful guide in formulation and implementation of various development policies by the Government of India.

Special focus on hill areas has been part of the planning since the Fifth Five Year Plan, when the HADP and the Western Development Programme were first launched. Such programmes are being implemented in various forms and dimensions since then.

2.4. TRANSFORMATION OF ASPIRATIONAL DISTRICTS

Transformation of Aspirational Districts (TAD) programme aims to quickly and effectively transform the chosen 115 districts (at least one from 28 states, excluding Goa). NITI Aayog will anchor this programme, along with the **States as the main drivers.**

- The broad contours of the programme are:
 - **Convergence** – of Central and State Schemes.
 - **Collaboration** – of Central, State level 'Prabhari' Officers and District Collectors, and
 - **Competition** – among districts based on the real time data and driven by a Mass Movement.

- It will focus on the strength of each district, identifying low-hanging fruits for immediate improvement, measuring progress, and ranking districts
- One of the main elements of the strategy is to identify selected Key Performance Indicators (KPIs), monitor the progress made in these indicators and carry out annual ranking on the incremental progress made. **The KPIs chosen are to be district specific** (see graphic)
- Central and State Government Officers will be appointed at the level of Additional/Joint Secretary as the **“Prabhari”** and Nodal Officers, to act as a bridge between the Centre, the state and the district
- A district level team would prepare a baseline report of the current status of different indicators and based on the resources available, would also prepare year-wise targets
- The central representatives would be visiting the district at least once in two months and prepare a report for NITI Aayog, which after analysing it would place the findings for consideration to the **Empowered Committee of Secretaries**.

How is TAD different from earlier programmes?

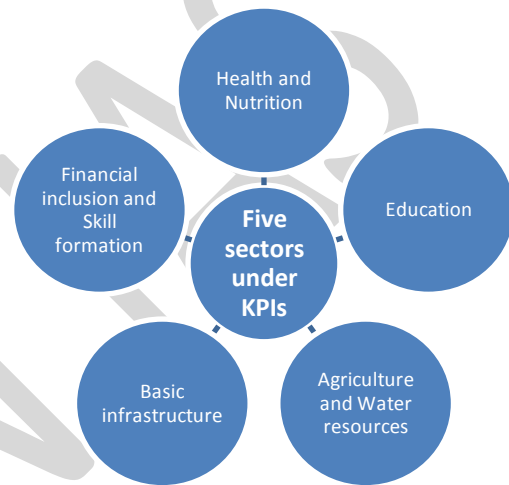
It differs from earlier programmes such as the Integrated Action Plan, JNNURM etc. in the following dimensions:

Scale: 115 districts so chosen cover 20% of population, recognizing disparities in development.

Scope: partnership with civil society, thus accruing benefits from different perspectives, technical skills and on-the-ground experience.

Methodology: data at the core of policymaking, focus on outcomes than outputs, development of composite index for each district based on KPIs.

Ownership: Engages all levels of governments, with focus on district-specific strengths.



Recently, the **Small Industries Development Bank of India (SIDBI)** has tied up with the Common Service Centres (CSC) in these Aspirational Districts to implement a plan to **promote micro enterprises** therein across the country to contribute in their development.

2.5. ISLAND DEVELOPMENT AUTHORITY

Island Development Authority was constituted in June 2017 for the holistic development of islands. It is chaired by Union Home minister and includes secretaries of various ministries.

- IDA had identified 10 islands for development which include five among the Andaman and Nicobar Islands (i.e. Smith, Ross, Long, Avis and Little Andaman) and five in Lakshadweep (i.e. Minicoy, Bangaram, Thinnakara, Cheriya, Suheli)
- Projects will be undertaken after giving due consideration to unique maritime and territorial bio-diversity of the islands
- Further development of tuna fishing industry and community based tourism to boost livelihood options and building a sustainable approach for thriving maritime economy of project islands is also envisaged

Importance of Islands Development for India

- **Strategic Maritime Role:** India being the largest maritime power in the Indian Ocean Region (IOR) has the responsibility to contribute to the safe passage of trade and energy needs of the world, in the sea lines of communications (SLOCs) passing through 10 Degree Channel and straits of Malacca, Hormuz and Bab El Mandeb
- **International cooperation:** A&N islands are an important element in “India’s Act East Policy”. Further they have important role to play in building up defence linkages with

Key facts about India’s island Territories
Andaman and Nicobar Islands

- They comprise 572 islands and called ‘India’s Gateway to the East’ as they are just 75 nm from the tip of Indonesia.
- Duncan passage separates Little Andaman from South Andaman and the Ten Degree Channel separates Great Andaman from the Nicobar group in the south.

Lakshadweep Islands

- It constitutes Lakshadweep, Minicoy and Amindivi archipelago group of coral islands in the Arabian Sea
- The island groups consist of 12 atolls, three reefs and five submerged banks and of the 36 islands only 10 are inhabited, and many sea farers come from the islands.

other countries through naval exercises, Humanitarian relief and Disaster development e.g. Exercise Milap, Malabar etc.

- **Economic Importance:** Indian Islands have the potential for development of refineries and tourism with proper investment. Apart from this they also extend our Exclusive Economic Zone and help providing variety of natural and maritime resource whose advantage can be taken
- **Regional Connectivity and trade:** Indian islands can have deep water ports and large bays for ships to anchor can also be developed which will lead to increased trade, more habitation, decrease poaching and infiltration by non-state actors
- **Blue Economy:** Island development can be central to our vision of Blue economy which encompass Green Economy or environmental sustainability and Coastal Economy i.e. complementarity between coastal states and island development which are further key to Sustainable use of the Oceans and maritime resources (SDG 14)

Challenges

- **Natural Disasters:** The islands are prone to Cyclone (e.g. OKCHI cyclone over Lakshadweep), floods, storm surges and Tsunami which cause loss of lives and property and damage to environment in the region
- **Climate Threats:** Global warming and sea level rise have been contributing to sinking of and reduction of land area on islands. Along with this Ocean acidification has also contributed to coral bleaching in Indian island territories
- **Environmental and tribal development challenge** also ensue as A&N islands are home to Great Andamanese, Onges, Jarawas and Sentinelese tribal groups which mainly reside in the environmentally sensitive zones in the area
- **Chinese expansion** into Indian ocean through String of pearls, setting up of military base in Djibouti and routine deployment of submarine pose a broader security threat to India especially to island groups as they are currently vulnerable from security perspective
- **Basic Services:** Significant efforts are required to provide electricity and water to elevate the conditions of islands
- **Logistical issues:** Road building, airstrip construction, and even the building of jetties has been slow
- **Non-Conventional Threats: Piracy** on the high seas, illegal migration from littoral states of the Bay of Bengal, poaching of marine and forest resources, arms and narcotics smuggling through uninhabited islands also pose a threat in island territories

Steps taken by India

- To tackle the threats of terrorism and piracy India has established a Far Eastern Naval command and a **tri-service Andaman and Nicobar military Command**.
- Tsunami Early warning system and similar systems for cyclone have been put in place
- **SAGARMALA initiative** envisages port modernisation and efficiency improvement not only along coasts but in islands
- **A Financial package** of 10000 crore was approved in 2015 to boost Digital connectivity through optical fibre cable, physical connectivity through roads, rail and bridges. Further plans to establish naval air stations at Shibpur and Campbell Bay, ship-building and ship-repairing facilities at A&N islands are also on the anvil
- In 2016 India-Japan agreed on bilateral cooperation to “develop smart islands”
- **NITI Ayog** is preparing guidelines for promoting investment through PPP projects and thus boosting private sector participation in Island development.

3. FINANCE AND BANKING

Introduction

- The banks are the lifelines of the economy and play a catalytic role in activating and sustaining economic growth, especially, in developing countries like India. Since the 1970s, public sector banks (PSBs) have been in the forefront of mobilizing resources from far flung rural areas as well as extending banking services in the remotest parts of the country.
- **Some of the key functions are performed by banks/financial institutions include**
 - **Mobilizing and pooling savings** of diverse individuals, overcoming transaction costs and invest in projects that elicit high returns, thereby **enabling economic growth**.
 - As a provider of capital, financial intermediaries can effectively monitor and influence how firms **use capital and utilize resources more effectively**.
 - Financial systems help mitigate risks associated with individual firms, industries, countries etc. by investing in a diversified portfolio of innovative projects.
 - A financial system facilitates transactions in the economy, by providing the mechanism to make and receive payments.

However, our banking system, at the present juncture is facing significant challenges, which if not addressed quickly and adequately, may result in loss of opportunities as and when the economic growth starts picking up momentum.

Macroeconomic landscape

- Since the onset of the Financial Crisis in 2008, the global economy has continued to face rough weather and the Indian economy and banking system have not remained immune.
- Geopolitical risks surrounding oil prices and the uneven effects of currency and commodity price movements also pose significant threat to economic stability. Sustenance of highly accommodative monetary policy in the Advanced Economies has also created monetary policy challenges in emerging markets like India.

Banking and Poverty Reduction

- By providing poor people access to financial services (credit, saving instrument etc.) through financial inclusion
- **Trickle-Down Theory:** Transforming the benefit of economic growth as:
 - ✓ Economic growth helps generate jobs for the poor and reduce wage differentials between skilled and unskilled labor.
 - ✓ High growth could lead to increased tax revenues, enabling the government to spend more effectively on social benefits for the poor.

Poor Governance

- There has been a lack of transparency in lending operation, undue influence and interference by government and influential businesses, rise of nepotism and short tenures of top brass executives, which led to increase in NPAs and damage to image for whole banking system. Eg: recent episode where borrower fled away after defaulting.

Issue with RBI

- Time and again successive governments have tried to curtail RBI's independence by various means, which according to International Journal of Central Banking in 2014, RBI was listed as the least independent among 89 central banks considered.
- **Poor Monetary transmission:** Banks indulged in malpractices which include violation of RBI guidelines, inflating of base rate and arbitrary adjustment of spreads.
- There is a **conflict of interest in the RBI** responsibility of setting the short term interest rate (i.e. the task of monetary policy) and selling bonds for the government.
- Restricted ability of the central bank to respond to financial crises or unforeseen events.
- **Monetary Policy vs Fiscal Objective:** Objective of monetary policy is 'to achieve price stability while striking a balance with the objective of the Central Government to achieve growth'.

Poor Asset Quality

- The biggest risk to India's banks is the rise in bad loans. The slowdown in the economy in the last few years led to a rise in bad loans or non-performing assets (NPAs).

- The gross non-performing asset (GNPA) of the Scheduled Commercial Banks (SCBs) has deteriorated from 10.4% in September 2017 to 11.6% in March 2018. The deterioration with regards to public sector banks is even sharper: from 13.7% to 15.6%.

Capital adequacy of banks

- In the last few years, CRAR has declined steadily for Indian banks, especially for public-sector banks, raising the concern about the ability of our banks to raise additional capital to support their business.
- If banks do not shore up their capital soon, some could fail to meet the minimum capital requirement set by the RBI.

Unhedged forex exposure

- The forex market have the potential to inflict significant stress in the books of Indian companies who have heavily borrowed abroad.
- This stress can affect their ability to pay back debt to Indian banks. As a result, the RBI wants banks to ensure companies they lend to do not expose themselves to unnecessary debt in dollars.

Technology and its impact

- Technology have major implications for access, efficiency, and financial sector stability. But, lack of technological tool in banking system has made them inefficient and less competitive wrt to their global counterparts. Banking these days requires incredible depth in areas such as risk management, project evaluation, treasury, credit evaluation, fraud detection, real-time monitoring of millions of streams of data, and deep analytics, to sustain their relevance in digital century.
- Policy makers need to constantly monitor and adapt proper regulatory frameworks that keep pace with the speed at which financial innovations occur.

Challenges to Digital Banking

- **Security Risks** - External threats such as hacking, sniffing and spoofing expose banks to security risks. Banks are also exposed to internal risks especially frauds by employees / employees in collusion with customers
- **Financial Literacy / Customer Awareness** - Lack of knowledge amongst people to use e-banking facilities is the major constraint in India.
- **Fear factor** - One of the biggest hurdle in online banking is preference to conventional banking method by older generation and mostly people from the rural areas. The fear of losing money in the online transaction is a barrier to usage of e-banking.
- **Training** - Lack of adequate knowledge and skills is a major deterrent for employees to deal with the innovative and changing technologies in banks. Training at all levels on the changing trends in IT is the requirement of the day for the banks.

Steps taken to improve banking System in India

- **Consolidation of Public Sector Banks:** The government is working on a consolidation of public sector banks with a view to creating 3-4 global-sized banks following the recommendation of **Narsihman Committee Report 1991**.
 - ✓ It 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, increasing capacity to raise resources, better targeting of underserved segments and stronger overall profitability contributing to higher credit ratings.
 - ✓ **Challenges:** large-scale shutting of branches in urban centres, reduction in staff strength and exploring the right business synergy and work culture, difficulty in arriving minority shareholders etc.
- **Domestic- Systematically Important Banks (DSIBs):** Recently RBI listed HDFC as DSIBs.

Core banking solution (CBS)

- It is a back-end system that processes daily banking transactions and posts updates to accounts and other financial records.
- **e-Kuber** is the CBS of Reserve Bank of India. It provides the provision of a single current account for each bank across the country, with decentralised access to this account from anywhere-anytime using portal based services in a safe manner.
- **SWIFT (Society for World Interbank Financial Telecommunication System platform)**, is used to transmit messages relating to cross border financial transactions. It enables secure, seamless and automated financial communication between users.

- ✓ 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.
- ✓ 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.
- **Linking SWIFT to CBS:** Reserve Bank of India has directed banks to link the **SWIFT** with the **core banking solutions (CBS)** of banks, to prevent frauds like the recent one perpetrated on Punjab National Bank (PNB).
- The Government of India has unveiled details of an overarching framework for the reforms agenda - “**Responsive and Responsible PSBs**” to ensure that this capital is effectively utilized towards faster economic growth

Banking Reforms Roadmap

The reform agenda, aimed at **EASE** – Enhanced Access and Service Excellence, is based on six themes. Capital infusion is dependent on PSB performance on these reform themes.

Theme 1: Customer Responsiveness

- **EASE for customer comfort** through promotion of digital banking and progressively making brick-and-mortar branch visits redundant, simplification of forms, providing one-stop access of financial services to customers including banking-plus services (insurance & investment), pleasing ambience with courteous staff and basic customer amenities.
- **EASE in Grievance redressal** through enabling real-time complaint status tracking by complainant with feedback from them to check the quality of redressal and analyzing & taking effective action on common grievances to avoid recurrence.
- **EASE for Senior citizens and differently abled** through doorstep banking, dedicated counters or giving preference in service, digitization and proactive services to minimize the visits required.
- **Annual EASE ranking index on customer EASE** to measure bank’s customer responsiveness and performance on all EASE items.

Theme 2: Responsible Banking

- **Clean lending and prudent asset management** – through creation of Stressed Asset Management Vertical (SAMV) for focused recovery efforts of identified Stressed Assets, tie-up with agencies for specialized monitoring (ASMs) for clean & effective post-sanction follow-up, institute efficient practices for effective coordination in large consortium loans, strict segregation of pre- and post-sanction roles & responsibilities, differentiated banking strategy etc.
- **Furthering financial stability** – by checking aggressive and imprudent lending through proactive, dynamic and systemic risk management, monetizing realizable value from sale of non-core assets and rationalizing overseas operations.

Recapitalisation of Public Sector Banks

In October 2017, the government committed to infuse capital in PSBs to the tune of Rs. 2 Lakh 11 thousand crores. Keeping its commitment intact, the government decided to infuse capital of around Rs 1 lakh crore via three modes:

- **Gross Budgetary Support (GBS):** Rs 8,139 crore
- **Recap Bonds:** Rs 80,000 crore
- **Market Raising:** Rs 10,312 crore

The government divided banks into two categories viz Non PCA banks and PCA banks to infuse capital.

Implications of Issuance of Recapitalisation Bonds

- Recapitalisation will not only help banks tackle bad loans but can also be used for fresh credit creation that has remained stagnant for a long period.
- It will also improve the Bank’s asset-debt ratio thereby improving its equity rating in the stock market which is likely to attract its private shareholders.
- The issuance of recap bonds will result in widening of the fiscal deficit. However, being cash neutral transaction, fiscal deficit will only be impacted by the interest cost on the bonds that the government pays every year.
- Recapitalisation bonds will increase the government’s debt liability by 0.8% of GDP (47.5% in FY17). With no extra government borrowing, the issuance of recapitalisation bonds is unlikely to be inflationary in nature.

‘Prompt corrective action’ (PCA) framework:

- PCA framework is a supervisory tool, which involves monitoring of certain performance indicators of the banks as an early warning exercise.
- Its objective is to facilitate the banks to take corrective measures including those prescribed by the Reserve Bank, in a timely manner, in order to restore their financial health.
- The framework also provides an opportunity to the Reserve Bank to pay focussed attention on such banks by engaging with the management more closely in those areas.

- **Improving governance for ensuring outcomes** – It involves following a board-approved strategic vision & business focus plan, evaluation of performance of Bank's Whole Time Directors by boards and strengthening & empowerment of boards.

Theme 3: Credit Off-take

- **EASE for the borrower & pro-active delivery of credit**- through online application facility for loans, digitalizing non-retail credit appraisal process, development of differentiated products and services for industry-based market segments.

Theme 4: PSBs as UdyamiMitra

- **EASE of bill realization for MSMEs** by registration of all banks on TReDS platform for faster bill discounting
- **EASE of financing for MSMEs** through steps such as board-approved policy for enhanced working capital to GST-registered MSMEs, enabling MSME financing through cluster-based financing & FinTech, time-bound and automated processing of MSME loan proposals
- **Single-point MSME Relationship Officers** for top-20 MSME accounts in every MSME-Specialised Branch
- **Revival Framework for stressed MSMEs** after identifying all SMA-1/2 MSME accounts.

Theme 5: Deepening Financial Inclusion & Digitalisation: micro-insurance, digitalisation

- **EASE through near-home banking** by establishing banking outlets within 5 Kms of every village, providing services through Bank Mitras for branchless banking and mobile ATM in every under-served district.
- **Social security through micro-insurance** through massive expansion of coverage under PM Suraksha Bima Yojana and PM Jeevan Jyoti Bima Yojana.
- **EASE through digital payments** by issuing RuPay debit card to all Pradhan Mantri Jan Dhan Yojana Accountholders, Aadhaar seeding all operative current & savings account, massively expanding Aadhaar-enabled payment Points of Sale.
- **Customer protection against cyber-frauds** by taking steps such as ensuring refund against unauthorised debit in electronic transaction within 10 working days of notification by customer, real-time alerts for customer protection, free customer-level security updates for apps & Internet-based utilities.

Theme 6: Ensuring outcomes: Governance/HR

- **Developing personnel for Brand PSB** by rewarding select top-performers identified through a Performance Management System (PMS), specialisation through job families, making mandatory annual role-based e-learning programme for all officers.

Other initiatives that can be taken

- **Shift toward alternative sources of funding** –
 - Capital markets can provide the role of a spare tire for publicly listed firms, by providing an alternative source of external finance and better information when the functioning of the banking system was impaired during the crisis.
 - Countries might reduce contagion risks by diversifying the sources of finance and, to the extent possible, having more complete markets, including equity markets. At the same time, it is important to jointly analyze the different types of financing.
- **Openness to International Banking**
 - The increasing participation of developing countries in global financial transactions has allowed these economies to diversify their investments and widen their available funding choices.
 - Foreign bank entry, if done right, can encourage efficiency and growth. However, for it to be consistent with promoting overall development, policymakers need to both avoid concentration as well as put in place adequate regulations and policies to effectively promote greater financial inclusion.
 - Although openness to international banking is no guarantee of financial stability, its potential benefits include the introduction of financial innovations and sophisticated financial instruments by foreign financial firms, added depth in domestic financial markets due to foreign inflows, and more efficiency in the domestic banking sector through increased competition.

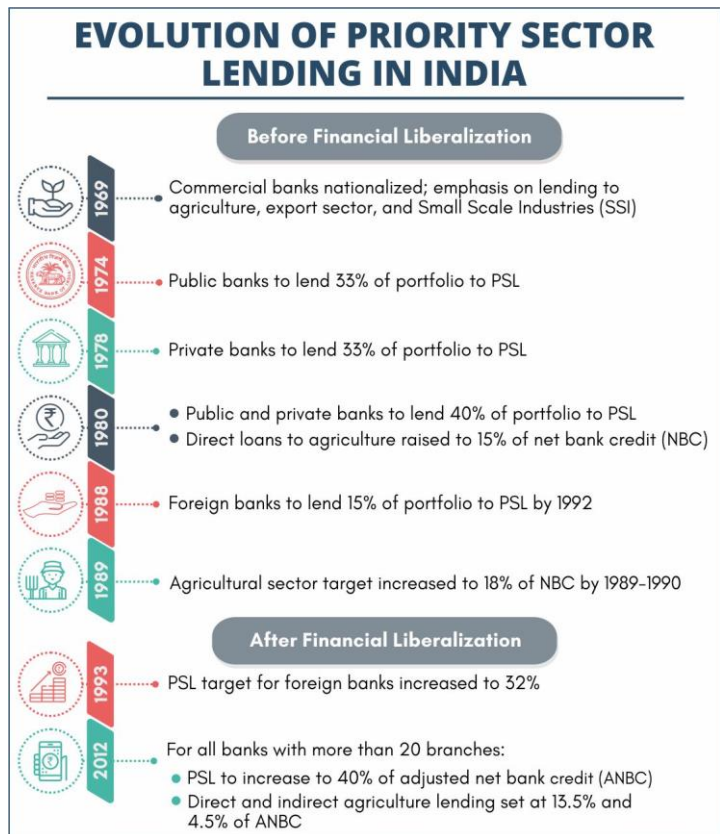
3.1. PRIORITY SECTOR LENDING

Why in news?

- The Reserve Bank of India (RBI) has revised certain priority sector lending targets & classification.

Introduction

- **Directed lending or priority sector lending (PSL)** has long been used by developed as well as developing nations as an instrument to channel credit at preferential rates to strategic sectors of the economy that have been marginalized by institutional credit. India adopted priority sector lending policy more than 40 years ago to correct the imbalances in certain strategic sectors of the economy namely, agriculture and small scale industries.
- **Objective of PSL:** To ensure that vulnerable sections of society get access to credit and there is adequate flow of resources to those segments of the economy which have higher employment potential and help in making an impact on poverty alleviation.
- In India, priority sector lending has increased significantly over the years. For agriculture, it has increased at a compound annual growth rate (CAGR) of 25 % from 2001-02 to 2011-12, for export at 20 % and MSEs at 23 %.



Targets and sub-targets for banks under priority sector:

Categories	Domestic scheduled commercial banks and Foreign banks with 20 branches and above	Foreign banks with less than 20 branches
Total Priority Sector	40 % of ANBC or CEOBE, whichever is higher. Foreign banks to achieve the Total Priority Sector Target by March 31, 2018.	Same target but to be achieved by 2020.
Agriculture	18 % of ANBC or CEOBE, whichever is higher. Within this, 8% of ANBC is prescribed for Small and Marginal Farmers.	Not applicable
MSME	7.5 % of ANBC or CEOBE, whichever is higher.	Not Applicable
Weaker Sections	10 % of ANBC or CEOBE, whichever is higher.	Not Applicable

Significance of PSL

- It promotes **social equity and facilitates increase in employment** and investment in less developed regions and the vulnerable sections of the society.
- It results in social returns and **improved lending portfolios of the banks**. The directed lending allows the commercial banks to generate high social returns along with the profits and it also contributes to economic development by increasing investment in the strategic sectors, like exports.
- **Credit Formalisation:** It increase in institutional credit (including commercial

Categories under priority sector include

- Agriculture (include three sub-categories viz. Farm credit, Agriculture infrastructure and Ancillary activities.)
- Micro, Small and Medium Enterprises;
- Export Credit;
- Education;
- Housing;
- **Social Infrastructure** (include activities namely schools, health care facilities, drinking water facilities and sanitation facilities);
- **Renewable Energy** (include like solar based power generators, biomass based power generators, wind mills, micro-hydel plants and for non-conventional energy based public utilities viz. street lighting systems, and remote village electrification); and
- Others

banks, cooperative banks and societies) to agriculture sector compared to non-institutional credit (like money-lenders, etc.)

Issues

- **Sectoral Issues:** PSL lending has been unable to make a greater impact, especially on Agriculture sector.
 - A 100 % increase in the PSL to the export sector, MSME sector, Agriculture sector increases the export GDP by 76%, manufacturing GDP by 41% and agricultural GDP by 11 % respectively, indicating the inability of the agricultural sector to yield returns commensurate with the increased credit supply.
 - Despite agriculture being a prime focus, no substantial gain in capital investment has happened in agriculture because banks tend to lend for short-term just to fulfil RBI norms (Economic Survey 2014-15). Also agriculture susceptibility to vagaries of monsoon increases credit risks of banks under PSL.
- **Lethargy in Lending:** Most bank seem reluctant to lend to the priority sectors as PSB have been continuously underperforming on the total priority sector target of 40% since 2012.
 - Public Sector Banks lending to MSME has also decreased from 61.5% to 55.4% between Dec 2015-Dec 2017. This may be due to difficulty in finding viable option to lend to the rural or MSME sector.
- **Rising NPA: Second Narasimham Committee (1998)** observed that directed credit had led to an increase in non- performing loans and had adversely the efficiency and profitability of banks. It observed that 47% of all non-performing assets have come from the priority sector
- **Costs of Priority Sector Lending in India**
 - **Indirect Costs:** It penalises the banks for expanding their scale of lending and deters banks from expanding their scale of lending, consequently affecting the banking industry and the flow of credit in the economy as a whole. It also impact the general lending power of bank and deposit rate which ultimately impact general public.
 - Banks having any shortfall in lending to priority sector have to contribute to the **Rural Infrastructure Development Fund (RIDF)** established with Nabard and other specified funds.
 - **Direct Costs:** Banks have to bear the funding cost, the transaction cost and the credit costs which impact the balance sheet of banking sector as whole.
- **Targeting issues:** There were problems of targeting the beneficiaries under many of these programmes leading to a misallocation of resources to non-priority sectors.
- **Reluctance by Governments** to scale down or discontinue the PSL in order to avoid further misuse of these programmes given the pressures exerted by constituency that benefitted from these programmes.

Way forward

An assessment of the costs that PSL imposes on the banking industry and the impact that this has on the growth of some priority sectors like agriculture, indicates

- Resetting PSL targets based on the business models of different types of banks – public sector, private sector and foreign.
- Export credit must be revitalized as a priority sector and promoted to stimulate economic growth.
- Developing a risk minimization plan for agriculture by improving rural infrastructure, promoting contract farming, agro processing and agricultural insurance and making it more attractive to private investors.
- Using innovative market driven instruments such as tradable priority sector lending certificates to make credit available to priority sectors, at the same time ensuring viability of commercial banks.
- Strengthening Cooperative Banks, Regional Rural Banks, and Microfinance Institutions for last mile connectivity and encouraging opening of “small” banks.

Priority Sector Lending Certificates (PSLCs)

Raghuram Rajan Committee (2009) on Financial Sector Reforms had recommended introduction of PSLCs to implement the priority sector lending in the country.

- Priority Sector Lending Certificates (PSLCs) are a mechanism to enable banks to achieve the PSL target and sub-targets by purchase of these instruments in the event of shortfall.
- Under the PSLC mechanism, the seller sells fulfilment of priority sector obligation and the buyer buys the obligation with no transfer of risk or loan assets.

Advantages

- It's a **market-driven interest subsidy**, which allow a more efficient implementation of the priority sector lending mandate and achieving a socialistic / welfare goal.
- It allow the most efficient lender to provide access to the poor, while finding a way for other banks to fulfil their norms at lower cost.
- **Improving Profitability:** It incentivizes surplus banks as it allows them to sell their excess achievement over targets and contributing to their non-interest income via the sale of certificates.

- Promoting enablers like an extensive credit information system to create a robust credit infrastructure and a healthy credit culture.
- Using technology to reduce cost of delivery to priority sectors.
- Allowing flexibility in sub-targets for various categories of bank priority sector lending. International Monetary Fund (IMF) has also advised the RBI to review its PSL policy to allow for greater flexibility in meeting targets. It also suggests a gradual reduction in PSL as a means to move funds into more productive activities. **Narasimham Committee 1991**, also recommended reduction followed by phasing out of PSL requirement.
- Government may rely on specialized institutions such as the NABARD to fulfil sectoral lending targets, while at the same time ensuring structural reforms in these sectors to make lending to them more viable.
- Credit is often not a major constraint as it is presumed, and other institutional and policy factors and specific sectoral constraints play a more critical role in growth of priority sectors.

3.2. INSOLVENCY AND BANKRUPTCY CODE

Why in news?

One-year data on implementation of the Insolvency and Bankruptcy Code (IBC) since December 2016 till December 2017, detailing cases filed, resolved and under-process, was released recently. Further, the President promulgated the IBC (Amendment) Ordinance 2018 in the first week of June.

FRAMEWORK OF IBC	
(Regulator) Insolvency and Bankruptcy Board of India ↓ Insolvency Professional Agencies (IPAs); Insolvency Resolution Professionals (IRPs); Information Utilities	(Adjudicators) National Company Law Tribunal: For corporate entities such as companies, LLPs etc. Debt Recovery Tribunal: For non-corporate entities such as individuals, partnership funds etc.

Why is it a Code?

IBC consolidates various laws, regulations and rules concerning and classifies insolvency, bankruptcy and liquidation of non-financial entities, systematically and comprehensively. Since a 'Code' is a compendium of laws, thus, IBC becomes a code, than just being a law.

- Insolvency:** Inability of an entity to pay its bills as and when they become due and payable
- Bankruptcy:** Situation when an entity is declared incapable of paying their due and payable bills
- Liquidation:** Process of winding up a corporation or an incorporated entity.

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HOW IT CAME ABOUT

2014

10 JULY

Finance Minister Arun Jaitley, In his 2014-15 budget speech, says the government intends to develop an entrepreneur- friendly legal bankruptcy framework.

AUGUST

The government sets up the bankruptcy law reforms committee (BLRC) led by former Union law secretary T.K. Viswanathan.

2015

FEBRUARY

BLRC submits its interim report to the government.

4 NOVEMBER

BLRC submits final report. The first part of the report lists the rationale and recommendations, and the second is the comprehensive draft insolvency and Bankruptcy Bill.

2016

11 MAY

Parliament passes the Insolvency and Bankruptcy Code, 2016 putting in place and ecosystem with a bankruptcy regulator, insolvency professionals and agencies, an adjudicating authority and information utilities.

22 SEPTEMBER

The government sets up the Insolvency and Bankruptcy Board of India (IBBI), appointing M.S. Sahoo as the chairperson of the regulator.

22 - 30 NOVEMBER

The IBBI notifies for insolvency professional agencies (IPA), insolvency professionals (IP), corporate insolvency resolution process, and rules for application to adjudicating authority under the bankruptcy code. It registers three IPAs and 18 IPs enrolled with the agencies.

1 DECEMBER

The IBBI becomes functional under the bankruptcy code.

15 DECEMBER

The National Company Law Tribunal (NCLT) and National Company Law Appellate Tribunal (NCLAT) take over corporate insolvency matters. The board also notifies regulations for liquidation process.

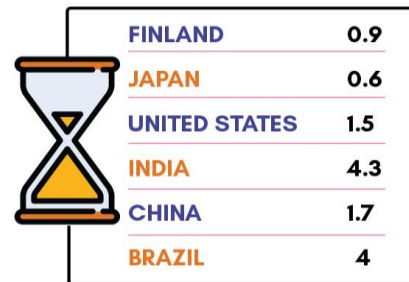
2017

17 JANUARY

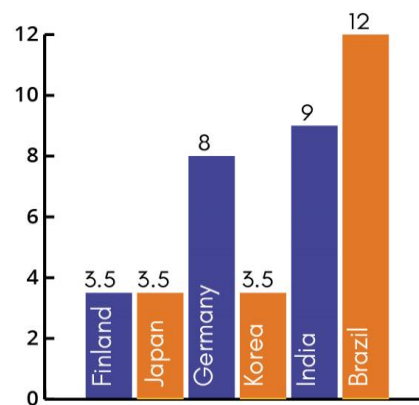
The IBBI seeks public comments on the report and draft regulations on information utilities.

WHY IT CAME ABOUT

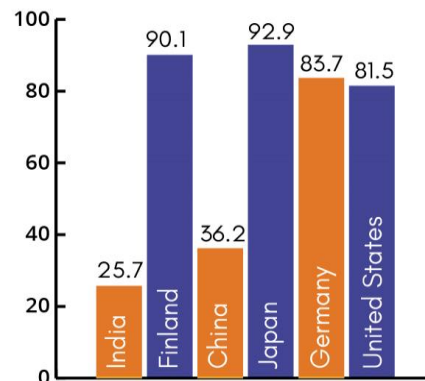
LONG TIME TAKEN TO RESOLVE BANKRUPTCY in years



HIGH COST OF THE PROCESS % of estate



LENDERS GET LITTLE Recovery rate, cents to a dollar



THE BIG GAINS

- India will improve its ease of doing business ranking
- Locked-up assets will be freed
- Banks and asset reconstruction companies immediate gainers
- Lift lender comfort
 - This will lead to greater investments
 - Corporate bond market will develop

WHAT ALL DOES IT OFFER?

ONE LAW TO DEAL WITH BANKRUPTCY



- 2 laws repealed
- 11 amended

COMPREHENSIVE COVERAGE



- Companies
- Partnerships
- Individuals
- **Limited** Liability Partnerships
- **More can** be Included

TIME-BOUND PROCESS



- **180 days** to resolve insolvency
- **270 days** in some circumstances

NO DEADLOCK



- **Bankruptcy resolved** in prescribed time
- **If not resolved in time:** assets to be sold to pay debtors

EVERYONE GETS THEIR DUE

ORDER OF PRIORITY

- Cost of insolvency process
- Workers, secured creditors
- Employee wages
- Unsecured creditors
- Government dues
- Any remaining debt

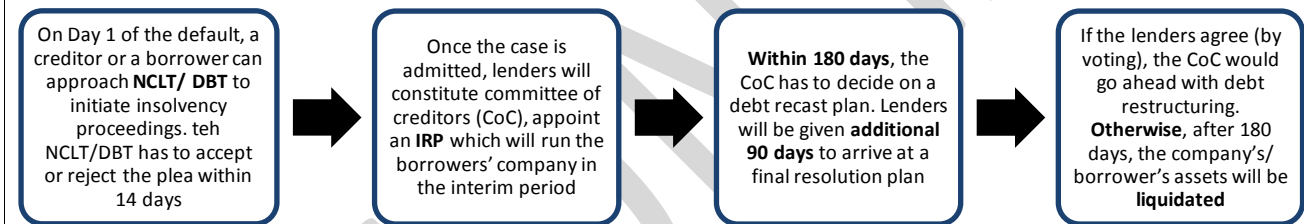


REGULATOR TO PROTECT EVERYONE



- **The Insolvency** and Bankruptcy Board of India to keep watch
- **10 member board** to have RBI and government representation

WHAT IS THE SEQUENCE OF STEPS UNDER THE IBC?



Details of the report card

- Out of 4,738 applications submitted, 2,750 cases were disposed of either because parties had settled these outside the process or because these lacked sufficient grounds for admission.
- Of the remaining 1,988 cases, only 540 cases were **admitted for resolution** at the end of December 2017, and the rest remained pending – of these, only 1.9% were **resolved** by the end of December 2017; 5.9% cases went for liquidation
- Corporate debtors initiated the proceedings in 20% of the admitted cases.

Hits and misses of IBC

- One main objective of the maximum time limit of 270 days for resolution, was to enable banks to pressurize debtors for recovery or resolution – but it was found that out of 540 cases admitted, nearly only one-third were filed by financial creditors (banks and other financing institutions)
- Operational creditors (vendors, supplies, employees etc.) are opting for IBC because:
 - It offers credible warning to the corporate debtors
 - These creditors, mostly small or mid-sized dealing with bigger enterprises, operate on a credit cycle and missed payments hurt them bad
 - Under IBC, creditors with the dues of INR 100,000 can trigger the insolvency process
- In 11 out of 12 cases, referred to the NCLT (as expedited by the RBI), the deadline of 270-days has already passed with on action
- Three mainstays to judge an insolvency process: fairness, collective resolution and equality
 - Since financial creditors have greater say in Resolution Plan, principle of equality suffers
 - The focus is more on **recovery** of dues, **than revival** of the company, thus collective resolution is hit

Mains 365 - Economy

Given it is yet a new legislation, gradual evolution with amendments will surely decrease the misses and increase the hits of IBC.

Provisions of IBC (Amendment) Ordinance 2018

- **Home buyers** would be treated as financial creditors and shall have the right to be represented in the Committee of Creditors (CoC)
- **'Related party'** now defined in relation to the individual as well, in addition of the company only previously, to bar it from bidding under the resolution process
- **Vote share changes:** CoC to decide on extension of insolvency process beyond 180 days to 270 days and for appointment of IP by 66% vote share (from earlier 75%); other decisions can be taken by 51% vote (it was 75% earlier). The process can be withdrawn altogether by 90% vote share
- **Promoters and guarantors of the MSMEs** are exempted from disqualification from bidding; it further empowers the Centre to allow further exemptions or modifications w.r.t. the MSME sector
- **Moratorium** from parallel proceedings will **not** be available to guarantors of the company
- If a financial creditor or its authorised representative is a related party to the company facing insolvency, it shall not have any participation or voting during a meeting of the CoC
- A company can file an insolvency application, provided it seeks shareholders' approval and at least three-fourth of the stakeholders approve the proposal

Many of changes were made on the basis of the recommendations of the IBC review committee headed by Corporate Affairs Secretary Injeti Srinivas.

Related news

- Based on the recommendations of the Internal Advisory Committee, the RBI had recommended 12 large accounts for immediate resolution under the IBC, thus providing momentum to the Code. RBI's second list contained 28 NPA accounts
- RBI withdrew its bad-loan resolution schemes such as SDR, S4A in 2018, and adopted harmonised and simplified generic framework for resolution of stressed assets
- Since December 2016, the IBBI has notified rules for corporate insolvency and is yet preparing those for individuals' bankruptcy
- **Via IBC (Amendment) Ordinance, 2017**, issued on November 23, 2017, the government introduced **Section 29A** to stop promoters and defaulters from bidding for companies undergoing resolution and also from submitting resolution plans
- IFC, a member of the World Bank Group, will support the Insolvency and Bankruptcy Board of India (IBBI) in strengthening the implementation IBC 2016

Suggestions mooted

- CVC (Central Vigilance Commission) guidelines should not be applicable to the IBC cases, to help PSB officials take bolder decisions
- In the regime prior to the IBC, many tax and other exemptions were available to make the stressed assets lucrative for the buyers – similar provisions can be provided under the IBC.

3.3. THE OMBUDSMAN SCHEME FOR NBFCs

Why in News?

- The Reserve Bank of India (RBI) has recently launched the Ombudsman Scheme for Non-Banking Financial Companies (NBFC).

What is NBFC?

An NBFC is a company registered under the Companies Act, 1956 engaged in the business of loans and advances, acquisition of shares/ stocks/ bonds/ debentures/ securities issued by Government, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/ purchase/ construction of immovable property.

- **Regulation:** The Reserve Bank has been given the powers under the RBI Act 1934 to register, lay down policy, issue directions, inspect, regulate, supervise and exercise surveillance over NBFCs.

- Currently, **only privately owned NBFCs** had to maintain a minimum **Capital to Risk Assets Ratio (CRAR)** of 15 % if Tier-1 capital is 10 %, while government NBFCs have to achieve this **by 2022**.
- It will ensure both types of NBFCs stand on an equal footing on compliance with specific RBI rules and help in keeping a check on NPAs and bankruptcy.

Importance of NBFCs:

- The NBFC sector, accounted for 17 % of bank assets and 0.26 % of bank deposits as on September 30, 2017. NBFCs depended largely on public funds for funding their balance sheets.
- They supplement the role of the banking sector in meeting the increasing financial inclusion and catering to the needs of the corporate sector, delivering credit to the unorganized sector and to small local borrowers.
- They bring in diversity and efficiency to the financial sector and make it more responsive to the needs of the customers.
- They play a critical role in participating in the development of an economy by providing a fillip to transportation, employment generation, wealth creation, bank credit in rural segments and to support financially weaker sections of the society.

Why needed?

- Strong growth in advances by NBFCs and rising complaints against non-banking finance companies (NBFCs) regarding deficiency in services.
- The present Banking Ombudsman doesn't cover NBFCs.
- The Financial Intelligence Unit has put 9,491 NBFCs under the high-risk category because of non-compliance with Prevention of Money Laundering Act.

About the scheme

- It would provide a **cost-free and expeditious complaint redressal mechanism** relating to deficiency in the services by NBFCs covered under the scheme.
- To begin with, the Scheme will cover **all deposit-taking NBFCs**. Based on the experience gained, the RBI would extend the scheme to cover NBFCs having asset size of Rs. 1 Billion & above with customer interface.
- One or more officers at the RBI **not below the rank of General Manager**, may be appointed as ombudsman for **tenure of 3 years**.
- The offices of the NBFC Ombudsmen will function at **four metro centres** viz. Chennai, Kolkata, Mumbai and New Delhi so as to cover the entire country.
- **A customer can file a complaint** with the ombudsman if the NBFC rejects the complaint or does not respond within a month.
- **Grounds of complaint** - like non-payment or delay in payment of interest, non-repayment of deposits, lack of transparency in loan agreement, non-compliance with RBI directives, levying of charges without sufficient notice to the customers and failure or delay in returning the securities documents despite repayment of dues etc.
- **Powers of ombudsman** to call for information from concerned NBFC and power to award compensation not exceeding 1 lakh rupees.
- The complainant/ NBFC has the **option to appeal** against the decision of the Ombudsman before the Appellate Authority.
- The ombudsman will be required to **send an annual report** to the RBI governor on 30 June containing general review of the activities of his office during the preceding financial year and other information required by the central bank.

Recently peer to peer lending platforms have been classified as NBFCs

Peer to peer lending **refers to a crowd-funding platform (mostly online)** where people looking to invest and people in need of borrowing come together

Advantages

- Being classified as an NBFC, P2P lending will get access to credit bureaus and will have to share loan related data with credit bureaus (It will make it difficult for defaulters to take loans from other banks and NBFCs), share the borrower's credit information with the lenders which will help them make an informed decision.
- In case of delay of repayments, the platforms need to follow RBI guidelines for recovery bringing relief to borrowers with genuine delays.
- P2P platforms also need to put a proper grievance mechanism in place and appoint a nodal officer. In case of no satisfactory reply, lenders or borrowers can approach the RBI.
- The RBI has also increased the maximum loan amount up to 10 lakhs across all platforms. It will largely benefit small enterprises and start-ups.
- The RBI has also capped a particular investor's exposure to a single borrower to Rs 50,000. This dilutes the risk in case of a default.

3.4. BANNING OF UNREGULATED DEPOSIT SCHEMES BILL AND CHIT FUNDS (AMENDMENT) BILL, 2018

Why in news?

To protect the savings of the investors, the Union Cabinet has given its approval to introduce the two bills in the Parliament :- (a) Banning of Unregulated Deposit Schemes Bill, 2018 & (b) Chit Funds (Amendment) Bill, 2018.

3.4.1. THE BANNING OF UNREGULATED DEPOSIT SCHEMES BILL, 2018

Why needed?

- In the recent past, there have been rising instances of people in various parts of the country being defrauded by illicit deposit taking schemes. The worst victims of these schemes are the poor and the financially illiterate, and the operations of such schemes are often spread over many States.
- Companies/ institutions running such schemes exploit existing regulatory gaps and lack of strict administrative measures to dupe poor and gullible people.
- The Finance Minister in the Budget Speech 2016-17 had announced that a comprehensive central legislation would be brought in to deal with the menace of illicit deposit taking schemes.
- **Recent scams:** West Bengal-based Saradha Group scam (at least Rs20,000 crore of deposit-holders' money is at risk after the sudden closure of the firm), Rose Valley scam etc.

What is a 'Ponzi Scheme'

A Ponzi scheme is a fraudulent investing scam promising high rates of return with little risk to investors. The Ponzi scheme generates returns for older investors by acquiring new investors. Eventually there isn't enough money to go around, and the schemes unravel.

Salient Features of the bill

- It contains a **substantive banning clause** which bans Deposit Takers from promoting, operating, issuing advertisements or accepting deposits in any Unregulated Deposit Scheme.
- It creates **three different types of offences**, namely, running of Unregulated Deposit Schemes, fraudulent default in Regulated Deposit Schemes, and wrongful inducement in relation to Unregulated Deposit Schemes.
- It provides for **severe punishment and heavy pecuniary fines** to act as deterrent.
- It has adequate provisions for disgorgement or **repayment of deposits** in cases where such schemes nonetheless manage to raise deposits illegally.
- It provides for **attachment of properties/ assets** by the **Competent Authority**, and subsequent realization of assets for repayment to depositors. Clear-cut time lines have been provided for this.
- It enables **creation of an online central database**, for collection and sharing of information on deposit taking activities in the country.
- It **defines "Deposit Taker" and "Deposit"** comprehensively.
 - "Deposit Takers" include all possible entities (including individuals) receiving or soliciting deposits, except specific entities such as those incorporated by legislation.
 - "Deposit" is defined in such a manner that deposit takers are restricted from camouflaging public deposits as receipts, and at the same time not to curb or hinder acceptance of money by an establishment in the ordinary course of its business.
- It **adopts best practices from State laws** and entrusts the primary responsibility of implementing the provisions of the legislation to the State Governments.
- It also provides for designation of Courts to oversee repayment of depositors & try offences under the Act.
- There is also a listing of Regulated Deposit Schemes in the Bill, with a clause enabling the Central Government to expand or prune the list.

3.4.2. THE CHIT FUNDS (AMENDMENT) BILL, 2018

The Bill makes amendments to the Chit Funds Act, 1982, to facilitate orderly growth of the Chit Funds sector and remove bottlenecks being faced by the Chit Funds industry, thereby enabling greater financial access of people to other financial products.

Chit fund

- A chit fund is a type of saving scheme where a specified number of subscribers contribute payments in instalment over a defined period. Each subscriber is entitled to a prize amount determined by lot, auction or tender depending on the nature of the chit fund. Typically the prize amount is the entire pool of contribution minus a discount which is redistributed to subscribers as a dividend.
- **Importance:** With a reported 10,000 chit funds in the country handling over Rs 30,000 crore annually, chit fund proponents maintain that these funds are an important financial tool.
- However, these can be misused by its promoters and there are many several instances of people running such Ponzi schemes and then absconding with investor's money.
- **Regulation:** being part of the Concurrent List of the Indian Constitution; both the centre and state can frame legislation regarding chit funds.
- RBI is the regulator for banks and other NBFCs but does not regulate the chit fund business. However, RBI can provide guidance to state governments on regulatory aspects like creating rules or exempting certain chit funds.
- SEBI regulates collective investment schemes. However, the SEBI Act specifically excludes chit funds.

Details of Bill

- Use of the words "**Fraternity Fund**" for chit business to signify its inherent nature and distinguish its working from "Prize Chits" which are banned under a separate legislation;
- It allows **two minimum required subscribers** (for drawing chits) to join through video conferencing duly recorded by the foreman, as physical presence of the subscribers towards the final stages of a chit may not be forthcoming easily. The foreman shall have the minutes of the proceedings signed by such subscribers within a period of two days following the proceedings
- It **increases the ceiling of foreman's commission** from a maximum of 5% to 7%, as the rate has remained static since the commencement of the Act while overheads and other costs have increased manifold.
- It **allows the foreman a right** to lien for the dues from subscribers, so that set-off is allowed by the Chit company for subscribers who have already drawn funds, so as to discourage default by them; and
- It **removes the ceiling** of one hundred rupees set in 1982, which has lost its relevance. The State Governments are proposed to be allowed to prescribe the ceiling and to increase it from time to time.

3.5. PUBLIC CREDIT REGISTRY (PCR)

Why in News?

- The Reserve Bank of India (RBI) said that it would set up a public credit registry that collates all loan information of individuals and corporate borrowers based on the recommendations of a High Level Task Force on PCR for India' Headed by YM Deosthalee.

Background

- A Public Credit Registry (PCR) is an extensive database of entire set of borrowing contracts and outcomes in one large database with credit information (credit rating of the party, financial and economic background, past financial transactions, credit risk level, and other related information) and is accessible to all stakeholders mandated by law.
- A survey by the World Bank reported that as of 2012, out of 195 countries that were surveyed, 87 were having Public Credit. The private credit bureaus also co-exist with the PCRs in many of the developed countries.
- Initially, PCR will cover the customers of all scheduled commercial banks. Later, it might include rest of the financial institutions. Aadhar cards for individuals and Corporate Identification Number (CIN) for companies will act as a unique identifier. The database will be managed and governed by either the RBI or any other banking supervisory authority.

Issues in credit rating in India

- **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.

- **Conflict of interest:** They work towards maximizing **Credit Rating Agency (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.

How a Public Credit Registry can help in India

- A transparent public credit registry would help the bankers to rely on **objective data for making credit decisions** and will enable them to defend their actions with market evidence when subjected to scrutiny; hence **improve the credit culture in country**.
- Small and marginal aspirants, start-ups, new entrepreneurs, and small businesses in micro, small and medium enterprises (MSME) sector are disadvantaged as they lack many of those desired qualifications for credit. **Transparency of credit information would serve as “reputational collateral”** for such borrowers and will promote financial inclusion and reward the good borrowers by imparting credit discipline and creating a level-playing field among different sizes of borrowers.
- PCR can tap other transactional data including payments to utilities like power and telecom for retail customers and trade credit data for businesses. Lenders in the formal sector often hesitate to extend a line of credit to new customers due to the lack of credit scores. Regularity in making payments to utilities and trade creditors provides an indication of the credit quality of such customers. Hence, credit from the formal sector can become accessible to new borrowers; boosting financial inclusion
- Finally, for regulatory purposes; in its absence, only fragmented images are available of credit behavior and indebtedness; PCR will help in getting to a complete picture to assess credit risk of the entire system by providing a complete financial overview of any person or entity to the banks and other credit agencies.

Challenges


- Setting up a comprehensive PCR will require vision, much team work and expertise to handle large volumes and varieties of data assembled from diverse sources. It will require working with several stakeholders, other regulators and international agencies with expertise in helping set up such registers.
- Incorporating unique identifiers for the borrowers (Aadhar for individuals and CIN for companies), Reserve Bank’s BSR1 and CRILC datasets can quickly be converted into a useful PCR covering customers of SCBs to start with. It can be expanded to cover other financial institutions in India. A high-level task force can provide a roadmap for developing and unleashing a powerful credit information system for our country.

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4. TAXATION

Introduction

Taxes are levied by governments on their citizens to generate income for undertaking projects to boost the economy of the country and to raise the standard of living of its citizens. The authority of the government to levy tax in India is derived from the **Constitution of India**, which allocates the power to levy taxes to the Central and State governments. All taxes levied within India need to be backed by an accompanying law passed by the Parliament or the State Legislature.

Importance of taxation

- **Revenue generation:** Taxation is used by the government to raise revenues for its operations, infrastructure, welfare, education defense
- **Reducing Inequality:** Tax money is used to serve the weaker sections of the society through the welfare programs.
- **Resource Redistribution:** Can be used to transfer resources from one section of society to another section of the society.
- **Behavior Discouragement:** - Also referred to as social engineering, the purpose of this is to discourage people from antisocial behavior and is often done heavily taxing the commodity there by increasing its price.
- **Protecting local Industry:** Local industries are normally protected by the government through the use of heavy import tariffs. This makes the imported goods more expensive than the local goods and thereby encouraging the production of local goods.
- **Improving Accountability:** It not only helps in building up the economy of a country but also makes the government accountable to its taxpayers. From a government's perspective, it helps in better planning and budgeting of a fiscal year, as the tax revenues are relatively predictable.
- **Other Benefit:** Tax compliances by the taxpayers pave the way for the government to relax its anti-tax evasion measures, open up the possibility of lowering tax rates and cesses imposed, formalization of economy, sense of entitlement and translate into improved, social services and quality of life.

Issues and Concerns

- Currently the total number of individual taxpayers at 6.08 crore, constitute only 4.86 % of India's total population of 125 crore.
- The Standing Committee on Finance has said the **low number of individual taxpayers** vis-à-vis the country's total population demonstrated the **"regressive nature of our direct tax regime"** and "the narrow base the (Revenue) Department operates on.
- The Economic Survey 2017-18 highlighted that there has been a **decline in the reliance on direct taxes** in India which contribute only around 35 % of total taxes as against a contribution of about 70 % in Europe.

Recent trend in taxation in India

- Country's total taxpayer base increased to 6.41 crore in 2016-17 from 4.38 crore in AY 2011-12 which shows a rise of over 46 % over five years with individual tax payers registering a faster growth rate than total tax payers.
- The surge in the numbers is partly attributable to the tax department's focus on increasing compliance on the direct tax front, especially after demonetisation (**Operation Clean Money**).
- Even within the class of individual taxpayers, there is a skew in the tax pay out trend wherein average tax payment by a salaried individual is more than average individual business taxpayer.



Operation Clean money

- It is a programme of Income Tax Department (ITD) **Operation Clean Money** to bring out illegal wealth.
- It involved e-verification of large cash deposits using data analytics during demonetisation.

Advantages of increasing tax base

- A Study on **Widening of Tax Base and Tackling Black Money** by FICCI highlighted widening of tax net helps in achieving higher tax to GDP ratio, achieve fiscal consolidation, meet the targeted tax collection and reduce the shortfall in tax collection with budget estimates.
- Above all, it will shift the **revenue pressures from honest taxpayers** and creates the possibility of reducing the direct and indirect tax rates in the future thus improving ease of doing business scenario in India.

Ways to improve Tax Buoyancy

- **Promoting electronic payments** by making digital payments mandatory for payment of wages & salaries for some sectors and in case of payment of statutory dues like property taxes, stamp duty, utility bills etc.
- **Economic Survey** has suggested devolution of taxation powers to local government so that they can collect more direct taxes rather than devolved resources.
- **Implement Direct Taxes Code:** Government has constituted Arbind Modi headed task force to review the Income-tax Act and draft a new direct tax law.
- **Simplifying/rationalising the process** and procedures of tax laws & tax administration
- **Rationalise the tax slabs/rates** in respect of GST may to broadening the tax base and increasing tax compliance.

Tax Administration Reforms Commission (TARC)

Parthasarathi Shome headed panel gave following recommendations **to widen tax base:**

- Focus on bringing in new taxpayers by targeting sectors that are currently untaxed, especially the informal/unorganised sectors
- Extension of scope of TDS for early collection of tax and also deter tax evasion
- Using presumptive tax schemes for small businesses to ease and encourage compliance
- Reinstate banking cash transaction tax (BCTT) and Fringe Benefit tax (FBT).
- Large farmers with income more than 50 lakh should be brought into the tax net
- Use surveys and technology based information and intelligence systems to identify potential taxpayers.
- The tax administration needs to be oriented more towards customers to improve voluntary compliance.

4.1. GST

Why In news?

Recently, **Good and Services regime** completed one year since its enactment on July 1, 2017.

About GST

- GST is a destination-based indirect tax and is levied at the final consumption point. Under it, the final consumer of the goods and services bear the tax charged in the supply chain.
- GST is a transparent and fair system that prevents black money and corruption and promotes new governance culture.

Significance

- GST merged the indirect central government levies like sales tax, service tax, excise duty, surcharges and cesses and indirect state government levies like VAT, Entry tax etc.
 - Earlier, India's indirect tax regime was fragmented with many taxes at both Centre & State level with varying rates of each in different jurisdictions. This created tariff & nontariff barriers to trade.
- Encouragement to **co-operative federalism: GST Council** has proved to be an extremely effective and powerful decision making federal institution.
- **Reduced Human Interface:** GST is largely technology driven leading to speedy decisions.
- **Improving revenue buoyancy:** GST revenue growth is 11 per cent, would translate into a revenue buoyancy of 1.14 against the historical buoyancy of indirect taxes of about 0.9
- **GST Network:** data generated by the GSTN can provide deep insights about the economy. It would also provide data quickly to the policy-makers on various emerging trends in the economy
- **Better Compliance:** Total registrations post GST increased from around 65 lakh to 110 lakh (without double counting), representing a net gain of around 70 per cent.
- More efficient neutralization of taxes especially for exports thereby making our products more competitive in the international market.

Advantages of GST

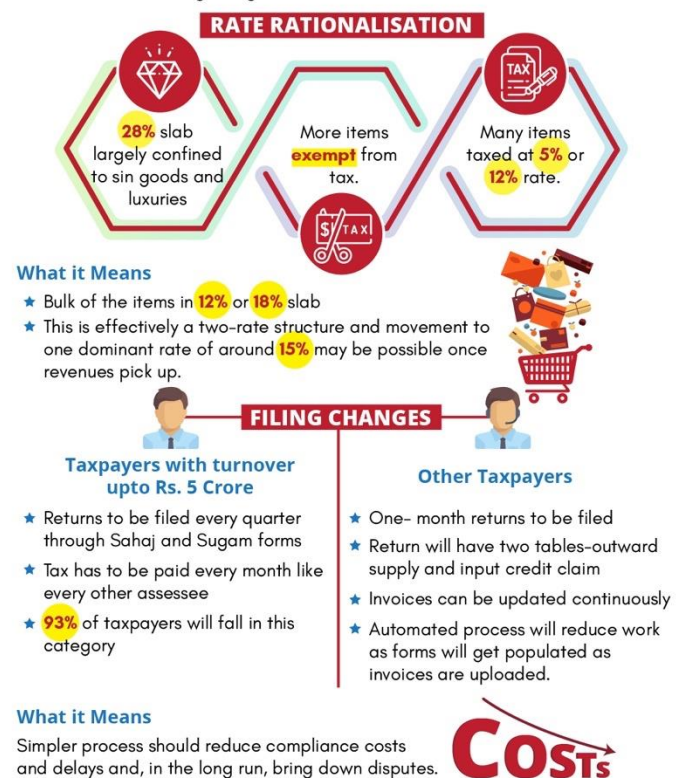
- **Unified National Market:** It is a step towards “One Country, One Tax, One Market” providing a relatively stable tax regime which will give boost to foreign investment and Make in India.
- **Impact on economy** - It is estimated to increase the GDP growth by 1.5 to 2%. Inflation in general for goods is going to be reduced due to removal of cascading effect as well as lower rates than present regime for most of them.
- **No Cascading effect:** GST prevents cascading of taxes as it is a destination based consumption tax & Input Tax Credit is available across goods and services at every stage of supply.
- **Ease of doing business:** Harmonization of laws, procedures and rates of tax, will improve environment of compliance as all returns to be filed online, input credits to be verified online reducing need to deal with different tax authorities. It would also discourage mere 'invoice shopping'.
- **Reduce Tax Evasion:** Uniform SGST and IGST rates will reduce incentive for evasion because of
 - Elimination of rate arbitrage between neighbouring States and that between intra and inter-state sales as integrated GST rate would be applicable
 - ‘Self-policing feature’ of tax being levied on the value added to a good or service.
 - Reduction in compliance costs due to simplification as no multiple record keeping for a variety of taxes because 17 taxes and cesses is merged into one
- **Impact on consumer** - Half the consumer price index basket, including foodgrains, will be attract zero tax rate, thus enabling them to be part of GST chain but without burdening consumers.
- **Abolition of Checkpost at state border has reduced logistics and inventory cost.**

Challenges

- **Digital infrastructure** - Availability of bandwidth for digital connectivity allow India to conduct electronic transfers and payments properly
- **Issue of Parliamentary and Legislative autonomy** : GST Council (an executive body) will finalize a vote by a majority of not less than three-fourths of weighted votes of members present and voting (Centre to have 33% and states to have 66% weight of the total votes cast).
- **Federalism:** The states are giving up much of their most important power – ‘to impose taxes’ autonomously. States will no longer be able to change their tax rates individually. As both Centre and State is vested with power to make law on GST under Art. 246(A) unlike existing regime, both centre and state will have to work together which may create workspace challenge.
- Urban local bodies will have to deal with a huge fiscal gap once local body tax, octroi and other entry taxes are scrapped for GST system.
- **List of Exclusions & different rates** – Many exclusions like petroleum products, diesel, petrol, aviation turbine fuel, alcohol etc. & 4 different rates are undermining the principle of One Country, One Tax.
- **Pressure due to increased taxes** - Small companies with a turnover of Rs 10 lakh will have to pay GST as opposed to currently Rs 1.5 crore. Even unorganized sector, biggest job creator, may lose its competitive edge. They may have to raise prices to stay profitable.
- **For consumers** - Benefits from reduced cost due to lower taxes may not be passed on to them. Also, some are seeing GST as a regressive system of taxation as it more or less equalizes taxation across products which mean that rich will pay less tax on luxury goods and services and poor will pay more for basic goods and services

GST Changes Moving Closer to Two Rates

In yet another significant recast of the goods and services tax (GST) regime the GST Council has cut rates on a number of goods in the 28% slab, Introduced easier filing and given relief to small businesses. ET takes a look:



Steps taken to meet the challenges:

- **Exemptions to small business** - Businesses in the Northeastern and hill states with annual turnover below Rs.10 lakh would be out of the GST net, while the threshold for the exemption in the rest of India would be an annual turnover of Rs 20 lakh.
- **Anti – profiteering law:** The GST council has approved the creation of **National Anti-Profitteering Authority (NAA) to ensure that benefits of input tax credit and tax reductions are passed on to the end consumer.**
- **Mandatory registration:** Tax can't be evaded now– as every person should be in the GST system if he wants to trade. E-way bill also has been passed where movement of good costing more than 50,000 beyond 10 Km is required to be registered online.
- **Change in ownership pattern of Goods and Services Tax Network:** Earlier 51% of GSTN was privately held. This gave the control of tax and trade data to a private company and without adequate data protection measures. **GSTN council has approved change in the ownership structure and eventually the central government should hold 50 percent and the state governments will hold 50 percent collectively.**
- **Communication and awareness programs:** For this, Suvidha Kendras in government offices and various handholding programmes are started.
- **GST suvidha providers (GSP):** GSTN has selected 34 GSPs to provide innovative and convenient methods to taxpayers and to smoothen the process of tax administration under GST.
- **Mandatory e-way Application:** refer infographic
- **Rate Rationalization:** GST rates has been rationalized to make system more effective which would lead to lower tax burden and better tax compliance.

OBJECTIVES

- | Single e-way bill for hassle-free movement of goods throughout the Country
- | No need of separate transit pass in each State for movement of good
- | Shift from departmental-policing model to self-declaration model for movement of goods

BENEFITS

- | Taxpayers/ transporters need not visit any Tax Officers/checkpost for generation of e-way bill/movement of goods across States
- | No waiting time at checkposts & faster movement of goods thereby optimum use of vehicles/resources, since there are no checkposts in GST regime
- | User-friendly e-way bill system
- | Easy and quick generation of e-way bill
- | Check and balances for smooth tax administration and process simplification for easier Verification of e-way bill by Tax Officers

- The E-way bill is a document required to be carried by a person in charge of the conveyance carrying any consignment of goods of value exceeding Rs. 50,000 for sales beyond 10 km in the new Goods and Services Tax (GST) regime, as mandated by the Government in terms of section 68 of the GST Act.
 - It is generated from the GST Common Portal by the registered persons or transporters before commencement of movement of goods of consignment.
- Challenges with e-way bill**
- Ensuring that every transporter – especially in the smaller towns – knows how to use the GSTN portal
 - Internet connectivity in India: there is no guarantee that transporters will be able to use the GSTN portal to address their grievances (If any) while on the road.
 - Use of RFIDs and RFID readers: The idea of an automatic mode of verification for transport vehicles at major checkpoints seems very ideal, but ensuring this may be difficult.
 - Strict timelines for validity of e-way bills: The validity has been calculated according to the distance travelled and some industry leaders find it unrealistic.

Conclusion

- The GST has helped us transition from “one nation, many taxes” to “one nation, one tax”. It has been a wonderful lesson in co-operative federalism, one which is in the process of transforming India into a common market by bringing about economic integration in an already integrated polity.
- GST is still a work in progress and the next important step would be to bring the excluded items, especially electricity, real estate and petroleum products, within its ambit.

4.2. TASK FORCE TO DRAFT NEW DIRECT TAX LAW

Why in News?

- Government has constituted a six member panel headed by **Arbind Modi**, to draft a **new direct tax law** to replace the existing Income Tax Act, 1961.

Background

- Since 1980s, when the government announced the Long Term Fiscal Policy (1985), there have been various efforts by the government to introduce direct tax reforms.
- Various committees, to consolidate the direct taxes, were constituted by the government like **Raja Chelliah Committee** (early 1990s), **Vijay Kelkar Committee** (2002) etc.
- Besides this, the **Direct Taxes Code (DTC)** was an attempt by the Government of India (GOI) to simplify the direct tax laws in India.
- **Three drafts of DTC** were released in 2009, 2010 and 2013. The DTC 2013 proposes to introduce:
 - General Anti Avoidance Rules (GAAR),
 - Taxation of Controlled Foreign Companies (CFC),
 - Place of Effective Management (POEM) rule as a test to determine residency and tax indirect transfer of Indian assets.
- Government in 2015, constituted a 10-member committee **under Justice R V Easwar** to overhaul the provisions of the **Income-Tax Act (I-T Act), 1961** with the aim of reducing litigation arising from ambiguous drafting of laws.

Need

- **High complication and ambiguities:** In India, the taxation system is complicated and there is an urgent need for rationalization and simplification. The messy tax structure has malign indirect effects, as it distorts the decisions of companies, investors & households and create an excess of litigation.
- **Outdated provision:** The income tax law contains some provisions which have become superfluous, outdated or inconsistent with the underlying objectives of these provisions. There have been dramatic qualitative changes in the world economy which

Direct Tax

- It is the tax where the incidence and impact of taxation fall on the same entity.
- It is termed as a **progressive tax** because the proportion of tax liability rises as an individual or entity's income increases.
- It is of various types such as; income tax, corporate tax, dividend distribution tax, fringe benefit tax and wealth tax.
- **Income Tax Act 1961 (ITA)** has provision for income tax, corporate tax, property tax etc.

The terms of reference of the Task Force are to draft a direct tax law keeping in view:

- Direct tax system prevalent in various countries,
- International best practices,
- Economic needs of India, and
- Any other connected matters

Easwar Panel Recommendations

- **Income from sale of shares and securities:** The Committee highlighted that there is uncertainty in application of the appropriate tax on such income and to simplify such application, the Committee has recommended that capital gains tax should be applied on such income if: i) shares are held for more than 1 year by the taxpayer, or ii) shares are held for an amount up to Rs 5 lakh.
- **Expenditure on exempt income:** The Committee recommended that the Central Board of Direct Taxes should make administrative provisions to clarify and simplify the provisions related to exempt income. It noted that the uncertainty is resulting in 15% of the total income tax litigations.
- **Tax deducted at source (TDS):** The Committee noted that the thresholds for collecting TDS be raised to simplify administrative proceedings. It further recommended that TDS rates for individuals should be reduced from 10% to 5% to avoid administrative burden.
- **Audit of book of accounts:** The Committee recommended that the threshold, for taxpayers to get their books audited, should be raised.
- **Presumptive scheme for small businesses:** Under the presumptive income tax scheme, small businesses with total turnover over Rs one crore declare their income at a tax rate of 8%. According to the committee this should be raised to 2 crores.
- **Income Computation and Disclosure System (ICDS):** In the background of changes in Companies Act 2013 and introduction of GST the committee has recommended the implementation of ICDS be deferred to ease the burden on tax payers.
- **Non-residents:** The provision of deducting higher tax rate for the individuals who do not have a Permanent Account Number must be revisited as it impedes the ease of doing business for the Non-Resident Indians as they do not have a PAN.

have affected the fiscal policy of many countries. Thus, it becomes important, for India too, to adjust the laws with the needs of the current economic and political situation.

- Indian corporate tax rate is several points higher than even the median of countries from the Organization for Economic Cooperation and Development (OECD) which acts as a perverse incentive for tax arbitrage through transfer pricing. Direct Tax Reforms will help in deeper tax cuts.
- Direct tax system has many exemptions that hurt allocative efficiency by distorting the decisions of participants in the economy.
- It will help **to increase the tax base** to deal with the problem of potential revenue loss due to lower tax rates and simplified tax structure.
- A clean tax code which will result in **more efficient capital allocation** in a growing economy.
- Clarity in terms of taxation framework in the country can dramatically **reduce tax terrorism** by undermining the discretionary powers of the tax department.
- A complicated tax structure in effect helps large business groups who can manipulate the system with the help of their in-house tax experts. A tax reform **can minimize the distortions in savings** behavior as well as reduce the incentives for misselling of financial products.
- In India, the ratio of indirect to direct taxes collected in the aggregate, is 52 to 48 which will further be aggravated by the introduction of GST. This can well be balanced by the introduction of direct tax reforms.

Related Initiatives for Direct Tax

- **India endorsed the Base erosion and profit shifting (BEPS)**- It refers to tax avoidance strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations.
- **Government continuously extending the Advance Pricing Agreement:** It is an agreement between a tax payer and tax authority determining the transfer pricing methodology for pricing the tax payer's international transactions for future years.

Intended Benefits

- **Competitive economy:** Simplified and clean Direct Tax Code will help make the Indian economy more competitive through tax stability, minimal exemptions and the focus on allocative efficiency.
- **Tax Base:** could be altered by increasing the number of people paying income taxes.
- **Lower Indirect Tax:** Higher direct tax collections could lower the tax burden on the poor by creating fiscal space for a reduction in GST rates.

4.2.1. GENERAL ANTI AVOIDANCE RULES (GAAR)

About GAAR

- Applicable from April, 2017, GAAR is a set of rules/framework which helps the revenue authorities to decide:
 - Whether a particular transaction has commercial substance or not.
 - The tax liability associated with a genuine transaction.
- It allows the government to tax overseas deals involving local assets.
- It empowers tax authorities to declare any transaction as impermissible avoidance arrangement and determine the tax consequences, if the transaction has been entered into with the main purpose of obtaining a tax benefit and it lacks commercial substance.

Parthasarathy Shome panel key recommendations:

- Threshold of Rs 3 crores in respect of tax benefit to be breached for applicability of GAAR provisions.
- GAAR not to apply to Foreign Institutional Investors ("FII") subject to satisfaction of certain conditions.
- Where a part of an arrangement is declared to be an impermissible avoidance arrangement, the consequences in relation to tax shall be determined with reference to such part only.
- Investments made before April, 2010, the date of introduction of the Direct Taxes Code, Bill, 2010, would be grandfathered (from GAAR).

Background

- GAAR was first proposed in **the Direct Tax Code 2009**.
- **Parthasarathy Shome committee (2012)** was set up to recommend GAAR provisions

Significance

- It will help the tax authorities **to plug loopholes check tax avoidance** and thus may promote tax revenues for the government.

- Through GAAR, the government can **curb the prevalence of P-Notes** which have become a tool to invest black money into the formal Indian economy.
- It will be a step towards **ease of doing business** in the long-term by promoting free and fair investments.
- India will come in line with other developed countries that have already implemented GAAR.

Challenge

- The powers and responsibilities of revenue authorities in relation to GAAR still remain undefined and it can lead to harassment of legitimate tax planning.
- There is subjectivity in differentiating between tax mitigation and tax avoidance practices.
- Double Taxation Avoidance Treaties (DTAAs) and GAAR are two set of regulations on the matter of tax administration. GAAR is limited to the boundaries of a tax jurisdiction, while treaty goes beyond the boundaries of a country, however there is a conflict when both provision are applied on same issues.

Way forward

- The government has already started taking steps to avoid tax avoidance. It has introduced advanced pricing rules, Limitations of Benefits clause in Double tax avoidance agreements etc. Introduction of GAAR would reinforce the steps already taken to improve tax collection.
- The government would also have to create a balance between preventing tax avoidance and having a transparent and responsible administration to deal with it.

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5. CORPORATE GOVERNANCE

5.1. SEBI PANEL ON CORPORATE GOVERNANCE

Why in News?

- Recently, **Uday Kotak panel** on corporate governance has submitted its report to SEBI, suggesting various changes in corporate governance.

Background

- Corporate governance** is the system of rules, practices and processes by which a company is directed and controlled.
- It essentially involves balancing the interests of a company's many stakeholders, such as shareholders, management, customers, suppliers, financiers, government and the community.
- Governance norms for Indian listed companies are set out in the Companies Act and Clause 49 in the listing agreement that companies sign with the exchanges and in SEBI's new Listing Obligations and Disclosure Requirement Regulations of 2015.
- Various committees in the past, such as those led by **Kumar Mangalam Birla (1999)** and **N.R. Narayana Murthy (2003)**, contributed to the process of improving standards of corporate governance in India.
- The Ministry of Corporate Affairs in 2009 released Corporate governance voluntary guidelines.
- India's corporate sector is currently facing problem of excess debt and boardroom disputes (eg. TATA, Infosys).

Importance of Corporate Governance

- Well governed companies across the world command a premium of anywhere between 10 to 40 percent more than their not so well governed counterparts. Payoff from good corporate governance manifests both in the operating results of publicly listed companies, as well as the market capitalization of such companies
- The extent to which corporate enterprises observe the basic principles of good corporate governance has now become an important factor for attracting foreign investment.
- A good firm-level governance often **makes up for weaknesses in a country's corporate laws** or the enforcement of such laws
- Employing good corporate governance helps the company to **regulate risk and reduce the opportunity for corruption**. Often, scandals and fraud within a company become more likely where directors and senior management do not have to comply with a formal governance code.
- Implementing a good corporate governance system will also ensure that the company **protects its members, officers and management**. Maintaining these records also means that officers of the company can be held accountable through documentation for their actions if necessary. It also means that a shareholder cannot unnecessarily contest the actions of the officers. They can be shown the company books, approved resolutions and board minutes if necessary and rest assured that the officers are acting within their authorities.

Issues with Corporate Governance in India

- Nepotism in board appointments
- Lack of effectiveness and transparency in performance appraisal of directors.
- The Independent directors in India have either played a passive role or they can be removed easily if they do not side with promoters.
- Entire boards are not often present at general meetings for stakeholders to ask questions from them.
- Executive Compensation policies are not transparent and do not require shareholders' approval.
- Family owned Indian companies have excessive controls and poor succession planning.
- Unrealistic risk assessment policies.
- Inadequate emphasis on privacy and data protection, cyber security.
- Lack of serious effort by board towards Corporate Social Responsibility (CSR) projects.

Key Recommendations of the Kotak Committee approved by SEBI:

- Increasing Transparency -Enhanced Disclosure Requirements such as:**

- Full disclosure of utilization of funds raised through Preferential Allotment and QIPs.
- Disclosures of Auditor Credentials, Audit Fee, Reasons for Resignation of Auditors
- Disclosure of Expertise/Skills of Directors and Enhanced Disclosure of Related Party Transactions (RPT) to enhance accountability.
- **Reshaping the Institution of the Board of Directors and Enhancing the Role of Committees of the Board through:**
 - Separation of the office of the chairperson (i.e. the leader of the board) and CEO/MD (i.e. the leader of the management) by Top 500 listed companies.
 - Augmenting board strength and diversity by having minimum of 6 directors on the boards of Top 1000 listed companies by 1 April 2019 and Top 2000 companies by 1 April 2020.
 - Also, top 500 listed entities (by market capitalization) and the top 1000 listed entities have to have a minimum of one-woman independent director by April 1, 2019 and April 1, 2020 respectively.
 - Quorum of the board of directors will be one-third of the total strength of the board of directors
 - Capping the Maximum Number of Directorships for a person to 8.
- **Levelling the playing field in Algorithmic Trading for all investors:**
 - Stock exchanges would be allowed to introduce shared colocation services to reduce the cost for trading members
 - Free tick-by-tick data feed for all the trading members
- **Enhanced Role of committees**
 - **Audit Committee** will have to review the utilization of loans and/or advances from/investment by the holding company in the subsidiary exceeding Rs 100 crore or 10 percent of the asset size of the subsidiary, whichever is lower
 - **Role of Nomination and Remuneration Committee** which recommends appointment and removal of the senior management has been expanded.
 - **Risk Management Committee** shall now specifically cover cyber security.
- **Down-streaming Corporate Governance** in case of complex corporate structures with multiple subsidiaries through enhanced Obligations and mandatory secretarial audits for Listed Entities with Respect to Subsidiaries.
- **Increase requirements for Shareholder Participation and Involvement** by making the approval of minority shareholder mandatory for payments to related parties exceeding 2% of revenue.

Recently, Union Cabinet approved establishment of National Financial Reporting Authority, a key recommendation under the Companies Act 2013.

- It shall consist of a Chairperson, three full time members, nine part-time members.
- Chairperson and full-time members would be selected through a **search-cum-selection committee** headed by Cabinet Secretary
- It will be established as an independent regulator to oversee the **auditing profession and accounting standards** with jurisdiction extending to **all listed companies and large unlisted companies**.
 - **ICAI under the Chartered Accountants Act, 1949** shall continue to audit smaller unlisted companies.
 - **Quality Review Board** will also continue quality audit in respect of private limited companies, public unlisted companies and also with respect to audit of those companies delegated by NFRA.
- It will have the power to **investigate Chartered Accountants and their companies** either suo motu or on a reference for any misconduct.
- If professional or other misconduct is proved,
 - It can impose a penalty of not less than one lakh rupees, but which may extend to five times of the fees received, in case of individuals and not less than ten lakh rupees, but which may extend to ten times of the fees received, in case of firms.
 - It can also debar an auditor for 6 months to maximum 10 years.

Significance

- The approved changes to corporate governance norms are aimed towards aligning corporate governance standards to global best practices.
- It will help in reducing the risks of promoter-raj at the cost of minority shareholders in Indian corporate sector.
- The recommendations, such as the enhanced disclosure requirements, will help reducing information asymmetry between the managers of a company and its shareholders.

However, there are concerns that smaller listed entities have been precluded from such compliance requirements as well as compliance burden would increase on listed companies.

5.2. SHELL COMPANIES

Why in news?

Recently 'Task Force on Shell Companies' has submitted its report to government.

Background

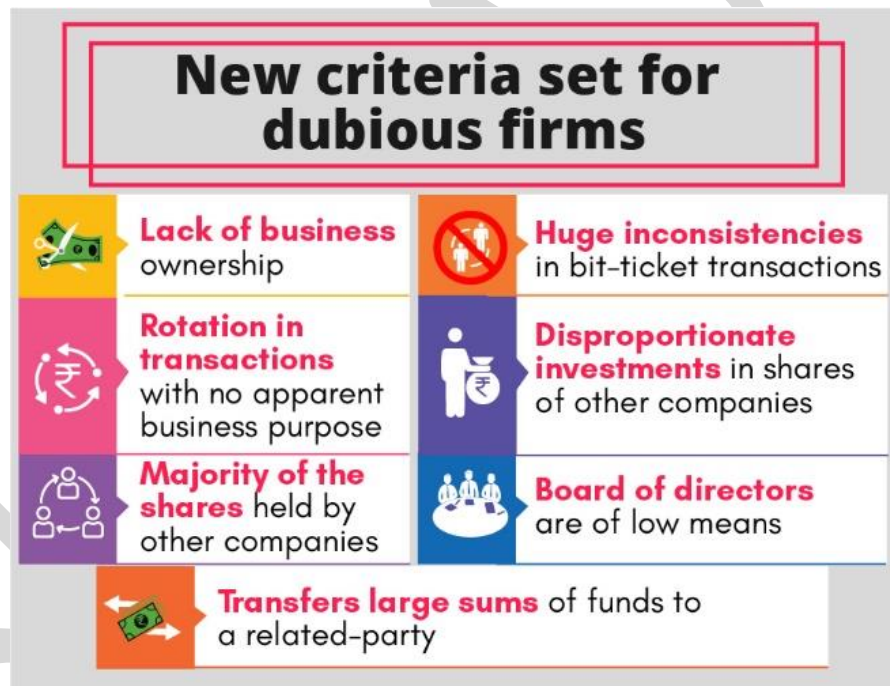
- The Task Force was constituted in 2017 under the co-chairmanship of the revenue secretary and the corporate affairs secretary for effectively tackling the malpractices by shell companies in a comprehensive manner.
- In India Shell companies are **not defined under Companies Act, 2013** or any other 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.

Shell Companies

- Shell companies typically refer to companies **without active business operations or significant assets**.
- Task force has explained that a typical shell firm is incorporated with a standard memorandum or articles of associations. It has inactive shareholders and directors, and is left dormant. It is created for the purpose of being palmed off later.
- After the sale transaction, inactive shareholders usually transfer their shares to the buyer and the so-called directors resign or flee.

Recommendations

- The task force has listed certain key parameters to determine if a company has been created to launder money or exploit regulatory arbitrage (See Picture).
- It has recommended that MCA must look into the filings of financial statements of companies which had been misused to channel unaccounted cash after demonetisation.
- Further it has suggested keeping a watch on companies with abnormal increase or decrease in debts, or more than 10 per cent of bad debts written off, and the increase in investment in partnership firms by 100 per cent or more.



Other Government Measures to tackle shell companies

- Serious Fraud Investigation Office under the Ministry of Corporate Affairs has prepared **comprehensive digital database** of shell companies and their associates that were identified by various law enforcement agencies.
- Income Tax department has conducted **investigations** that led to detection of more than 1155 shell companies which were used as conduits by over 22,000 beneficiaries.
- Information sharing mechanism** between various law enforcement agencies is implemented under the Regional Economic Intelligence Council (REIC) and Central Economic Intelligence Bureau (CEIB) forums.
- Ministry of corporate affairs has deregistered** over 2.26 lakh companies for various non-compliances and being inactive for long.
- Government has **removed the exemption under Section 276CC of the Income Tax Act** through Budget 2018-19. It provided that if a person with tax liability more than Rs. 3000 wilfully fails to furnish the return of income in due time, he shall be punishable with imprisonment and fine. The provision was being misused by around 3 lakh inactive companies showing nil income.
- Issue with Auditors:** 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 examining the recommendations of the 3-member expert panel on various issues related to audit firms headed by TERI chairman Ashok Chawla.

5.3. CORPORATE SOCIAL RESPONSIBILITY (CSR)

Why in News?

- Recently, Ministry of Corporate Affairs has decided to put in place a centralized system to keep a tab on entities' compliance with CSR obligations in the backdrop of non-compliance to CSR by one-third of firms on the S&P BSE 100 list.

More on news

- Activities that witnessed **rise in CSR expenditure** included promotion of education, vocational skill development, environmental sustainability, gender equality, national heritage, slum development, community development, infrastructure, social welfare, welfare of armed forces veterans, war widows and their dependents.
- Activities that witnessed a **dip in CSR expenditure** included eradication of hunger and poverty, promotion of healthcare and sanitation, the contribution towards the Prime Minister's National Relief Fund.
- Industrialized states with large corporate presence such as Maharashtra, Gujarat, Karnataka and Tamil Nadu top the list of highest recipients of CSR expenditure by India Inc. However, Maharashtra followed by Daman & Diu and Odisha witnessed the biggest increase

About Corporate Social Responsibility

- Corporate social responsibility is a management concept whereby companies **integrate social and environmental concerns** in their **business operations** and **interactions with their stakeholders**.
- The corporate firms **utilize valuable resources from the society** in the **form of raw materials** etc. for their operations, so the firms must give **back something for the welfare of the society**.
- Section 135 of the Companies Act, 2013 which contains **CSR provisions is applicable** to companies
 - With an annual turnover of INR 1,000 crore and more,
 - Or a net worth of INR 500 crore and more,
 - Or a net profit of five crore INR and more.
- The Act mandates companies to **spend at least 2% of their average net profit in the previous three years** on CSR activities.
- Schedule VII of the Act contains the list of activities which a firm can take up.

Global principles and guidelines

- Social Accountability International (SAI): SA 8000 Standard is one of the world's first auditable social certification standard.
- **OECD Guidelines for multinational** enterprises elaborate on the principles and standards for responsible business conduct for multinational corporations. They contain defined standards for socially and environmentally responsible corporate behaviour, and also provide procedures for resolving disputes between corporations and communities or individuals adversely impacted by business activities.
- **The OECD CSR policy** tool aims to help companies gain insight into their current CSR activities, assess its value and determine other CSR activities that can be employed.
- **UN Global Compact** is world's largest corporate citizenship initiative with the objective to mainstream the adoption of sustainable and socially responsible policies by businesses around the world.
- **ISO 26000: Social responsibility** is a guidance tool provided by the ISO which enables organisations to understand the meaning and significance of social responsibility
- **National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business** rolled-out by the Ministry of Corporate Affairs in India. consist of nine principles which relate to ethics and transparency, product life cycle sustainability, employee well-being, stakeholder engagement, human rights, environmental stewardship, responsible policy advocacy, inclusive development and consumer well-being.

Benefits of a Robust CSR Programme for a Company

- Gaining of trust of communities
- Attracting and retaining employees
- Enhancing corporate reputation and brand building
- Attract investors as they include ethics as part of their assessment while investing
- Increased profitability as ethical conduct exerts a growing influence on purchasing decisions of customers.

Few Challenges in CSR

- **Lack of robust policy:** Lack of capability in many firms to formulate a long term robust CSR policy leads to failure in giving definitive directions to CSR spending.
- **Disconnect with local requirements:** A disconnect can be seen in what the requirements on the ground are and what the companies are allocating money towards. There is non-availability of well-organized NGOs in remote and rural areas that can assess and identify real needs of the community.
- **Ease of implementation as basis:** Many CSR efforts are driven purely by the company's operational perspectives and ease of implementation of their CSR projects. Of the nine different schedules prescribed by The Companies Act, two schedules: combating various diseases and promotion of education accounted for 44% of the total CSR expenditure, while reducing child mortality received no funding and eradicating extreme hunger and poverty received only 6% of the total CSR expenditure.
- **Duplication of activities by different corporate houses** which results in competitive approach rather than collaborative approach.
- **Lack of awareness in local communities about CSR:** There is a lack of trust and interest of the local community in participating and contributing to CSR activities of companies. In fact, all stakeholders need to be involved including government, NGO, local agencies, community as well as private sector
- **Lack of focus on rural areas:** Many CSR initiatives and programs are taken up in urban areas and localities leaving the needy and the poor in the rural areas out from benefits of CSR.
- **Issue of geographic equity:** Five states- Maharashtra, Gujarat, Andhra Pradesh, Rajasthan and Tamil Nadu account for well over one-quarter of all CSR spending. Towards the bottom of the list are Nagaland, Mizoram, Tripura, Sikkim and Meghalaya—all from the NorthEast.
- **Inadequate monitoring:** There is lack of an independent agency which can monitor and accreditate CSR efforts.
- **Viewed as additional corporate tax:** The CSR law is often viewed as a 2% tax, albeit spent by the firms rather than given to the government. The corporate tax rate in India is 34.61%—already one of the highest, compared to a global average of 24.09%.

Anil Bajjal Committee Recommendations

It was constituted to suggest measures for **improved monitoring of implementation of CSR policies** by companies.

Major Recommendations:

- The rationale behind CSR legislation is not to generate financial resources but to use corporate innovative ideas and management skills in the delivery of 'public goods'.
- There should be two models of implementation strategies for CSR: for companies having more than INR 5 crore CSR outlay; for companies having less than INR 5 crore CSR outlay.
- No additional mechanism for monitoring of CSR is required as the Board and CSR Committee are accountable for their own shareholders and public at large.
- Annual awards for incentivizing companies to take up CSR activities be set up – one each for the two categories of companies, large and small.

Conclusion

The government is responsible for social development. Corporates cannot replace them in this role but can supplement its role. Corporates can make a meaningful contribution especially if there is a platform that allows them to offer the totality of their skills, technology and resources. With rising fiscal deficit and leakages in the welfare schemes, CSR seeks to address the problems of society in a cost effective manner.

6. LAND RELATED POLICIES

Introduction

- Land represents an important resource for the economic life of a majority of people in the world. The way people handle and use land resource is decisive for their social and economic well-being as well as for the sustained quality of land resources.
- According to World Bank, around 60.3 % of India's land area is agricultural land. However, farming is the least productive sector of the economy, accounting for only 15% of India's GDP, while employing more than half of its workforce. So India's scarcest resource is also its least productive which is a fundamental reason for India's poverty.
- Issues related to land have become the most contentious and complex in recent times in India. The issues vary from the age old debate on displacement vs development to latest land acquisition, rehabilitation and resettlement.

Issue related to land in India are:

- **Scarcity of Land Resources:** As per **Agriculture Census 2010-11**, small and marginal holdings of less than 2 hectare account for 85 % of the total operational holdings and 44 % of the total operated area. The **average size of holdings** for all operational classes (small & marginal, medium and large) have declined over the years and for all classes put together it has come down to **1.16 hectare in 2010-11** from 2.82 hectare in 1970-71.
- **Stalling of Projects:** A report by **Land Disputes and Stalled Investments in India** found that 5,780, or 14%, of the more than 40,000 projects announced between January 2000 and October 2016 were stalled due to land acquisition conflicts. It negatively impact investment cycle in economy and employment generation capacity of sector.

Issues with Land Acquisition in India

- **NITI Aayog** in its **three-year action agenda** said that high compensation fixed under Land Acquisition Act, 2013 makes land acquired for affordable housing expensive and contributes to high costs.
- **Increasing Litigations:** The cases under LARR Act, 2013 have been on the rise and the Supreme Court has invalidated acquisition in 94.6 % of these cases thus stalling the process.
- **Unclear land titles:** According to Standing Committee on Commerce, there are delays in acquiring land and getting necessary permissions to use it. These delays are on account of multiple reasons including the availability of suitable land and disputes related to land titles. It has been noted that land titles in India are unclear due to various reasons including legacy of the zamindari system, gaps in the legal framework and poor administration of land records.
- **Marginalisation:** Instances of poor implementation and enforcement of FRA and PESA ACT for diversion of forest lands and in case of acquisition of any land (private or common) in the scheduled areas has adversely affected the livelihood of people.
- **Gross Underutilisation Of Land:** CAG report on Special Economic Zones shows that as much as 31,886 hectares, or 53% of the total land acquired by the government

GIS-Enabled Portal Maps Land-Related Information

It's an online database of more than half a million hectares of land for pushing government goal of creating a manufacturing hub in the country by 2020 for which initiatives such as Make in India and Skill India have been launched.

GIS- enabled Database

- Through it, 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.
- 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

Government Land Information System (GLIS)

- It records total area, geo-positioning maps, and details such as ownership rights.
- According to the portal, the railways is the biggest landowner among Union ministries. The defence ministry, which owns a large share of the government's land holding, has given only partial details citing security concerns.

for these zones, remains unused, leading to **land hoarding in country**.

Steps taken by Government for Sustainable usage of Land

- **Model Agricultural Land Leasing Act, 2016:** It seeks to permit and facilitate **leasing of agricultural** land to improve access to land by the landless and marginal farmers.
 - The Act provides recognition to farmers cultivating the agricultural land on lease to enable them to access loans through credit institutions, insurance, disaster relief and other support services provided by the government.
 - **Security of Ownership:** It suggests legalizing “land leasing in all areas to ensure complete security of land ownership right for land owners and security of tenure for tenants for the agreed lease period.
 - It also seeks to remove the clause of **adverse possession of land** in the land laws of various states as it interferes with free functioning of land lease market.
 - It also proposes the automatic resumption of land after the agreed lease period without requiring any minimum area of land to be left with the tenant even after termination of tenancy.
 - It proposes **quicker litigation process** in case of disputes.
 - **Rights and responsibilities of land owner:** The land owner will give possession of the leased-out land to the cultivator on the first day of the lease. He will be entitled to automatic possession of the land on the expiry of the agreed lease period. He can put the leased out land for use such as sale, gift, mortgage, etc. However, this should not affect the cultivator’s right to cultivate the land till the end of the lease period. He will also be responsible to pay all taxes and cess on the land.
 - **Rights and responsibilities of cultivator:** The cultivator, to whom the land has been leased out, will be entitled to an undisturbed possession and use of this land. He can use the land only for agriculture and allied activities. Further, he cannot sub-lease or mortgage the land. He will be eligible to raise loans from banks and other financial institutions without mortgaging the leased in land. He will be entitled for compensation from landowner for any improvements or fixtures that he makes on this land. He will also have the right to surrender land to the land owner within a time period as specified in the lease agreement.
 - **Advantages**
 - ✓ It had the potential to put to use millions of hectares of fallow land in the country.
 - ✓ It will provide landless poor, small and marginal farmers a means of livelihood and protection through access to bank credit and insurance cover.
 - ✓ It would encourage large land owners to lease out land without fear of losing their land ownership rights and invest in non-farm enterprises.
 - ✓ It will allow consolidation of farmland so that small plots that are economically unviable can be leased.
- **Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement act, 2013**
 - It provided for land acquisition as well as rehabilitation and resettlement by replacing Land Acquisition Act, 1894.
 - The process for land acquisition involves a **Social Impact Assessment** survey, preliminary notification stating the intent for acquisition, a declaration of acquisition, and compensation to be given by a certain time.
 - **Compensation** has to be up to 4 times the market value in rural areas and 2 times the market value in urban areas.
 - **Share in appreciated land value:** Where acquired land is sold to a third party for a higher price than 40 % of the appreciated land value (or profit) will be shared with the original owners.
 - All acquisitions require **rehabilitation and resettlement** to be provided to the people affected by the acquisition including large tracts of land acquired by private companies.

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Second Amendment) Bill, 2015

- The Bill enables the government to exempt five categories of projects from the requirements of: (i) social impact assessment, (ii) restrictions on acquisition of multi-cropped land, and (iii) consent for private projects and public private partnerships (PPPs) projects.
- The five categories of projects are: (i) defence, (ii) rural infrastructure, (iii) affordable housing, (iv) industrial corridors, and (v) infrastructure including PPPs where government owns the land

- **Monitoring Committees** at the National and State Level to ensure that R&R obligations are met have also been established.
- **Caps on Acquisition of Multi-Crop and Agricultural Land:** To safeguard food security and to prevent arbitrary acquisition, the act directs States to impose limits on the area under agricultural cultivation that can be acquired.
- The new law stipulates **mandatory consent** of at least 70 % for acquiring land for public-private partnership (PPP) projects and 80 % for acquiring land for private companies.
- **Exemption:** The provisions of this act shall not apply to acquisitions under 16 existing legislations including the Special Economic Zones Act, 2005, the Atomic Energy Act, 1962, the Railways Act, 1989, etc.
- **Retrospective Operation:** To address historical injustice the, it applies retrospectively to cases where no land acquisition award has been made and in cases where the land was acquired five years ago but no compensation has been paid or no possession has taken place.
- **Return of Unutilised Land:** In case land remains unutilised after acquisition, the new Bill empowers states to return the land either to the owner or to the State Land Bank.
- **Special Safeguards for Tribal Communities and other disadvantaged groups:** No land can be acquired in Scheduled Areas without the consent of the Gram Sabhas. The Law also ensures that all rights guaranteed under such legislations as the PESA, 1996 and the Forest Rights Act 2006 are taken care of.

Way Forward

- With land being a **State subject**, States can take specific legal reforms to ease land acquisition process by consulting every stakeholder.
- **Furnish details about usage of acquired land:** People have the right to know about usage of land acquired by government by way of compensation. For e.g.- in Britain, the government has pledged to provide details of ownership, location and intended use for all properties. Also citizens are invited to contest official land use and suggest alternatives under a 'right to contest'.
- **Comprehensive inventory of land resources and usage patterns:** A comprehensive inventory of land resources and usage patterns should be made with information on the location of each property, its dimensions, legal title, current & planned use etc. to enable effective identification of land usage pattern.
- **Use of surplus land:** Surplus land should be utilised to meet the growing demands for services such as water and waste disposal, housing and transportation projects etc. and land intended for future use should be rented out, through a transparent bidding process, till such time it is needed.
- **Early Finalisation of National Land Reforms Policy**
- **Adopting Innovative approaches like Land Bank, land pooling etc to improve the functioning of sector.**

Feature of Draft National Land Reforms Policy, 2013

- **National land use plan:** The central government must create a national land use plan based on information from tehsils, districts, regions and states.
- **Assignment of land to landless:** State governments must evolve comprehensive policies for the assignment of land to the landless.
- **Land rights for Scheduled Castes, Scheduled Tribes and nomadic communities:** The states shall review existing law and policies pertaining to the alienation/transfer of land belonging to Scheduled Castes, Scheduled Tribes and nomadic communities and take necessary steps for removing constraints.
- **Land for nomads:** The central government must enact a Right to Minimum Land Holding Act through which every nomadic family will be entitled to at least five acres of cultivable land.
- **Land rights for women:** Several suggestions have been made to improve women's access to land including homestead land distribution only in the woman's name rather than joint titles with husbands, granting 'group land titles' to groups of women, among others.
- **Dispute resolution:** State governments shall establish an authority at the sub district level and a tribunal at the state level for land related dispute resolution.
- **Modernisation of Land Records:** The Policy recommends establishing a National Authority for Computerisation of Land Records and State Authorities for Computerisation of Land Records to enable modernisation of land records.
- **Monitoring and evaluation:** All state governments are required to establish a State Land Rights Commission (SLRC) to review the progress made by state governments on the realisation of land rights. A Land Reforms Unit must be established in every State Academy for Administration. The central government must establish a monitoring mechanism for this policy under the Department of Land Resources, Ministry of Rural Development.

Conclusion

Demand for land will increase with both population density and economic growth. Therefore, it's essential to resolve these conflicts now and move towards more effective and efficient use of land and natural resources.

Integrated physical land-use planning and management are an eminently practical way to achieve this. By examining all uses of land in an integrated manner, it makes it possible to minimize conflicts, to make the most efficient trade-offs and to link social and economic development with environmental protection and enhancement, thus helping to achieve the objectives of sustainable development. The essence of the integrated approach finds expression in the coordination of the sectoral planning and management activities concerned with the various aspects of land use and land resources.

Land resources are used for a variety of purposes which interact and may compete with one another, therefore, it is desirable to plan and manage all uses in an integrated manner.

Land pooling

- It is also known as land readjustment or land reconstitution. It is a land acquisition strategy where ownership rights of privately held land parcels are transferred to an appointed agency, with these land parcels being pooled as a result.
- The agency uses some of the pooled land for infrastructure development and sale, while the rights to new parcels in the pooled land are transferred back to the original landowners in some proportion to their original property.

Advantages

- **Fiscally conservative scheme:** the agency need not pay land acquisition costs, the sale of land will provide some revenue, and compensation comes from landowners now owning land that has increased in value following development.
- Allows for irregularly shaped and small parcels of land to be reconstituted **as more appropriate plots for developmental use.**

6.1. LAND BANK FOR INDUSTRIAL ALLOCATION

Introduction

- Land bank is a pool of land which allows government to offer land to investors without waiting for the process of land acquisition.
- It is conceived to do away with regulatory process and avoid any land acquisition related issues.

CONFLICT	DISTRICT	STATE	FAMILIES AFFECTED	AREA AFFECTED (hectares)
Odisha Govt. has put forest land in their land bank which earlier belonged to the POSCO Project	Jagatsinghpur	Odisha	700	1200
Chattisgarh gov't. has locked away a chunk of land which was acquired from people to build a steel plant	Bastar	Chattisgarh	2000	1700
Jharkhand gov't. has sealed a chunk of forest land-where a firing range of India army was proposed - in their land bank	Latehar	Jharkhand	50000	32
Jharkhand gov't. has earmarked gram sabha's common land in their land bank. This land was a part of Koel-karo dam project, which could not come up due to people's protest	Khunti	Jharkhand	100	61

Significance of Land Bank

- **Improving Ease of doing business:** State government is acquiring land for industrial use and proposes to offer it with all facilities in place.
- **Attracting investment:** Creation of the land bank helps in attracting investment (FDI/local investment) in various sectors and has the potential of generating new Employment opportunity in the region.
- **Preventing distress sales of land by farmers** as farmer can sell their land to government whenever they required and there will also be no forcible land acquisition.

Land Bank and different law regarding it in India

- **Forest Conservation Act of 1980:** Under it, government is required to get forest 'clearance' or approval from the central environment ministry to use forest land for a non-forest purpose. However, there is no provision to obtain forest clearance for a 'land bank' under the Act.
- **Forest Rights Act of 2006:** Under it, government cannot change the use of forest land without recognizing the land and forest rights of people living or dependent on it since generations.
- **PESA [Panchayat Extension to Scheduled Areas Act]:** It empowers village councils of scheduled areas to approve, reject or change the government programmes proposed in their regions.
- **Land Acquisition, Rehabilitation and Resettlement Act (LARRA) of 2013:** Under it, If land acquired under this law is unutilized for more than five years, the state government can put it in its land bank or give it back to the people it was acquired from.

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7. AGRICULTURE AND ALLIED SECTOR

Introduction

Agriculture (inclusive of animal husbandry, forestry and fishing) is central to the nutrition needs of India and remains the **largest sector of India's economy** as a source of employment and accounts for **18% of India's GDP**.

- According to the Fifth Annual Employment-Unemployment Survey of the Ministry Labour and Employment, **45.7% of India's workforce** in 2014-15 was employed in agriculture.
- India's **agriculture production** has been **increasing at about 3.6% annually** since 2011, sustained by improved access to inputs such as fertilisers and seeds, as well as better irrigation and credit coverage.
- The sector has also been **diversifying from grains** towards pulses, fruit, vegetables and livestock products, largely driven by evolving demographics, urbanisation and changing demand patterns.
- Gross Value Added by agriculture, forestry and fishing is estimated at Rs 17.67 trillion (US\$ 274.23 billion) in FY18 by increasing at CAGR of 2.75 % between FY12-18.
- Total agricultural exports from India grew at a CAGR of 16.45 % over FY10-18 to reach US\$ 38.21 billion in FY18. India is among the **15 leading exporters of agricultural products** in the world.
- It is the **world's largest producer** of milk, pulses, and spices, and has the **world's largest cattle herd** (buffaloes), as well as the largest area under wheat, rice and cotton.
- It is the **second largest producer** of rice, wheat, cotton, sugarcane, farmed fish, sheep & goat meat, fruit, vegetables and tea.
- However, Indian Agriculture is facing problems due to fragmented land holding, depleting water table levels, deteriorating soil quality, rising input costs and low productivity. **Some major issue pertaining to Indian Agriculture are:**
 - **Low Agricultural Productivity:** According to Agriculture Ministry, India's crop yields are lower than those in the US, Europe and China, due to (see infographic 2).
 - **Policy Issues:** There has been a total absence of the kind of syncretic policy between the Centre and states on the interlinked issues of agriculture, water, commerce and finance.
 - **Agricultural Marketing:** In the absence of sound marketing facilities, the farmers have to depend upon local traders and middlemen for the disposal of their farm produce which is sold at throw-away price. Agricultural Produce Market Committee (APMC) Act has also allowed the cartelization of traders that keeps farm-gate prices low.
 - **Input Challenges:** According to Ashok Dalwai committee report, rise in input cost has led to decline in crop income over the years, which has resulted in the low productivity and purchasing power of farmers. Several input factors are discussed below:

ADVANTAGE INDIA

ROBUST DEMAND

- A large population is the key driver of demand for agricultural products
- Rising urban and rural incomes have also aided demand growth
- External demand has also been growing especially from key markets like the Middle East

ATTRACTIVE OPPORTUNITIES

- Increasing demand for agricultural inputs such as hybrid seeds and fertilizers.
- Promising opportunities in storage facilities; potential storage capacity expansion of 35 million tonnes under the 12th Five Year Plan
- The government plans to reduce the import duty on wheat from 10 per cent to 0 per cent, in order to boost the domestic availability of wheat in the country.

COMPETITIVE ADVANTAGES

- High proportion of agricultural land (157 million hectares)
- Leading producer of spices, jute, pulses; second-largest producer of wheat, paddy, fruits and vegetables

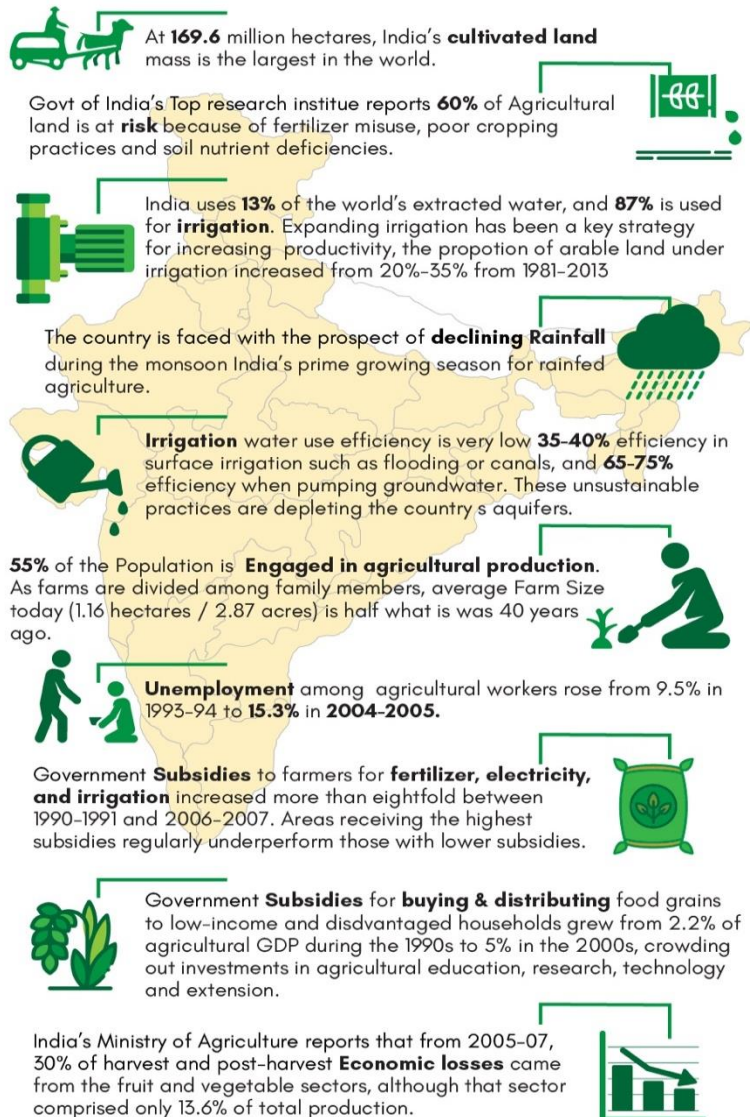
POLICY SUPPORT

- Schemes like Paramparagat Krishi Vikas Yojana (PKVY) helps in developing organic clusters and make available chemical free inputs to farmers.
- Other steps include Pradhan Mantri Gram Sinchai Yojana that ensures improved access to irrigation; creation of an unified national agricultural market which would help boost the incomes of farmers
- 100 per cent FDI under automatic route for development of seeds

FY 2016	2020-21
Food grain production: 253.16 million tonnes	Food grain production: 280.6 million tonnes

- ✓ **Second Generation Problems of Green Revolution:** Misuse and abuse of the technologies that were responsible for Green Revolution like fertilizer, groundwater etc. has negatively impacted natural resources (soil, water, biodiversity) and in consequence challenging the long term sustainability of agriculture.
- ✓ **Soil Health:** India's land area is about 2.5% of the global land, and it supports more than 16% of total human population, along with 20% of global livestock population. This increases pressure on productivity, which has resulted in a persistent decline in soil fertility over the year.
- ✓ **Seed:** Seed is a critical input for enhancing productivity of all agricultural and horticultural crops and plays a vital role in improving the income status of farmers, however **poor quality of seeds, low Seed replacement rate** (a measure of how much of the total cropped area was sown with certified seeds in comparison to farm saved seeds) and **unscientific usage of farm-grown seed have led to lower return from agricultural output.**
- ✓ **Lack of mechanisation:** According to the World Bank estimates the percentage of agricultural workers in total work force would drop to 25.7 % by 2050 from 58.2 % in 2001. Thus, there is a need to enhance the level of farm mechanisation in the country to ensure food security of people.
- ✓ **Pests and diseases** affect crop yields and output. In India, the farmer's crop yield losses range from 15 to 25% owing to the presence of weeds, pests, diseases and rodents.
- ✓ **Credit Crunch:** Real investment in agriculture has declined at 2.3% per annum between 2013–14 and 2016–17 leading to poor condition of agriculture infrastructure along with high dependence of farmers on non-institutional sources for loan (Nearly 40% of loans came from informal sources and 26% were advanced by moneylenders)
- **Inefficient MSP structure:** According to the **Shanta Kumar Committee**, only 6% farmers get the benefit of MSP and remaining 94% are dependent on the markets.
- **Lack of Alternative Employment Opportunity leading to Overcrowding:** The Situation Assessment of India reported that more than 40 % of farmers would like to quit agriculture if alternative opportunities were available.
- **Climate Change:** Higher frequency of droughts, floods, temperature fluctuations, and unseasonal rains and hailstorms are adversely affecting agricultural production through soil erosion, pest attack, crop failure etc.
- **Poor state of Agriculture Education:** State Agricultural Universities (SAUs) are facing **non-replacement of retired faculty** and high inbreeding of faculty (nearly 51% of faculty members have their degrees from the

INDIA'S AGRICULTURE SECTOR PRODUCTIVITY CHALLENGES



same university in which they are teaching), which hampers the quality of academic and research programmes.

- **Lack of enabling infrastructure along the value chain**—including agricultural markets, cold storage, warehouses, and agro-processing—has not developed in corresponding speed with rising agricultural production leading to food wastage, poor price discovery for farmer, distress sale of product etc
 - **Inadequate transport:** Lack of cheap and efficient means of transportation also prevents lakhs of villages to a well connected market centres.
- **Low investment in Research & Development:** Less than 1% of the Agricultural GDP in India is spent on research. That is abysmal considering this sector is critical to food security of the country and provides livelihood to approx. 50% of our population
- **Market Sluggishness:** sharp fall in prices in both domestic and global market, interventionist government policies like restrictions on exports of certain food items like pulses despite surplus supply, ban on futures trading and imposition of stockholding limits, among others are adding to farmers' distress despite bumper crop.
- **Agricultural NPA's:** According to Reserve Bank of India data, NPAs in agricultural sector rose over 23% from Rs 48,800 crore in 2016 to Rs 60,200 crore in 2017 due to
 - **Dependence of Monsoon** – Farm outputs were heavily affected by successive droughts of 2014 and 2015 which has led to harvest losses.
 - **Increasing Rural Distress** – Recent government data shows that there has been a decline in rural wages, fluctuation in prices and decline in crop sowing. Average all-India annual rural wage growth declined from 6.8 to 4.9 % between July and October and the decline is sharper for agricultural than for non-agricultural occupations.
 - **Moral Hazard of Farm Loan Waiver** - Expectations of loan waiver prompt farmers to default on loans. Moreover, it has a domino effect such that farmers from different states demand loan waivers.
 - **Using Loan Amount for Non-farming Purposes** - Farmers take loans through channels like Kisan Credit Card and using it for other non-farm activity including consumption.

Is Farm Loan Waiver a Viable Option to Solve Agricultural NPAs?

Economists regard farm loan waiver as bad economics and a populist measure. It was first used in India in 1990s and was recently brought back in the forefront after the drought in 2009-10.

- Farm loan waivers have an adverse impact on the balance sheet of the lending institutions as well as on the finances of the states.
- It impacts credit discipline and dis-incentivises future borrowers to repay thereby creating the problem of moral hazard.
- It can also affect the flow of credit as bank lending tends to move away from areas with greater exposure to such schemes.
- Government borrowings go up and yields on government bonds are impacted which can in turn lead to crowding out of private borrowers as higher government borrowing increases the cost of borrowing for others.

Suggestions for tackling agricultural distress

Agriculture Ministry has recently released a blueprint having 7-point strategy to achieve the vision of doubling farmer's income by 2022.

- **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.
 - **Model Agricultural Produce Market Committee (APMC) Act** is being worked upon which also includes private market yards and direct marketing.
 - **Contract farming** - the Government has released Model Act to promote contract farming.
- **Risk, Security and Assistance**
 - **Insurance** – **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: It** 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:** It 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.

Major recommendations of Ashok Dalwai Committee in its report titled Structural Reforms and Governance Framework.

- **Improve Institutional Arrangement/Overhaul of the Union agriculture ministry:** through steps such as
 - reorganizing some of the divisions of ministry to bring into focus new aspects like agri-logistics, investments for capital formation, primary processing etc.
 - setting up a three-tier planning and review mechanism through district, state and national level committees
 - establishing a national level policy and planning committee to review the policy framework and progress in doubling farmer's incomes, review trade policy, budgetary allocations and status of farmers' welfare.

Other 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.

- **Liberalize the definition of a 'farmer'** to include cultivators, lessee farmers and sharecroppers and developing an online and annually authenticated database to identify a farmer and render him/her eligible to avail benefits of agriculture related support-system of government.
- **Undertake land reforms** such as incentivizing land pooling through legislating the Model Land Leasing Act 2016, draft a Model Contract Farming Act, encouraging Farmer producer organisations and comprehensive digitisation of land records.
- **Reduce production risks and market unpredictability:** through restructuring of Directorate of Marketing & Inspection to take onus for market intelligence and undertake price and demand forecasting, comprehensive drought-proofing of highly vulnerable districts, improving post-harvest management capacity of farmers, deployment of technologies to improve estimates and resource use efficiency.
- **Improve trade regime** – through adjusting imports according to pre-set triggers to correct price fluctuations, promoting exports to allow agricultural growth and steady access to international demand
- **Liberalize and simplify agriculture policies** such as ensuring greater choice of inputs to farmers at right quality and rational costs, liberalizing seed chain, revisiting fertilizer sector policies, rationalizing pesticide regulations, liberalising output market environment to invite private sector participants and modernizing agricultural market architecture and legislate the Model Agricultural Produce and Livestock Marketing Act 2017
- **Remove Infrastructure constraints** by setting up a dedicated division for investment and enterprises in the Ministry of Agriculture & Farmers' Welfare.
- **Tackle climate change:** through rigorous monitoring, deploying technologies to mitigate adverse impact, preparing farmers for possible shifts in practices and habits, bringing changes in cropping system, crop selection and livestock care.
- **Improve grassroot level participation** by making Gram Panchayats responsible for agricultural development and preparing village level action plans at Gram Panchayat level.
- **Improve support tools** to help measure the farm income, monitor performance in real time and forecast demand and price for an array of agri-commodities. It may be used to conduct an annual ease of doing agribusiness survey.

The Cabinet Committee on Economic Affairs has given its approval for Green Revolution - Krishonnati Yojana in agriculture sector beyond 12th Five Year Plan for the period from 2017-18 to 2019-20.

Details about Krishonnati Yojana

- The scheme has been continued as part of its objective to double farmers' income by 2022.
- It is an umbrella of 11 schemes/missions under Ministry of Agriculture:
 - **Mission for Integrated Development of Horticulture (MIDH):** to improve nutritional security and income support to farm Households.
 - **National Food Security Mission (NFSM),** including National Mission on Oil Seeds and Oil Palm (NMOOP): to increase production of rice, wheat, pulses, coarse cereals and commercial crops and to augment the availability of vegetable oils to reduce its import.
 - **National Mission for Sustainable Agriculture (NMSA):** promotes sustainable agriculture practices best suitable to the specific agro-ecology focusing on integrated farming, appropriate soil health management and synergizing resource conservation technology.
 - **Submission on Agriculture Extension (SMAE):** to strengthen the ongoing extension mechanism of State Governments, local bodies, to forge effective linkages and synergy amongst various stakeholders, to support HRD interventions, to promote pervasive and innovative use of electronic / print media, inter-personal communication and ICT tools, etc.
 - **Sub-Mission on Seeds and Planting Material (SMSP)** to increase production of certified / quality seed, to increase SRR, to promote new technologies in seed production, infrastructure, etc.
 - **Sub-Mission on Agricultural Mechanisation (SMAM):** to increase the reach of farm mechanization to small and marginal farmers, to promote 'Custom Hiring Centres', to create hubs for hi-tech and high value farm equipment, to create awareness among stakeholders through demonstration and capacity building activities, and to ensure performance testing and certification at designated testing centers located all over the country.
 - **Sub Mission on Plant Protection and Plant Quarantine (SMPPQ):** to minimize loss to quality and yield of agricultural crops from the ravages of insect pests, diseases, weeds, nematodes, rodents, etc. and to shield our agricultural bio-security from the incursions and spread of alien species, to facilitate

- exports of Indian agricultural commodities to global markets, and to promote good agricultural practices, particularly with respect to plant protection strategies and strategies.
- **Integrated Scheme on Agriculture Census, Economics and Statistics (ISACES):** to undertake the agriculture census, study of the cost of cultivation of principal crops, to undertake research studies on agro-economic problems of the country, to improve agricultural statistics methodology and to create a hierarchical information system on crop condition and crop production from sowing to harvest.
 - **Integrated Scheme on Agricultural Cooperation (ISAC):** to provide financial assistance for improving the economic conditions of cooperatives, remove regional imbalances and to speed up - cooperative development in agricultural marketing, processing, storage, computerization and weaker section programmes.
 - **Integrated Scheme on Agricultural Marketing (ISAM):** to provide infrastructure facilities for grading, standardization and quality certification of agricultural produce; to establish a nation-wide marketing information network; and to integrate markets through a common online market platform to facilitate pan-India trade in agricultural commodities.
 - **National e-Governance Plan (NeGP-A):** to improve access of farmers to information & services throughout crop-cycle and to build upon, enhance & integrate the existing ICT initiatives of Centre and States.

7.1. MINIMUM SUPPORT PRICE

Why in news?

In the recent Budget, the government has announced to ensure the minimum support price (MSP) to farmers for all agricultural crops.

About MSP

- Minimum Support Price is the price at which government purchases crops from the farmers, whatever may be the price for the crops.
- **Commission for Agricultural Costs & Prices (CACP)** in the Ministry of Agriculture recommends MSPs for 23 crops. These include 14 grown during the kharif/post-monsoon season (see table) and six in rabi/winter (wheat, barley, chana, masur, mustard and safflower), apart from sugarcane, jute and copra
- CACP consider various factors while recommending the MSP for a commodity like cost of cultivation, supply and demand situation for the commodity; market price trends (domestic and global) and parity vis-à-vis other crops etc.
- MSP seeks to:
 - **Assured Value:** To give guaranteed prices and assured market to the farmers and save them from the price fluctuations (National or International).
 - **Improving Productivity:** By encouraging higher investment and adoption of modern technologies in agricultural activities.
 - **Consumer Interest:** To safeguard the interests of consumers by making available supplies at reasonable prices.

Issues

- **Poor Awareness:** NITI Aayog found that a low proportion of farmers (10%) was aware of MSPs before the sowing season. 62% of the farmers were informed of MSPs after sowing their crops.
- **Non remunerative Price:** It was found in many States that farmers were unable to get cost of cultivation from MSP announced by govt.
- **Distorted Cropping Pattern:** MSP has put excessive focus on Wheat, Rice and Sugarcane in the procurement at the expense of pulses, oilseeds, coarse grains etc.
- It has resulted in **depletion of water resources**, soil degradation and deterioration in water quality in some states, especially in the north-western region.
- **Regional Discrimination:** It has **discriminated against eastern states** where procurement at the MSP is minimal or non-existent.
- **Fiscal Cost:** Subsidy burden of MSP has substantial bearing on Fiscal health and inflationary trend in economy. A recent hike in MSP has also raised question about India subsidy limit defined by WTO.

- **Other Issue:** Long distances to the procurement centres, increasing cost of transportation for farmers, irregular hours of the procurement centres, lack of coverage storage godowns and inadequate storage capacity, and delays in the payment of MSPs to farmers.

Way Forward

- **Increasing Awareness:** Awareness level of farmers regarding MSPs must be increased and the mediums of dissemination of this information must be strengthened.
- **Timely Payment:** Delays in MSP payments have negative effects on the framers which needs to be corrected and timely payment should be ensured.
- **Advance Announcement:** As intended by the policy makers, MSP should be announced well in advance of the sowing season so as to enable the farmers to plan their cropping.
- Improved facilities at procurement centres, such as drying yards, weighing bridges, toilets, etc. should be provided to the farmers. More godowns should be set up and maintained properly for better storage and reduction of wastage.
- The small and marginal farmers can be provided with some exemption in **Fair Average Quality (FAQ) norms** to provide them with a source of income. The Procurement Centers should be in the village itself to avoid transportation costs. **National Commission of farmer** also recommended mandi to be in 5km Radius for producer.
- **Reviewing Method of MSP:** There should be meaningful consultations with the State Government, both on the methodology of computation of MSP as well as on the implementation mechanism. The criteria for fixing MSP should be current year's data and based on more meaningful criteria rather than the historical costs. In light of this, the **NITI Aayog has come out with three models.**
 - **The market assurance scheme:** It proposes procurement by States and compensation of losses up to certain extent of MSP after the procurement and price realisation out of sale of the procured produce.
 - **The price deficiency procurement scheme:** Under this, if the sale price is below a modal price then the farmers may be compensated to the difference between MSP and actual price subject to a ceiling which would not exceed 25 % of the MSP. Eg: **Bhavantar Bhugtan Yojana (BBY) in MP.**
 - **Private procurement and stockist scheme:** Under this, procurement would be done by private entrepreneurs at MSP. The government would provide some policy and tax incentives to these entrepreneurs. The private player is nominated through a transparent bidding process by the state government.
- States can adopt one or more options depending on their requirements. However, all the three options may not be implemented for the same crop.
- Before finalizing any model, the government must also consider report of **National Commission for Farmers (NCF)** which had recommended that MSP should be at least 50% more than the weighted average cost of production.

Advantages of Price Deficiency Payment

- The scheme provides an alternative to physical procurement of commodities at MSPs.
- This scheme may be more effective in ensuring that cropping pattern is not skewed in the favor of crops with assured procurement under MSP & it responds to consumer needs.
- Farmers receive the difference between average sale price (ASP) and MSP directly into their bank accounts thereby doing away with the costs of handling and storage. Thus, it may help in keeping India's food subsidies bill under check & complying with WTO subsidy restriction.

Advantages of private procurement

- It would reduce fiscal implications for the government
- It will involve private entities as partners in agriculture marketing and improve the competition in the market.
- It would also limit the government's liabilities for storage and post procurement management & disposal are also avoided.

Concern: Targeting issue related to lack of coverage, non-identification of beneficiary, inadequate compensation etc

7.2. AGRICULTURAL MARKETING

Introduction

- Agricultural marketing system is defined as physical and institutional set up to perform all activities involved in the **flow of products and services** from the point of initial agricultural production until they are in the hands of ultimate consumers.



- This includes assembling, handling, storage, transport, processing, wholesaling, retailing and export of agricultural commodities as well as accompanying supporting services such as market information, establishment of grades and standards, commodity trade, financing and price risk management and the institutions involved in performing the above functions.
- Presently, markets in agricultural products are regulated under the Agricultural Produce Market Committee (APMC) Act enacted by respective State Government.
- This Act notifies agricultural commodities produced in the region such as cereal, pulses, edible oilseed and even chicken, goat etc.
- The first sale in these commodities can be conducted only under the aegis of APMC through the commission agents licensed by the APMC.
- The central government had first circulated the model APMC Act in 2003 for the states to adopt it. Yet, close to 50% of the states have not made necessary changes to their respective state agricultural marketing acts.
- However, Agricultural marketing suffers from policy distortions, fragmentation resulting from large number of intermediaries, poor infrastructure, lack of vertical integration and stranglehold of official mandis sanctioned by **the Agricultural Produce Marketing Committees (APMC) acts** of the states. Other Issues are:
 - Under the **APMC acts**, farmers are required to sell a large number of commodities in the vast majority of the states in a local mandi where marketing arrangements under these acts have undermined the interests of the farmers and benefited the intermediaries.
 - **Farmer receiving in fraction:** The prevailing marketing arrangements under the APMC acts in the states have meant that the farmer receives a small fraction of the price paid by the final consumer.
 - **Price Fluctuation:** The government procures some commodities in some regions at preannounced MSP. This leaves other commodities in most regions to be sold at market prices that can fluctuate substantially.
 - **Poor price discovery:** Lack of commodities futures, fall in price of commodities and lack of government support has led to high volatility in prices, hurting the farmers earning and interest.
 - **Mandis Lack Good Storage and Warehousing Facilities** especially when it comes to fruits and vegetables, substantial wastage occurs undermining the price received by the farmer.
 - **Demand-Supply Mismatch:** Marketing infrastructure at present is unable to convey end consumer demand to producer leading to surplus of some commodities while shortage of other commodities
 - **Multiple Taxes:** Mandis also charge multiple entry, exit and other fees.
 - **Fragmented Agricultural market:** Currently, we have thousands of markets, with each farmer confined to a single mandi in many products in many states, representing huge inefficiency in the system.
 - **Absence of Grading:** There is hardly any grading of the commodities to be marketed. Leaving purchaser with little confidence in the quality of the product(s).

According to National Commission of Farmers (1976), objectives of an efficient marketing system, are:

- To enable the farmers as primary producers to reap the best possible benefits.
- To provide facilities for lifting all the produce the farmers are willing to sell, at a price incentive.
- To reduce the price spread between the primary producer and ultimate consumer.
- To make available all products of farm origin to consumers at reasonable price without impairing the quality of the produce.

Steps taken to improve Agriculture Marketing in India are

- **Electronic-National Agricultural Market (e-NAM):** It aims to unify mandis across the nation into a single national market through electronic trading whereby a buyer located anywhere in India would be able to place an order in any mandi in India, breaking the monopoly of Intermediaries.
- Centre has unveiled a draft model law, **Agricultural Produce and Livestock Marketing (Promotion and Facilitating) Act (APLM), 2017** to replace the Agriculture Produce Markets Committee Act, 2003. It has following provisions:
 - **Unified Market Area:** A state government/UT administration may declare the whole state/UT as a single unified market area for the purpose of regulating agricultural produce.
 - **Market Committee:** A Market Committee will manage market yards in a specified area, and is responsible for: (i) **regulating the auction** of agricultural produce and livestock, (ii) providing facilities

for marketing of agricultural produce and livestock. The Committee may also link consumers with farmers through digital technology and manage these **market yards through PPPs**.

- **Setting up of market yards:** Private market yards may be set up to facilitate operations of traders, commission agents, etc. Further, farmer-consumer market yards may be set up by providing infrastructure accessible to farmers and consumers directly.
- **Storage infrastructure** like warehouses and cold storages maybe declared as market sub yards.
- **Market yard of National Importance (MNI):** A state may declare any market yard as a MNI based on parameters such as its total throughput, number of consumers served, and infrastructure. A separate Market Committee may be constituted to manage the MNI.
- **E-Trading:** A state may set up an electronic trading platform, which shall provide infrastructure and services for trading in agricultural produce. A person may obtain license to establish and run an e-trading platform. Further, e-trading platforms maybe integrated with private market yards and sub-yards. Under a unified National Agricultural Market, e-platforms shall be interoperable.
- Cap on levy of market fees is proposed at 2% (of sale price) for fruits and vegetables and 1% for food grains.
- **Single point levy of market fee:** The Market Committee shall levy market fee on agricultural produce from a buyer only once, whether brought from outside or within the state/UT.

Ways to Improve Agri-Marketing

- **Encouraging Investments in Supply Chains:** States may exempt perishables from the APMC acts and replace licensees of APMC markets with open registration backed by bank guarantees.
- **Restructuring Essential Commodities Act:** To provide exemptions to certain categories of players such as exporters, food processors, multiple outlet retailers and large departmental retailers from applicability of stock limits. Currently, tight stock limits in many states discourage exports and development of vibrant domestic markets.
- **Encouraging contract and group farming** through separate **contract farming acts** (discussed later) under which the buyer can provide the farmer or **Farmer Producer Organisation (FPO)** access to modern technology, quality inputs, other support and a guaranteed price.
- **Improving business climate** through third party assaying and quality certification mechanisms, dispute settlement mechanisms, systems for forwarding goods to buyers, digital infrastructure to enable the national market and encouragement of FPOs to improve ease of doing business.
- **Improving Marketing Intelligence System** to provide demand led decision making support system - Forecasting system for agricultural produce, supply and demand, and crop area estimation to aid price stabilisation and risk management.
- **Improve Agricultural Market Information System (AMIS):** To enhance food market transparency and encourage coordination of policy action in response to market uncertainty.
- **Promoting private markets** under the provisions of the Model APLM Act, to cater the need of about 10,000 wholesale and 20,000 rural retail markets for achieving desired market density and network them into a pan-India system.
- **Unified national agricultural market (NAM) by 2020:** This can be achieved by increasing the coverage of markets under e-NAM and promoting alternate online platforms in the public sector by the states, as well in the private sector, besides joint venture platforms.
- An **aggressive agricultural trade** policy is recommended, to raise the agricultural exports to USD 100 billion.

What is negotiable warehouse receipt (NWR)?

- They are defined in the Warehousing (Development and Regulation) Act, 2007 (WDR Act) and are documents issued by warehouses to depositors against the commodities deposited in the warehouses, for which the warehouse is the bailee.
- They can be either **non-negotiable or negotiable**. NWRs can be traded, sold, swapped and used as **collateral** to support borrowing.

Benefits

- It allows farmers to extend the sales period of modestly perishable products beyond the harvesting season and avoid distress sale.
- 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.

Pledge Loan Scheme

- The aim of pledge loan scheme is to protect the interests of the farmers against distress sale of agricultural produce by providing short term loan against the pledge of the produce at zero/low interest rates.
- The idea is to provide access to both easy credit and safe and scientific storage.

- **Improving Procurement System:** Government should broad base and strengthen procurement operations to cover as many crops as possible (other than wheat & paddy) and be secular across the production regions
- **Upgrading Storage facility** and expand their reach in hinterland to prevent post-harvest losses and distress selling by Farmers. Govt should also promote **negotiable warehousing receipts (NWR)** for farmers to avail of bank credit easily.
- Promoting **farmer producer and village producer organisations (FPO/VPO)** for integrating small and marginal farmers into the marketing system.

7.2.1. FARMER PRODUCER COMPANIES

Why in News?

Government exempted the profits of Farmer Producer Companies (FPC) from tax for a period of five years from the next financial year.

Details

- While the I-T Act exempts cooperatives from paying under the section 35CCC, FPCs are taxed on par with private and public-limited companies.
- After the said changes, FPCs registered under the Companies Act, having an annual turnover up to ₹ 100 crore, need not pay tax on profits derived from farm-related activities.

Need for FPCs

- **Structural Challenges-** like poor market infrastructure, credit unavailability from formal channels, access and knowledge about market, information asymmetries, interlocking of factor and product market, lower bargaining power and holding capacity, higher input costs and output yield due to fragmented buying and selling and competition from other forms of private organisations in the market.
- **Small Farmer Constraints-** India accounts for a majority of farmers who operate on **less than 2 hectares land per household**. Majority of them still operate for subsistence based farming. Together the small & marginal farm holdings in the year 2010-11 accounted for 85% of total farm holdings in the country.
- **Failure of Cooperatives-** Due to heavy political interference, bureaucratic control and capturing of management by poor leadership and powerful elite, the cooperatives have not been as effective as expected. They also had an issue of not being business oriented.

What are FPCs?

- It is a hybrid between cooperative societies and private limited companies which provides for sharing of profits/benefits among the members.
- The important features include:
 - It is formed by a group of producers for either farm or non-farm activities;
 - It is a registered body and a legal entity (under Companies Act, 1956);
 - Producers are shareholders in the organization;
 - It deals with business activities related to the primary produce/product.
 - A part of the profit is shared amongst the producers and rest of the surplus is added to its owned funds for business expansion.
- It involves **collectivization of Producers** especially small and marginal farmers to help them collectively address the problems and **improve the bargaining power of farmers** through backward (inputs) and forward linkages (marketing to processors and retailers).
- NABARD initiated the Producer Organisation Development Fund (PODF) and Small Farmers Agribusiness Consortium (SFAC) has set up nearly 250 FPOs since 2011.
- To strengthen their capital base, SFAC has launched a new Central Sector Scheme "**Equity Grant and Credit Guarantee Fund Scheme for Farmers Producer Companies**".

Challenges & further Scope for FPCs

- **Lack of Patient Capital/Long term Capital-** as these entities are not seen to be as viable business enterprises. Thus, Patient capital and skilled resources with a firm business plan need to be infused in these enterprises.
- Besides **lack of entrepreneurial capabilities**, the small farmers show a lack of understanding of business plans and the growth trajectory for the FPCs towards enterprise models. Thus, different stakeholders particularly Banks and NGOs should create awareness among farmers.
- There is a **lack of administrative capacity** resulting in poor management of books. Government may take steps to improve the administrative structure to improve overall accountability and transparency.

- **Negative Selection Phenomenon:** It's happening with some individuals/entities entering only to reap the subsidy and depart once it dries.
- **Other Challenges** are lack of proper monitoring and evaluation, no or incomplete record of farmer members, no penalties for wrongdoers, no incentives for good performance, problems like free-riding etc.

Way Forward

- **Need A Proper Selection Mechanism** for the promoters/organisation as well as members based on merit to avoid subsidy gouging.
- **Optimal size determination:** Smaller sub groups, of 25-30 members, within a group could be easier to monitor and can also deliver better on attributes like quality and food safety.
- **Optimal composition:** Participation of members with different skills is important to reap the gains based on comparative advantage. Policy should try to minimise the entry barriers for farmers based on social, economic and political factors so benefits of different skills can flow.
- **Product differentiation:** FPOs can maximise prices for farmers if their products are differentiated.
- **Role of NGO's-** While NGO's are playing a crucial role in development of FPCs as promoting institutions, the political Economy of aid and donations make them work in a certain manner and ultimately making these institutions as fragile units which remain small within a region. Thus, more approaches of social enterprises should be infused to further develop these companies.

7.2.2. CONTRACT FARMING

Why in news?

Recently, Model Contract Farming Act was released by the government.

Background

- **National Agricultural Policy, 2000** envisages promotion of private participation via contract farming and land leasing arrangements.
- There is an APMC monopoly on agriculture produce and restriction on direct buying from the farmers.
- **NITI Aayog observed** that taxes charged by APMC for contract farming are exploitative. In this context, the **Committee of State Ministers on Agricultural Reforms** recommended that contract farming should be out of the ambit of APMCs.

Challenges with Contract Farming

- **State reluctance:** States have been reluctant to carry forward reform for the fear of loss of revenue.
- **Stockholdings limits on contracted produce** under Essential Commodities Act, 1955 are restrictive and discourage buyers to enter into contracts.
- **Lack of uniformity or homogeneity** among states law regarding kinds of produce, conditions etc. which is needed for allowing contract farming.
- **Regional Inequality:** Currently it is practiced in agriculturally developed states (Punjab, TN etc.) while States with highest concentration of small and marginal farmers are not able to reap its benefit.
- **Supply side issue:** Buyers have no incentive for contract farming with a large number of small and marginal farmers due to high transactions and marketing costs, creating **socio-economic distortions** and preference for large farmers.
- **It's a capital-intensive and less sustainable pattern of cultivation** as it promotes increasing use of fertilizers and pesticides which have detrimental impact on natural resources, environment, humans and animals.
- **Encourages Monoculture Farming:** This will not only impact soil health but also possesses risk of food security and import of food grains.

About contract farming

- Under it, agricultural production (including livestock and poultry) can be carried out based on a **pre-harvest agreement** between buyers (such as food processing units and exporters), and producers (farmers or farmer organisations).
- **Benefit:** The producer can reduce the risk of fluctuating market price and demand while buyer can reduce the risk of non-availability of quality produce.
- It is defined under **Concurrent List** of the Seventh Schedule of constitution; however Agriculture is under State list.
- In India, contract farming is regulated under the **Indian Contract Act, 1872**.
In addition, the **model APMC Act, 2003** provides specific provisions for contract farming, like compulsory registration of contract farming sponsors and dispute settlement
- Present laws on contract farming only include one or two farm commodities and are limited to marketing only.

- **Monopsony:** Typically, contract firms enter into an agreement with farmers to grow differentiated crops. This turns the firm into a sole buyer and farmers into price-takers. Contracting firms can exploit this situation to their advantage by offering lower prices to farmers.
- **Information asymmetry:** Contracting firms do not have complete information on productivity and land quality. This can lead to a situation where farmers produce below-quality crops. On the other hand, farmers sometimes do not understand contract specifications like the quantity and quality to be produced, or the effect of price change. These market failures lead to suboptimal outcomes. Buyers may penalize farmers.
- Predetermined prices can **deny farmers the benefits of higher prices** prevailing in market for the produce.















Significance of Contract farming

- **Private participation in Agriculture:** It encourages the private sector investment in agriculture to promote new farming technology, developing infrastructure etc.
- **Improving Farmers Productivity:** It enhances productivity and efficiency of farming sector, by improving access to better inputs, scientific practices and credit facilities, leading to increased farmer incomes, new employment opportunity and food security at large.
- It makes farming an organised activity and help in improving quality and quantity of production.
- **Insurance to post harvest losses:** Predetermined prices provides an opportunity to cover post-harvest losses, if any.
- **Increasing Export:** It encourages farmers to grow crops required by the food-processing industry and link Indian farmers to global supply chains, particularly in high-value horticulture produce and reduce food wastage significantly.
- **Consumers benefit:** Increasing marketing efficiency gains, elimination of intermediaries, reduction in regulatory compliances etc. can significantly reduce artificial shortages of produce and control food price inflation.

Conclusion

The model Act makes a good move in the direction of promoting contract farming. The government should focus on providing an enabling environment by fostering competition and bridging information asymmetries between farmers and buyers. Unless this ecosystem is provided, the new model Act may not effectively promote contract farming.

- The government needs to create market-based incentives for both farmers and buyers. It should improve farmers' connectivity to spot markets and mandis across the country.
- The government should maintain an information repository of farmers and contracting firms. The repository can provide details about farmers or farmer producer organizations with regard to land availability, default rate, and performance standards. This will help farmers and sponsors to evaluate each other prior to engaging in contracts.
- Also, the government can facilitate the establishment and enforcement of standards for crops. This will set clearer expectations regarding the contracted crop. The government can educate farmers and make them more aware about contract farming and model contracts.

Key Features of Model Contract Farming Act	
 <p>Ensure buying of entire pre-agreed quantity of contract farming producer as per contract</p>	 <p>To guide the contracting parties to fix pre-agreed price</p>
 <p>To decide sale- purchase price in case of violent movement upswing or downswing) of market price vis-a-vis pre-agreed price as a win framework</p>	 <p>Provide contract farming facilitation group at village level to take quick and need based decision</p>
 <p>Contract farming to remain outside the ambit of APMC Act</p>	 <p>Catering to a dispute settlement mechanism at the lower level possible for quick disposal of disputes</p>
 <p>Contract Farming (Development & Promotion) Authority at state-level to carry out the assigned mandates</p>	 <p>It bars the transfer of ownership of the farmer's land to companies under all circumstances.</p>
 <p>Registering and Agreement Recording Committee It will be setup at local-level to register contracts and implement them effectively.</p>	 <p>It encourage Farmer Producer Organization (FPOs) / Farmer Producer Companies (FPCs) to mobilize small and marginal farmers to benefit from economy of scale in production and post-production activities.</p>
 <p>It provides farmers an alternative in cases where the procurement mechanism is ineffective.</p>	 <p>It includes all categories of agronomic & horticultural crops, livestock, dairy, poultry and fishery.</p>
 <p>Limits of stockholding of agricultural produce will not be applicable on produce purchased under contract farming.</p>	 <p>The produce will be insured under the existing agriculture insurance schemes</p>

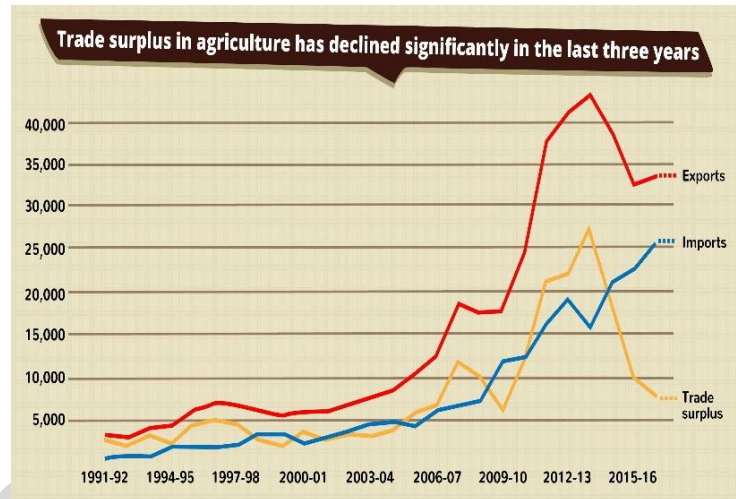
7.2.3. DRAFT AGRICULTURE EXPORT POLICY

Why in News?

- Recently, Ministry of Commerce and Industry, released Draft Agriculture Export Policy.

Background

- India's agri export basket accounts for little over 2% of world agri-trade (estimated at US\$ 1.37 Trillion) and **ranked ninth amongst** the major exporters globally (WTO 2015), however its agricultural exports grew at 9% compared to China (8%), Brazil (5.4%) and US (5.1%) between 2007 and 2016.
 - Low export:** India's value added agri-produce in its agri-export basket is less than 15% compared to 25% in US and 49% in China.
 - Export of agricultural items contributes about **13.10% of agriculture GDP**.
 - Agricultural exports account for **12.7% of total exports** while imports account for 4.2% of total imports (2014-15).
 - India's agricultural trade surplus recorded a more than ten-fold increase between 1991-92 and 2013-14.
 - It took a hit in the last three years when it fell by 70%. This mainly happened as **exports fell by 22%** (\$42.9 billion in 2013-14 to \$33.7 billion in 2016-17) while **imports increased by 62%** (\$17.5 billion in 2013-14 to \$25.5 billion in 2016-17).
 - Agri-exports have primarily suffered due to fall in exports of cereals (wheat and maize), cotton, oilseeds and bovine meat due to **fall in international prices and restrictive policies of the government**.
 - India is currently export competitive in 70% of agro commodities, non-tradable in 10-15% and import competitive in the rest of them.
 - Agricultural and Processed Food Export Development Authority (APEDA)** has recently urged the government to allow 10-20 % of the agricultural produce to be exported.



Why Boost Agricultural Exports?

- Utilizing Surplus** – By boosting agri-exports, India can utilise the agricultural surplus of many agro- commodities produced every year.
- Optimum Utilization of Resources** – Due to India's agro-climatic conditions, India is capable of producing each and every agro-commodity it wishes to. Boosting exports will act as an impetus to utilize our resources.
- Help Build Global Value Chain** – Agricultural exports will help build global value chains that will create better job prospects in the agricultural sector.
- Doubling the Farmer's Income** – It will help the farmers get better prices for the produce and help the government achieve its target of doubling the farmer's income by 2022.

Issues with Agri-exports

- Frequent changes in government policies** has made India an irregular supplier to the international market. Restrictive export policy (such as **Minimum Export Price**) by the government results in farmers losing on the international price hike and also adds an element of uncertainty.
- Lack of Uniformity:** India is unable to export **its vast horticultural produce** due to lack of uniformity in quality, standardization and its inability to curtail losses across the value chain.
- Disproportionate warehousing facility for agro-produced and processed foods:** This deters the growth of exports as post-harvest losses of agricultural commodities is estimated to be at about Rs44,000 crore annually.
- Export rejections:** Indian agriculture produce **face more rejections** in key export markets compared to products from other developing countries **as it fails to meet the phytosanitary and quality standards** set by different countries time and again. A draft export strategy released by APEDA has called for

strengthening the mechanism for effective handling of SPS notifications and constituting SPS Club of India consisting of various experts acting as a nodal point for interface on SPS notifications.

- **Land holdings still remain small** with flourishing informal tenancies. The produce from even a district has significant variation in terms of varieties cultivated, size and other physical parameters and stage of maturity at the time of harvest. In view of this, it is difficult for the exporters to source requisite volume of a particular fruit or vegetables and mobilise large-scale capital.
- **Less focus on value added products:** India has so far been traditionally commodity exporter with not much focus being laid on development of export of value added products. With the Indian food processing industry still at an incipient stage, there is limited market intelligence available with respect to raw material as well as potential market for processed food products especially to small players.
- APMC regulated mandis, stocking limits and trading restrictions have made it difficult for farmers to build export oriented value chains.

Draft Agri-Export Policy Framework

- **Strategic measures**
 - **Policy measures-** It includes **Stable Trade Policy regime** free of ban or imposition of Minimum Export Price; **reforms in APMC Act** to remove perishables from its purview and streamlining of Mandi fee; **Liberalising Land Leasing norms** without compromising the rights of the land owner as provided in Model Contract Farming Act.
 - **Infrastructure and logistic boost-** includes port development having dedicated agri infrastructure at ports with 24x7 customs clearance for perishables, enhancing hinterland connectivity, better cargo handling etc.
 - **Whole Government approach-** The policy advocates a quality control at farm level and coordination across different ministries involving agri chain. This would address the issues of R & D for improved varieties, establishing standards regime, response to SPS & TBT barriers, identification of winning sectors etc.
 - **Greater Involvement of state government in agri-export:** by identification of a nodal State Department/Agency for promotion of agriculture export and including agricultural exports in State Export Policy along with development of product specific clusters in different agro climatic zones
- **Operational Measures**
 - **Focus on Clusters:** The policy favours the establishment of **Farmer Producer Organisation**, digitization and geo-mapping of land records, identification of suitable production clusters coupled with a transition agri export zones (AEZs).
 - **Promoting Value Added Exports-** This includes establishment of organic export zone/organic food park, branding of organic products, developing a uniform packaging and quality protocols standard for organic and ethnic products.
 - **Marketing and promotion of “Produce of India”-** There should be a **product specific market campaign** and a separate fund for marketing of organic products, ethnic products, and GI products.
 - **Post-harvest Infrastructure to ensure smooth logistical movement of produce** – This include undertaking ease of doing business measures, developing sea protocol for perishables etc.
 - **Establishment of a Strong Quality Regime-** It includes establishment and maintenance of single supply chain and standards for domestic and export market, striving towards recognition of our conformity assessment procedures.
 - **Other measures-** include ensuring self-sufficiency and export-oriented production, creation of an agri-startup fund, formulating action plan on R&D, testing labs with strong infra in NE region to support export of organic produce, involving private sector in export promotion etc.

7.3. AGRICULTURE INPUT

Introduction

- With nearly 1.2 billion population, India requires a robust, modernized agriculture sector to ensure the food security to its population. Scope for further increasing cultivable land is limited. In order to meet the food grain requirements, the agricultural productivity and its growth

Telangana's input support scheme

- **Objective:** To relieve farmers from taking loans from moneylenders by giving them Rs 4,000 per acre for the kharif and rabi seasons. It is envisaged that the farmer will use this money for purchase of inputs ranging from seeds to fertilisers to machinery and hired labour.

needs to be sustained and further improved. The level of agricultural output depends on the availability of quality inputs at an affordable price.

- Utilisation of Inputs to the most optimal level possible makes the agricultural value system more effective, efficient and sustainable.
- Material inputs during the cultivation phase of agricultural activities can be managed for greater use efficiency and productivity, as well to mitigate possible shortfalls in other inputs such as labour and water.

7.3.1. WATER MANAGEMENT

Introduction

- India accounts for only about 4 % of global water resources, but supports 18 % of the World's human population and 15 % of its livestock, putting considerable strain on water resources.
- Agriculture consumes more than 80 % of the total usable water available in the country. Further, this is not equitably available to all crops, all regions and over time of the year.
- There is increasing demand for the available water for non-agricultural uses and urgent need to achieve high degree of water use efficiency.
- Crop intensity and productivity, which are very important sources of growth in output and farmers' incomes, are critically **dependent on irrigation**.
- In India, a second crop is grown on less than 40 % of cultivated area. In some states, this figure is below 25%. The main reason for low crop intensity is access to water and moisture for crop production in Rabi season.

Challenges

- **Area Under Rainfed:** With 52 % of its cultivated land being rainfall-dependent, and constituting about three fourth of land mass under arid, semi-arid, and dry humid situations, making them more vulnerable to weather aberrations and are characterized by low levels of productivity and low input usage.
- **Regional imbalance:** There exist huge temporal and spatial variations in rainfall and water availability in the country. Eg: Ganga-Brahmaputra river basin contributes to more than 50 % of total annual water availability, whereas, Southern and Western basins account for only about 15 % each.
- **Sub-optimal utilization of created facilities:** One of the major shortcomings in the prevailing irrigation system is the wide gap between irrigation potential created (IPC) and irrigation potential utilized (IPU) due to inadequate maintenance of canal system, lack of participatory management, changing land use pattern, deviation from the designated cropping pattern, soil degradation and delay in command area development.
- **Poor irrigation efficiency:** The overuse of irrigated water is reflected by low irrigation efficiency of about 35 % to 45 % in most surface irrigation systems, and about 65 % in case of ground water use.
- **Imbalanced use of ground water:** Ground water has emerged as the main source of growth in irrigated area and it now accounts for over 63 % of the country's irrigated area. However subsidized or free power by States has encouraged farmers to overdraw water from deep aquifers, causing substantial depletion of water table and water quality deterioration in many areas, turning into Dark Zones.
- **Improper crop and cropping system:** Presently, high proportion of cultivated area under water guzzling crops like rice, sugarcane etc. is witnessed in many states.
- **Water logging and soil salinity:** Over-use of surface water that has resulted in drainage problems causing water logging in some areas.

Way Forward

- **Addressing the problems of over-exploitation of ground water** by incorporating artificial recharge of groundwater and rainwater harvesting, conjunctive use of surface water and groundwater, management of poor/marginal quality groundwater, water conservation (by increasing water use efficiency), regulation of groundwater development, separating power feeders for domestic consumption and agricultural use etc.
- **Creating secondary storages** in tail end of canal commands during monsoon season which can be used during critical periods.
- **Irrigation development in eastern and north eastern region** to support Second Green Revolution as ground water resources are under-utilized in the region to the tune of 55-99 %.

- **Improve on-farm water management** to reduce wasteful use of water and decreasing production costs without compromising the yield levels
- **Participatory Water Management:** By promoting Organised water users associations (WUAs) would help in efficient crop planning, equitable distribution of water and serve as channels for feedback and inputs to improve the performance and services provided by Government.
- **Rain water harvesting:** It can significantly contribute in storing the rainwater, improving ground water recharge, bringing areas under protective irrigation and increasing cropping intensity in rainfed regions
- **Water pricing and regulatory mechanism** to economize its usage through water budgeting.
- **Green water management interventions** to improve the soil physical properties, to increase infiltration and convert rainwater to available soil moisture for crops.
 - **Water budgeting:** It's a balanced water use plan taking into consideration the demand & supply and equitable distribution through participatory management is the key to achieving potential use of water.
 - Water stored in the soil and root zone that is available for plant growth is called **green water**.
- Recycling of water for irrigation after appropriate treatment.
- **Creating National Irrigation Management Fund (NIMF):** To provide financial incentives to states to improve performance in irrigation management
- **Enable data-backed decision making:** States need to create robust water data systems with real-time monitoring capabilities to ensure that the data can be used to target policy interventions and enable innovation in the broader water ecosystem.
- **Promoting of micro-irrigation:** It help the farmer in reducing fertilizer usage, labour expenses, and other inputs, resulting in reduced input costs.
 - It also help in water savings of upto 40 % over conventional flood irrigation methods, along with appreciable crop productivity enhancement by about 47 % and income enhancement by about 48 %.

7.3.2. CORPUS FOR MICRO IRRIGATION FUND

Why in News?

A dedicated Micro Irrigation Fund (MIF) with National Bank for Agriculture and Rural Development (NABARD) under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been set up.

Status of Micro -Irrigation in India

- According to a study the average penetration level of Micro-irrigation in India is **5.5%**. Only few states like Haryana, Sikkim, Andhra Pradesh, Rajasthan, Karnataka, Gujarat, Maharashtra, Tamil Nadu have penetration level greater than national average.
- Micro-irrigation in India is largely being **promoted in arid and semi-arid regions** where groundwater is the primary source of water.
- The task force on micro irrigation had estimated a **potential of 69.5 million hectare under micro irrigation**, whereas the area covered so far is only about 10 million hectares.

Micro-irrigation

- It is the slow application of water above, or below the soil by surface drip, subsurface drip, bubbler and micro-sprinkler systems, thereby increasing the yield and productivity of crops.
- Apart from saving of irrigation water, it also results in energy saving, saving of labour cost, saving of fertilizers, increase in crop production and increase in net annual income of the farmer beneficiary.
- Due to recurring droughts in years 2012, 2015 and 2016, micro-irrigation has become a policy priority in India in form of **Per Drop More Crop Component** of PMKSY.

Micro Irrigation Fund

- It intends to provide states financial assistance on concessional rate of interest to **encourage Micro-Irrigation** and an allocation of Rs 2,000 crore has been made for this fiscal while Rs 3,000 crore has been earmarked for the 2019-20 fiscal.
- The lending rate under the MIF has been proposed at **3% lower** than the cost of raising the fund by NABARD.
- It will have a **pan-India coverage** and the loans extended by NABARD can be **paid back in 7 years**, including a grace period of two years.

Advantages of MIF

- It would supplement the efforts of **Per Drop More Crop Component (PDMC)** of Pradhan Mantri Krishi Sinchayee Yojana in an effective and timely manner and may ensure water use efficiency as much as 50- 90%.
- Fund will help to bring **more area under micro-irrigation** over 5 years, i.e. almost about 10 million hectares.
- Farmers Producers Organization (FPO)/Cooperatives/State Level Agencies **can also access** the funds with state government guarantee or equivalent collateral.
- It will also **help states mobilise resources** for their own initiatives, including additional subsidy, to bring about **2 million hectares under micro irrigation each year** during the remaining period of the 14th Finance Commission.
- **Increase in Farmer Income**-Farmers can add more new crops in an improved water scenario which ultimately results in increase in farmer's income.

Pradhan Mantri Krishi Sichayee Yojana

- It aims to extend the coverage of irrigation 'Har Khet ko pani' and improving water use efficiency 'More crop per drop' in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities.
- It will be supervised and monitored by Inter-Ministerial National Steering Committee (NSC) under PM with Union Ministers of all concerned Ministries. A National Executive Committee (NEC) is to be constituted under the Chairmanship of the Vice Chairman, NITI Aayog to oversee programme implementation
- PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP); Integrated Watershed Management Programme (IWMP); and On Farm Water Management (OFWM) component of National Mission on Sustainable Agriculture (NMSA).
- Water budgeting is done for all sectors namely, household, agriculture and industries.

Challenges Ahead

- **High cost of Installation**- Micro-sprinklers are quite costly and to offset the financial constraint of the farmers, Government will have to provide the subsidies to the extent of 40-90%, of the cost of Micro-Irrigation.
- **Inefficiency in implementation**- Implementation agency for micro-irrigation was changed from a dedicated mission to a component part of NMSA under PMKSY this has led to inefficiencies like improper utilisation of funds across the states.
- **Other Issues** include inadequate electricity supply as well as poor follow up services by drip agencies.

Conclusion

- Considering the water stress in India, promoting water use efficiency by adopting crop alignment and precision irrigation is very critical. Precision irrigation powered by drip and sprinkler systems, is needed in case of all forms of irrigation - surface, lift and ground water.
- Priority attention is needed to achieving water use efficiency to realise higher production and reduction in cost of cultivation by increasing the area coverage under irrigation by completing all long pending medium and major irrigation projects and putting greater emphasis on minor and micro-irrigation structures to offer protective irrigation to rainfed crops.

7.3.3. FERTILIZER SECTOR

Why in News?

- Recently, government had stressed the need of halving the urea fertilizer consumption by 2022.

Fertilizer industry in India

- India is second largest consumer of urea fertilizers after China.
- India also ranks second in the production of nitrogenous fertilizers and third in phosphatic fertilizers whereas the requirement of potash is met through imports since there are limited reserves of potash in the country.
- It is **one of the eight core industries**.

Issues involved: The issues in fertilizer sector involve multiple stakeholders such as:

Fertilizer Companies

- **Costly Feedstock**- Around 20 % of existing urea capacity still operates on either naphtha or fuel oil as feedstock which involves higher capital cost than natural gas.
- High **canalisation** of urea import (fertiliser companies have to import it through only three agencies such as; State Trading Corporation, MMTTC and Indian Potash Ltd.) often leads to mismatch in demand and supply of urea for the industry.
- There is **absence of price fixation benchmark** at a reasonable level for import of DAP (di-ammonium phosphate) fertilizer, which delays finalization of contracts between international suppliers and domestic fertilizer companies.

Government

- **Fiscal state:** Fertiliser accounts for large fiscal subsidies (about 0.73 lakh crore or 0.5 % of GDP), the second highest after food and only 35% of total subsidy reaches the intended beneficiaries.
- **Black Marketing:** Extremely low prices of urea also lead to its diversion to non-agricultural uses as well as smuggling to neighbouring countries such as Bangladesh, Nepal.
- **Roadmap:** There was no clear roadmap in front of government to achieve the NBS objectives which resulted in failure of the policy in checking the imbalanced use of fertilizers. Specific well-coordinated measures with quantifiable deliverables and specific timelines need to be formulated.
- **Monitoring mechanism:** There is no monitoring mechanism in the department of fertilizers (DoF) to ensure prices fixed by fertilizer companies are based on their reasonable cost of production.

Farmers/Agriculture

- **High Cost:** Black marketing of fertilizer often leads to high input cost for small and marginal farmers.
- **Unscientific use:** under-pricing of urea relative to other fertilisers, especially P&K, encourages distorted consumption pattern and unscientific use of it, resulting in significant environmental degradation, including depleted soil quality.

Policy and Legislative Initiative

- **Nutrient Based Subsidy scheme 2010:** applicable to 22 fertilizers (other than Urea) for which MRP will be decided taking into account the international and domestic prices of P&K fertilizers, exchange rate, and inventory level in the country. It aims to
 - to ensure that adequate quantity of P&K is made available to the farmers at statutory controlled price.
 - to ensure balanced use of fertilizers, improve agriculture productivity, promote growth of indigenous fertilizer industry and to reduce the burden of subsidy.
- **New Urea Policy 2015:** focusses on making the domestic urea energy efficient and reducing the subsidy burden.
- **Neem Coated Urea (NCU):** mandatory 100% production of NCU, Benefit includes:
 - Slow down the dissolution of Urea into soil, resulting into less urea requirement.
 - Stop the illegal diversion of urea for non-agricultural usages such as; ingredients in chemical industry, explosives, etc.
- **Gas Pooling:** pooling of Domestic Gas with Re-Gasified LNG which is imported. This would help provide natural gas at **uniform delivered price** to all natural gas grid connected Urea manufacturing plants.
- **Removal of minimum production criteria** for manufacturers of Single Super Phosphate (SSP) making them eligible for subsidy irrespective of quantity of SSP produced and selling for agriculture purposes.
- **Soil Health Card:** Farmers can get their own customised requirement of fertiliser in order to avoid irrational use of it.

DBT in fertilizer industry: under the system, farmer's purchase of fertilizer will be recorded on the Point of Sale (PoS) machines, thereafter subsidy to companies will be released to fertilizer firms.

Benefits of DBT in Fertiliser:

- It is a beneficiary driven subsidy payment scheme.
- It creates Aadhaar seeded database of beneficiaries and provides transaction visibility at the level of buyers.
- It facilitates a more transparent and faster tracking of funds along the value chain i.e. from manufacturer to beneficiaries.
- It minimises diversion of fertiliser for commercial use.
- It generates data on the usage of the nutrients to help farmers

Challenges of DBT in Fertiliser:

- During peak seasons, taking biometric authentication of each individual will cause **unnecessary delays** (biometric mismatch, authentication failure, internet connectivity, etc.) or the retailer may resort to **'adjusted transaction'** (registers all sales of the day on few Aadhaar numbers). There should be a faster check-out mechanism such as advanced-booking system.
- There is need for **effective communication** so that farmers are not overcharged.
- There should be an effective **Grievance Redressal mechanism**.

Steps that can be taken

- **De-canalising** the import of urea is need of the hour which would allow fertiliser supply to respond flexibly and quickly to changes in demand.
- **Secure long-term fertiliser supplies**-from locations where energy prices are cheap, such as Iran following the example of the Fertiliser Ministry's joint venture in Oman.
- **Rationalising the subsidies**- subsidies should be rationalized along with dedicated awareness generation in farmers regarding the benefits of balanced usage of fertilizers. Also, modelling the fertilizer proportion according to different agro-climatic regions, is needed for the better growth and health of crops and soil.
- **Better targeting**- of poor tenant farmers and sharecroppers for fertiliser subsidies on the basis of assessing poverty—based on landholdings or some other measure is need of the hour.
- **Promotion of organic fertilizer**- would create a win-win situation for entire spectrum of stakeholder in fertilizer sector such as; better yield to farmer's products, avoid negative impact on environment, cut down subsidies burden on government and improve fiscal prudence of economy.

7.3.4. SEED INDUSTRY

Why in News?

- Recent reports highlighted that the Indian seed market reached a value of more than US\$ 3 Billion in 2016, with growth rate of around 17% during 2009-2016.

Seed Industry in India

- India is the fifth largest seed market across the globe.
- It is expected to grow at more than 15% during 2017–2022, and can reach a value of more than US\$ 7 Billion by 2022.
- The seed market is majorly contributed by non-vegetable seeds such as corn, cotton, paddy, wheat, sorghum, sunflower and millets.
- Direct contribution of quality seed to the total production can be raised up to 45% with efficient management of other inputs.

The production of seed passes through generation system; **Breeder Seed**-----**Foundation Seed**-----**Certified Seed**.

Breeder Seeds are produced by **Indian Council of Agricultural Research** and Foundation and Certified Seeds are produced by **National Seed Corporation**.

Legislative Initiatives

- Currently, the seed sector is governed by;
 - **The Seeds Act, 1966**: Regulate the quality of certified seeds.
 - **The Seeds Control Order, 1983**: regulates and licenses the sale of seeds;
 - **New Policy on Seed Development 1988**: emphasis on import of seeds, export earnings and increasing farm income.
 - **The Protection of Plant Varieties and Farmers' Rights Act, 2001** (PPVFR Act): protects the intellectual property rights of plant breeders.
 - **National Seed Policy 2002** based on ;
 - ✓ Varietal Development, Seed Production, Seed Distribution and Marketing by encouraging private sector as key actor, Infrastructure facility, Establishment of National Gene Fund.
 - **EXIM Policy 2002-07**: restriction on export has been removed except on certain variety of seeds such as onion, berseem, cashew etc.
 - **Seed Bill 2004**;
 - ✓ Aims to replace the Seed Act 1966
 - ✓ Prescribes minimum seed standard for seeds
 - ✓ Non-performing of seed can compensated under Consumer Protection Act, 1986.
 - ✓ Provisions for self-certification and accreditation of private seed testing laboratories, and regulation of transgenic seeds.

National Seed Plan 2005: Calls for a synergetic approach between agricultural educational institutions, Seed Companies and state government.

Issue Involved

The issues in seed sector involve multiple stakeholders such as:

- **Seed Companies**
 - The research investment by private companies remained at a meagre 3-4% of revenue against the international norm of 10-12%, due to complex and weak IPR regime and various licencing term for the companies.
 - Moreover, existing technology provider in GM Crop seed, continue to enjoy close to **monopoly status**.
- **Government**
 - Regulatory failure in preventing the rampant illegal sale and planting of seeds based on an unapproved GM crop had been reported in Maharashtra and Telangana.

- Various agricultural economist argued that the policies for seed sector lack **visionary approach** and rest on fragmented actions.
- **Farmers**
 - **Seed replacement rate** continues to remain below the desired level of 20 % for most crops.
 - **Unscientific use of farm-grown seed lead to lower return from agricultural output.**
 - **Availability of less areas for seeds to achieve optimum Seed Multiplication Rate add hardship to farmers.**

Step that can be taken

- **A swift action framework** is needed in collaboration with state governments to identify and take over fields where illegal GM cotton is being grown.
- **Focus on GM technology:** National policy on GM crops to define the exact areas where GM is required by the country and where the government will encourage public and private investment in GM technology.
- **Quick resolution:** to the conflicts between the different IPR laws that are affecting this industry and clearly defining how the government wants to encourage research investment with assured IP protection in this important sector.
- **Incentives:** to private sectors in the form of bankable schemes should be provided for production of low value high volume seeds.
- **Enhance Seed-Research Capacity:** Encouraging private sector participation in seed production and distribution by removing the price control order of seed and other restrictions discouraging private investment in the seed sector. At the same time, a **robust third party quality certification system** for seeds should be encouraged.
- **Regulatory mechanism:** Strengthening the regulatory mechanism for the seed and biotech industry to make it transparent, science-based, predictable and fair.
- **Integrated Approach:** Efforts should be made toward improvement of Seed Replacement Rate, distribution of quality seeds appropriate to agro-climatic zone along with a determined effort to address general and region specific constraints.

7.3.5. DRAFT PESTICIDES MANAGEMENT BILL 2017

Why in News?

- Recently, Ministry of Agriculture and Farmer Welfare proposed the Pesticide Management Bill 2017 with an aim to regulate the manufacture, imports, storage, transportation, inspection, testing and distribution of pesticides.

Background

- Currently India is the largest producer of pesticides in Asia and ranks 12th in world for application of pesticides.
- In India nearly **150 pesticides are registered**
- Around **40% of the total cultivated** area is treated with the pesticides (State of India Agriculture 2015-2016).
- Andhra Pradesh is the leading consumer of pesticide followed by Maharashtra and Punjab.

Issues with Pesticides management in India

- **Unregulated sale:** The indiscriminate and unilateral use of pesticides has led to several ill-effects like human and animal health hazards, ecological imbalance, development of resistance in the pests to pesticides, pests resurgence and environmental pollution as well as destruction of natural enemies (bio-control agents) of pests and increased level of pesticides residues in soil, water, food with the increased use of pesticides.
- **Multiple bodies involved:** The Central Insecticide Board and Registration Committee registers pesticides for crops while the FSSAI sets the maximum residue limits of pesticides for the crops it has been registered for. The state agriculture universities and departments then make their own recommendations for these pesticides. This hampers the passage of correct information to farmers.
- **Sale of chemicals banned in other countries:** 93 chemicals that have either been banned or restricted in most of the developed world and some even in neighbouring countries like Nepal and Bangladesh are sold in India. There are at least 18 others that have been classified as extremely hazardous or very hazardous by the WHO.

- **Pesticide manufacturers are not acting responsibly:** Approved uses, correct doses and waiting periods are not mentioned on the labels of pesticides bottles or packets.

Highlights of the Bill

- **Repeal archaic law:** The bill seeks to replace the **Insecticides Act of 1968** and is proposed to be a step towards promoting safe use of pesticides.
- **Setting up of Central Pesticides Board:** to advise centre and state government on prevention of risks due to pesticide, monitoring performance of registered pesticides, procedures for manufacturing pesticides, regulation and guidelines for advertising them.
- **Setting up of a Registration Committee:** for speedy registration of pesticides, allowing or restricting use of pesticides, notifying pesticides etc.
- **Classification:** It defines the criteria by which a pesticide is to be classified as misbranded, sub-standard, or spurious.
- **Penalties:** It favors an increase in penalties on violators and gives more power to state governments to take action against them.
- **Compensation:** It provides for compensation to the affected farmers or users under the provisions of the Consumer Protection law.
- **Tightening of the norms:** Further, it has tightened the guidelines for registration and licensing of new molecules. Moreover, **tolerance limits for pesticides are to be specified according to the provisions of the Food Safety and Standards Act, 2006.**
- **Reporting:** State governments have to report all cases of poisoning to the centre on a quarterly basis and states can also ban chemical pesticides for up to six months against the present ban for up to two months.

Other Initiatives for Pesticide

- **Monitoring of Pesticide Residues at National Level:** a central sector scheme under Ministry of Agriculture, for monitoring and analysis of pesticide residues in agricultural commodities in different agro-ecological regions of the country.
- **Grow Safe Food Campaign** has been launched to create awareness among the stakeholders.
- **NITI Aayog's Doubling the Farmer Income:** proposed the organic farming so as to minimise the consumption of pesticides.
- **India is signatory** to United Nations Environment Programme (UNEP) led Stockholm Convention for persistent organic pollutants and Rotterdam convention for export import of pesticides.
- **Integrated Pest Management** is an eco-friendly approach which aims at keeping pest population at below economic threshold levels by employing all available alternate pest control methods and techniques such as cultural, mechanical and biological with emphasis on use of bio-pesticides and pesticides of plant-origin like Neem formulations.
 - The use of chemical pesticides is advised as a measure of last resort when pest population in the crop crosses economic threshold levels (ETL).
 - The National policy on Agriculture - 2000 and National policy on Farmers - 2007 have supported the IPM.
 - Ministry of Agriculture, Department of Agriculture & Co-operation (DAC) has launched a scheme "**Strengthening and Modernization of Pest Management (IPM) Approach in India in 1991-92**" has been launched under the "**National mission on Agricultural Extension and Technology (NMAET)**".

Issues with Insecticides Act 1968

- **Long registration process-** The registration of new molecule takes about 3-4 years. Which further hampers its input value to agriculture.
- **Lack of data protection** – causing delay in farmers getting access to new and green chemistry pesticides in comparison to developed world.
- **Low compensation** amount in case of eventualities.
- **Lack of** stringent penal provision and excessive centralisation mechanism for pesticides management.

Analysis of Bill

- **Lax definition:** of pesticides and various other terminology, such as 'user' is not defined under the bill, thereby, responsibility for improper use may fall on farmers.
- **Lack of accountability:** The bill is silent on time frame of data protection and approval of spurious pesticides by inspector.
- **Penal Provision:** The bill does not address the issues of applying penal provisions on companies marketing pesticides.

Way Forward

- **National Oversight Committee**-namely **Pesticide Development and Regulation Authority** to make oversight more effective is need of the hour.
- **Transparency:** All samples collected and test results by the Registration Committee should be displayed on the internet for a predetermined duration and **Mandatory e-documentation** (as per the IT Act, 2000) for agriculture departments will expedite the process and increase transparency.
- **Delegation of power:** Currently, only a magistrate can order suspension of pesticide sales over an evident violation. These powers need to be delegated to a pesticide inspector.
- **Improve competition** by removing the entry barriers and introducing the new-generation pesticides.
- **Enable a robust retail network**- managed by qualified dealers, so that they are able to provide extension service apart from just selling pesticides to the farmers.
- **R&D:** Incentivising Research and Development (R&D) activities by the pesticide industry will promote 'Make in India' and reduce dependency on imported formulations.
- **Post-use management:** Empty container management is emerging as a challenge. Its safe disposal and incineration needs a system to be put in place and farmers need to be educated about it as part of 'Swachha Bharat'.

7.4. ROLE OF TECHNOLOGY IN AGRICULTURE

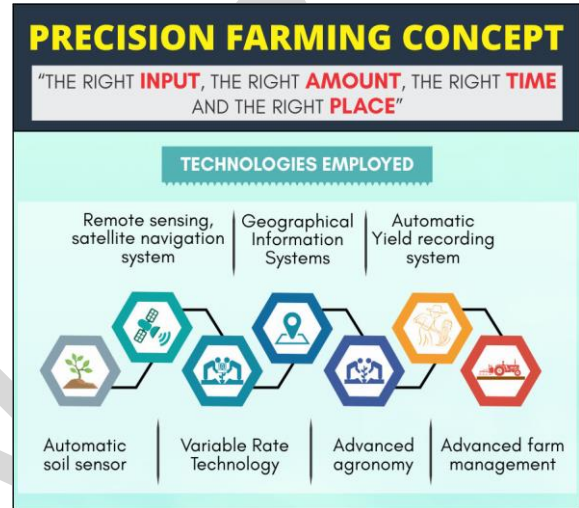
Introduction

- Indian agriculture has been characterized by many revolutions that changed the very face of this sector. The green revolution, blue revolution, yellow revolution and white revolution have been the important milestones in Indian agriculture. One thing common in all these revolutions was the use of technology. The revolutions could not have occurred without relevant technologies which make India as world leader in many important food commodities.
- The radical change in technological intervention transcended India from a food importing country to a self-sufficient and even to a food-exporting nation.
- The science and technology-led development in agricultural farming has resulted in manifold enhancement in productivity and production of different crops and commodities to match the pace of growth in food demand.
- But, at present the agricultural and allied sectors are facing new challenges like reducing availability of quality water, nutrient deficiency in soils, climate change, farm energy availability, loss of bio-diversity, emergence of new pests and diseases, fragmentation of farms, rural-urban migration, leading to farm sector stress and non-realisation of the desired/accelerated growth.

Some Important Technological Application in Agriculture are:

- **Resource conserving technologies:** It aims to produce more at less cost while at the same time enhancing the natural resource base and maintenance of soil quality in fairly good conditions. Eg: Zero tillage Farming. This is important from the perspective of income to farmers, as well as to mitigate inflationary pressures for the end-consumer.
- **Reducing wasteful production** and reducing losses to the production. Conversion of all farm output, including any residues and by-products, into useful and economically gainful items. This too ensures that per unit price to consumers does not increase to cover such wasted output. It also allows more quantum of production to get monetised.
- **Post harvest technologies:** A considerable proportion of our produce goes wasted in the absence of suitable post harvest infrastructure
 - Suitable post harvest infrastructure in terms of cold storages, processing units, road networks in inaccessible areas, establishment of local regulated markets at the Panchayat levels can give a big boost to the agriculture sector by promoting value addition and food processing. This can also help in creating employment opportunities for the others also.
- **Climate resilient technologies:** The basic purpose is to enable the farmers to cope up with the climatic variability through efficient management of their resources as Indian agriculture is highly vulnerable to climate changes because a large population is dependent on agriculture and lack suitable coping mechanism.

- **Biotechnology (High Yield Technology):** Use of biotechnological tools in agriculture could make food crops high yielding and more robust to biotic and abiotic stresses. This could stabilize and increase food supplies, which is important against the background of increasing food demand, climate change and land and water scarcity. eg: GM crops
- **Nanotechnology:** It can help in promoting soil fertility and balanced crop nutrition; effective weed control; enhancing seed emergence using carbon nanotubes; delivery of agriculture chemicals, field-sensing systems to monitor the environmental stresses and crop conditions and improvement of plant traits against environmental stresses and diseases. Eg: Use nano size silver particles as antimicrobial agents.
- **Farm Mechanization:** India has a very high share of labour (55 %) with lesser contribution to farm mechanisation (40 %). India makes farming less remunerative and leads to farmers' poverty.
 - Thus there is a need to increase its usage in India as it can help in 15-20 % savings in seeds, 15-20 % savings in fertilizers, 5-20 % increase in cropping intensity, 20-30 % savings in time, 20-30 % reduction in manual labour and 10-15 % overall increase in farm productivity.
- **Emerging technologies:** Developing technologies such as Big Data Analytics, Internet of Things (IoT), Block Chain, Artificial Intelligence, Robotics & Sensors, etc. are interrelated and used to optimise the decision making process, by interpreting farms and farmers produce big data for transforming the agricultural value system.
 - Recently, NITI Aayog and IBM have signed a Statement of Intent to develop **Precision Agriculture using Artificial Intelligence (AI)** in Aspirational Districts.



Way Forward

- The optimal approach is to move from 'Science of Discovery' to 'Science of Delivery', through increasing rural incomes.
- Need to **focus on demand-driven innovation** to help farmers to market their produce efficiently and earn profits.
- Each state needs to take ownership, create robust implementation plans along with adequate budgetary support, and leverage Aadhaar India **Stack and Spatial Data Infrastructure (SDI)** to create a technology backbone.
- There is urgent need **to encourage and strengthen public research system** in terms of efficiency and evolving technologies to address problems in order of priority, and strengthening **PPP (Public Private Partnership)** wherever it is beneficial.
- **Innovative models on seed systems** that leverage participatory variety selection with farmer producer organizations (FPOs) and state seed corporations (SSCs) will help in maintaining the desired seed replacement ratio in different crops.
- Incentives should be in place to **promote sectoral convergence** at farm level by linking different programs and schemes through SDI and Aadhaar. This would allow subsidies to be targeted on needs of the farm and farmer to maximize input use efficiency (irrigation and fertilizer that include micronutrients), support market price stabilisation, and eventually offer farmers with simple options in advance of the growing season to reduce risk (production and market), optimize inputs and integrate into structured markets.
- **Encouraging innovation in agriculture** – by promoting start-ups on boosting agricultural productivity & yield through newer technology.

7.5. ALLIED SECTOR

Introduction

Agriculture and Allied sector plays a vital and critical role in the process of economic development of India by reducing poverty, unemployment & inequality, income diversification, ensuring food security and achieving sustainable development.



In recent years, Indian agriculture and rural areas are undergoing a considerable change. Rural India is becoming less and less agricultural, and allied activities are becoming an important part of livelihood strategies.

Shifts in the consumption pattern with rising incomes reflects increase in demand for these products as incomes rise and poverty declines in India. Besides, there exist vast export markets for many of these products which offer an important avenue to enhancing productivity, wages and incomes.

Horticulture

- Horticulture accounts for **30% of India's agricultural GDP** from 8.5% of cropped area.
- Production of horticulture crops (fruits, vegetables and spices) in 2017 has **overtaken the production of food grains** for the fifth year in a row.
- In comparison to food grains, most horticulture crops are grown with assured irrigation and, therefore, are **more immune to monsoon deficits**.
- The resource-poor farmers benefit the most from the growth in horticulture sector as fruits and vegetables are **mostly grown by marginal and small farmers** (with less than 2 hectare of land).
- It also enables the population to enjoy a diverse and balanced diet.
- However, India's share in the global market accounts for just 1.7% of the global trade in vegetables and 0.5% in fruits.
- The necessary actions include marketing reforms that allow farmers to capture a greater share of the price paid by the final consumer, contract farming that better connects the farmer to food processing industry, easier access to term loan credit instead of just crop loan credit, greater encouragement for Farmer Producer Organisations and improved storage, transport, power and communications infrastructure in rural areas. This would enable and encourage private investment in agribusiness and, in particular, supply chains.

Animal Husbandry

- It's an integral component of livelihood system. Animals provide nutrient rich food products, draught power, dung as organic manure and fuel, hides and skin. Livestock are natural capital and act as a insurance against income shocks due to crop failure and natural calamities.
- An important challenge in the development of animal husbandry concerns fodder. Rapidly growing numbers of unproductive male cattle and weak fodder base due to problems in pasture management and shrinking of common properties make this problem doubly serious.
- For this, increase in livestock productivity through breed improvement, better feed and nutrition, animal health, and better herd composition are important.

Blue Economy

- Indian fisheries and aquaculture is an important sector of food production, with diverse resources ranging from deep seas to lakes in the mountains and more than 10% of the global biodiversity in terms of fish and shellfish species, it plays an important role in ensuring food security, poverty alleviation and also has a huge potential for business opportunities as seen from continuous and sustained increments in fish production since independence.
- India has vast scope in both marine and inland fisheries. Both have shown positive growth in recent years but there remains vast scope for further acceleration. Inland fisheries, particularly of brackish water linked export oriented prawn cultivation, offer substantial opportunities for faster expansion. Domestic demand for fresh water fish has also been growing. There is considerable scope for the expansion of fish production in rain fed water bodies, irrigation reservoirs, natural wetlands and ponds and tanks. We need to encourage the use of quality fish seed and feed while also investing in disease control, marketing infrastructure, modern fish processing plants and re-engineering of the value chain.

Forestry

- India is among the ten most forest rich countries of the world, together accounting for 67% of total forest area of the world. In 2015, forestry industry contributed 1.3% to India's GDP. Wood-based products such as paper and pulp and furniture offer vast potential for enhanced income for farmers.
- However there has been a decline in GDP contribution along with increase in Import of forest product where logs accounted for 72% of all wood and wood products.

- With regard to forestry, there is a need to revisit the policies with respect to felling of trees and their movement across state borders. It is essential and urgent that we liberalize our laws so that wood may be harvested from trees grown on private lands and transported to locations where it can be used most productively.

Steps being taken for promotion of allied activities

- **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:** It 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.
- **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.
- **Rashtriya Krishi Vikas Yojana- Remunerative Approaches for Agriculture and Allied sector Rejuvenation (RKVY-RAFTAAR):** To make farming a remunerative economic activity through strengthening the farmer's effort, **mitigating risk** and promoting **agribusiness entrepreneurship**.
- **National Agro-Forestry Policy:** It has been prepared for increasing the income of farmers and for achieving climate support. During the year 2016-17, a special scheme "Agriculture Forestry Sub-mission" was started and operated with the aim of "Har Medh Par Pedh".
- **Reconstituted National Bamboo Mission:** Under it Bamboo cultivation is promoted to diversify farmers Income.
- The Indian Forest Act, 1927 was amended, to remove bamboo from the definition of 'trees' so as to promote its hassle free production and marketing.
- **Push to 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).

7.5.1. DAIRY SECTOR

Why in news?

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.

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.
- As per a Crisil report the Indian milk economy is worth Rs 5 lakh crore, growing at a CAGR of 15-16 %, 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. However, India's annual per capita consumption of milk 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 i.e. milk.

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:** Though, India is the world's largest milk producer, 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:** 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.

Way forward

- 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”, Rashtriya Gokul Mission, National Dairy Plan (Phase-I) and “Dairy Entrepreneurship Development Scheme”.
- Dairy Processing & Infrastructure Development Fund will be used to provide loan for building an efficient milk procurement system and other processing infrastructure.
- There is a need to strengthen economic viability of dairy farms by interventions on the input side as well as
 - ensuring more fair farmer prices, increasing the link between rural production areas and urban markets,
 - focus on strengthening the indigenous breed to help significantly enhance productivity,
 - increase access to credit through dairy farmer organizations and other agencies
 - ensuring availability of quality medicines by strengthening regulatory framework for quality.
- There is need for strict implement quality regulations and improve infrastructure and training for quality
- Support a fair playing field for the private sector and create a rational export policy to enable farmers to take advantage of higher prices.

Operation Flood

- It was started by National Dairy Development Board.
- It aimed at increasing milk production, augmenting rural income and ensuring affordable prices for consumers.
- As a result, India became the largest producer of milk and milk products.

7.5.2. SILK INDUSTRY

Why in news?

Recently, Cabinet Committee on Economic Affairs has given its approval for **Integrated Scheme for Development of Silk Industry** for **three years** from 2017-18 to 2019-20.

Silk industry (Sericulture) in India

- India is the second largest producer of silk in the world. It provides employment to over 8.25 million people in the country.
- There are four major types of silk produced in India: Mulberry, Tasar, Muga, Eri of which Mulberry accounts for 70% of total raw silk production.

Integrated Scheme for the Development of Silk Industry

- It is a central sector scheme implemented by Central Silk Board,
- It consists of following four components:
 - Research & Development, Training, Transfer of Technology and I.T. Initiatives,
 - Seed Organizations,
 - Coordination & Market Development,
 - Quality Certification Systems (QCS)/Export Brand Promotion & Technology Up-gradation
- It focuses on improving production, quality and productivity of domestic silk so as to reduce the country's dependence on imported silk.

- India currently produces all four variety of silk - mulberry, eri, muga and tasar. The silk production is mostly prevalent in Karnataka, Assam, West Bengal, Tamil Nadu, Andhra Pradesh and Jammu and Kashmir.
- Major Export destination of Indian Silk exports are USA and UAE followed by UK, France, Italy and Germany. Mostly natural silk yarns, fabrics, made-ups, readymade garments, silk carpets and silk waste are exported.
- For growth and development of the silk industry Indian **Silk Export Promotion Council** has also been set up. It organises trade shows and fairs across the world to promote trade with different countries. The council also facilitates meetings between exporters and potential customers.
- India's north eastern region has the unique distinction of producing all these commercial varieties of silk contributes about 21% of the total silk production in the country.
- Handlooms account for about 85% of silk consumption in India while powerlooms use the remaining.

Significance of Sericulture

- **Low Gestation & High Returns:** Five crops can be taken in one year under tropical conditions.
- **Women friendly occupation** as currently they consist of more than 60 % of total workforce.
- Ideal Programme for **weaker sections** of the society, as it less capital intensive industry.
- **Eco-friendly activity:** As a perennial crop with good foliage and root-spread, mulberry contributes to soil conservation and provides green cover. Waste from silkworm rearing can be recycled as inputs to garden.
- **Fulfil equity concerns:** as end-product users are mostly from the higher economic groups, the money flows from high end groups to low end groups.
- **Labour intensive & high income generating:** It generates employment especially in rural sector and is a means to earning foreign exchange.

Challenges faced by industry

- **Low export earnings** – due to global recession and reduced demand in western countries for silk goods. A weaker rupee is also hurting exports. However, the silk exports are finding non-traditional/new markets in UAE, Nigeria, Thailand etc.
- **Selling powerloom in the name of handloom** – leads to inadequate returns on hardwork of handloom workers since powerloom is much cheaper
- **Declining inclination of youth towards weaving** – as one can earn the same money working at a powerloom with less stress
- **Competitive pricing** - The blending of cheap imported Chinese silk or artificial/synthetic silk yarns putting the natural silk traders on the verge of distress sales.
- **Decline in area cultivated** - Mulberry silk in the country has seen a steady decline in its area of mulberry cultivation because of rapid urbanization, industrialization and a shortage of agricultural labour.
- Piece meal approach of government in term of banning foreign silk, lack of integrated market and inadequate knowledge of sericulture amongst the traders.

Way forward

- Establishment of close linkage between forward and backward sub-systems for greater efficiency and synergy as sericulture and silk industry is highly scattered and unorganized.

- Adequate thrust on non-traditional uses of silk such as use for artificial skin and other medical applications could create a positive pressure for high value addition.
- Protection to some extent of Indian silk market from Chinese cheap raw silk and fabrics by implementation of anti-dumping duty.
- Identification and promotion of potential clusters for silk production in potential traditional and non-traditional areas.
- Skill up-gradation through structured and specially designed training programme.
- Evolution of appropriate cost-effective technologies through focused research projects for the development of superior and hybrid breeds.

7.5.3. FISHERY SECTOR IN INDIA

Why in News?

- Recently, India became **second largest fish** producing country in the world.

Overview of the sector

- Constituting about 6.3% of the global fish production, the sector contributes to 1.1% of the GDP and 5.15% of the agricultural GDP.
- There are two branches of fishery sector namely **Inland Fisheries and Marine Fisheries**. The total fish production has nearly 65% contribution from the **inland sector** and rest from **marine fishing**.
- Fish and fish products accounts for around 10% of the total exports of the country and nearly 20% of the agricultural exports.

One of the most significant characteristics of Indian fisheries sector is its small-scale nature. Besides being a source of protein rich nutritious food, income and livelihood to poor fishers, the fisheries sector is important for engaging the rural population in a number of ancillary activities- i.e. marketing, retailing, transportation, etc.

Challenges of Fishery Sector

- The sector suffers from low-scale, stagnating yields of inland and freshwater aquaculture, and poor infrastructure such as cold storage facilities, leading to an estimated 15-20 % post-harvest loss.
- The access to quality seed and feed for fish farming coupled with inadequate availability of credit makes the poor fisher communities not to invest in fish farming.
- For inland harvesting of fish there is no code of conduct for leasing of water bodies and no separate provision of drought affecting this sector.
- Loss of habitat and indiscriminate fishing, marine fishing has declined due to depleting resources, energy crisis and resultant high cost of fishing.
- Enhanced human activity in aquatic areas creates the frequent occurrence of **dead zone/ Hypoxic zones** leading to shifting or permanent loss of fishing zone.
- With the increased usage of **Fibre Reinforced Plastic (FRP)**, and poor quality boats have amplified leading to ill-effects on marine culture.

What is LOP System?

The LOP system aimed at facilitating Indian fishermen buy used deep sea fishing vessels from other countries.

Government Step taken

- **For Inland Fishing**
 - Launched Centrally Sponsored Scheme on **“Development of Inland Fisheries and Aquaculture”** under macro-management approach in various states. It includes Productive Utilization of Inland Saline/Alkaline Soils for Aquaculture, Integrated Development of Inland Capture Resources etc.
 - Government had constituted a committee under **Dr. Dilip Kumar** to draft a national policy on inland fishing.
- **For marine fishing**
 - Government had notified **National Policy on Marine Fishing 2017**.

An umbrella scheme **‘Blue Revolution: Integrated Development and Management of Fisheries’** has been formulated by merging all the existing schemes.

It will cover inland fisheries, aquaculture and marine fisheries including deep sea fishing, mariculture and all activities undertaken by the National Fisheries Development Board (NFDB).

- "Letter of Permit"(LOP) system in the exclusive economic zone (EEZ) has been stopped in order to boost the livelihood of local fisherman.
- Traditional fishers have been exempted from the fishing ban implemented during monsoon period in the EEZ.
- Prohibited the use of LED lights and other artificial lights and practice of bull-trawling, purse seining and gill netting operations in the Indian EEZ to protect the marine ecology.
- Government has prepared a Census of fishermen, preparing a database of fishing activities, installing tracking devices in fishing boats operating in the waters in averse the accident on boat/vessel.

FAO's Code of Conduct of responsible Fishing

- This Code sets out principles and international standards of behaviour for responsible practices with a view to ensure the effective conservation, management and development of living aquatic resources.
- This Code is voluntary. However, certain parts of it are based on **international law**, including those reflected in the United Nations Convention on the Law of the Sea.

Step that can be taken

- **On par of agriculture:** Aquaculture needs to be treated at par with agriculture in terms of water, power tariff, tax benefits, subsidy, insurance and credit.
- **Research on** aquatic health management and development of disease resistant strains of fish.
- Implementation of Dr.B Meenakumari committee recommendations such as creation of buffer zone (between 200 metres and 500 metres in depth) and scientific use of fishing net should be implemented.
- **Special insurance** system for the fishing community and cooperation in safety and security of fishermen with neighbouring countries should be paramount to averse the loss of many fishers lives. The policies should aim at protection of livelihoods of fishers from various other economic and conservational activities.
- Revival of cooperative sector with constant engagement of center government would help in achieving the **doubling the farmers Income 2022**.
- In the inland sector, while reservoirs and freshwater aquaculture would be the two main pillars of growth, other resources such as upland water bodies, floodplain lakes and wetlands, irrigation canals, saline and waterlogged areas also need to be gradually mainstreamed to start contributing to the production.
- Programmes aimed at production and distribution of **quality seed and feed** for aquaculture and also culture-based-capture fisheries, husbandry of farmed species would be essential to optimize production and productivity from inland fisheries and aquaculture in the country.
- While the estimated potential of the offshore waters offers opportunities for increase in production, the fishing fleet has limited capacity to harness the deep sea resources. This calls for **up-gradation of the fleet** as well as skills and capacities of the fishers and incentives to promote diversified fishing in the offshore waters. Use of Fish Aggregating Devices (FADs) and Artificial Reefs (ARs) for stock enhancement and promotion of mariculture could enhance production.
- In the **area of legislation**, the existing Marine Fishing Regulation Act (MFRA) of the coastal States/Union Territories (UTs) needs revision to incorporate the requirements of Code of conduct for Responsible Fisheries (CCRF), etc. Similarly, a model bill is needed for inland fisheries and aquaculture and a Central Act is required to regulate fishing by wholly Indian-owned fishing vessels in the EEZ.

7.5.4. NATIONAL YEAR OF MILLETS**Why in News?**

- Recently, government has approved 2018 as the '**National Year of Millets**' to boost the agro-industry and production of the cereal.

Four Dimensional benefits of Millets

- **Farming and Food Security perspective**
 - Less water requirement as compared to other crops due to an efficient root system.
 - The short growing period assist in meeting the food demand.
 - Less affected by diseases and pests, thus minimum requirement of pesticides.
 - Used as food and fodder—in mixed farming systems.
 - Intercropped with wide variety of vital crops.
 - It can be alternative to major crop under the pretext of rising temperature and climate change.
- **Cultural and Poverty perspective**

- Traditionally associated with cultivation practice of tribal e.g. Karnataka Ragi Habba (Festival).
- Does not require high mechanization and it can withstand drought,
- Gives more output with less input cost.
- **Nutrition Perspective**
 - Millets are rich in vitamins, calcium, iron, potassium, magnesium, zinc, and has low-GI (Glycemic index) which can reduce the malnourishment and hunger problem in India.
 - Beneficial to gluten intolerant and high diabetic people.
- **Environmental Perspective**
 - It has good ability to sequester carbon and assist in climate adaptation.
 - It utilizes mainly organic fertilizer, thereby, reducing both the economic and environmental cost associated with chemical fertilizers.

About Millets

- Millets are a group of small-seeded grasses, grow as cereal crops/ grains.
- It includes Jowar, Ragi, Korra, Arke, Sama, Bajra, Chena/Barr and Sanwa.
- **Agro-Climatic Condition-** grows well on well-drained loamy soils, arid and semi-arid such as in Rajasthan, Karnataka, Madhya Pradesh, etc.
- India is the largest producer of millets followed by the African countries of Nigeria and Niger.
- Approximately 60 million acres of land in India is under millet cultivation.

Government Initiatives for Millets

- **Integrated Cereals Development Programmes in Coarse Cereals based Cropping Systems Areas (ICDP-CC).**
- **Initiative for Nutritional Security through Intensive Millets Promotion (INSIMP)-** aimed to bring 0.5 million hectare under Millets Cultivation, supply hybrid seed, establish composite millets processing units.
- **Extension under Public Distribution System-** under the National food security Act 2013, millets has been include under the PDS basket.

Challenges

- **Unfavorable agricultural Policy-** Crop loan, subsidies, Public Distribution System (PDS) are favourable for crops such as Rice, Wheat etc. which acts as a disincentive towards the cultivation of Millets.
- **Focus on Specific Millets-** most of the states usually focus on sorghum, pearl millet and finger millet and leave out many of the small millets while implementing these schemes.
- **Dietary Habits-** Due to increasing urbanization and industrialization, people are converging towards the consumption of Rice and Wheat (India Council of Agricultural Research 2014.)
- **Lack of Awareness-** about the socio-economic and nutrition benefits of Millets distorts its demand and supply. Moreover, Millets have a tag of '**a poor man's food**' which further reduce its consumption.

Way Forward

- **Integrated Millet Development strategy-** A holistic production-distribution strategy encompassing soil health, seed availability, mechanization and awareness generation is need of the hour.
- **Policy action-** In order to encourage farmers to cultivate millets, government should generate demand by including the wide range of Millets varieties under Mid-Day Meal and Public Distribution (PDS).
- **Customized approach-** Millet cropping systems are part of diverse rain-fed ecosystems. Thus, they need custom-made location specific approaches.
- **Special initiatives for backward and tribal regions-** covering demand-supply gaps and ground level research are needed.

7.5.6. OPERATION GREENS**Why in news?**

Recently, Ministry of Food Processing Industries has initiated work on Operation Greens which was announced in Budget 2018-19.

What is Operation Greens?

- Operation Greens is a **500 crore project** on the lines of **Operation Flood** for enhancing production & reducing price volatility of fruits & vegetables.
- Government has decided to start focusing on three basic vegetables namely **tomatoes, onions and potatoes (TOP)** initially. They form almost half of vegetable production in the country.
- It will further promote Farmer Producers Organisations (FPOs), agri-logistics, processing facilities and professional management to achieve its objectives

- It will help in doubling farmers' incomes by 2022 by providing sustainable prices as these commodities generally face **price collapse** during the periods of high production due to lack of cold storage facilities and **poor linkages** of farmers with processing and organised retailing.
- Price stability would also ensure availability of these basic vegetables at **affordable prices to consumers**

Suggestions to curb Price Volatility for Perishables

Some other Measures to Curb Price volatility of Horticulture produce

- **Price Stabilization Fund (PSF)** with a corpus of Rs.500 crores to regulate price volatility of agricultural and horticultural commodities through procurement of farm produce, maintenance of buffer stocks and regulated release into the market.
- **Establishment of Kisan Mandis** where FPOs can directly market their produce to wholesalers, organized retailers and ordinary consumers.
- **Encouraging production** of horticultural crops through a Centrally Sponsored schemes namely Mission for integrated Development of Horticulture
- **Essential Commodities Act, 1955** & the Prevention of Black-marketing and Maintenance of Supplies of Essential Commodities Act, 1980 and making hoarding and black marketing a non-bailable offence under them.
- **SAMPADA** (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters) – incorporates scheme such as Mega Food Parks, Integrated Cold Chain and Value Addition Infrastructure. Infrastructure for Agro-processing Clusters, Creation of Backward and Forward Linkages, Creation/Expansion of Food Processing & Preservation Capacities etc.

Budget Announcements

- **Linking Minimum support price** with cost of production i.e. about 50 % over the cost of production
- **Income-tax concession to FPOs** for five years if they encourages building that critical infrastructure.
- Connecting 470 APMC promoted markets to the **e-nam market platform**, and development of **22,000 Gramin agriculture markets**.

The government has mainly relied on banning exports, de-stocking and conducting income-tax raids on traders to check price volatility till now. Some other measures that can be taken are:

- Incentivising farmers to **grow diverse crops** would help minimize the impact of price volatility.
- **Cluster based Cultivation** of horticulture crops to bring advantages of scales of operations which can spur establishment of entire chain from production to marketing.
- **Incentivising Value addition** in agriculture by setting up a food processing target of at least 25% of the produce as India is currently way behind on this compared to most of Southeast Asian countries in this area.
- **Market Reforms**
 - Undertaking **mapping of mega-consuming centres** and link their retail networks with producing centres of each commodity identified with minimal number of intermediaries.
 - **Amending APMC Act** to allow direct buying from FPOs, and giving incentives to FPOs, private companies and NGOs, to build back-end infrastructure, as was done for milk.
 - **Reducing Market Exploitation by** making sure that farmers must receive at least 60% of what consumers pay on lines of milk wherein farmers get more than 75% of what consumers pay.
 - States should also be encouraged to adopt **Price deficiency payment schemes** such as Haryana's Bhavantar Bharpai Yojna for vegetables in case of fluctuation in prices.
 - Allowing **futures trading** and creating a national market for agriculture.
- **Investment in agri-logistics**, starting with modern warehouses and cold storages that can minimise wastages to less than 10% compared to 25-30% in traditional storages on farmers' fields.

7.6. OTHER ISSUES IN AGRICULTURE

7.6.1. ORGANIC FOOD

Why in news?

Recently, FSSAI issued regulation on organic food in country.

Provisions of the guideline

- **Definition:** FSSAI has defined

- **Organic Agriculture:** A system of farm design and management to create an eco-system of agriculture production without the use of synthetic external inputs such as chemicals, fertilisers, pesticides and synthetic hormones or genetically modified organisms.
- **Organic Farm Produce:** the produce obtained from organic agriculture.
- **Organic Food Means:** Food products that have been produced in accordance with specified standards for organic production.
- **Mandatory labeling of Organic food** from July, 2018 which should convey full and accurate information on the organic status of the product.
- There will be **penalties** on non-compliance of regulation.
- **Approval authority:** Organic food products should carry a certification mark or a quality assurance mark given by
 - National Programme for Organic Production (NPOP)
 - Participatory Guarantee System for India (PGS-India)
 - Voluntary logo from the FSSAI that marked its produce as 'organic.'

GROW and EAT HEALTHY

A look at the status of organic farming, which is catching up in India

1.5

mh

of cultivable land certified under National Programme for Organic Production in 2015-16

1.35

mt

Certified organic products are produced in India. A Fifth of the total produce was exported

■ 5,85,200 farmers were engaged in organic farming in 2015, more than any other country and a quarter of the world

■ Only 1.7% of india's cultivated area is under organic farming

WHAT IS AN ORGANIC PRODUCT?

fruits, vegetables, fibre and animals products sourced or grown in an environment free of chemical pesticide, fertilizers, genetically - modified organisms and induced hormones

HOW CAN YOU IDENTIFY AN ORGANIC PRODUCT?

There are special logos on packaging of foods that are used to identify foods as organic. The FSSAI had recently introduced 'Jaivik Bharat' logo

mh: Million hectares, mt: Million tonne

Significance

- It will help in curbing fraudulence and malpractices prevalent in organic market sector where inorganic products are being sold as organic.
- **Impetus to Growth:** A study by Indian Council for Research on International Economic Relations (ICRIER) in 2017 found that organic food market is expected to grow at 20% in the next five years if supported with right policies providing the necessary impetus.
- **Empowering consumers** who can now check the authenticity of organic food products.
- **Empowering Farmer:** Organic certification will also help farmer to earn a premium for their produce.
- Proper guideline will help in **integrating organic product with global value chain** and also in deepening domestic market.
- **Health benefits:** Increasing consumption of organic food will keep humans away from the effect of pesticide, fertilizer and growth hormone used in the inorganic farming.

CERTIFICATION CONFUSION

For any food to be sold as organic in India, whether fresh produce or packaged product, it must be certified via one of two systems. That road can be long, winding and often expensive.

NATIONAL PROGRAMME FOR ORGANIC PRODUCTION (NPOP)

Adopted in 2001 and administered by the Ministry of Commerce & Industry, it was originally meant for exports

Under this programme, one of 28 third-party certifiers must check that a farm is free of manufactured chemicals (fertilizers, insecticides, herbicides hormones and pesticides).

In case of processed food, the certifier checks that the produce came from an NPOP - certified farm and was processed by a NPOP - certified processor.

Certified foods carry the India Organic logo. The standards are recognized by the European Commission, America's USDA, and Switzerland.

THE CATCH

- **Third-party certification** is expensive and must be renewed annually.
- **So the programme** is restricted to big companies, ones that work with farmers over thousands of acres, and earn revenues largely from exporting non-perishables – oilseeds, processed food, cereals, tea, spices and pulses.

PARTICIPATORY GUARANTEE SYSTEM FOR INDIA (PGS-INDIA)

Practised in 38 countries and recognized by the Union Ministry of Agriculture & Farmers Welfare since 2018, it certifies clusters of small farmer (two and five acres each)

Five or more growers who live close to each other form a group and get trained in organic farming under a government scheme.

Then, with help from Regional Councils (India now has 562), farmers inspect each other's holdings. Should a grower violate any norms, their produce is not sold through the group.

India now has 6,646 PGS groups, covering about 2.1 lakh farmers.

THE CATCH

- **The system is poorly founded,** farmers are often trained badly and the system does little to create a long-team market for organic produce.
- **The PGS is not recognized** by the US and European Union, two big markets for organic food, So small farmers still cannot sell their produce abroad.
- **They can't sell their food** to NPOP - certified processors either, This means they often have little incentive to stay organic

Concern

- **Issue with dual certification system** – There is no linkage between the two certification systems (see infographic).
- **PGS also fails to have a transformational impact** as consumers don't believe PGS due to its self-certification character.
- **Lack of interest by big retail player** in promoting organic produce as a lot of time is spent on authenticating the source of product.
- **Expensive product** – as compared to the alternative present in market.

Way Forward

- **Single Nodal Agency** could be formed for streamlining of process and administrative cost.
- **Integrating small and marginal growers** to the market for organic produce following global standards will open up opportunities for agri-businesses.
- **Develop infrastructure** like cold storage, transportation etc. to increase its availability and competitiveness.
- Promoting organic farming in country through **Paramparagat Krishi Vikas Yojana (PKVY)**

About PKVY

- It is an elaborated component of Soil Health Management (SHM) of major project National Mission of Sustainable Agriculture (NMSA).
- Its **objectives** are-
 - To support and promote organic farming and thereby improving soil health.
 - Reduce farmer's dependence on fertilizers and agricultural chemicals to improve yields.
 - Motivate the farmers for natural resource mobilization for input production.
 - Plans to form around 10 thousand clusters in three years and cover an area of 5 Lakh hectares under organic farming.
- Every farmer will be provided Rs. 48,700 per hectare for a three-year period for adopting the **traditional methods of cultivation and** standard organic farming practices like zero-budget natural farming and permaculture.
- **These Traditional methods include:** yogik farming, gou mata kheti, Vedic farming, Vaishnav kheti, Ahinsa farming, Adhvoot Shivanand farming, and rishi krishi.

7.6.2. SUGARCANE PRICING

Why in news?

Union government recently approved financial assistance of Rs 5.50 per quintal for cane crushed by sugar mills in the ongoing 2017-18 season.

Details

- The money would be credited directly into the bank accounts of farmers, who haven't received the "fair and remunerative price" (FRP) for sugarcane fixed by the Centre.
- The Centre's Sugarcane (Control) Order mandates mills to pay the FRP within 14 days of cane purchase from farmers, failing which 15% annual interest is charged on the due amount for the period of delay.

Sugarcane Pricing Policy

Sugarcane Pricing Policy in India aims to ensure a fair price to cane growers, adequate returns to industry and supply of Sugar to consumers at reasonable prices. India has dual sugarcane pricing.

The pricing of sugarcane is governed by the statutory provisions of Sugarcane (Control) Order, 1966 issued under **the Essential Commodities Act (ECA), 1955.**

Fair and Remunerative Price (FRP)

- It is the cane price announced by the Central Government on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP) after consulting the State Governments and associations of sugar industry.

State Advised Price (SAP)

- Citing differences in cost of production, productivity levels and also as a result of pressure from farmers' groups, some states declare state specific sugarcane prices called State Advised Prices (SAP), usually higher than the SMP.

This dual sugarcane pricing with higher SAP distorts sugarcane and sugar economy and leads to cane price arrears. Industry association recommends to remove the system of SAP; in case states announce SAP, such price differential should be borne by the state governments.

- Considering the large cane price arrear dues to farmers the mills say they cannot pay farmers beyond 75% of their realisations from sugar and thus the amount sanctioned by government is grossly inadequate.
- The populist increases in SAP recent years has resulted in excessive production of sugarcane, estimated at 295.07 lakh tone thus triggering a glut of supply of sugar which reached an all-time high of 29.98 million tonne.
- Further considering the high cost of production of sugar (partly due to high cane prices in India) in other countries the export prices of sugar are much lower than from domestic sales.

Other Major Challenges facing the Sugar Industry in India

- India has the largest area under sugar cane cultivation in the world but the **yield per hectare is extremely low** and is even lower in North India than in South India
- The sugar industry has a **seasonal character** and the crushing season normally varies between 4 and 7 months in a year leaving the mill and the workers idle for almost half of the year.
- Average **rate of sugar recovery** from the sugar cane is less than 10 % which is much lower than other sugar producing areas like Java, Hawaii and Australia, up to 14 %.
- Most of the **sugar mills** in our country are of more old, have small size and outdated machinery with a crushing capacity of about 1200 tons per day.
- The **cost of sugar production** in India is one of the highest in the world mainly due to high sugar cane cost, uneconomic production process, inefficient technology and high taxes exercised by the state and the central governments.
- The industry faces problems in **disposing by-products** i.e. bagasse and molasses, especially under pollution control devices.
- The government policy, based on **dual price system**, discourages the entrepreneurs to make investment for further growth and improvement.
- The **per capita annual consumption** of sugar is about 10 kg in India, whereas it is about 20 kg in the world.

Suggestion

- Government has already taken following measures to arrest the downside in sugar prices and to ameliorate the liquidity position of sugar mills:
 - Increased import duty on sugar from 50 to 100 %
 - Imposition of stock holding limits on sugar mills for two months
 - Fixing of Minimum Indicative Export Quotas (MIEQ) and
 - Removal of customs duty on export of sugar to find a way for surplus output in the overseas markets.
- **C. Rangarajan Committee (2012)** on sugarcane pricing had recommended abolition of SAP and favoured **revenue sharing formula (RSF)** for cane price payments, 75 % of sugar value or 70 % of the value of sugar and its byproducts should be disbursed to farmers towards sugarcane price.
- **CACP** has also recommended a **hybrid approach** with simultaneous implementation of Revenue sharing formula, FRP of Sugar and Sugar Price Stabilization fund.
- Better pricing, predictability and augmentation of storage facilities under **Ethanol Blended Petrol programme** to incentivise its procurement by OMCs.
- **Power generation** using cogeneration technology is another option through which companies can generate revenues by selling extra electricity generated as a by-product of sugar production to power distribution companies.
- Government should also **incentivise crop diversification** towards other less water intensive crops to reduce the problem of excess groundwater extraction from crops like sugarcane.

7.6.3. AGRICULTURAL EDUCATION

Recently, the cabinet has approved the continuation of the Three-Year Action Plan (2017-2020) of the scheme for Agricultural Education Division and ICAR Institutes.

About the Scheme

- The scheme aims to reduce academic inbreeding and addressing faculty

Other Government Initiatives promoting Agricultural education

National Agriculture Higher Education Project

- The project has been launched in collaboration with **World Bank** and ICAR with an objective of providing more relevant and higher quality education to Agricultural University students.

Pandit Deendayal Upadhyay Unnat Krishi Shiksha Scheme

- It was launched in 2016 under which 100 new centres were opened up for agricultural education.

shortage, promotes green initiatives, international ranking, alumni involvement, promoting innovations, technology enabled learning, post-doctoral fellowships, agriculture education portal, and scientific social responsibility.

- Moreover, it will facilitate research on gender issues in agriculture and allied fields, through policy and programme.

Need of Agricultural Education

- **Agricultural Productivity:** Effective agricultural education (both for farmers as well as researchers) leads to better economic and technical decision making in agricultural processes, which is further reflected in increase in agricultural productivity (World Bank).
- **Value Chain of Agriculture:** The entire value chain of agriculture i.e. from farm input to market linkages, suffers from various bottlenecks which can well be addressed by agricultural education.
- **Employment:** Agricultural education is needed in order to absorb the emerging labour force, especially with the emerging arenas of biotechnology, GM food, precision agriculture etc. which require detailed knowledge.
- **Labour value:** Market value of individual in agricultural field in India is lower than many developing countries and agricultural education adds to an individual's productivity and therefore increases the market value of his labour.

Challenges face by Agricultural Education

- **Finance-** Agriculture is a state subject and the statutory responsibility for it vests with the state governments which lack in funds. Moreover, the **establishment cost** of agricultural universities has risen substantially while the operational budget has reduced which constrains institution for innovation.
- **Faculty-** State Agricultural Universities (SAUs) are facing **non-replacement of retired faculty** and high inbreeding of faculty (nearly 51% of faculty members have their degrees from the same university in which they are teaching), which hampers the quality of academic and research programmes.
- **Lack of Networking and quality-** It has been noticed that most of the universities are lacking in association and integration with different national and international universities for academic activities.
- **Low quality-** The quality provided in these universities is low which further affects their global ranking.
- **Not a first option-** Negative attitude towards agricultural education due to low returns and limited career opportunities makes agricultural education not a preferred choice amongst students.

Way Forward

- **Public Private Partnership (PPP)-** Government should harness the PPP modal with agricultural universities especially in agribusiness, biotechnology, nanotechnology and many frontier areas, where public sector institutions are weak and not responding to the changing demand.
- **Revisit Curriculum-** Ashok Dalwai Commitee on **Doubling the farmer Income**, highlighted that there is a need to revisit the current agriculture education curriculum to orient it to promote agriculture as a sustainable practise and profit generating enterprise.
- **Global Standard practices-** Agricultural education is needed to be harmonized with existing and emerging issues related to WTO, ethics of IPR, standard trade practices.
- **Regional Specific Education-** The criteria for new universities should be **agro-ecoregion** rather than one discipline, as agriculture-related issues are multidisciplinary.
- **Regulatory authority** i.e. ICAR does not have statutory powers or the mandate to regulate agricultural education. Thus, it is important to create a **central statutory authority** for the regulation of higher agricultural education to make the agriculture sector science and technology (S&T) based.
- **Vocational Agricultural Education-** Universities are concentrating mainly on formal education while there is also need for Vocational and non-formal education especially in respect of knowledge and technological empowerment for work force in rural areas.

7.6.4. EDIBLE OIL IMPORT

Why in News?

- There are concerns that India's dependence on imported edible oil is likely to increase to a record level during the coming year of 2017-18.

Background

- India is among major oilseed growers and edible oil importers. India's vegetable oil economy is world's fourth largest after USA, China and Brazil.
- The oilseed accounts for 13% of the gross cropped area, 3% of the Gross National Product and 10% value of all agricultural commodities.
- Palm oil accounts for more than half of India's total edible oil imports.

Need of the import

• Agricultural Conditions

- Production is largely in rain-fed areas. Only one fourth of the oilseed producing area in the country remains under the irrigation.
- The continuous drought during the past two years resulted in lower oilseed production and domestic edible oil output.
- As for the oil year 2017-18, less sowing and crop damage due to flooding in major growing regions has reduced the soybean crop size thereby affecting the oil extraction.
- Acreage under oilseeds also remained lower this kharif season due to falling prices in the spot market throughout last year.
- Average yield of various oilseeds crops in India have improved but still it lags significantly behind other major oilseeds producing nations.

• Processing Industries

- Processing industry prefers to import refined oil for blending directly with the oil for repacking and distribution for local consumption.

• Global Competition and Domestic Demand

- Existing imported vegetable oil and palm oil is cheaper than other oilseed produced in domestic market.
- Country's annual edible oil demand stands at nearly 22 million tonnes and is growing by 3% to 4% per year. India meets only about 40% of its total edible oil demand and rest can be fulfilled by the growing palm oil industry of south-east Asia.

• Import Policy

- The current import duties on edible oil is based on prolonged fall in price of edible oil in the international market, which further tends to make the import of refined oil more attractive than crude or unprocessed oil.

ISOPOM (Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize)

- Under this, four schemes related to oilseeds, pulses, oil palm and maize have been merged into one Centrally Sponsored ISOPOM.
- Financial assistance is provided to farmers for purchase of breeder seed, production of foundation seed, production and distribution of certified seed etc.

National Mission on Oilseeds and Oil Palm (NMOOP)

- It is implemented under three sub-mission namely; MM I – Oilseeds, MM II – Oil Palm, MM III – TBOs (Tree Based Oil).
- The mission targets increasing production of oilseeds to 42 mn tonnes by FY2022 from estimated 34 mn tonnes in FY2017
- The strategy and guideline for NMOOP includes:
 - Increasing Seed Replacement Ratio (SRR) with focus on Varietal Replacement;
 - Increasing irrigation coverage under oilseeds from 26% to 36%
 - Diversification of area from low yielding cereals crops to oilseeds crops; inter-cropping of oilseeds with cereals/pulses/ sugarcane;
 - Use of fallow land after paddy /potato cultivation
 - Expansion of cultivation of Oil Palm and tree borne oilseeds in watersheds and wastelands;
 - Increasing availability of quality planting material enhancing procurement of oilseeds and collection;
 - Processing of tree borne oilseeds.

Edible Oil Export

- Recently, Cabinet Committee on Economic Affairs (CCEA) removed the **decades-old ban** on export of bulk edible oils, except mustard oil.

Arguments in favour

- It will support growing production of oilseeds and would explore additional avenues for marketing of edible oils.
- It may also result in utilization of idle capacity in India's edible oils industry and is a step towards **Ease of Doing Business**.
- As much as liberal imports are necessary to support consumers, exports are critical to support domestic growers.
- It would be step toward progressive foreign trade policy in which both export and import windows are kept open.

Way Forward

- To improve oilseeds production following steps should be undertaken:
 - Ensuring the availability of quality seeds by increasing investment in oilseeds R&D and developing new location-specific high yielding varieties.
 - The credit and insurance infrastructure for agriculture needs to be expanded and lending and insurance policies must be farmer-friendly.
 - Making farmers aware of better techniques and ensuring better price recovery in market.
 - Higher capacity utilization of Indian refineries which is still as low as 35% of installed capacity can yield rich dividends to the farmers and industry.

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8. INDUSTRIAL POLICY AND ASSOCIATED ISSUES

Current Context

- India has become one of the fastest growing economies in the world over the last two decades, undoubtedly aided in this performance by economic reforms.
- The striking aspect of India's recent growth has been the dynamism of the service sector, while, in contrast, **manufacturing has been much less robust**, contrary to the experience in other emerging market countries, where manufacturing has grown much faster than GDP.
- India has **not been able to fully leverage** the opportunities provided by the dynamics of globalisation that resulted in a dramatic shift of manufacturing to developing countries over the last decade.
- Moreover, the **gap in both**, the **sectoral share** of manufacturing and the **competitiveness** of the manufacturing sector in India, compared with other big economies **has been increasing** which is a matter of concern.

Constraints to Industrial Growth

- **Inadequate infrastructure:** Physical infrastructure in India suffers from substantial deficit in terms of capacities as well as efficiencies. Rapid growth of the economy has put further stress on infrastructure. Lack of quality industrial infrastructure has resulted in high logistics cost and has in turn affected cost competitiveness of Indian goods in global markets.
- **Restrictive labour laws:** The tenor of labour laws has been overly protective of labour force in the formal sector. Though labour protection and security are required, the flipside is that it discourages employers from hiring workers on a regular basis. It has probably also led to entrepreneurs choosing to stay away from labour intensive sectors and opt for highly capital or skilled-labour intensive technologies sectors.
- **Complicated business environment:** Complex and time taking business processes and clearances have been a disincentive for businesses. India also suffered from a complex multi-layered tax system, which with its high compliance costs and its cascading effects adversely affects competitiveness of manufacturing.
- **Slow technology adoption:** Indian industry has been a slow adopter of new and advanced technologies. Inefficient technologies led to low productivity and higher costs adding to the disadvantage of Indian products in international markets.
- **Low productivity:** Productivity as measured by value added per worker and average wages in manufacturing in India are only one-third of that in China. Differences in productivities across sectors and across firms within the same sector make matters worse. Workers in India are overwhelmingly employed in low productivity and low wage activities.
- **Challenges for trade:** Manufacturing sector especially exporters are facing challenges of stagnant/shrinking global demand and rising protectionist tendencies around the world. Indian MSME sector is particularly facing tough competition from cheap imports from China and FTA countries.
- **Inadequate expenditure on R&D and Innovation:** Investments in these areas is essential to ensure growth in industry. Public investments have been constrained by the demands from other public service demands and private investment is not forthcoming as these involve long gestation periods and uncertain returns.

Opportunities for the Indian Industry in the current economic scenario

- India continues to be a **low-cost economy**.
- India has a relatively **higher proportion of a youth population**.
- India is continuously rated as a **top investment destination**. FDI inflow helps to not only meet the gap in domestic savings but also facilitate benefits in terms of the managerial and technological skill.
- India continues to have a **dominating position in the IT sector**. Its dominance at present is in software services. It can avail the opportunity of having dominance in hardware as well.
- A tax reform, GST will turn India into one common market for producers and consumers.
 - It will also probably bring an end to the **practice of cherry-picking** by the industries which was enjoyed by them on account of **area-based exemptions** offered by the State Governments and build up a **uniform business environment** across the country.

It is also to be understood that these factors work in tandem to increase costs of goods and services. They are strongly entwined, one feeds into another thereby exacerbating the disadvantages. The nexus needs to be broken at more than one link to ensure that the spin-off is in the positive direction.

Therefore, in view of the changing global dynamics, there is a pertinent **need to revisit the existing industrial policy** given the opportunities and constraints that it faces in the present circumstances.

Draft Industrial Policy, 2017

- **Establishing global linkages** by creating global brands out of India, strengthening linkages between Indian and global SMEs and intensifying FDI.
- **Enhancing industrial competitiveness** by reducing the cost of infrastructure such as power, logistics, easing regulatory/compliance burden, reducing the cost of capital and improving labour productivity.
- **Advances in technology**
 - It will also suitably incorporate the use of modern smart technologies such as IOT, artificial intelligence and robotics for advanced manufacturing.
 - Improve business environment by reducing compliance cost and transaction time
- **Access to Capital for MSMEs**
 - Explore alternatives such as **Peer to Peer Lending, Crowd funding** etc
 - **Credit rating mechanism** for MSMEs be looked upon to provide them easier access to funds
- **Taxation: Simplifying GST**, addressing problem of inverted-duty structure
- **Industry Standard:**
 - Industry-wide mandatory technical regulations be developed to address the gaps
 - Enterprises will be encouraged to set up testing labs in India
- **Creating Jobs** to employ the large number of unskilled and semi-skilled labour moving out of the primary sector.
- **Strengthening municipal bodies**, setting up of commercially viable units to recycle waste to produce energy, encourage them to raise funds at competitive rates and also impose user charges for the services.
- **Ensuring sustainability and responsible industrialisation**
 - Focusing on green energy, green manufacturing and green technologies
 - A dynamic renewables sector that contributes substantially to the energy mix
 - Improvements in energy use efficiency through large scale adoption of smarter technologies
- **Research and development:** Right models of technology transfer, academia - research institutions – industry linkages, helping Indian firms increase their R&D spends and file high-quality patents.

Elements of Industrial Policy, 1991

The Government decided to take series of initiatives in key areas:

- Industrial Licensing
- Foreign Investment
- Foreign Technology Agreements
- Public Sector Policy
- Monopolies and Restrictive Trade Practices (MRTP) Act

Progress made

- List of industries in respect of which industrial licensing was compulsory, which was 18, has progressively shrunk and currently license is required only in four areas, namely, cigars and cigarette on the tobacco, industrial explosives, electronic, aerospace and defence equipment, industrial explosives and hazardous chemicals.
- Foreign investment in most sectors is allowed upto 100% under automatic route and around 90% of total FDI inflows are now through the automatic route. Further new sectors such as defence and food retail have been opened.
- Change in public sector policy led to private sector participation in sectors of iron and steel, electricity etc. Growth of private sector in terms of number of enterprises and paid-up capital has been much faster than that of public sector in the last three decades.
- India was among the first developing countries to have a competition law in the form of the MRTP Act, 1969. It was replaced by Competition Act 2002 which, barring a few which perform sovereign functions, has obliterated the distinction between public and private enterprises and contributed to creating a level playing field in the market place.

Additional recommendations based on Parliamentary Standing Committee on Commerce report on '**Industrial Policy in the Changing Global Scenario**'

- Adoption of open, transparent and competitive mechanisms and greater disclosure of approval processes.
- **Research and Development:**
 - The R&D in industrial sector needs to be institutionalised and greater connect with universities/IITs needs to be explored by industries
 - Explore new areas of manufacturing with full vigour like defence offsets.
- **Revive the investments in capital goods industries** as the country is still largely dependent on import of these capital goods.

- **IPR Framework**
 - The use of Intellectual Property as an industrial policy by the frontier countries to sustain the competitiveness of their industries must not be allowed at the cost of our industrial development.
 - Our IPR framework must ensure that no higher IP standards of protection may be agreed to other than those included in TRIPS.
 - **National Manufacturing Policy**
 - It should be reoriented to promote smart manufacturing whereby zero emission, zero-incident, zero-defect manufacturing becomes the order of the day.
 - Revisit **Technology Acquisition and Development Fund (TADF)** framework to facilitate smooth induction of smarter industrial processes and sustainable practices in our manufacturing sector to make it smart and ready to enter the Fourth Industrial Revolution
 - **MSME Sector**
 - Access to information, simplification of loan procedures and interest subvention should be enabled for timely and affordable credit to MSMEs
 - MSME must be encouraged to engage into **digital marketing**.
 - **Labour and Industrial growth**
 - Reduction and simplification of the plethora of laws existing in the labour sector.
 - Social security legislations may be amended and simplified to enable the employers become active stakeholders and subscribers of social security programmes for their workers
 - **Employment and Skill development**
 - The focus of vocational training offered in India is badly mismatched with the needs of workers, so proper alignment of skill development programme to the needs of the workforce is necessary
 - The workforce should be continually skilled in the ever-changing technological environment and demands of the industry.
- National Capital Goods Policy, 2016**

 - It is first ever policy for Capital Goods sector with a clear objective of **increasing production** of capital goods from Rs.2,30,000 crore in 2014-15 to Rs.7,50,000 crore in 2025 and **raising direct and indirect employment** from the current 8.4 million to 30 million.
 - It envisages **increasing exports** from the current 27 percent to 40 percent of production.
 - It will **increase the share of domestic production** in India's demand from 60 percent to 80 percent thus making India a **net exporter of capital goods**.
 - It aims to facilitate improvement in technology depth across sub-sectors, increase skill availability, ensure mandatory standards and promote growth and capacity building of MSMEs.
- National Manufacturing Policy** - The important instruments/features of are-

 - National Investment and Manufacturing Zones (NIMZs);
 - rationalization and simplification of business regulations;
 - simple and expeditious exit mechanism for manufacturing units;
 - Incentives for SMEs;
 - industrial training and skill upgradation measures;
 - financial and institutional mechanisms for technology development, including green technologies;
 - Government procurement and Special Focus Sectors.

8.1. ELECTRONICS MANUFACTURING IN INDIA

Why in news?

India's electronics manufacturing has been unable to respond to the rising demand thereby increasing the import bill and losing an opportunity to create employment for millions.

What is electronics industry or Electronic System Design & Manufacturing (ESDM)?

The electronics sector or Electronic System Design & Manufacturing (ESDM) industry produces electronic equipment for industries and consumer electronics products, such as computers, televisions and circuit boards. Electronics sector industries includes following segments.

- **Electronic Product Markets**
- **Electronic Manufacturing Services (EMS) markets**
- **Component Market**
- **Semiconductor Design Market**

The electronic product market dominates with approximately 81% share in the ESDM industry in 2017, whereas component and Electronic Manufacturing Services (EMS) markets are expected to witness high growth rates between 2014 and 2020.

Market size

- The demand for electronics hardware in the country is projected to increase from USD 75 billion in 2015 to USD 400 billion by 2020. The estimated production will reach USD 104 billion by the year 2020, creating a gap of USD 296 billion in demand and production.
- India's share in the global electronics market was a minuscule 1.6% of the market in 2015 that is currently valued over \$1.75 trillion.

SWOT Analysis of ESDM Industry



Recent trend

- Of the country's total demand for electronics, between 50-60% of the products and 70-80% of the components are imported. If the situation doesn't change, expenses on electronics imports could surpass those on oil imports by 2020.
- Business-friendly policies of the Government of India, stable political leadership, and turmoil in certain economies around the globe have together created a conducive investment climate in India, further boosting the domestic manufacturing.

Reasons for low export share of India

- **Inverted tax structure for electronic goods:** Due to a limited base of local component suppliers, manufacturers are dependent on importing parts.
- Foreign direct investment (FDI) in electronics is less than 1% of the total FDI inflow because of onerous labour laws, delays in land-acquisition and the uncertain tax regime have kept investors at bay.
- The procedures for cross-border trade work against the competitiveness of Indian producers as shown by the Doing Business rankings—India ranks 146 in the category of trading across borders due to the high costs of compliance.

Government initiatives

- The Government has approved National Policy on Electronics (NPE).
- The government has listed the electronics industry as a priority sector under its Make in India campaign.
- **Modified Special Incentive Package Scheme (MSIPs)** provides subsidy of 25% of capital expenditure (20% in SEZs).
- **Electronic Manufacturing Clusters Scheme** provides 50% of the cost for development of infrastructure and common facilities in Greenfield clusters (undeveloped or underdeveloped area from electronic

National Policy on Electronics (NPE) 2012

Vision: To create a globally competitive electronics design and manufacturing industry to meet the country's need and serve international market.

NPE Goals of 2020

- To achieve a turnover of about USD 400 Billion by 2020
- Investment of about USD 100 Billion and
- Providing employment to around 28 million by 2020.
- Achieving a turnover of USD 55 Billion of chip design and embedded software industry, USD 80 Billion of exports in the sector.
- Setting up of over 200 Electronic Manufacturing Clusters.
- Significantly upscale high-end human resource creation to 2500 PhDs annually by 2020 in the sector.

manufacturing point of view) and 75% of the cost for Brownfield clusters (area where a significant number of existing EMC exists). Currently around 30 Electronic Manufacturing clusters are notified and GoI is targeting for 200 Electronic Manufacturing clusters by 2020.

- **Preference to domestically manufactured goods** in Government procurement. Extent of government procurement will not be less than 30%.
- **Electronic Development Funds** for Research & Development and Innovation in Electronics sector is under active consideration to support start-ups in electronics and IP generation in the area of electronics.
- Department has accorded approval for setting up of two semiconductor wafer fabrication manufacturing facilities in the country.
- To promote greater research in electronics and IT, Government of India will fund PhD students in Universities across the country for research in industry specific needs.
- Under the scheme for providing support for skill development, Government of India provides 75% to 100% of training cost for industry specific skills for skilled and semi-skilled workers.
- Opportunities for investment in testing laboratory infrastructure under the mandatory standards regime brought in force.
- Several State Governments, including Andhra Pradesh and Karnataka have already announced complementary incentives as part of their State Electronic Policies. Electronic Manufacturing Clusters have been announced by states of Madhya Pradesh, Andhra Pradesh, Punjab, and Kerala.
- In addition, to recognize and motivate the Micro Small and Medium Scale Enterprises (MSMEs) in the Electronic System Design & Manufacturing (ESDM) sector, the Government of India (GoI) has announced a national scheme for the sector.

Comparison with China

Manufacturing Competitiveness in China	Manufacturing Competitiveness in India
<ul style="list-style-type: none"> • Stable and substantial supply chain in China with large economies of scale helped China maintain low costs and high margins production of electronic goods in the last two decades. • Its dominance in electronic manufacturing arises from incredible government support the stakeholders receive primarily in the form of capital subsidy and relaxation of taxes. • The economy transformed into an export destination for global electronic giants as the country supplied large qualified workers at low wages. • As China’s economy slows down, it struggles with currency devaluation and rising labor wages, the ‘low-cost manufacturing’ tag has started to lose its sheen, making other emerging economies, such as India, Vietnam, and Malaysia, more attractive for investment. 	<ul style="list-style-type: none"> • On the other hand, India’s manufacturing competitiveness is set to soar further as the economy is on growth trajectory. • Huge electronics domestic demand will be a key driver necessitating the development of local ecosystem. • Growing investment and increasing local value addition levels will also see manifold jump as more OEMs look toward localization of their products from India. • Regulatory framework made more investment and business friendly to attract investment through foreign and domestic investors. • India possesses superior design capabilities and availability of talented workforce at approximately 150% lower wages than China, which strengthens its position as a futuristic domestic-cum-export-oriented manufacturing destination for the globe.

8.2. MSME SECTOR

Why in news?

- Recently, cabinet has approved proposal for the amendment in Micro, Small and Medium Enterprises Development (MSMED) Act, 2006.
- Also **CriSidEx**, India’s first sentiment index, has been launched for micro and small enterprises (MSEs).

Recent amendment to MSMED Act 2006

- Change in the basis of classifying Micro, Small and Medium

Key facts about CriSidEx

- CriSidEx is a composite index, developed jointly by CRISIL & SIDBI, based on a diffusion index of 8 parameters and measures MSE business sentiment on a scale of 0 (extremely negative) to 200 (extremely positive).
- Since the data on MSEs used to come with a significant lag, a comprehensive and concise indicator of ground-level sentiment becomes a crucial tool for policy makers, lenders, trade bodies, economists, rating agencies and the MSEs themselves.
- CriSidEx readings will flag potential headwinds and changes in production cycles which will help improve market efficiencies.
- By capturing the sentiment of exporters and importers, it will also offer actionable indicators on foreign trade.

enterprises from ‘investment in plant & machinery/equipment’ to ‘annual turnover’. Accordingly Section 7 of the Act will be amended

- A micro enterprise: annual turnover does not exceed five crore rupees
- A small enterprise: annual turnover is more than five crore rupees but does not exceed Rs 75 crore;
- A medium enterprise: annual turnover is more than 75 crore rupees but does not exceed Rs 250 crore.
- This will encourage ease of doing business, make the norms of classification growth oriented and align them to the new tax regime revolving around Goods & Services Tax.
- Additionally, the Central Government may, by notification, vary turnover limits, which shall not exceed thrice the limits specified in Section 7 of the MSMED Act.

IMPORTANCE OF MSMEs	
It is important for inclusive growth as it provides the bulk of Industrial employment in the country	
5.1 crore	Operating MSMEs in India
11.7 crore	Employment in MSME sector
77.6 lakh	Registered MSMEs as on January 10, 2018 of which 40 lakh registered since September 2015 under Udyog Aadhaar
30.7 %	Contribution to GDP (fiscal 2015)
45.0 %	Contribution to exports
78.2 %	Dependence on self-finance

Issues faced by the MSME sector

Despite a plethora of government schemes, the MSME sector faces problems like:

- **Access to capital** – About 40% of the small enterprises depends on the informal sources of credit.
- **Lack of improved technology** is making them less productive and less competitive as compared to imported products and services.
- **Deficiencies in basic infrastructural facilities** like water, power supply, road/rail and telephone connectivity, etc.
- **Getting multiple statutory clearances** related to power, environment, labour becomes difficult.
- **Other challenges** include - Availability of raw material & skilled labour etc.

Government Initiatives

- **Udyami Mitra Portal** – It has been launched by SIDBI to improve accessibility of credit and handholding services to MSMEs.
- **Digital MSME Scheme** – It involves usage of Cloud Computing where MSMEs use the internet to access common as well as tailor-made IT infrastructure (including software for managing their business processes) rather than installing in-house IT infrastructure
- **MSME Delayed Payment Portal – MSME Samadhaan** – will empower Micro and Small entrepreneurs across the country to directly register their cases relating to delayed payments by Central Ministries/Departments/CPSEs/State Governments
- **MSME Sambandh** - The Portal will help in monitoring the implementation of the Public Procurement from MSEs by Central Public Sector Enterprises
- **Prime Minister Employment Generation Programme** – It is a credit linked subsidy program under Ministry of MSME.
- **Revamped Scheme of Fund for Regeneration Of Traditional Industries (SFURTI)** – organizes traditional industries and artisans into clusters and make them competitive by enhancing their marketability & equipping them with improved skills.
- **A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE)** - creates new jobs & reduce unemployment, promotes entrepreneurship culture, facilitates innovative business solution etc.
- **National Manufacturing Competitiveness Programme (NMCP)** - to develop global competitiveness among Indian MSMEs.
- **Micro & Small Enterprises Cluster Development Programme (MSE-CDP)** - adopts cluster development approach for enhancing the productivity and competitiveness as well as capacity building of MSEs.

Way forward

- There is limited awareness about the different support programmes amongst the target beneficiaries, there is a need to develop a better communication strategy and use of new age media tools like social media etc.
- There is a special need for the involvement of stakeholders at the design stage of the scheme to make the schemes demand driven
- Decision making layers should be reduced and should allow flexibility on operational issues.

8.3. SPECIAL ECONOMIC ZONES (SEZ)

Why in news?

Recently, commerce ministry has set up a committee headed by Baba Kalyani to make a special economic zone (SEZ) policy compatible with World Trade Organisation (WTO) rules after the US challenged India's export subsidy programme at the multilateral trade body.

About SEZ

- An SEZ is a geographically demarcated region that has economic laws that are more liberal than the country's typical economic laws and where all the units therein have specific privileges.
- SEZs are regarded as international territory for the purposes of trade operations and duties and tariffs. Local raw materials bought by producers within SEZs are regarded as exports whereas those goods that are produced in SEZs and sold in the DTA (Domestic Tariff Area) are regarded as imports.
- SEZ in India are governed **under SEZ Act, 2005**, which provides the umbrella legal framework, covering all important legal and regulatory aspects of SEZ development as well as for units operating in SEZs.

Objective of SEZ

- To increase foreign investment.
- To provide an internationally competitive and hassle free environment for exports
- Generation of additional economic activity.
- Creation of employment opportunities.
- Development of infrastructure facilities.

Challenges faced by SEZ

- **Lack of Policy Predictability:** Significant shift in the promised fiscal incentives regime has led to uncertainty, forcing developers and units to hold back investments.
 - The SEZ Act of 2005 exempted the zones and units located within them from MAT without any sunset clause. But the government changed the law again to impose MAT on SEZs and their units at the rate of 18.5% from 2012.
- **Rigid Labour Rules:** They are seen to have negative impact/bearings on the labour supply in the country, especially for multi-product manufacturing SEZs and has decreased India's chance of emulating the success of the Chinese SEZ model.
- **Infrastructure Bottleneck:** Absence of world class infrastructure facility as proposed by SEZ policy along with complementary infrastructure outside the SEZs, like port connectivity, has dampened the investment opportunities in SEZ.
- **Multiple Models Of Operation:** Existence of multiple models of economic zones such as SEZ, coastal economic zone, Delhi-Mumbai Industrial Corridor, National Investment and Manufacturing Zone, food park and textile park, which increases red tapism in executive functioning.
- **Stiff Competition:** Domestic sales of SEZs face a disadvantage as they have to pay full customs duty, as compared to the lower rates with the Association of Southeast Asian Nations (ASEAN) countries due to free-trade agreement (FTA).
- **Shifting of Existing Manufacturing Units to SEZs:** Entrepreneurs like to do business in SEZs than in the DTA due to lucrative concessions, thereby reducing Government revenues without adding to employment or output.
- **Red Tapism:** Lack of coordination between departments of the central government and between the centre and the states have undermined the objectives of having single-window mechanism.

Public Accounts Committee observation on Performance of SEZ based on CAG Report of 2014

- **Performance of SEZ:**
 - There is **no significant impact** of SEZ on economic growth, investment, export and employment.
 - **Regional Disparity:** More than a two-thirds of the notified SEZs are located in five States — Andhra Pradesh, Tamil Nadu, Maharashtra, Karnataka, and Gujarat — which account for more than 90% of the investment made and 83% of the employment generated.
- **Growth pattern of SEZ:**
 - The growth curve of SEZs indicated **preference for urban agglomeration** by industry, undermining the objective of promoting balanced regional development.
 - **Inter-Sector Disparities:** Around 57% of SEZ cater to IT/ITES sector and **only 9.6%** were catering to the multi product manufacturing sector.
- **Land allotment and utilisation:**

- Out of all the lands notified for SEZ, **operations commenced only on 62%.**

- The developers approach government for allotment/purchase of a vast tract of land in the name of SEZ, they later denotify it in few years to gain from price appreciation.

- **Low Compensation for Land Acquisition:** Farmers are paid low value for the land acquired for SEZs as compared to the market value of their land.

- Many of the lands acquired under '**public purpose clause**', is being diverted for commercial purposes.

- SEZ lands are being mortgaged by many developers to create loans, also, the amounts are being used for purposes other than the development of SEZ.

- **Tax administration:**

- SEZs are becoming tax havens leading to foregone duties and loss of government revenue, without any commensurate benefits to the nation.

- In eligible exemptions/deductions have been extended to SEZ and systemic weaknesses in Direct and Indirect Tax administration to the tune of around Rs 27,000 Crore is also observed.

- **Monitoring and Control:**

- Inadequacies in the performance appraisal system of SEZ and lack of internal audit, facilitated developers to misrepresent facts to the tune of Rs 1150 crore. It remained undetected as there was no mechanism to cross verify the data.

- There is no system to monitor the exemptions given on the account of Service Tax, Stamp Duty etc.

- The entire database management system project have been outsourced to NSDL and the DoC does not have any IS Strategic plan for database management.

According to CAG report 2014, SEZs fell short of growth, employment and export expectations by a wide margin.

- **Employment fell short by 93%:** SEZs generated 0.2 million jobs instead of 3.9 million.

- **Investments fell short by 59%:** SEZs were to attract investments of Rs 194,662.5 crore (\$36 billion); no more than Rs 80,176.3 crore (\$14.8 billion) was invested.

- **Exports fell short by 74%:** SEZs exported goods valued at Rs 100,579.7 crore (\$18.6 billion) instead of the projected Rs 395,547.4 crore (\$73.2 billion).

Recommendation of the Public Accounts Committee on Performance of SEZ:

- It recommended for **Measurable performance indicators**, which reflect not only economic but social and ecological costs of setting up of SEZs.
- The need of setting up of SEZs which are performing under par should be analysed.
- **Enforcement of good governance in the SEZs** with flexible labour laws would be an important component for SEZ success.
- The total fiscal benefit obtained by Central Govt till date on denotification of SEZ land by the developers should be informed. According to existing rules, the developers who propose to denotify land have to pay back all fiscal benefits taken from Central and State Govt.
- The ministry of Finance should seriously reconsider the **removal of Minimum Alternate Tax (MAT) and Dividend Distribution Tax (DDT)** which have to make SEZs more alternative for entrepreneurs and developers.
- There should be a **fixed timeline to strengthen Internal audit of SEZs** and to achieve full integration of SEZ tax administration with ICEGATE system of CBEC. Also, the Government must **streamline management of records** of exemptions, stamp duty and Service Tax for SEZs.

Other steps which could be taken to improve performance of SEZ

- **Promoting Sector Specific SEZ** by reducing the minimum area needed to 4 hectares from 25 hectares for establishment SEZs such as biotechnology, non-conventional energy equipment, agro-based food processing and services.
- **Improving Infrastructure Facility:** The location of SEZs must be such as to promote manufacturing exports. Linkage to ports and airports should be taken into consideration while setting up the SEZs. Well-developed transport infrastructure may improve the performance of the SEZs even if they are located little far off from these points and then it may not necessary to locate the SEZs very near to the ports/airports.
- Encouragement for modern version of SEZs like free ports, free coastal zones, setting up of growth poles and clusters should also be encouraged.
- Offering of greater flexibility to firms in terms of plant location in the zone would encourage the **investors' participation**. Prioritisation of the zones is needed according to the strategic importance of the product and development needs of the region.

- **Encouragement for more greenfield FDI** in the zone to supplement domestic investment would attract more private investors. China is the glaring example where about 20% of the FDI has flown into SEZs. Allowing the private sector to be responsible for investment in the zones would sustain the development
- While selecting the location, it would be necessary to **exclude the agricultural lands** altogether from the promotion of SEZs so as to sustain food security.
- Establishment of well-balanced **compensation and rehabilitation policy** to be designed for displaced people.
- Maintaining a **stable and fair tax regime** with no special privileges would enhance the fiscal strength of the country. At the same time, it would be necessary to physically enclose the zones to curb revenue pilferage. If required, tax privileges should be given at the very initial stage.
- **Allowing innovative financing mechanism** for SEZ like granting infrastructure status to buildings of SEZs and industrial parks, permitting external commercial borrowing (ECB) for entire SEZ infrastructure, allowing a refinancing option through ECB and relax the “risk weightage norms” for the real estate sector, will improve investment cycle in SEZ.

Conclusion

- The purpose of setting up of SEZs in many countries is the export promotion, technology transfer and thereby generation of more employment and growth. Under the WTO regime, the global economies are better integrated and liberalised to face the emerging competition under the free trade regime.
- However, many of the Emerging Market Economies have to promote exports but at the same time they are constrained to safeguard their domestic industry from cheap imports. Therefore, sustaining the SEZ development and thereby increase exports in the competitive environment has to be a core part of development agenda, especially in developing countries.

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9. SERVICES SECTOR

9.1. TOURISM SECTOR

Tourism is one of the key drivers of growth among the **services sector** in India. India is host to 35 world heritage sites, 10 bio-geographical zones and 26 biotic provinces which provide an impetus for **employment generation** and **foreign exchange earnings**.

Highlights of the Tourism Sector

- **Economic Survey 2017-2018** highlighted an overall improvement has been noticed in tourism sector with increasing number of Foreign Tourist Arrival (FTA), Outbound Tourism and Domestic Tourism.
- Outbound tourism is more than double the FTA in India and FTAs have also increased to 8.8 million in 2017.
- Tamil Nadu, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, and Karnataka were the top 5 destination States on **domestic tourist** visits, accounting for 61.3 per cent of total number of tourist visits in 2016.
- Furthermore, India's travel and tourism sector **ranks 7th** in the world in terms of its total contribution to the **country's GDP** (World Travel and Tourism Council 2017).

Significance of Tourism Sector

- **Employment:** It has the potential of generating nearly 10 million jobs in the tourism sector by 2028 (**WTTC 2017**)
- **Foreigner Exchange Earnings:** Tourism is the 3rd largest Foreign Exchange Earnings (FEEs) for the country and it has grown to US\$ 27.7 billion in 2017 (**Economic Survey 2017-2018**).
- **Diplomacy:** Tourism sector has become an apparatus for **diplomacy (soft power)**, bilateral relation and regional connectivity in the globalised world.
- **Preservation of National Heritage and Environment:** Tourism helps preserve sites of historical importance as well as species which are endangered.
- **Infrastructure development:** It also encourages infrastructural developments such as different mode of transports, health care facilities etc.

Related Information

Draft National Tourism Policy 2015

- **Objective:** To increase the tourist arrival from 0.68 % to 1 % of total world tourists by 2020 and increase it to two-fold (2%) by 2025.
- **Vision:** making India as **MUST EXPERIENCE** and **MUST RE-VISITED** destination for global travellers.
- Policy is based on the paradigm of **“responsible and sustainable”** tourism.
- The policy envisions a National Tourism Advisory Board to monitor the implementation and National Tourism Authority to execute the policy matters.
- **Core infrastructure** as well as **Tourism infrastructure** both will be developed.
- Developing quality human resources in the tourism and hospitality sectors across the spectrum of vocational to professional skills development and opportunity creation.
- Creating an enabling environment for investment in tourism and tourism-related infrastructure.
- Emphasis on technology enabled development in tourism.
- Focus on domestic tourism as a major driver of tourism growth.
- Focus on promotions in established source markets and potential markets, which are contributing significantly to global tourist traffic, with targeted and country specific campaigns.
- Development and promotion of varied tourism products including the rich Culture and Heritage of the country, as well as niche products such as Medical & Wellness, Meetings, Incentives, Conferences and Exhibitions (MICE), Adventure, Wildlife, etc.

Other Government initiatives

- Government has launched **‘Incredible India 2.0’** campaign with **market specific promotional plans** (Union Budget 2018-2019).
- 100 percent FDI in the automatic route is permitted and five years **tax holiday** for tourism related infrastructure.
- Government has launched National Mission for Pilgrimage Rejuvenation and Spiritual Augmentation (PRASAD).
- **e-Visa facility** for Tourist, Medical Tourist and Business Tourist for the citizens of 163 countries.
- **Swadesh Darshan:** Promote pro-poor community centric tourism by establishing the thematic circuit e.g. Buddha circuit, Krishna circuit, Himalaya circuit etc.
- **Adopt A Heritage:** Promote PPP model for basic infrastructure in Tourism.
- **Heritage Trail-** a global media campaign to promote the World Heritage Sites in India was launched.
- **Prayatan Parv-** has been launched, with three components namely;
 - **Dekho Apna Desh:** to encourage Indians to visit their own country.
 - **Tourism for All:** with tourism events at sites across all states in the country.
 - **Tourism & Governance:** with interactive sessions & workshops with stakeholders on varied themes.

which benefits the host community as well

Challenges

- **Infrastructure:** Various studies noticed that only 43 percent of total potential in terms of employment and FEEs of tourism sector, has been utilised, due to lack of tourism centric infrastructure.
- **Domino Effect:** Tourism industry is closely integrated with several other industries like hotel and accommodation, aviation, etc., any rise and fall in these sectors may create domino effect for tourism sector.
- **Intra-sectoral competition:** It has noticed that the cost of travel and accommodation in India is often higher than flying to a neighbouring country. A limited supply of hotels and excessive taxation in aviation means that an increasing number of Indians prefer to go abroad for their holidays.
- **Outdate policy approach:** Tourism policies are lagging behind South-East Asian country's tourism policies. Indian tourism policies are still focusing on mystical charm, ancient civilization, by neglecting other potential dimensions of tourism such as; MICE (meetings, incentives, conferences and exhibitions) tourism, ecotourism, adventure tourism, film tourism, wellness tourism etc.
- **Security:** India faces security risks in terms of both home grown and cross border terrorism. India has been ranked 40 among 139 global economy on safety and security parameters with marginal improvement. However, there has been an increase in crimes against women tourists as per Travel and Tourism Competitiveness Report 2017.
- **Socio-Economic Conditions:** Widespread poverty, presence of beggars, theft and harassment generates negative perception of Indian Society amongst the foreigners, thereby disincentivizing them.

Way forward

- **Medical Tourism:** Policy efforts should be streamlined towards boosting Medical Tourism in the country because of some available advantages in this segment e.g. world-class medical facilities, personalized nursing care, and cost 1/4th that of developed countries.
- **Streamlining the tax structure:** GST related issues in tourism sector include the place of provision issue. There is need to treat foreign exchange earnings in tourism services as exports or deemed exports. Moreover, a **detailed tax roadmap** specially for tourism sector, on the line of many south-east Asian countries is needed.
- **Skill Development:** Skill Development coupled with **foreign language learning initiatives** can utilize the 18 percent of demographic dividends under skill India mission.
- **Synergy:** Government should synergize policy and programme of various other ministries such as policies related to handicraft, textile and merchandise etc. with tourism Ministry.
- **Cinema and theatre-** Promotion of Indian movies across the borders also can contribute significantly in terms of tourist arrivals.
- **Special Tourist Protection Force:** In order to realise the tag of tourist safe country, a pan India special tourist protection force should be established on the similar lines of Delhi and Puduchchery Police initiatives.
- **Corporate Social Responsibility (CSR):** Taking the 'Clean India' movement forward, government should promote corporate partners on pan India scale to manage the historical monuments under CSR initiatives e.g. recently **Red Fort** has been leased out to Dalmia group.

9.2. IT-BPM SECTOR

IT-BPM sector comprises of components from IT services, Business Process Management services, Packaged Software, Engineering Research & Development (ER&D), Hardwar sector and e-commerce.

Highlights of the present trends

- IT-BPM sector constitutes nearly 9.3% of India's GDP and also amounts for 56% of the global outsourcing market size.
- **Economic Survey 2017-2018** highlighted that this sector grew by 8.1 per cent in 2016-17 to US\$ 139.9 billion from US\$ 129.4 billion in 2015-16.
- The segment of IT-BPM such as telecom, software and hardware has witnessed highest share of FDI inflow under service sector in 2017 (**Economic Survey 2017-2018**).

- The share of Information Communication Technology (ICT) in total services exports for India declined marginally during the decade (2006-2016), while the ICT share in total services exports has increased in economies like China, Brazil, Russia, Philippines, Israel and Ukraine.

SWOT analysis of IT-BPM sector

Strength

- **Employment:** This sector employs nearly 3.9 million people in 2016-17. Moreover, there is a future-ready digital workforce, with more than 0.15 million employees in SMAC (social, mobile, analytics, cloud) skills.
- **Policy Approach:** Focused government initiatives and subsequently increased adoption of technology and telecom by consumers, provide various new scopes for this sector.
- **Rapid Expansion:** NASSCOM strategic review 2015 asserted that the Indian IT-BPM industry has exhibited rapid evolution – in terms of expanding their vertical and geographic markets.
- **Huge Consumer Market:** Country's huge population and growing consumerism has made India a favoured destination for global e-commerce business and IT corporates.
- **Financial Market:** Digital technology continued to be one of the enabling pillars for both the global and local financial market such as Investment banking, Public equity, alternative asset Management, wealth management etc. Indian service providers have a significant strength on this front (**NASSCOM 2017**).

Weakness

- **Infrastructure:** Lack of available infrastructure, weak value chain associated with logistic sector coupled with slow environment and land clearances have been major impediments for the growth of IT-BPM.
- **High Operations Cost:** IT-BPM sectors are primarily concentrated in few Tier 1 cities which is currently facing issues such as rising cost of real estate and salaries to the skilled manpower. Thus, increasing the running cost and loss of their edge over other countries.
- **Sluggish skill development:** The present rate of skill development in the Indian economy is not in consonance with growing new dimensions in this sector e.g. Cyber Security market, Internet of Things, Big Data analysis etc.
- **Poor research and development:** It has been noticed that research and development initiatives in ICT is restricted to some IITs and NIITs, which in turn gets reflected in huge technology imports in this sector.
- **Global economic situation:** Experts are on the view that reason for sub-optimal growth projections for IT-BPM are; rapidly shifting technology, Brexit, changes in visa and immigration norms, protectionist policies of USA, and emerging trade war between developed countries.

Opportunity

- **Urbanisation:** Rapidly growing urban infrastructure and changing job structure from primary to tertiary sector, are providing an opportunity to foster several IT-BPM centres in the country e.g. Cyber City in Gurugram, Electronic city in Bangalore etc.

Related Information

Government Initiatives

- **National Policy on Information Technology 2012** aims to increase revenues of IT and BPM industry to US\$ 300 billion by 2020.
- **Self-Employment and Talent Utilization (SETU)** to establish techno-financial, incubation and facilitation programme to support all aspects of new business.
- **India BPO promotion Scheme:** To incentivize the establishment of BPO firms and their extension to Tier 2 and Tier 3 cities providing about 1.45 lakh jobs, distributed across various states in proportion to the population of State with financial support in form of Viability Gap Funding.
- **Northeast BPO promotion scheme:** To incentivise establishment of 5000 seats of BPO/ITES operations in North-East.
- **Fiscal Benefits:** Government has extended tax holidays to the IT sector for software technology parks of India (STPI) and Special Economic Zones (SEZs). Further, the country is providing procedural ease and single window clearance for setting up facilities.
- **Union Budget 2018-19:** The government has announced setting up of a national level programme that will enable efforts in **Artificial Intelligence (AI)** and will help in leveraging AI technology for development works in the country.
- **Modified Special Incentive Package Scheme (MSIPs)** provides subsidy of 25% of capital expenditure (20% in SEZs) on Electronics products.
- **White paper on Data protection framework:** which included seven principles for data protection.
- Various government programmes such as **Make in India, Digital India, Skill India, Start-Up, Stand-Up, Smart Cities** etc. boost IT-BPM sector.

- **Demographic Dividends:** The current trend of demographic dividends which is going to sustain for 25 years, and cheap labour power, crates an enabling environment for global business investment in India.
- **Emerging New Market:** Around 15% -20% of the BPM business is now getting automated with various new age technologies market including Interactive Voice Response (IVR) such as; Apple Siri, Microsoft Cortana, Google DeepMind etc. Moreover, it is estimated that emerging automation market will deliver over USD70 Bn in net productivity-led gains for IT-BPM service providers by 2020.

Threat

- **Radical Change in Skill Set:** The report, titled '**Future of Jobs**' predicts 60-65% of the Indian IT-BPM workforce to be deployed in jobs that require radically changed skillsets. These change on skill set requires not only rule-based jobs but also jobs that require knowledge-based activities which are high in cognitive computing, big data, and natural use interference.
- **Data Colonisation:** Various analysts believe that data colonisation is the emerging threat to the IT-BPM sector because it can hamper healthy competition and create monopolistic or oligopolistic market practices.
- **Cyber Security:** Growing business practices specially in virtual word and particularly in IT-BPM sector has created cybercrime as emerging threat that could lead to compromise of Privacy Right, data breaches, espionages etc.
- **Competition:** This sector requires specific skills and infrastructure along with demographic and strategic location. In last decade Philippines, South Korea, China and Brazil were the main competitor due to availability of cheap-skilled labour power.

9.3. CHAMPION SECTORS IN SERVICES

Why in news?

The Union Cabinet recently approved an action plan for 12 champion services sectors identified by the Ministry of commerce and industry for special focus.

More on news

- Government has established a Rs 5,000 crore dedicated fund for the sectoral action plan for the champion sector.
- **Department of Industrial Policy and Promotion (DIPP)**, would spearhead the initiative for the Champion Sectors under **Make in India Version 2.0**. for manufacturing sector and Department of Commerce would coordinate the proposed initiative for the Champion Sectors in Services.

Need of the Move

- **Premature Deindustrialisation:** The present trend of job shifting form primary to tertiary sector (service sector) without realising the potential of manufacturing sector, creates a necessary in the part of service sector to indirectly increase manufacturing competitiveness.
- **Temporary Shock:** The recent demonetisation and rolling out of GST regime has given a short-term shock to growth of service sector, therefore, a specific action plan covering major service sectors is needed.



Present Trend of Service Sector in India

- **Service Sector-** contributing almost 72.5% of gross value-added growth in 2017-18 while providing employment to around 30% of population (ILO estimates, 2016). In 2016, services GVA growth rate (at constant prices), was highest in India at 7.8 per cent followed by China at 7.4 per cent.
- **Largest Exporter:** India remained the **eighth largest exporter of commercial services** in the world in 2016 (WTO, 2017) with 3.4% share, which is double the share of India's merchandise exports in the world at 1.7%.
- **Economic Survey 2017-2018** highlighted that services sector in India's exports helped in financing about 49% of India's merchandise deficit in 2017-18 and thus, providing cushion to current account deficit (CAD).

- **Sub-optimal Utilisation:** Various Economists are of the view that the service sector has been underutilised in the last decade in generation of growth potentials for the economy.

Significance

- **Competitiveness:** It will enhance the competitiveness of India's service sectors through the implementation of focused and monitored Action Plans, creating more jobs and realising the goal of global services exports at 4.2% by 2022.
- **GDP Growth:** Through this focus sector, the government will also target raising gross value added (GVA) from about 53% in 2015-16 (61% including construction services) to 60% (67% including construction services) by 2022.
- **Manufacturing sector:** Increased productivity and competitiveness of the Champion Services Sectors will further boost exports of various services from India. Embedded services are a substantial part of 'Goods' as well. Thus, a competitive services sector will add to the competitiveness of the manufacturing sector as well.
- **Strengthen global trade agreement:** Intended benefits such as boosting competitiveness and job creation in the service sector would give an impetus to various global trade agreements such as; Free trade agreement in services, bilateral trade in services, Regional comprehensive economic partnership etc.

Other Policy Initiative for Service Sector

- **Ease of doing business:** Simplifying FDI process by abolishing FIPB (Foreign Investment Promotion Board) as a result, more than 90% of FDI inflows are now through automatic route.
- Increasing incentives under **Services Exports from India Scheme (SEIS)** by 2%, through mid-term **Review of Foreign Trade Policy 2015-2020**, to help services exports including Hotel & Restaurant, Hospital, Educational services, etc.
- **Other Initiatives** like digitization, e-visas, infrastructure status to Logistics, Start-up India, announcement of National Intellectual Property Rights (IPR) policy. Implementation of GST etc. also provide a fillip to the sector.

Challenges

- **Finance:** Credit is a major reason for achieving full potential of the sector. However, due to rising Non-Performing Asset (NPA) of PSBs funding to the real estate sector has dropped significantly from over 68% in 2013, to 17% in 2016.
- **India-based R&D services companies,** account for almost 22% of the global market and grew at 12.7% in 2015-16. However, India's **gross expenditure on R&D** has been **low at around 1% of GDP** and it ranks 60th out of 127 on the **Global Innovation Index (GII) 2017**.
- **Isolated sectoral growth:** The growth of the service sector hitherto depends on the manufacturing sector. Presently, various policies and programmes of the government focus and see the development of the service sector in isolation, which further generates negative policy returns.

Way Forward

- **Service from India:** A 'Services from India' initiative on the lines of 'Make in India' is needed to strengthen the services sector domestically and also for exports along with more promotional activities in target markets by strengthening the Service Export Promotion Council (SEPC).
- **Standardisation:** Various market experts stated that service standards in India are below the many developing countries, therefore standard service practices mooted on the line of **Draft Standardisation Policy** is the need of the hour.
- **Quality of Skill and Higher education:** Investment in quality of skill and higher education should be a focal point of any policy programme of the service sector, Furthermore, these efforts should be aligned with the changing market scenario in the age of automation and robotics.
- **Integrated policy:** A single regulatory body with an integrated policy approach for the service sector is required. This is because numerous governing bodies and a lack of coordination among them adversely affect the growth of this sector.

10. INFRASTRUCTURE

10.1. INFRASTRUCTURE FINANCING IN INDIA

Current Situation

- As per industry estimates, infrastructure in India needs an investment of **USD 6 Trillion in the period 2016-2030**. However, Indian infrastructure sector has faced **several challenges** such as cost and time over-runs in projects, inappropriate risks sharing through PPP framework, uncertainty in the policy and regulatory frameworks, prolonged disputes between Government and Private players, as well as sectoral issues including poor financial health of public sector counter party entities such as the power discos etc.
- These issues have **adversely impacted the commercial viability** of the projects. As a result, the sector is marred with sluggishness in financing with further aggravation due to the **unprecedented stress levels** in the banking sector on account of increasing **Net NPAs** which reached a level of 4.6% (2017).
- Further, the sector faces critical financing issues in terms of high cost of capital, challenges in obtaining non-recourse funding and dearth of long-term funding sources due to the asset liability mismatch. Moreover, significant investment in the Indian infrastructure sector by domestic investors is also stuck due to well documented challenges and problems persistent in the sector.
- To address the challenges faced by the sector, important recommendations were made by the HLC on Financing Infrastructure chaired by Mr. **Deepak Parekh**. It has made recommendations to enhance the infrastructure financing by tapping additional avenues from domestic and international sources and by enriching the financing in terms of better risk recognition, longer tenure and lower cost of debt.
- Further, there is a need for implementing a comprehensive strategy for addressing the issue of infrastructure financing in India involving efficient and innovative financing mechanisms.

Emerging options

- **National Investment and Infrastructure Fund (NIIF)**

- It is **India's first sovereign wealth fund** that seeks to create long-term value for domestic and international investors seeking investment in energy, transportation, housing, water, waste management etc. in greenfield, brownfield and stalled projects.
- It is being operationalized by establishing **three Alternative Investment Funds (AIFs)**.
- The proposed corpus of NIIF is INR 40,000 Crores (around USD 6 Billion).

GOI's contribution to the AIFs under the NIIF scheme shall be 49% of the total commitment.

- NIIF has mandate to solicit equity participation from strategic anchor partners, like overseas sovereign/quasi-sovereign/multilateral/bilateral investors.
- The registered **three registered funds** include — **NIIF Master Fund** which invests directly into companies, **a fund of funds** which invests in funds that are managed by third parties and a third **long gestation fund** which is in the design stage right now.
- It made its first investment recently by partnering with DP World to create an investment platform for ports, terminals, transportation and logistics businesses in India.

- **Pension Funds**

- They are regarded as a key source because -
 - ✓ They are long term and more stable in nature
 - ✓ They prevent companies from becoming victims of market volatility which is generally triggered by flight of funds put in by other FIIs and hedge funds.

Alternative Investment Fund

- It refers to any **privately polled investment fund** in form of a trust or a company or a body corporate or limited liability partnership which do not come jurisdiction of any regulatory agency in India.
- AIFs have been defined in **Regulation 2(1)(b) of SEBI (Alternate Investment Fund) Regulations 2012**. And its definition includes venture capital fund, hedge fund, private equity fund etc.

Sovereign wealth fund

- It consists of pools of money derived from a country's reserves, set aside for investment purposes to benefit the country's economy and citizens.
- The funding for a sovereign wealth fund comes from central bank reserves that accumulate as a result of budget and trade surpluses, and from revenue generated from the exports of natural resources.

- However, as a legacy of Government regulations, pension funds remain a notionally funded scheme. More than two third of the fund exists in the form of special deposits with the central Government. Under the existing stipulations, these funds cannot be drawn out for deployment in other avenues.
- **Infrastructure Investment Trusts (InvITs)**
 - These are **mutual fund like institutions** that enable investments into the infrastructure sector by pooling small sums of money from multitude of individual investors for directly investing in infrastructure so as to return a portion of the income (after deducting expenditures) to unit holders of InvITs, who pooled in the money.
 - InvITs are very much similar to the Real Estate investment Trusts (REITs) in structure and operations. InvITs are modified REITs designed to suit the specific circumstances in India.
 - InvITs, as an investment vehicle, may aid:
 - ✓ freeing up of current developer's capital for reinvestment into new infrastructure projects.
 - ✓ refinancing/takeout of existing high cost debt with long-term low-cost capital and help banks free up/reduce loan exposure, and thereby help them create headroom for new funding requirements.
- **'India Infrastructure Project Development Fund' (IIPDF)**
 - Its primary objective would be to **fund potential PPP projects' project development expenses** including costs of engaging consultants and Transaction Advisor, thus **increasing the quality and quantity of successful PPPs** and allowing informed decision making by the Government based on good quality feasibility reports.
- **Masala Bonds**
 - These are **rupee denominated bonds** issues in offshore capital markets help to expand the avenues for debt funding of infrastructure projects.
 - These bonds shield issuers from currency risk and instead transfer the risk to investors buying these bonds.
 - For their proper utilisation, sound macro fundamental environment needs to be maintained besides implementing structural changes relating to information asymmetry and strengthening of the bankruptcy laws.
- **Bond/Corporate Debt Market – to be covered in updated Mains 365.**

10.2. LOGISTIC SECTOR GETS INFRASTRUCTURE STATUS

Why in News?

- Recently, Finance Ministry had granted infrastructure status to logistic sector by widening the category of infrastructure sub-sectors to "transport and logistics".

About Logistic infrastructure

- It involves material handling, warehousing, packaging, transportation, shipping security, inventory management, and supply chain management, procurement, and customs service.
- Government defines logistic as;
 - A multimodal logistics park comprising an Inland Container Depot (ICD) with a minimum investment of Rs50 crore and minimum area of 10 acre.
 - A cold chain facility with a minimum investment of Rs15 crore and minimum area of 20,000 sq. ft and a warehousing facility with a minimum investment of Rs25 crore and a minimum area of 100,000 sq ft will be logistic infrastructure.

Benefit of Infrastructure status

- The sector will get Infrastructure lending at easier terms with enhanced limits, access to longer duration funds, tap the external commercial borrowing route and refinance existing loans at competitive rates.
- The sector will have access to longer tenor funds from insurance companies and pension funds.

Importance of Logistic Sector

- **Employment:** Industry employs over 45 million people and is growing at the rate of 15% with certain sub-sectors growing at even 30-40% per annum.
- **GDP:** India spends around 14.4% of its GDP on logistics and transportation.
- **Manufacturing Sector:** Logistics sector provides efficient and cost effective flow of goods on which other commercial sectors depend

Various challenges of Logistic Sector

- Traditionally been manpower-driven and underleveraged by an unorganised and fragmented industry structure.
- **Transport:** Railway network is oversaturated with high freight tariff, low terminal quality and less flexibility in carrying different types of products.
 - **On Road:** High level of fragmentation of the trucking industry, multiple checkpoints (loss of time and administrative hurdles).
 - **On Port:** High turnaround times, due to inadequate depth at ports unable to attract very large vessels.
- **Storage Infrastructures:** inadequate size of warehouse, difficulty in getting land at desired location, and majority of warehouses are not leak proof.
- **Technology:** Huge transformation is needed in terms of technology like automated storage and retrieval system, online cargo solutions, GPS cargo track etc.
- **Tax:** A complicated tax regime places several challenges as payment of multiple state and Centre taxes results in considerable loss of time in transit and fragmentation of warehousing space.

Government Initiative

- **Diesel de-regulation:** logistics costs have become more accurate, with diesel prices moving in tandem with international fuel prices. This forces us to be competitive globally.
- **Logistic enhance efficiency programme: was launched** for management and development of logistic parks and reduce the cost of logistics.
- **Technology initiative:** Automated storage and retrieval systems (ASRS) in warehouse and transportation, radio frequency identification (RFID) in place of bar codes, and global positioning system (GPS) for real-time tracking.
- **GST:** intended to solve the complex tax structure for logistics which would lead to efficient decision making by logistic firms about of logistics - demand, supply, near-to-customer, sourcing, transportation costs and inventory costs.

Step that can be taken

- **Coordination in infrastructure planning;** will help to reduce the high transaction costs prevalent in the economy.
- **Reforms in urban planning:** catering to urban conglomerations in terms of road and peripheral infrastructure resulting in traffic restrictions.
- **Engagement of all stakeholders:** Blueprints and policy regulations are done by few stakeholders such as government and big industries. This makes policies prone to avoidable trial and error events.
- **Investment in value addition:** dust-proofing at a storage place still does not command the kind of premium in India that it should, and as a result, the logistics service provider does not invest in such provisions.

Harmonized list of Infrastructure sub-sectors

- It is meant to facilitate a coordinated approach, among agencies providing support to infrastructure, and, thus spur infrastructure development in a more optimal manner.
- inclusion of new sub-sectors proposed by a particular agency is done only after assessing the applicability of-
 - **six characteristics of infrastructure** (namely natural monopoly, high sunk costs and asset specificity, non-tradability of output, non-rivalness in consumption, possibility of price exclusion, and presence of externalities) and
 - one or more of the **three parameters** (namely its importance to the scheme of economic development, its ability to contribute to human capital and the specific circumstances under which it has developed in India)
- Currently, five broad categories include - Transport and Logistics, Energy, Water and Sanitation, Communication and Social and Commercial Infrastructure.

Impact of the challenges faced

- The logistic costs as a percentage of total product cost in India is in the range of 4-5 times that in developed countries. This is at a time when the quality of logistic services provided is not of the highest standards.
- The high level of logistics costs in the economy adversely impacts the competitiveness of the Indian economy.
- It also affects the financial well-being of the individual citizens as an addition to product costs due to inefficient logistics adds to inflation.

11. TRANSPORT SECTOR

The transport sector facilitates trade and migration, thereby raising productivity in other parts of the economy. As a large sector in itself, it also contributes to growth directly. It accounts for a large part of construction activity. The movement of people, which this sector facilitates, is also a key source of social integration and transformation. For these reasons, transport and connectivity are central to India's economy and society.

Challenges associated with the sector

- **The transport network is not planned holistically**- The lack of interconnectedness and synergies in the transport network prevent the efficient movement of people and goods. Intermodal connectivity also remains weak with a particular lack of connectivity between ports and inland modes of transport.
- Maintenance of different modes of transport infrastructure is poor. The Indian Railways find it challenging to maintain and service their existing capacity. Maintenance of national highways and roadways is done largely after problems occur and are reported instead of pre-emptive maintenance being an integral part of service. This leads to non-uniform standards, hinders service quality and lowers productivity.
- The capacity of physical transport infrastructure is limited. Congestion on roads and railways is common due to capacity constraints. At times, the limited rail capacity for carrying goods prevents the transport of inputs such as coal in a timely manner.
- The transport network has severe modal imbalances. For example, over time, roadways have become the dominant mode of transport of goods at the cost of railways, despite the latter's economic and environmental advantages over the former. Similarly, inland waterways remain underutilized as a mode of transport. In freight carried by surface transport, the share of roads rose from 13.8% in 1950-51 to 38.1% in 1990-91 and 64.5% in 2011-12. The trend was similar in passengers carried by surface transport with the share of roads rising from 25.7% in 1950-51 to 72.2% in 1990-91 and 85.9% in 2011-12. The share of railways in 2011-12 stood at 35.5% in freight and 14.1% in passenger traffic.
- Transport safety, particularly road safety, remains poor. In 2015, 146,133 deaths occurred due to road traffic crashes. In normalized terms, 930 accidents occurred per 10,000 km of road length in 2013. Over 3 % of India's GDP is lost to road accidents annually, amounting to Rs. 3.8 Lakh Crore in 2014.
- The transport sector remains highly dependent on conventional sources of energy. In 2014, the sector accounted for 18 % of commercial energy use and 55 % of the use of petroleum products. By 2020, the expected increase in the sector's demand for energy could affect India's energy security.

Now, we will discuss the action areas for the individual sectors.

11.1. ROADWAYS

11.1.1. ROAD CONNECTIVITY AND MOBILITY

India had the second largest road network in the world with over 4.24 million km of roads in 2013-14, consisting of National Highways, Expressways, State Highways, major district roads, other district roads and village roads. Suggestions to further enhance road connectivity and mobility include-

- **Increase connectivity, especially in Rural India and with Ports by expanding the road network** - The National Highways Development Program (NHDP), the Bharatmala Project and Special Accelerated Road Development Programme-North East (SARDP-NE) focus on the development and improvement of national highways. The Pradhan Mantri Gram Sadak Yojana (PMGSY) and Bharat Nirman focus on the construction and maintenance of rural roads.
- **Increase the coverage of Electronic Toll Collection (ETC) in National and State Highways** - Equipping lanes with ETC will improve the flow and efficiency of traffic. The National Highways Authority of India (NHAI) has already rolled out a program for ETC on Toll Plazas on National Highways known as "FASTag." The system uses Radio Frequency Identification Device (RFID) technology for paying tolls directly from a linked prepaid account. Additionally, the process of checking papers of commercial vehicles traveling across states should be digitized so that they are not stopped repeatedly for physical checking of papers.
- **Improve maintenance of highways and expressways** - Across the country, roads are found in varying states of disrepair due to natural causes as well as heavy use. For example, landslides often wash out roads in the North East states during the monsoons while excessive wear and tear can render them unusable even in flat terrains. The **Central Road Fund (CRF) Act, 2000**, creates a Central Fund that is administered

and managed by the Centre. The non-lapsable fund can be used for the development and maintenance of national highways, state highways, the development of rural roads, construction of roads near railways and prescribed projects.

11.1.2. ROAD SAFETY

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

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.
- **S. Sundar** committee advocated the establishment of Directorate of Road Safety and Traffic Management for advocacy in changing road safety scenario.

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.

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.

- **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.
- 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.

11.1.3. NATIONAL HIGHWAY INVESTMENT PROMOTION CELL

Why in news?

- National Highways Authority of India has created the **National Highways Investment Promotion Cell (NHIPC)**.

Need

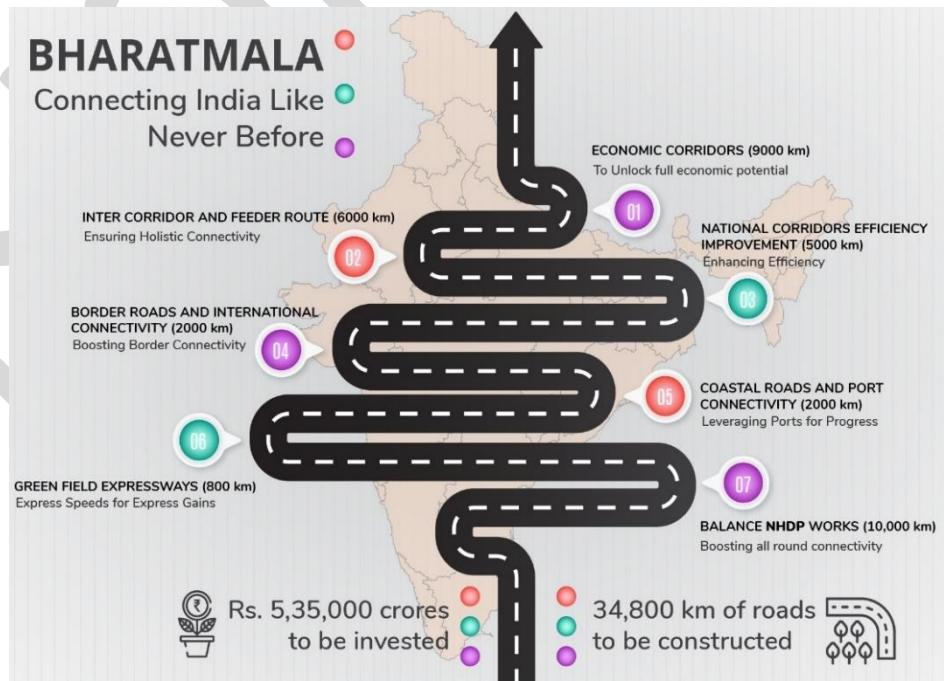
- **Funds for Bharatmala:** The government has set the target of constructing **35,000 km of National Highways in the next five years** under the **Bharatmala project** which requires an investment of Rs. 5.35 crore.
- **Private Investment:** NHIPC is required for attracting domestic and foreign investment.

PPP Models Used Under Road Construction in India

- **BOT (Build-Operate-Transfer):** The private partner is responsible to design, build, operate (during the contracted period) and transfer back the facility to the public sector. The government starts paying to the private party after the commercial launch of the project. DBFOT (Design-Build-Finance-Operate-Transfer) is one of its variants.
- **BOT-Toll:** Similar to BOT, the only difference is that the private party is allowed to recover his investment through toll collection. In this case, government does not pay anything to the private party.
- **Engineering, Procurement and Construction (EPC) model:** Procurement of raw material and construction costs are met by the government. The private sector's participation is limited to the provision of engineering expertise.
- **Hybrid Annuity Model (HAM):** It is a mix of BOT and EPC models. The government will contribute the 40% cost of the project in the first five years through annual payments. The remaining 60% is paid after the completion of the project as variable annuity depending upon value of the assets created.

Objectives of NHIPC

- The cell will engage with global institution investors, constructions companies, developers and fund managers in order to build investor participation in road infrastructure projects.
- NHIPC will work in close co-ordination with various departments and ministries as well as various apex Business chambers such as CII, FICCI, ASSOCHAM and more thereby providing synergy in investments.



Bharatmala Pariyojana

- It is the **second largest highway construction project** after NHDP under which 50,000 km of highways roads were targeted.
- Roads built under the project would include state highways, national highways and some state roads across the country. It will also subsume 10,000 km of NHDP.
- Bharatmala aims to improve connectivity among economic corridors, border areas and other areas. It will ensure quicker movement of cargo and boost exports.

- The project is to be funded through debt funds, private investment or from central road fund or toll collection.
- The main agencies tasked with the construction are the **National Highways Authority of India, National Highway and Industrial Development Corporation** and State Public Works Department.

11.2. RAILWAYS

11.2.1. FREIGHT SEGMENT

Despite its extensive reach and scale, the share of railways in the total surface freight carried has declined from 86.2% to 35.5% between 1950-51 and 2011-12.

- Rationalize railway fares to increase capacity utilization along non-major routes in the freight segment - Currently, freight fares in railways are kept high to cross-subsidize the passenger segment. Rail Development Authority has been approved to determine rail fares to enhance affordability and utilize capacity in an efficient manner. Rationalizing rail freight tariffs can also help divert cargo traffic from roads to railways, which is more environmentally friendly.
- Implement and plan DFCs - A rail route is considered congested if capacity utilization increases beyond 80%. In particular, routes by which coal and iron ore are transported often operate at 100% capacity. The railway capacity of such busy routes should be augmented. The completion of proposed freight corridors will help achieve this. Apart from the two DFCs, new DFCs must be planned in concert with the rest of the road network.

11.2.2. SERVICE DELIVERY AND EFFICIENCY

- Improve the quality of railway stations and trains. Upgrading technology and ensuring cleanliness at railway stations will make the rail experience more comfortable and convenient for passengers. For instance, providing wireless Internet connectivity across stations and trains and sockets with charging points will improve customer's experience at stations. Stations and trains should be maintained well and cleanliness should be ensured to improve customer satisfaction.
- Redevelop and modernize railway stations. The availability and quality of passenger amenities, station buildings, platform surfaces and circulating areas need to be enhanced to better serve the needs of rail passengers. The Ministry of Railways has already announced its program to redevelop 400 Stations through a PPP model. It has also given the Indian Railway Stations Redevelopment Corporation Ltd. (IRSRC), an SPV formed in 2012, a mandate to redevelop 8 stations as of 2016.
- Improve the punctuality of trains. The Ministry of Railways should develop a comprehensive program to improve asset reliability by 10% by 2019. Train punctuality can be improved by developing an integrated block management system.

11.2.3. RAILWAY SAFETY

- Achieve zero fatalities in railways- Currently Infrastructural upgrades in the railways and adoption of new technologies will help reduce the number of accidents and alleviate safety concerns. The Railways should eliminate Unmanned Level Crossings (UMLCs) on Broad Gauge Lines. The elimination of these unmanned crossings will reduce accidents and fatalities while also increasing average speed of trains. Other infrastructure updates such as expediting the renewal of overdue tracks of 5100 km and upgrading rolling stock to be more accident-resistant, for example, to Center Buffer Couplers (CBCs), will also enhance safety.
- Improve safety by adopting new technologies- State of the art technologies can help augment safety in railways. Three key technological interventions can help reduce accidents. First, implementing the already-developed Train Collision Avoidance System (TCAS) technology across the high-density network. Second, adopting a flood warning system at major bridges and flood-affected locations will help prevent weather-related incidents. Third, the adoption of a technology to enhance mobility during fog or low visibility conditions.
- Strengthen the institutional framework to ensure safety- A Standing Committee on Railways submitted its report on Safety and Security in Railways in 2016 and recommended the creation of a separate department on safety and security. This recommendation should be adopted and a designated officer should be appointed to focus on railway safety and address concerns.

11.3. WATERWAYS, SHIPPING AND PORTS

11.3.1. SHIPPING AND PORTS

India currently has 12 major and 205 non-major ports located across about 7,500 km of coast. Coastal shipping remains largely underutilised, accounting for only 6.5% of the total freight traffic in India in 2014-15, relative to 30% by rail and 57% by road.

- Increase competition through easing cabotage- Currently, India does not practice absolute cabotage, or the reservation of coastal cargo transportation for Indian flag vessels. Foreign vessels can carry cargo from one Indian port to another with prior approval from the Director-General of Shipping in case Indian ships are unwilling or unavailable to carry the cargo, exercising their Right of First Refusal (ROFR). Given the inadequate capacity of the Indian coastal fleet and the need for growth in containerization, we should consider further relaxing cabotage laws at least until the coastal shipping sector expands to meet existing demand.
- Explore creating deep-water ports or barges for ports with low drafts- The average draft at Indian ports ranges from 8m to 12m, lower than the draft range of 12m to 23m at most international ports. Larger vessels with capacities greater than 10,000 twenty-foot equivalent units (teu) and tankers are not able to navigate into most ports. The few larger Indian ports with deep drafts and infrastructure capabilities are oversubscribed. This reduces operational efficiency of ports, increasing waiting times and reducing efficiency. Delivery times are also longer because of the need for transshipment to larger foreign ports due to the lack of domestic draft capacity. There is a need to explore coastal locations where deep draft ports can be created. In locations where it may not be technically or financially feasible to create deep draft ports, the possibility of creating barges with low drafts should be explored.
- Facilitate minor/non-major port connectivity to hinterland areas. Providing rail and road connectivity to major and minor ports will help ensure seamless multimodal transport and improve efficiency. Expediting the development of logistics parks close to ports will also help enhance connectivity.

11.3.2. WATERWAYS

India has about 14,500 km of navigable inland waterways, including rivers, canals, backwaters, and creeks. Despite its potential to transport large volumes of goods and connectivity to rural areas, inland water transport accounts for a small amount of freight movement relative to other modes. Currently, the bulk of freight traffic is carried on three national waterways, NWs I, II, and III, and the Mumbai and Goa waterways.

The “Jal Marg Vikas” project involves the development of River Ganga stretch between Allahabad to enable commercial navigation of at least 1,500 tonne vessels. Multi-modal terminals are currently being developed at Varanasi, Haldia and Sahebganj, and a new navigational lock at Farraka is also planned.

The Inland Waterways Authority of India (IWAI) has a target of achieving 9,286 km of National and State Waterways as well as feeder routes by 2020. The following action points will help increase the connectivity and efficiency of inland waterways in India-

- Streamline the governance of inland waterways- Currently, inland waterways are governed by multiple authorities including the Central Inland Water Corporation Limited (CIWTC Ltd), port authorities and state governments. Streamlining the regulatory structure and bringing an overarching body to oversee Inland Water Transport such as the IWAI will bring more consistency in the rules and strategy of the sector.
- Develop measures for year-round navigation- Currently, due to weather conditions, several inland waterways are only serviceable during a part of the year. The seasonality of this mode of transport reduces its adoption. Efforts should be made to develop deeper stretches of the river, i.e., at least 2.5 m to 3 m. The development of adequate depth will help achieve round the year navigation. Additionally, we should ensure adequate maintenance of rivers, including continuous dredging to maintain adequate water depth for servicing shipping lines, to facilitate year round serviceability.
- Ease restrictions on river-sea movement. River-sea movement, utilizing a single vessel for both inland and coastal waters, lowers transport costs and minimizes handling. However, differences in regulations, construction and operational standards and different survey and certification requirements prevent seamless movement across inland and coastal waterways. State authorities should draw up coordinates for inland vessel limits under the Inland Vessel Act for their coastal waters, in accordance with the direction

provided by the Directorate General of Shipping. The Ministry of Shipping should also issue notifications for inland vessel limits under the Merchant Shipping Act, 1958. Coordinating the limits by both parties under the two acts will help facilitate river-sea movement.

11.4. OTHER RELATED DEVELOPMENTS

11.4.1. COASTAL ECONOMIC ZONE

Why in News?

- Recently, government has given the approval for setting up India's first mega coastal economic zone (CEZ) at Jawaharlal Nehru Port (JNPT) in Maharashtra.

More on News

- The CEZ will stretch along north Konkan region spread across Nashik, Thane, Mumbai, Pune and Raigarh.
- This is the part of setting up of 14 mega CEZs under the **National Perspective Plan of the Sagarmala Programme.** (See Box)

Sagarmala Programme

- It is coastal and port city development plan, where manufacturing units will be set up to generate jobs.
- Its aims to harness country 7,500 km long coastline, 14,500 km of potentially navigable waterways and strategic location on key international maritime trade routes.
- The Sagarmala program has taken shape using the government's core philosophy of **cooperative federalism.**

National Perspective Plan (NPP) of the Sagarmala Programme.

- It takes forward Sagarmala's vision of substantially reducing export-import and domestic trade costs with a minimal investment.
- Components of NPP of Sagarmala Programme ;**
 - Port Modernization & New Port Development :** through the mechanization of berths and deepening of drafts to accommodate larger vessels and building of 5-6 new ports and 40 ports enhancement capacity programme.
 - Port Connectivity Enhancement:** 80 projects are being planned, include connectivity infrastructure projects like a heavy-haul rail corridor, freight-friendly expressways for efficient movement and development of strategic inland waterways.
 - Port-linked Industrialization:** 14 Coastal Economic Zones (CEZs) along the coastline, with cluster of industrial such as energy, bulk materials as well as discrete manufacturing segments.
 - Coastal Community Development:** developing opportunities for fishermen, focus on focused skill-development to support port-led industrialization. A separate costal community development fund would be earmark for the purpose.
- NPP is based on four strategic levers:** 1.Optimizing multi-modal transport to reduce the cost of domestic cargo, 2.Minimizing the time and cost of export-import cargo logistics, 3. Lowering costs for bulk industries by locating them closer to the coast, 4. Improving export competitiveness by locating discrete manufacturing clusters near ports.

OPERATING COSTS (RS/TKM)			
MODE	VOC/FREIGHT	TAXES	TOTAL
Railways	1.63	3.71%	1.41
Highway	2.50	3.09%	2.58
IWT	1.06	NIL	1.06

What is Coastal Economic Zone?

- It is conceptualised as a spatial-economic region which could extend along **300-500 km of coastline** and around **200-300 km inland** from the coastline. Each CEZ will be an agglomeration of coastal districts within a State.

- The concept is based in China based Shenzhen-style Coastal Economic Zone. It will provide the geographical boundary within which port led industrialization will be developed by having a uniform policy along the ports and coastal states.
- The CEZs have been envisaged to tap synergies with the planned industrial corridors like Vizag Chennai Industrial Corridor and Delhi Mumbai Industrial Corridor.
- Under CEZ investors will get business friendly ecosystem including ease of doing business, especially ease of exporting and importing, swift decisions for environmental clearances etc.

Benefits of CEZs

- **Employment:** Niti Aayog has pointed out that low growth in job can be boosted by **export led coastal economy**, based on labour intensive sectors such as apparel, footwear, electronic and electrical products and other light manufactures.
- **Boost Export:** large manufacturing firm assisted by ancillary firm will provide robust export led coastal eco-system.
- **Foreign Capital:** It would attract large foreign firms which would bring with them technology, capital, good management and links to the world markets.
- **Cluster-Development:** It would generate an ecosystem around them in which productive cluster small and medium firms would emerge and flourish.

Challenges

- **Land resource:** Non-availability of land parcels with the states along with huge acquisition and compensation costs are delaying the execution of the project.
- **Lack of infrastructure-**for evacuation of cargo at major and non-major ports leading to a sub-optimal transport modal mix, low penetration of coastal and inland shipping, lack of scale and deep draft at ports also contributed to the skewed growth.
- **Fragmented approach-**The involvement of multiple agencies might lead to fragmented approach in the development of infrastructure to promote industrialization, trade, tourism and transportation across the country.

Other information about Sagarmal Programme

- **National Sagarmala Apex Committee (NSAC)** chaired by the Minister in-charge of Shipping, is envisaged for overall policy guidance and high level coordination, and to review various aspects of planning and implementation of the plan and projects.
- **Sagarmala Development Company (SDC)** has been incorporated under administrative control of the **Ministry of Shipping** to assist the State level/zone level Special Purpose Vehicles (SPVs).
- SDC would be raising **funds** by leveraging resources provided by the government and from **multi-lateral and bilateral funding agencies**.
- In order to execute the last mile connectivity rail connectivity and internal rail projects of the Major Ports a Special Purpose Vehicle (SPV) – **The Indian Port Rail Corporation (IPRC)** is incorporated under the Companies Act 2013, under the administrative control of the Ministry of Shipping.

11.4.2. MODEL CONCESSION AGREEMENT FOR PORT DEVELOPMENT

Why in news?

Union Cabinet recently approved changes in the model concession agreement (MCA) for public-private partnership projects (PPP) in major ports conceived under Sagarmala programme.

Background

- India has a 7,500 km long coastline and 14,500 km of potentially navigable waterways.
- 12 major and 200 non-major ports are located along the Western and Eastern coastlines have so far been responsible for 90% of India's trade by volume.
- Port development in India is a **concurrent subject**. Major ports are regulated by central government under Major Ports Act, 1963 and non-major ports governed by state governments under the Indian Ports Act 1908.
- PPP projects in Major ports operate on **Revenue Sharing model** and are regulated by **Tariff Authority for Major ports (TAMP)**.

Issues related to PPPs in Port development Sector

There have been various challenges that have inhibited private sector participation in port development in India.

- **Inadequacies in Infrastructure:** Existing ports have poor road network within port area, inadequate cargo-handling equipment and machinery, navigational aids, insufficient dredging capacity and lack of technical expertise for port development
- **Sharing of project risks:** The risks related to logistics sector or government policies are currently born solely by concessionaire which warrants an urgent intervention.
- **Financial Unviability:** Greenfield port projects in India are usually in remote locations requiring government support for basic infrastructure and access to the site.
- **Lack of Market determined tariffs:** Currently tariffs for Major ports are fixed by Tariff Authority of Major Ports (TAMP) which has no standard methodology in applying tariff regulations to major ports and terminals.
- **Absence of a grievance redressal mechanism:** The current MCA does not have provisions for a grievance redressal mechanism thus parties end up in litigations which lingers the issues for years and reduce efficiency.
- **Dominance of Public Sector:** The public sector has maintained dominance in the sector and excessive regulation of sector has inhibited competition.
- **Labour Issues:** Most of the major ports are overstaffed with unskilled and untrained labour and the development of such ports suffer due to frequent labour strikes, inefficiency and low labour productivity

Key Provisions of Revised MCA

- **Exit clause:** It provides an exit route to developers where they can divest their equity up to 100 per cent after completion of two years from the Commercial Operation Date (COD).
- **Changes in Royalty arrangements:** The royalty to the developer will be charged on basis of per million tonne of cargo handled and will be linked to wholesale price index thus reducing discretion of tariff setting by TAMP.
- **Lower Land Charges:** Land rent has been reduced from 200% to 120% for additional land.
- **Mechanism for Grievance redressal:** MCA envisage constitution of the Society for Affordable Redressal of Disputes - Ports (**SAROD-PORTS**) as dispute resolution mechanism.
- **Enabling Capacity expansion:** The concessionaire would be free to deploy higher capacity equipment, facilities, technology and carry out value engineering for higher productivity and cost saving.
- **New definition of "Change in Law"** to provide for compensation to concessionaire in case of changes in TAMP guidelines, labour laws or environmental laws.
- A **complaint portal** for port users and a **monitoring arrangement** has also been introduced for keeping periodical status report of the project.

Implications

- The revised Model Concession Agreement will **attract investment** for port development.
- Easier exit norms will simplify the route for **mergers and acquisitions** in Port sector.
- It will also result in **better utilisation of physical assets** by private developers as they can start operations before getting all certifications.
- It will also bring the provisions of MCA in line with **Major Ports Authority Bill, 2016** which had provided that concessionaire will be free to fix the actual tariffs based on market conditions.

11.4.3. DRY PORT

Why in news

Recently, **Commerce Ministry** announced overhauling of the infrastructure standards in **Dry Ports or Inland Container Depots (ICD's)**.

About Dry ports

- They are inland terminal, directly connected to a seaport by rail or road, which provides similar services as that of a seaport such as handling, temporary storage, inspection and customs clearance for international freight etc.

- They are known to improve logistics, supply chain and reduce capacity constraints faced by sea ports

Issues with ICD's

- ICDs in India containerize only 17 to 18% cargo, below the international standards of 76 to 77 % due to various reasons:
 - **Under-Utilisation of Dry Port:** Utilisations vary from as low as 20% to as high as 85% in certain regions, making business uneven.
 - **Near Government Monopoly:** Nearly 70 % of ICDs are owned by government-owned **Container Corporation of India**, a Navratna company established under Companies Act.
 - **Location Issue:** ICD are unevenly distributed in country, which negatively impact its sustainability.
 - **Poor Connectivity:** Rail and road connectivity network to the ICDs are not sufficient
 - **Poor Investment Environment:** Investments in ICDs are largely dominated by domestic companies while Global companies have refrained from investing in it.

Significance

- **Boosting Export:** Efficient Dry port infrastructure would help in achieving the country target of 5% share in world exports, which needs to grow at an average rate of over 26% for the next five years.
- **Achieving economies of scale:** Involvement of ICD will help in **reducing the logistics cost**, as currently it account for 14-15% of manufacturing costs, which is among the highest in the world.
- **Synergizing with Sagarmala project (port-led development):** Under this, Government aims to reduce logistics costs for EXIM and domestic cargo which if complemented with ICD development would lead to overall cost savings.

Way Forward

- **Locational factor:** To be a sustainable business model, an ICD must be surrounded by a manufacturing and consumption hub.
- **Augmenting Infrastructure:** Developing infrastructure in and around ICDs is crucial to attract investments into the sector.
- **Promoting Partnership:** ICD in partnership with either a third-party logistics company or a shipping line could provide favorable revenue avenues for ICD.
- **Improving regulatory framework** by benchmarking it with international best practices.

11.5. AVIATION SECTOR

The Civil Aviation sector transported 85 million passengers and 590,793 tonnes of freight in India in 2015-16. The sector also has a significant impact on the productivity and growth of other sectors. Civil Aviation directly and indirectly contributed USD 7,192 billion to India's GDP and created 9.64 Lakh jobs in 2016. Beyond the direct and indirect effects, the sector also contributes to income and employment through increasing tourism and its supply chain. The sector has grown significantly over the past few years, growing by nearly 22 % between 2014 and 2016 in terms of the number of passengers carried. Given rising disposable incomes, a growing economy and supportive policy environment, the sector expects further growth.

High costs of flying through metropolitan airports, traffic rights and high aeronautical charges hinder the development of Indian airports as major hubs and slow down the sector's growth. Following key policy actions can facilitate the development of the civil aviation sector:

- Align excise duties on ATF to international levels to bring down its cost- On average, ATF accounts for about 40% of airlines' total costs, making up the majority of airlines costs. ATF costs in India are among the highest globally and the high costs are exacerbated by a host of duties and taxes. Currently, ATF is not included in the scope of GST and the taxes will remain the same going forward. In contrast, the EU does not tax ATF and also does not allow its member states to tax fuel for international flights. To lower the overall cost of ATF, the central government should align the excise duty on it with global benchmarks.
- Allow credit for aviation infrastructure under the GST- The GST does not provide a tax credit for input taxes on aviation infrastructure. This credit could help reduce airport costs and encourage infrastructure development. The government has already made a similar proposal for cell phone towers and pipelines.

11.5.1. OTHER RELATED DEVELOPMENT – UDAN 2

Details

- The States with maximum number of airports and helipads which will see activation under UDAN 2 scheme include Uttarakhand (15), Uttar Pradesh (9), Arunachal Pradesh (8), Himachal Pradesh (6), Assam (5) and Manipur (5).
- This was the first time bids were received from helicopter operators under the scheme.
- The scheme will provide around 26.5 lakh seats per annum that will be covered with airfare cap of ₹2,500/hr of flying. In addition, around two lakh RCS (regional connectivity scheme) seats per annum are expected to be provided through helicopter operations.
- The Centre has decided not to increase the ₹ 5,000 regional air connectivity levy charged from airlines flying on major routes to fund the UDAN scheme. It would now be partly funded by the dividend that AAI (Airports Authority of India) paid to the Government of India.

About 'UDAN' scheme

UDAN is an innovative scheme to develop the regional aviation market. The objective of the scheme was “Ude Desh Ka Aam Naagrik”.

Key Features

- UDAN will be applicable on flights which cover between 200 km and 800 km with no lower limit set for hilly, remote, island and security sensitive regions.
- The scheme seeks to reserve a minimum number of UDAN seats i.e. seats at subsidized rates and also cap the fare for short distance flights.
- This would be achieved through two means:
 - A **financial stimulus** in the form of concessions from Central and State governments and airport operators like tax concessions, exemptions from parking and landing charges etc.
 - A **Viability Gap Funding** to the interested airlines to kick-off operations from such airports so that the passenger fares are kept affordable. Such support would be **withdrawn after a three year period**, as by that time, the route is expected to become self-sustainable.
- A **Regional Connectivity Fund** would be created to meet the VGF requirements under the scheme. The RCF levy per departure will be applied to certain domestic flights along with 20% contribution from states.
- For **balanced regional growth**, the allocations under the scheme would be equitably spread across the five geographical regions of the country viz. North, West, South, East and North-east.
- The scheme UDAN envisages providing connectivity to un-served and under-served airports of the country through **revival of existing air-strips and airports**.
- The scheme would be in operation for a period of 10 years.

Significance

- The scheme would ensure affordability, connectivity, growth and development.
- This would help in generating employment.
- It provides an additional business opportunity by increasing the potential for moving existing perishable cargo, fragile goods and high-value export-oriented products by air.
- The state governments would reap the benefit of development of remote areas, enhance trade and commerce and more tourism expansion through the introduction of small aircrafts and helicopters.

Criticisms

- Airlines represent luxury. In a poor country like India it seems a case of misplaced priorities when governments and passengers have to bear the cost of additional subsidies to connect regional air routes.
- India is the fastest growing aviation market in terms of passenger traffic. State subsidies, therefore, are best used elsewhere.
- The assumption that three years would be enough to make a route sustainable might be misplaced. It does not take into account a scenario of fuel cost increase that would significantly change the air cost dynamics.

12. ENERGY SECTOR

- The following presents that energy mix of India, as on 31.06.2018:

Fuel	MW	% of Total
Total Thermal	2,22,693	64.8%
Coal	1,96,958	57.3%
Gas	24,897	7.2%
Oil	838	0.2%
Hydro (Renewable)	45,403	13.2%
Nuclear	6,780	2.0%
RES* (MNRE)	69,022	20.1%
Total	343,899	100%

* Installed capacity in respect of RES (MNRE) as on 31.03.2018. RES (Renewable Energy Sources) include Small Hydro Project, Biomass Gasifier, Biomass Power, Urban & Industrial Waste Power, Solar and Wind Energy

- According to the Energy Access outlook released by the International Energy Agency (IEA) along with the World Energy Outlook (WEO):
 - India is world's third largest energy consumer after the US and China.
 - In 2014, 1.06 billion people lived without access to electricity—270 million was in India.
 - India has the world's largest electricity access deficit followed by Nigeria and Ethiopia. However, it is also a power surplus country and was a net exporter of electricity in 2016-17.
 - 25% (45 million) of rural households across the India have no electricity.
 - Currently, about 2.8 billion people lack access to clean cooking and 2.3 billion people are expected to remain without access to clean cooking by 2030.
- With multiple markets (coal, gas, oil, renewables, electricity, petrol and diesel) and infrastructure requirements for delivery to the final consumer (transmission and distribution grids, gas pipeline and petrol pumps), energy is one of the most complex sectors of the economy.
- The presence of scale economies in many sub-sectors, inter-connected nature of different sources of energy, different environmental implications of different fuels and social objective of access to energy at affordable prices greatly **add to the complexity of policy making** in this sector.
- There is an **absence of a comprehensive energy policy**.

Why need of a new energy policy?

- To chart way to meet government recent announcements:
 - Electrifying all Census villages by 2018, and achieving universal electrification with 24x7 electricity by 2022. As of now, 304 million Indians live without access to electricity
 - Increasing share of manufacturing in our GDP from 16% currently to 25%
 - Target of Ministry of Petroleum to reduce oil imports by 10% from (2014-15 levels) by 2022.
 - Achieving INDC targets
- To meet energy needs of vast population predicted to go up to 1.6 billion by 2040
 - 500 million people, still dependent on solid bio-mass for cooking
 - According to NITI AYOOG exercise, the energy demand in India is likely to go up by 2.7-3.2 times between 2012 and 2040 and thus import demand could increase from 31% in 2012 to 36-55% in 2040
- To increase coordination to achieve the goal of energy security as energy is handled by different Ministries with their own sectoral agenda
- To reduce cost due to air pollution – It is estimated to be 3% of its GDP and causes 1.2 million deaths every year.
- To set the new agenda consistent with the emerging developments in the energy world such as
 - Changes in the global energy mix** where share of fossil fuel has reduced from 88% to 86% and share of renewable energy has increased from 12.5% to 14% during 2005-2015

Key objectives of Energy Policy

- Access at affordable prices considering poverty & deprivation.
- Improved independence & security by diversifying source of imports or reducing it or increasing domestic production.
- Greater sustainability due to climate change issue.
- Economic growth as needed for energy-intensive sectors.



- **Ascendancy of gas vis-à-vis oil** because of rising production of natural gas, lower prices than oil and 1/3rd lesser carbon emissions
- **Over supply of oil and gas markets have led to reduction in prices** which has given fiscal space to countries like India to attempt larger energy policy reforms
- **Reduction in price of renewable energy technologies** – Wind and solar prices have reduced by 60% and 52% respectively between 2010 and 2015
- **Climate change concerns** – There is enhanced understanding of linkage between energy usage and poor environmental outcomes and awareness about air quality standards

In this background, NITI Aayog came out with a draft Energy Policy last year.

Key provisions of the Draft Energy Policy

- **To ensure sustainability**
 - Adopting **energy conservation building code** for all new commercial construction to bring down energy use by 50%
 - **Cutting fossil fuel consumption through energy efficiency** –
 - Shifting towards rail-based mass transport systems and electric & hybrid vehicles in transport sector to reduce pressure on exchequer as well as reducing pollution
 - All key appliances, equipment and vehicles should be covered by mandatory standards and labelling programmes by 2020
 - Establishment of an index of states by Niti Aayog to rate them across a range of energy efficiency related parameters. This will motivate them to create & strengthen state nodal agencies (SNA) and perform better. Recently, NITI Aayog came out with a **State Energy Efficiency Preparedness Index** which was topped by Kerala.
 - Expansion of the PAT (Perform Achieve and Trade) program to cover 80% of all industrial consumption, including the unorganised sector, by 2020
 - **Promoting renewable energy** –It also calls for linking price of coal, other fuels and electricity on market principles to prevent wasteful use of resources and also allow a level playing field for clean energy alternatives.
 - **Removing subsidies on electricity** - The eventual goal should be to bring down the cross-subsidy from industry, placing the burden directly on the budget. This would contribute to making electricity-intensive businesses more competitive.
 - **Improving air quality** - Geographic concentration of power plants so that they do not damage air quality in human habitations and water supply to these ought to be priced as per its scarcity value.
- **For independence and security**
 - **Setting up statutory regulatory authority (SRA)** for coal, power and petroleum for issuing swifter regulation and enhance coordination. This will ensure swifter response from industry leading to supply security
 - **Expansion of energy infrastructure** and increasing strategic reserves as insurance against imported supplies.
- **For affordability**
 - **Corporatizing CIL** - by converting 7 subsidiaries of coal India Limited into independent companies and be allowed to compete against each other for better production, distribution and pricing. At present monopoly disincentivises attempts to contain costs
 - **Compensation to customers through direct benefit transfer** in event of price rise (discussed later).
- **For economic growth in general and energy intensive sector**
 - **Promoting investment in energy sector**
 - encourage adoption of imaginative tools to de-risk energy infrastructure projects such as extended debt tenure, VGF (viability gap funding), tolling, dollar denominated returns to attract private capital
 - Conceiving suitable hedging mechanisms for ECBs
 - Pursuing emerging sectors such as clean coal technology, battery storage etc.
- **Some provisions related to consumers**
 - Innovative billing and metering practices will be offered to them to be able to pay in a staggered manner.

Now let us look at the different aspects of energy sector in more detail.

12.1. ENERGY ACCESS AND CONSUMPTION

Definition: IEA defines energy access as "a household having reliable and affordable access to both clean cooking facilities and to electricity, which is enough to supply a basic bundle of energy services initially, and then an increasing level of electricity over time to reach the regional average"

Benefits of improved energy access

- **Sustainable Development Goal:** Access to energy services is critical for advancing human development, furthering social inclusion of the poorest & most vulnerable in society and to meeting many of the SDGs.
- **Improving Standard of living:** Providing energy for all would significantly improve the lives of those without access and boost their economic prospects.
- **Clean cooking fuel:** Providing access to clean cooking for all will lower the premature death from

Steps taken by India in improving energy access

- **Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY):** DDUGJY is one of the flagship programmes of the Ministry of Power. It focuses on feeder separation (rural households & agricultural) and strengthening of sub-transmission & distribution infrastructure including metering at all levels in rural areas.
- **UDAY (Ujwal DISCOM Assurance Yojana)** for improvement in financial and operational efficiencies of State Power Distribution Companies (DISCOMs)
- **Pradhan Mantri Sahaj Bijli Har Ghar Yojna (Saubhagya Scheme):** To supply electricity to all households by December 2018. It aims to improve the environment, public health, education and connectivity with the help of last-mile power connections across India. (discussed later)
- **UJALA (Unnat Jyoti by Affordable LEDs for All) Yojana:** Under it subsidised LED bulbs were distributed to public. It is implemented by Energy Efficiency Services Limited (EESL)
- **Pradhan Mantri Ujjwala Yojana - Scheme for Providing Free LPG connections to Women from BPL Households.**
- **National Biogas and Manure Management Programme (NBMP)** for setting up of family type biogas plants in rural and semi-urban areas of the country.
- **National Biomass Cookstoves Initiative (NBCI)** launched by Government of India aims to enhance the use of improved biomass cookstoves.
- **Integrated Power Distribution Scheme:** It was launched in 2014 to revamp urban power supply through strengthening of sub-transmission and distribution networks

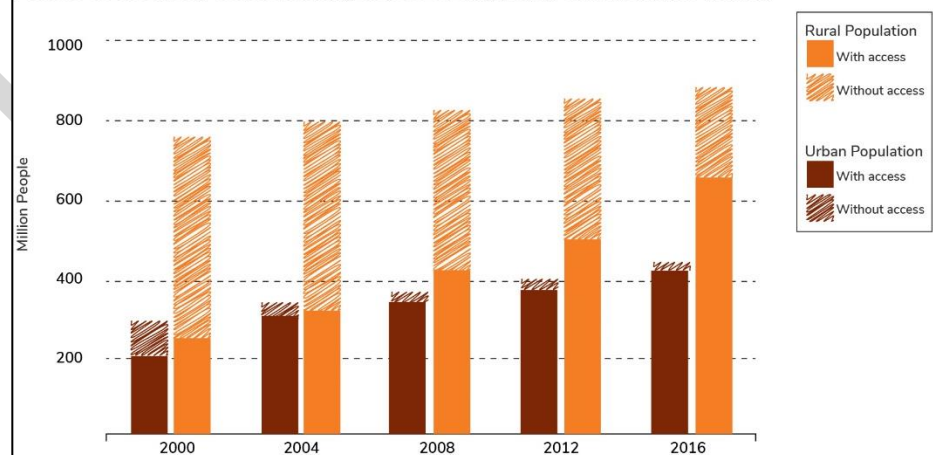
present 2.8 million people per year to 1.8 million by 2030. It would also lead to women empowerment as they can now be engaged in more productive activities and can acquire new knowledge and skills.

Challenges to increasing energy access

- **Finance:** Energy for all will require \$786 billion in cumulative investment in the period to 2030, equal to 3.4% of total energy sector investment over the period. This seems to be difficult with lagging worldwide economy and increasing pressure of NPA's on Indian economy.
- **Poor grid connectivity:** With the increasing role of renewable in energy mix, there is a need for expanding grid connectivity infrastructure for last man connectivity.
- **Quality of Electricity Access:** Electricity access is about affordability and reliability whereas some States in India have struggled to provide less than ten hours with electricity access per day to households.
- **Rural-Urban gap in access:** In India only around 71% of all households have electricity with considerable rural-urban gap (see infographic).

Rural and Urban Populations with and without Electricity Access in India

Access to electricity is accelerating due to strong policy commitments in India



Way forward

- **Policy push:** Implement policies that encourage a wide range of solutions and business models, and encouraging entry of new entrants with innovative ideas.
- **Facilitate rural electricity access** by creating suitable conditions for off-grid investment, mini-grid and by making provision for subsequent connection of decentralized solutions to the grid.
- **Tapping renewable energy:** Decreasing costs for renewable energy technologies and adequate energy efficiency measures offer an opportunity for countries to be creative about clean energy access expansion.
- **Hybrid systems:** using renewable energy sources together with batteries or a diesel generator for achieving universal electricity access.
- **Encouraging Private investment:** Private investment along with Public finance will be required to meet the need for investment in clean energy infrastructure and improved energy efficiency.
- **Productive uses of electricity** are required in agricultural, commercial, and industrial activities for electricity access programs to be transformative.
- **Energy efficient appliances** need to be promoted to reduce the energy investment costs and to increase affordability of electricity access programs (UJALA program).

12.1.1. OTHER RELATED ISSUES AND DEVELOPMENTS

12.1.1.1. OPEN ACCESS IN ELECTRICITY

- Open access is a mechanism that allows generators to sell power to the highest bidders while consumers can source their needs from the most economic seller
- **Electricity Act, 2003** provides for open access for private generators and bulk consumers (**who consume 1MW electricity and more**)
- Consumers have access to the transmission and distribution (T&D) network to obtain electricity from the suppliers other than local distribution companies (discoms)
- Recently, the Union Ministry of Power brought out a consultation paper by a committee setup by the **Central Electricity Authority** to look into issues relating to **open access**.

Benefits of Open Access

- **Competitive Market** – Open access boosts greater participation of private players in the power sector resulting in a dynamic and competitive market.
- **Increase in Choices** – With multiple suppliers as well as existing discoms, consumers can explore cheaper sources. Large consumers have benefitted by buying electricity from the open market as **it has relieved them of the burden of cross subsidization**.
- **Consistent Power Supply** – It offers reliability of power for large consumers in the wake on inconsistent power supply by the discoms. This is especially beneficial for industries that use power all round the clock to function.

Cross-subsidization – It refers to the practice of charging higher prices from a certain set of consumers in order to charge lower prices from another set of consumer i.e. subsidize the prices for them.

This is practiced in the power sector by charging commercial or industrial users higher prices in order to subsidize small and residential consumers.

Issues with Open Access

- **Frequent shifting of Open Access Consumers:** Discoms are unable to manage power procurement efficiently due to the high frequency of shifting of Open Access consumers between Discom and other source of power.
- **Cross Subsidy Surcharge** calculated by State Electricity Regulatory Commissions (SERCs) and recovered from Open Access consumers is often insufficient to recover the entire loss of cross subsidy on account of consumers procuring power through the Open Access route
- **Additional Surcharge:** Majority of power procurement by discoms is long term in nature. Additional surcharge to recover stranded cost on account of stranded Power Purchase Agreements (PPAs) and stranded assets due to consumers procuring power through Open Access have in most cases not been calculated appropriately. This has led to under recovery of power procurement expenses incurred by discoms.
- **Load Variability** – In wake of load variability, discoms supply to industries increases. This not only makes load management tricky but in case of loss of load later, discoms continues to pay capacity charges

(Including standby charges whereby contingency arrangements are made for Open Access Consumers) adding to their financial burden.

- **Inadequate Transmission Capacity** – Weak transmission networks in the country makes it difficult to procure electricity through open access.

Way forward

- Open access customers should be required to schedule power for at least 24 hours whenever they seek open access to take care of the frequent shifting issue.
- However, there should be no restrictions from switching between competitive suppliers so as to maintain the competition in the market.
- The high degree of cross-subsidization needs to be addressed and government must rationalise electricity tariff to improve the health of loss-making discoms.
- Transmission network need to be strengthened in order to improve open access intra-state as well as inter-state.

12.1.1.2. DBT IN POWER SECTOR

Proposed Reforms

- **Targeted Approach** - DBT would limit benefits to electricity consumers by making the subsidy structure more targeted to the needs of poorer sections of the society. Likewise in LPG segment, certain identified categories of consumers (general and agricultural) would get cash in their accounts.
- **Calculation** - This cash payment will be equivalent to the level of subsidy announced by the state government for per unit of consumption of electricity. The state would decide the subsidy according to the average consumption data of a particular set of consumers.
- **Implementation** - It is to be first rolled out under a pilot project while the full rollout will only take place by 2019 when state discoms are expected to wipe out their losses and start generating profit under UDAY.
- **Making Discoms Responsible** - To make Discoms more responsive, any disruption in electricity will be penalized post March 2019.
- **Improving Consumer Functions** - To improve efficiency and reduce losses, 100% metering is to be achieved and government is doing away with any human interface in consumer facing functions such as metering, billing and collections.

Need for DBT

- **Loss Making Discoms** – Despite the launch of **UDAY (Ujwal Discom Assurance Yojana)**, Discoms continue to pile up losses. Tariff structures haven't changed much and have failed to recover full costs. Also, the discoms won't be allowed to recoup more than 15% of their losses through any tariff increase post March 2019.
- **Cross-subsidization** - Discoms provide subsidy through the method of cross-subsidization. In other words, state governments subsidize the electricity tariff of all households by keeping the tariff for commercial and industrial consumers high.
- **Unfair Pricing** – While fairly well-off individuals (who are capable of paying the tariff) profit from cross subsidization on one hand, business growth is deterred due to high input costs on the other.
- NITI Aayog recommended introducing DBT in electricity distribution in 2016 itself.

Benefits

- It would ensure that subsidy reaches the poorer sections of society thereby plugging leakages.
- The proposed tariff rationalization will help pull the discoms out of losses and recover input costs.
- It would also result in reduction of cross-subsidies borne by the industry thereby boosting business and pushing Make in India drive.

Challenges

- Comprehensive metering is yet to be carried out especially in backward and rural areas (the targeted consumers for DBT)
- Bio-metric identification (Aadhaar) of poorer sections is incomplete. Also, financial inclusion is still lacking at many places.
- Ghost beneficiaries need to be filtered out.

12.1.1.3. NPA IN POWER SECTOR

- Power sector is one of the sectors that have **contributed the most** to the NPAs and accounts for Rs 37,941 crore as NPAs and restructured advances amounted to Rs 60,858 crore.
- **Parliamentary Standing Committee on Energy** presented its report on '**Stressed/Non-performing Assets in Electricity Sector**' which noted that there were 34 stressed assets in the sector with an overall capacity of 40 GW and a total outstanding debt of nearly INR 2 lakh crore
- Reasons behind the **rise of NPAs in Power Sector**:
 - **Due prudence** not given while considering loan applications
 - **Non-availability** of regular fuel supply arrangements
 - Cancellation of coal block and shortfall in supply of coal
 - Lack of Power Purchase Agreement (**PPA**)
 - **Aggressive bidding** by developers in PPA
 - Inability of the Promoter to **infuse the equity & working capital**
 - **Regulatory** and **Contractual/Tariff** related disputes
 - **Delays in project implementations** leading to cost overrun
 - **Change of law** in other countries resulting in spike of coal prices making power generation and supply at the contracted rate unviable

Steps Taken by Government to Help Power Sector

- UDAY scheme
- Deen Dyal Upadhyaya Gram Jyoti Yojana
- Garv (Rural Electrification App)
- Integrated Power Development Scheme
- 24X7 Power For All
- TARANG (Transmission System Monitoring) App
- SHAKTI coal allocation policy where coal linkages are awarded on auction basis

Major Recommendations of the Committee

- A task force should be formed to help power sector come out of the mire of NPAs
- Banks should keep in view the **factors that are responsible for an asset becoming NPA** and try to **help the asset** to the extent possible in not becoming NPA
- The **process** of grant of loan, **supervisory mechanism** and its **subsequent monitoring** should be **overhauled** and banks should **follow credit rating system**
- **National Electricity Policy, 2005** needs to be **revisited** to address the problems of the electricity sector including clearances, land acquisition, continuance of old and inefficient plants etc.
- The **revival schemes** of the RBI or the Government should **be realistic and not symbolic**.
- Coal India Limited should ensure that every promoter is provided with the coal required in a time-bound manner. Further, the **power plants should be provided enough coal** to enable them to run at 85% of plant load factor.
- Power plants should **primarily use domestic coal**. However, they may be allowed to use 15-20% of imported coal, only if they can remain economically viable.
- **Old power plants** which have already outlived their expected life and are having higher than prescribed emission rate **should be phased out**.
- **Appropriate steps** should be taken to ensure that there should **be consistency and uniformity with regard to orders emanating from the status of change in law**.

Tackling NPAs - Power Asset Revival through Warehousing and Rehabilitation (Pariwartin)

- Under the scheme government has planned to warehouse stressed power projects totalling 25,000 megawatts (MW) **under an asset management and rehabilitation company (AMRC) jointly owned by the financial institutions** (Power finance corporation and lending banks) to protect the value of the assets and prevent their distress sale under the insolvency and bankruptcy code till demand for power picks up.
- The scheme is inspired by the Troubled Asset Relief Program, which was introduced in the US during the 2008 financial crisis.
- The scheme is similar to **SAMADHAN (Scheme of Asset Management and Debt Change Structure)** under which the SBI led bankers' consortium took over unsustainable debt of stressed power plants to avoid their liquidation.

12.1.1.4. RURAL ELECTRIFICATION PROGRAMMES

- Recently, Government has achieved village electrification targets under '**Deen Dayal Upadhyaya Gram Jyoti Yojana**' (DDUGJY)
- As per Government of India, out of 18,452 villages in India that were power deprived 3 years ago, 17,181 have been electrified. Others are uninhabited or classified as grazing reserves

- According to **DDUGJY website**, 99.8% of census villages have been electrified by February, 2018, while “**intensive electrification**” (household electrification) has been completed in around 80% of villages.

Challenges in rural electrification

- Requirement of large capital investment
- Affordability issue
- Reckoning of rural supply as a welfare activity and not a commercial one
- Solar lighting, although effective for household electrification, is not cost effective especially if battery back-up is also provided.
- Duration, quality & reliability of supply.
- Differential resource endowments & economic growth patterns of states.
- Different one time connection charges for different villages
- Geographical terrain- LWE affected areas, forest areas.

Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY): Launched in 2014, components of DDUGJY include:

- separation of agricultural and non-agricultural electricity feeders to improve supply for consumers in rural areas.
- improving sub-transmission and distribution infrastructure in rural areas.
- rural electrification by carrying forward targets specified under the RGGVY.
- The central government provides 60% of the project cost as grant, the state power distribution companies (discoms) raise 10% of the funds, and 30% is borrowed from financial institutions and banks.
- Rural Electrification Corporation Ltd (REC), is the nodal agency for executing DDUGJY

National Rural Electrification Policy, 2006

- It was notified in compliance with **the Electricity Act, 2003** by the Central Government.
- According to it, **an electrified village** is defined as one that has the following:
 - provision of basic infrastructure such as distribution transformers and lines in the inhabited locality,
 - provision of electricity in public places like schools, panchayat office, health centers, dispensaries, and community centers, and
 - At least 10% of the total numbers of households in the village are electrified.

Significance

- **Socio-Economic benefit:** Providing electricity helps in improving education, health, and connectivity apart from having a multiplier effect on increased economic activities and job creation.
- **Gender Empowerment:** It mainly affects women and girls more as they have to bear the primary responsibility for collecting firewood, cooking and other domestic work
- It will help in **improving India's per capita power consumption** of around 1,200 kWh which is among the lowest in the world.
- **Improving Discoms Health:** Electricity access to households with meters will create demand which in turn will help in improving the financial health of the respective discoms.
- **Better Policy Formulation:** It will help in appropriately estimating, planning and budgeting for complete household electrification over the next two years.
- **Boost to rural demand:** There is a direct correlation between improving electricity access and business environment in country. Electrification, therefore, would provide a fillip to rural demand.
- **Achieving Climate Commitment:** It will lead to decline in black marketing of kerosene oil and meeting country global climate change commitments as electricity will substitute kerosene for lighting.
- **Sustainable Development Goal:** Access to energy services is critical for advancing human development, furthering social inclusion of the poorest & most vulnerable in society and to meeting many of the SDGs.

Concerns

- **Vague Definitions of Electrification:** It only create a false sense of achievement, While all inhabited villages out of them have now been electrified, only 1,321 have access to power for all their households.
- **Quality of Electricity Access:** Electricity access is about affordability and reliability. However, some States in India have struggled to provide less than ten hours with electricity access per day to households.
- **Rural-Urban gap in access:** In India only around 71% of all households have electricity with considerable rural-urban gap. Further, DDUGJY website shows that only six states had 24-hour power supply in rural areas in December 2017.
- **Transmission and Distribution (T&D) or Aggregate Technical & Commercial (AT&C) losses** are around 20% in 2015-16 with huge disparity in T&D losses across the states mainly due to poor grid connectivity. States with high T&D losses are relatively slow in electrifying rural households.

Way Forward

- **Electrification of Household (Intensive Electrification): Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya)** strives to provide electricity connections to more than 40 million families in rural and urban areas by December 2018.
- **Augmenting Generation capacity:** According to NITI AAYOG, the energy demand in India is likely to go up by 2.7-3.2 times between 2012 and 2040.
- **Proper Accountability and Monitoring mechanism** is critical for the government to achieve objectives of **Draft National energy Policy**.
- **Reduce T&D losses for Reliable Supply of Electricity:** It can generate social and economic benefits like improving women's participation in labour markets, enhancing labour productivity etc.
- **Adopting Energy Plus approach** as recommended by **United Nations Development Programme (UNDP)**, which emphasizes on energy access in combination with productive use of electricity for income generation and livelihood upliftment.
- **Improving Capacity building of Discoms** through implementing appropriate measures such as smart meters, infrastructure development, franchisee arrangements with local self-help-groups (for more effective billing, monitoring and collection)
- Eliminating political interference would also allow discoms to improve billing and revenue collections, revise tariffs to reflect costs and crack down on electricity theft.

12.1.1.5. NATIONAL POWER DISTRIBUTION COMPANY

Why in news?

The Union government plans to set up a national power distribution company.

What is National Power Distribution Company?

- It will be a **pan-India power distribution company that will support and guide the state discoms in electricity distribution activities** without interfering in their working.
- It is planned to set up the company as a **joint venture** along the lines of **Energy Efficiency Services Ltd (EESL)**.
- The proposed company will **compete with private firms and contractors** to bag contracts of state-run distribution companies.

Why is it needed?

- The Union government has presence in all the power sector segments, be it financing, generation or transmission, **but virtually no presence in electricity distribution sector** apart from small distribution consultancy wings in **Rural Electrification Corporation, Power Grid Corporation and National thermal power corporation**.
- Distribution companies have so far been **the weakest link in the electricity value chain** mainly due to **poor payment records of state discoms**.
- **Rising non-performing assets (NPAs) in the power sector** has been a major concern with states compounding the problem **by refusing to ink new power purchase agreements (PPAs)**, as they are not willing to buy more electricity.
- It has been widely felt that national distribution company may fulfill the need of **handholding and guiding the state distribution companies**.
- **Electricity demand** in the country is expected to rise substantially in near future due to central government's **DDU gram jyoti yojana and Saubhagya Yojana** and states had neither the political will, bureaucratic energy nor the financial resources to cater to India's expected need for power.

Power Purchase Agreements (PPA)

- A PPA is a contract to purchase energy between an energy producer and a consumer.
- PPAs provide **long-term price stability with the potential for future savings**.

Benefits

- The proposed Company will be able to **procure electricity at competitive rates** hence help power producers raise profit and reduce NPA.
- The company **will build and own networks and distributes power** thereby It will usher in **competition in power distribution sector and provide choice to customers**.

- Due to competition, state discoms may also feel the need for increase their operational efficiency and doing away with political influences.
- Being an overarching national agency, it will ensure **implementation of central schemes for power sector in a time-bound manner.**

Challenges

- The proposed company is supposed to take over some distribution activity which is seen as an encroachment on constitutional rights of states as electricity is in Concurrent list and implementation of it is mainly in the hands of states.
- The **electricity tariffs still vary drastically across states** and efforts to bringing them on uniform scale will meet with resistance from states.

Way Forward

- State governments should **augment the regulatory reforms** of Discoms.
- The plan to **separate the so-called carriage and content operations of existing power distribution companies** must be implemented as soon as possible. It will reduce the losses and improve the efficiency of discoms.
- Several reforms proposed under **draft national tariff policy** must be implemented swiftly including:
 - Suspension of license in case of non-availability of adequate power supply arrangements
 - Imposition of penalty in case of disruptions in supply to consumers
 - Limiting cross-subsidies

CARRIAGE and CONTENT

- Carriage refers to the **distribution aspect and content to electricity.**
- In industry parlance, these are known as **“wire” and “supply”.**

12.1.1.6. SAUBHAGYA YOJANA

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’.**

- **Objective:** to provide electricity to all families in India.
- **Funding Pattern:** 60% by central grants, 30% by bank loans and 10% by states.
- **Identification of beneficiaries:** The government will use **Socio Economic and Caste Census (SECC) 2011** data to identify the beneficiaries for free electricity connections.
- **Implementation -** The **Rural Electrification Corporation Limited** will be the nodal agency for the operationalization of the scheme throughout the country.
- For those household where the national electricity grid can't reach, households will be provided with solar power packs along with battery banks
- **SAUBHAGYA PORTAL** - It would disseminate information on household electrification status (state, district, village-wise), and household progress on live basis

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.

12.2. COAL SECTOR

The reality of India's energy sector is that around three-quarters of our power comes from coal powered plants and this scenario will not change significantly over the coming decades. Thus, it is important that India increases its domestic coal production to provide energy security and reduce its dependence on imports. The following steps needs to be undertaken to boost coal production and distribution -

- At the institutional level, an independent organisation should be created to develop and maintain the repository of all coal related geological information in the country. The proposal to set up a **Coal Regulator** for fostering competition in the coal sector apart from advising Central Government on the formulation of the principles and methodologies for determination of price of raw coal and washed coal should be implemented.

- Using market mechanisms to open the coal-mining sector for commercial mining. (Discussed later).
- **Critical role of railways** in coal distribution should be leveraged. In 2014, 50 million tons of coal could not be distributed in a timely fashion due to rail limitation. For instance, there is a need to complete the three critical Railway lines namely Tori-Shivpur, Jharsuguda-Barpalli and Mand-Raigarh to significantly augment coal evacuation.
- The government should employ more **Coal-Handling and Preparation Plants (CHPP)** that wash coal before shipping. This process removes ash and debris, thereby increasing the energy content per tonne by 10-20%. Also, steps need to be taken to adopt clean-coal technologies including coal gasification.
- Finally, to boost production, the on-going auction process and transfer of mining lease and other related activities of captive mines to the new successful bidders should be expedited. The production from captive blocks has been targeted at 400 MT by 2020; the yearly targets should be devised and, where required, coalmines should be re-allocated to achieve the above target.

12.2.1. COMMERCIAL MINING IN COAL

- Since nationalization of the sector in 1970s, Coal India Ltd (CIL) and its associates had **monopoly** over mining and selling of coal. It accounts for over 80% of the country's coal supply.
- Remaining comes from another public sector firm, Singareni Collieries Company, and some captive coal mines allotted to private players for specific end-uses such as in the steel and power industries.
- The Supreme Court had in 2014 cancelled 204 coal blocks allocated to various state and private companies.
- Following this, Coal Mines (Special Provisions) Act, 2015 was enacted to replace administrative allocation of coal blocks with auction and allotment. This also opened up commercial coal mining in theory to private entities
- In 2016, coal blocks were awarded to state-controlled mining corporations for commercial mining.
- Recently, the Government has approved opening up **commercial mining in coal for Indian and foreign companies in the private sector**
- Now, government has allowed all private entities to enter into commercial mining without end use or price restrictions.
- Also, the bid parameter will be the price offer in rupees per tonne, which will be paid to the State government on the actual production of coal.

Problems with present system

- CIL is unable to keep pace with demand from new power plants and has consistently missed government targets. Thus, there has been a significant surge in imports in recent years despite having rich coal-bearing belts and increased output.
- The companies which produce electricity for their own use have to purchase costlier imports because of not getting adequate supplies as contracted with CIL
- The monopoly has also affected the quality of coal produced in the country. Indian coal has an average ash content of about 45% far higher than the 25-30% that ensures efficient power generation.

Coal Reserves in India

- The reserves are located mainly in states of Jharkhand, Odisha, Chhattisgarh, West Bengal, Madya Pradesh, Telangana and Maharashtra.
- Indian coal reserves are primarily of Lignite and Bituminous types (other two types are Peat and Anthracite).
- Problems with Indian coals are-
 - Lower calorific value
 - Higher ash content
 - Less efficient coal mines in India

Expected Benefits of allowing Commercial Mining

- **Increased production and energy security:** It will also help the country come closer to its vision of producing 1.5 billion tonne of coal annually by 2022.
- **Reduced imports:** It has potential to save on import bill by Rs 30,000 crore as currently about 22% of domestic demand is being met through imports despite India being the 3rd largest coal producing country in the world. Cheap domestic supply will also keep import prices in check.
- **Benefit to power sector:** Coal accounts for **around 70% of the country's power generation**. Thus, it would help stressed power plants to attempt a turnaround through **better fuel management**.
- **Improved efficiency:** as coal sector would shift from **monopoly to competition**. This would attract **investments** from private and foreign players and bring **best possible technology** in the sector.
- **Development of coal bearing states:** especially in the eastern part of the country, as the entire revenue from these auctions will accrue to them. Also, revenue may increase as the coal blocks will be allocated to the highest bidder.

- **Industry consolidation:** as it may see rise of large vertically-integrated energy companies with interests in coal mining, power generation, transmission and distribution to retail supply.
- **Benefits to people:** as it will create direct and indirect employment in coal bearing areas as well as increase accessibility to low cost power, steel etc.
- **Attract foreign investment:** as it provides a great opportunity to overseas companies in countries where coal mining is either on the wane or has been stopped completely.

Recent efforts to bring Transparency in Coal Sector

- Transparent coal allocation policy for power sector, **SHAKTI**, issued in May 2017
- **Third-party sampling** procedure was put in place to address concerns of grade slippage and other quality issues for coal consumers
- **Inter-company safety audit of all 366 operative mines** of Coal India Limited has been completed
- In November 2017, "**Grahak Sadak Koyla Vitaran App**" was launched for the benefit of customers lifting coal via the road mode. As a step towards transparency, the app provides date-wise, truck-wise quantity of coal delivered against the sale orders.

Concerns

- **Regulatory concerns:** Significant proportion of India's coal resources lies under lands that require forest and environment clearances, thus, government needs to ensure that private coal miners adhere to these norms.
- **Poor track record of private sector captive miners:** The production levels have not been very encouraging as it accounts for only 6-10% of the overall domestic production.
- **Risk of domination by a handful of companies:** as coal sector is a capital intensive investment and according to industry estimates blocks of 40-50 million tonnes will be viable, only large companies may be able to invest.
- **Against global trends:** There is going to be continuous pressure internationally and from civil society to cut back on coal usage. Also, Coal India Ltd released the draft Coal Vision 2030 that suggested that the country does not need new mines.
- **Focus on clean energy:** Every country including India is focusing on renewable energy and if any breakthrough happens in cleaner energy technology, thermal will be left behind.
- **Other issues:** local protests against mining operations, issues of transport linkages and logistics, challenges in land acquisition, delays in approval etc.

Way Forward

- **Capacity building of state governments:** The state governments have to be proactive by improving ease of doing business and easing procedures for regulatory clearances.
- **Shifting aim of coal auction:** from revenue maximisation to improving the efficiency of India's energy economy. Thus, private and overseas companies with superior technology, proven mining experience and core competence should be chosen.
- **Easing clearance pressures:** Model of ultra-mega power projects where a shell company is created to acquire land and get environment clearance before handing over the project to private sector can be followed.
- **Better regulation:** by laying out standards for operational efficiency and miner's safety, guidelines for testing, sampling and certifying the quality of coal. Thus, an independent coal regulator may be established as envisaged in lapsed **Coal Regulatory Authority Bill, 2013**.

12.3. OIL AND GAS IN INDIA

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.

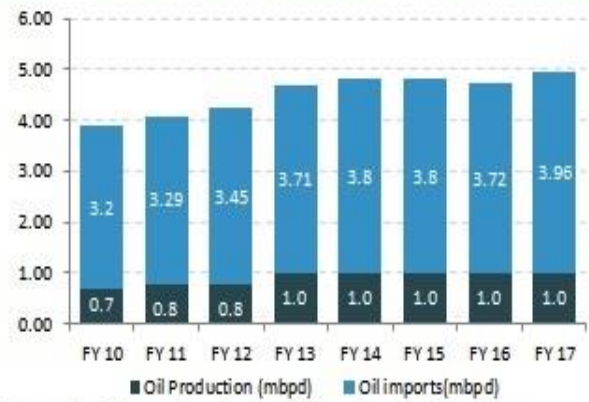
Oil and Gas supply chain:

- **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

Imports and domestic oil production (mbpd)



Notes: F - Forecast, mbpd - Million Barrels Per Day
Source: Ministry of Oil and Natural Gas, BMI forecasts

- According to 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.

12.3.1. OIL AND GAS EXPLORATION

Recently, Cabinet has delegated its power to approve award of block for exploration and production of oil and gas, to the Ministry of Finance and Ministry of Petroleum and Natural Gas

- The delegation of power is for open acreage licensing policy (OALP) bid rounds under the Hydrocarbon Exploration and Licensing Policy (HELP).
- Aforesaid ministries, will approve the award based on the recommendations of a panel of secretaries, called the **empowered committee of secretaries (ECS)**.

Significance of the move

- **Ease of doing business-** It will expedite the decision-making process on awarding blocks and give a boost to the initiative of ease of doing business.
- **Increase Domestic Production-** Simplifying the process may help the country to step up its domestic production and in realising the aims to reduce import dependency in oil and gas by 10% by 2022.

Policy category	Help	Pre-Help
TYPE OF HYDROCARBON	Covers all conventional and unconventional oil and gas	NELP covered only conventional oil and gas; Coal Bed Methane Policy covered coal bed methane
LICENSE	A single license for exploration and extraction of all types of oil and gas	Separate license required for conventional oil and gas, coal bed methane, shale oil and gas, and gas hydrates
REVENUE MODEL	Revenue-sharing model under which revenue will be shared with the government in the ratio submitted by bidders	Production-sharing model under which government received a share in the profits
COVERAGE	Open acreage policy under which exploration companies can apply to explore any block not under exploration	Exploration was restricted to blocks opened for bidding by the government
OIL AND GAS PRICING	Companies have the freedom to sell their production domestically without government intervention	Crude oil price was based on import parity; gas price was fixed by the government
ROYALTY	Concessional royalty for deep water (5 percent) and ultra-deep water (2 percent) areas, which are difficult to explore, and reduction of royalty in shallow waters (from 10 percent to 7.5 percent)	12.5 percent for the onshore areas and 10 percent for offshore areas; 10 percent for coal bed methane

- **Eliminating Bureaucratic hurdles**-The action would facilitate the timely allocation of energy resource by eliminating bureaucratic hurdles and thus in turn reduce **energy supply-demand gap**.
- **Employment opportunities**- The increased development activities for exploration and exploitation of CBM gas reserves in and around the block will generate economic activities which, in turn, has potential to create employment opportunities in energy operations and in the industries.

Hydrocarbons Exploration and Licensing Policy (HELP)

- Its **Objectives** are
 - To make India **business and investor friendly** by reducing regulatory restrictions.
 - **Double India's existing oil production** by 2022.
 - **Identification of areas** where exploration of different hydrocarbons can be made possible.
- Main **Features of the Policy** includes Uniform Licensing, Open Acreage Policy, easy to administer revenue Sharing, Marketing and Pricing Freedom, and marketing and pricing freedom for the crude oil and natural gas produced.

12.3.2. STRATEGIC OIL RESERVES

- India consumes about 3.8 million barrels of oil and oil products a day and has to import about 80% of that.
- The **International Energy Agency (IEA)** predicts that by 2020, India will be the largest oil importer, increasing its vulnerability to threats of physical supply disruptions and to large price fluctuations.
- Moreover, global standard for strategic oil reserves, as set by IEA and **Integrated Energy Policy 2006** of India recommended that country should maintain a reserve equivalent to 90 days of oil imports for strategic-cum-buffer stock purposes.
- Recently, Ministry of Petroleum and Natural Gas invited Saudi Arabia and Oman to participate in the Indian Strategic Petroleum Reserve Programme.
- Abu Dhabi National Oil Company (ADNOC) has signed an agreement to store about 6 million barrels of crude oil at India's maiden strategic oil reserve

About Strategic Oil Reserve

- It is a storage of crude oil which would act as a cushion during any external supply disruptions or supply-demand mismatch shock.
- The crude oil storages are constructed in **underground rock caverns** and are located on the East and West coast of India. They are considered to be more environment friendly and incur less evaporation loss than ground level storage
- Crude oil from these caverns can be supplied to the Indian Refineries either through pipelines or through a combination of pipelines and ships.
- Construction of storage facilities are maintained by **Indian Strategic Petroleum Reserves Limited** (a special purpose vehicle of the Oil Industry Development Board under Ministry of Petroleum and Natural Gas).
- Presently, strategic reserves are situated at Visakhapatnam (Andhra Pradesh), Mangalore (Karnataka), and Padur (Kerala).
- Moreover, project of three additional reserves is in pipeline -at Chandikhol (Orissa), Bikaner (Rajasthan) and Rajkot (Gujrat).

Conclusion

- Government should focus on making such storage facilities now as Gulf Countries are looking towards tapping the Indian oil demand due to low import demand from America owing to availability of shale gas at cheaper rate.
- Moreover, Oil Corporation of Gulf Countries have shown interest in storage-refining in India since it can reduce their transport costs into Southeast Asia.
- In future, Government may readily utilise this storage facility in the international markets as it can release inventory and book profits when prices climb, and recharge reservoirs when prices fall again.
- However, government should provide viable mechanism for the private players to exploit this segment, to complete reserves at fast pace.

12.3.3. EXPLORATION OF COAL BED METHANE (CBM)

- The Cabinet Committee on Economic Affairs chaired by the Prime Minister gave its approval for issuing a notification amending Oil Fields (Regulation and Development) Act, 1948 (ORD Act, 1948)
- Government had earlier issued a notification in 2015 granting rights to CIL and its subsidiaries for exploration and exploitation of CBM from all coal bearing areas for which they possess mining lease for coal. However, permission was required for Mining Lease (ML) for CBM by Ministry of Petroleum and Natural gas.
- Now with new amendment, requirement of permission has been done away with for CIL and its subsidiaries.

About Coal Bed Methane

- Coal Bed Methane (CBM) is an unconventional form of natural gas found in coal deposits or coal seams.
- It is formed during the process of coalification, the transformation of plant material into coal.
- It can be recovered from underground coal before, during, or after mining operations.
- It can also be extracted from “unminable” coal seams that are relatively deep, thin or of poor or inconsistent quality.
- It is a cleaner and more efficient fuel than coal or furnace oil
- In CBM, as opposed to conventional oil and gas, the production increases gradually till it hits its peak, and so it is best suited for small and medium enterprises (SMEs) who require smaller amounts of fuel.

Significance of the amendment

- It is in line with the Government’s initiatives of ‘Ease of Doing Business’.
- It will expedite the exploration and exploitation of CBM, enhance the availability of natural gas and reduce the gap in demand and supply of natural gas.
- Since most of CBM regions are in backward regions of the country, it can encourage development by providing employment.

12.3.4. LPG IMPORTS

India is set to surpass China as the biggest importer of liquefied petroleum gas (LPG). Reasons for rise in LPG import in India:

- Government’s drive to replace wood and animal dung fires for cooking with LPG. India aims to increase LPG usage to cover 80% of its households by March 2019, against 72.8% as on 1 April 2017
- Rising use in cars following increased tax on petrol/ diesel

However, India's average monthly imports in 2017 of about 1.7 million tonnes are well still behind China's 2.2 million tonnes, but it has jumped ahead of third-placed Japan on about 1 million tonnes. China, India and Japan together make up about 45 per cent of global LPG purchases.

LPG scenario in India

- **Demand scenario** - India’s consumption of LPG during the FY2017 was 21.55 million tonnes, registering a 9.8% growth from the previous year. Demand for the fuel may touch 35 million tonnes by 2031-32 due to increase in penetration of cooking gas connections in rural areas.
- **Supply scenario** - 11 million tonnes came from imports (51%). LPG imports will rise over the next three years to 16-17 million tones.
- India mainly imports LPG via term contracts from major Middle Eastern producers which have so far enjoyed a virtual supply monopoly.
- Recently India has signed a pact with Iran to import LPG. It is also importing LPG from USA and is in talks with Bangladesh for the same.

Other facts

Difference between LPG and LNG

	liquefied petroleum gas (LPG)/ Autogas	liquefied natural gas (LNG)
Components	Main: propane, butane, Other: propylene and butylene.	LNG is natural gas stored as a super-cooled (cryogenic) liquid. When compressed in high pressure tanks, it is known as CNG. Main: methane Other: hydrocarbons such as ethane and propane as well as other gases such as

		nitrogen, helium, carbon dioxide, sulphur compounds, and water vapour.
Production	It is produced as a by-product of natural gas processing and petroleum refining.	drawn from gas wells or in conjunction with crude oil production
Properties	<ul style="list-style-type: none"> • Unlike natural gas, LPG is heavier than air, and thus will flow along floors and tend to settle in low spots, such as basements. Such accumulations can cause explosion hazards. • Advantage: LPG has a higher calorific value - energy content - than natural gas. • LPG can be compressed into a liquid and stored or transported in a cylinder or larger vessel more easily. • Challenge with LPG is that it can vary widely in composition, leading to variable engine performance and cold starting performance. 	<ul style="list-style-type: none"> • Natural gas is lighter than air and thus will normally dissipate in the case of a leak. • The advantage of LNG is that it offers an energy density comparable to petrol and diesel fuels, extending range and reducing refuelling frequency. • The disadvantage is the high cost of cryogenic storage on vehicles and the major infrastructure requirement of LNG dispensing stations, production plants and transportation facilities.

12.4. RENEWABLE ENERGY

India is looking at using renewable energy to meet multiple objectives: energy security, energy efficiency, de-carbonization, and sustainability, among others. India’s fossil fuel requirements, which comprise nearly 90% of primary energy supply, are increasingly being met by imports. India is also committed to meeting its commitments stated in the Paris Agreement. Renewable energy is an element in achieving these objectives. The following actions are recommended for expanding the installation, generation and distribution of Renewable energy-

- At the institutional level, all 8 Renewable Energy Management Centres (REMCs) should be operationalized to activate grid planning between Central Power System Operation Corporation Limited (POSOCO) and / State Load Despatch Centre (SLDCs) to ensure smooth dispatch of renewable electricity.
- There is a need to develop storage solutions within next three years to help bring down prices through demand aggregation of both household and grid scale batteries.
- The central/state agencies should provide infrastructural, transmission and purchase support to developers to help achieve the renewable target of the country. Moreover, a friendly eco-system for integration of renewable electricity should be created by changing/improving the regulatory practices and better coordination, through state specific renewable action plans.
- A robust market for renewable power should be created through effective implementation of Renewable Purchase Obligations (RPOs) especially in the light of uniform targets having been announced. The renewable rich states may be encouraged to sell power to renewable poor states.

Now, let us look at some recent developments in the renewable sector.

12.4.1. SOLAR ENERGY

12.4.1.1. SUSTAINABLE ROOFTOP IMPLEMENTATION FOR SOLAR TRANSFIGURATION OF INDIA (SRISTI)

- To accelerate the deployment of rooftop solar power in the country, the Ministry of New and Renewable Energy (MNRE) recently prepared a concept note on ‘**Sustainable Rooftop Implementation for Solar Transfiguration of India (SRISTI)**’.
- Government has set a target of reaching 100 GW of solar power installed capacity in the country by 2022, of which 40 GW is targeted through solar rooftop.
- For promotion of solar rooftop, the Ministry is implementing **Grid Connected Rooftop Solar (RTS)** Power Programme. States/UTs have also taken conducive policy and regulatory measures.
- **Present status** - The programme was expected to support installation of 4,200 MW RTS plants in the country by year 2019-20.
- So far, 2047 MW capacity RTS plants have been sanctioned under the Programme and only about 845 MWp aggregate capacity plants has been installed.
- The **following major issues were identified for slow progress**
 - Multiple tenders by different agencies and subsequently considerable delay in tendering.

- Involvement of multiple stakeholder viz. SNAs (State Nodal Agencies), DisComs, PSUs, Developers etc.
- Reluctance of DisComs due to revenue loss; availability of net meter etc.
- Lack of mandatory notification (only 4 State have made mandatory)/lack of State policies and uniform regulation
- Degradation in quality of system due to cost cutting by bidders for L1 matching (matching the lowest price) and frequent bidding.
- **Details of concept note**
 - **DisComs as an implementing agency in Phase-II:** To address the above issues, and especially the fact that the consumer had to approach multiple agencies for getting a roof top installed on the roof top, the DISCOMS and its local offices will act as the nodal points for implementation of the programme.
 - **Performance based financial support to DisComs** to accelerate deployment of RTS plants within their distribution
 - Central Financial Assistance will be provided only for installation of roof top solar plants in residential sectors and there will be a cap on subsidy for residential as well as other sectors.
 - **Sector wise targets** - Commercial and industrial sector will set up 20,000 MW, the government, Residential, Social and the Institutional sector will set up 5,000 MW each.

12.4.1.2. KUSUM

- Kisan Urja Suraksha evam Utthaan Mahaabhiyan (KUSUM) scheme was announced in Budget 2018-19.
- It aims to incentivise farmers to run solar farm water pumps and use barren land for generating solar power to have extra income.
- The total cost of the capacities under this scheme would be Rs 1.4 lakh crore, out of which, the Centre will provide Rs 48,000 crore financial assistance.
- **Components of KUSUM**
 - **Utilisation of barren land** by farmers to generate **10,000 MW** of solar energy and sell it to grid. For this, discoms would be given 50 paise per unit as generation based incentives to buy power from farmers for five years.
 - The government will provide **subsidy** to farmers for buying **17.5 lakh off grid solar farm pumps**. The Centre and the states will provide 30% subsidy each on solar pumps. Another 30% will be met through loans while 10% of the cost will be borne by the farmer.
 - **Solarisation of grid-connected farm pumps** involving 7,250 MW capacity.
 - **Solarisation of government departments' grid connected water pumps.**

Expected Benefits

- It would help in **de-dieseling of the agriculture sector** which currently uses approximately 10 lakh diesel run pumps.
- Help the **financial health of DISCOMs** by **reducing the subsidy burden** to the agriculture sector.
- Promotion of **decentralised solar power production**
- Provide water security to farmers through provision of assured water sources through solar water pumps – both off-grid and grid connected
- To support States to meet the renewable purchase obligation targets
- To fill the void in solar power production in the intermediate range between roof tops and large parks
- Reduce transmission losses through off-grid systems.

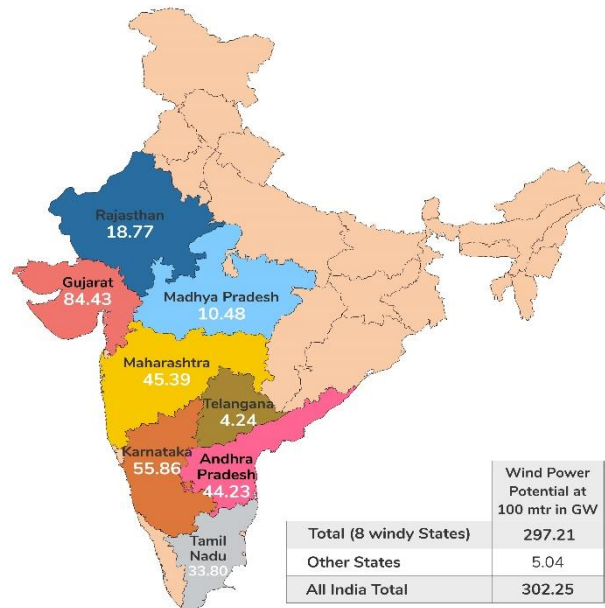
12.4.2. WIND ENERGY

12.4.2.1. GUIDELINES FOR PROCURING WIND POWER

- India has set an ambitious target of reaching 175 GW of installed capacity from renewable energy sources including 100 GW from solar and 60 GW from wind by the year 2022
- In the country's renewables mix, contribution of wind power is at 56.2% (32.3 GW), and solar power is at 21.8% (12.5 GW)
- India is at 4th position in term of wind power installed capacity after China, USA and Germany

- According to the **National Institute of Wind Energy**, India's installable wind energy potential is 302 GW with towers of a height of 100 metres
- **India's Integrated Energy Policy** projects 800 GW installed capacity in 2031-32 out of which 40 % (320 GW) will come from renewable energy
- Recently government has issued **Guidelines for procurement of wind power** under Section 63 of the **Electricity Act, 2003**
- Earlier, respective State's electricity regulatory commission used to fix the prices, at which wind energy companies would sell energy which used to be normally around 4-6 per unit.
- **Wind Energy under Concurrent List:** Several auction initiatives had failed in the past by state government, due to the absence of central guideline required under Section 63 of the Electricity Act, 2003.

Wind Power Potential in India at 100 meter above ground level (GW)



Highlights of the Guidelines

- These provide framework for procurement of wind power through a **transparent process of bidding** including standardisation of the process and defining of roles and responsibilities of various stakeholders
- These aim to enable the distribution licences to procure wind power at competitive rates in a cost effective manner
- Guidelines are applicable for procurement of wind power from
 - Grid connected wind power projects (WPP) of 5 MW and above at one site with minimum bid capacity of 25 MW for intra-state projects.
 - Individual size of 50 MW and above at one site with minimum bid capacity of 50 MW for inter-state projects.
- It has introduced a **payment security mechanism** that guarantees a partial compensation to wind power developers even if power is not transmitted to the grid.
- These provide for penalty to power developer if it fails to provide prescribed **Capacity Utilisation Factor (22% minimum)** agreed at the time of signing of the Power Purchase Agreement
- These regulations shall be applicable only for new projects

Government Steps to promote wind energy

- **National Offshore Wind Energy Policy**
- **Guidelines for Development of Onshore Wind Power Projects:** To facilitate development of wind projects in an efficient, cost-effective and environmentally benign manner.
- **Renewable purchase obligation** specified in the Electricity Act, 2003 has given fillip to the enhancement of wind-generator in India.
- **Green Energy Corridors Project:** Power evacuation and transmission infrastructure for renewables is being augmented as part of the "Green Energy Corridors" project.

Challenges

- **Land Availability:** The prices of ideal sites for projects have increased after a push for renewable energy.
- **Poor transmission and unavailability of grid** for power transmission have impacted the growth of wind energy sector.
- **Lack of finance capacity:** According to a study by Indian Renewable Energy Development Agency, India needs around INR 17.5 trillion (US \$264 billion approximately), in financing to achieve its target of 160 gigawatts of solar and wind energy by 2022. This could be solved by tapping green financing mechanism present in market like Green Bond etc.
- **Non-payment to developer** due to poor financial health of public electricity distribution utilities.

Significance of the Guidelines

- **Boost to the wind power** sector as windy states would be allowed to go for the bidding process for procurement of wind power themselves
- **Low cost of energy:** It would provide mechanism to procure electricity at much cheaper rate e.g: In recent bidding done in Gujarat, prices fell to a new low of INR 2.43 per unit.
- Respite to wind developers, who have suffered revenue losses due to unavailability of grid and payment delays from distribution companies.

12.4.2.2. OFF-SHORE WIND POWER

Why in news?

- The Ministry of New & Renewable Energy (MNRE) recently invited Expressions of Interest (Eoi) for the country's first 1 GW offshore wind project in Gulf of Khambat.

Advantages of offshore wind power over the onshore wind power

- **Greater area available for setting up large projects:**

one of the primary reasons for moving towards off-shore projects is the lack of suitable wind turbine sites on land.

- **Higher wind speed:** Therefore, the offshore wind power's electricity generation is higher per amount of capacity installed.
- **Consistent wind speed:** the effective use of wind turbine generating capacity will be higher at sea than on land.
- **Less visual impact:** As these sites are located far from land they have less visual impact which helps with public acceptance issues.
- **Close to load centres:** The off-shore wind farms are usually located near to the cities and load centres thus transmission losses are minimised.
- **Environmental impact:** low global warming potential per unit of electricity generated, comparable to that of onshore wind farms.

Related information

- **Offshore wind power** is the use of wind farms constructed in bodies of water, usually in the ocean on the continental shelf, to harvest wind energy to generate electricity.
- Globally there has been installation of about 17 to 18 GW of off-shore wind power led by countries such as UK, Germany, Denmark, Netherlands & China.
- In India, there is yet no commercial production of energy from off-shore wind farm. Two regions where preliminary studies are conducted are off coast of Gujarat and Tamil Nadu which have shown significant potential.
- MNRE has declared medium and long-term target for off-shore wind power capacity additions, which are 5 GW by 2022 and 30 GW by 2030.
- **For onshore wind power**, the generation capacity in India has significantly increased in recent years. Currently the total installed wind power capacity is 34.04 GW, the fourth largest installed wind power capacity in the world.

“National Offshore Wind Energy Policy –2015”

- National Institute of Wind Energy (NIWE) has been authorized as the Nodal Agency for development of offshore wind energy.

Objectives

- To Explore and Promote Deployment of Offshore Wind Farms in the Exclusive Economic Zone (EEZ) of the country, including those under Public Private Partnership.
- To Promote Investment in Energy Infrastructure.
- To Achieve Energy Security and Reduce Carbon Emissions
- To Promote Research and Development and encourage Indigenization of the Offshore Wind Energy Technology.
- To Create Skilled Manpower and Employment in the offshore wind energy sector.
- To develop coastal infrastructure and supply chain to support heavy construction & fabrication work and the Operation & Maintenance activities.

Challenges

- **Cost:** Costs for foundations, installation, electrical connections and operation and maintenance (O&M) are a large share of the total for offshore installations compared to onshore wind farms.
 - Sustained high-speed wind, high humidity and salt water make every aspect of installation and operation much more difficult, time-consuming, more dangerous and far more expensive than sites on land.
 - The offshore wind industry is not yet fully industrialized, so cost of per unit energy is not economical.
- **Data:** the data required for the calculation of off- shore wind potential and identification of suitable sites is not adequately available. The data can be divided into 2 parts:
 - **Wind resource map:** consists of the wind speed and wind density at certain levels above the sea.

- **Bathymetric data:** gives the information about the sea depth at various positions. At present there is no such data available for the Indian sub-continent.
- **Environmental impact:** physical presence of offshore wind farms and underwater noise associated with the turbines may alter the behavior of marine mammals, fish, and seabirds with attraction or avoidance.

Way forward

- India has more than 7600 Kilometres of coast and associated Exclusive Economic Zone, hence the prospects of development of offshore wind power are very bright.
- The Wind resource map and bathymetric map should be prepared along the coast to adequately map the potential of offshore wind power. Research and development should be done to deal with other concerns specially the environmental concerns.
- Government should provide adequate support to realise the potential as per the “**National Offshore Wind Energy Policy –2015**”.
- The government should take the **feed-in-tariff (FIT) route** to support off-shore wind power (FIT enables anyone who generates electricity from renewable energy source – be it a home owner, small business or a large electricity utility - to sell it to the grid and receive guaranteed long-term payments at a predetermined rate for energy transferred.)

12.4.2.3. NATIONAL WIND-SOLAR HYBRID POLICY

Why in news?

Recently, the Ministry of New and Renewable Energy has finalised the National wind-solar hybrid energy policy.

Need for the policy

- **Benefit of common critical infrastructure** such as land and evacuation network which accounts for about 10-12% of overall project cost in both wind or solar project.
- **Reduced variability in generation:** The variability in generation profile is likely to be reduced to some extent, as generation from both the sources is at different intervals and in complimentary seasons. This would partially address the concerns of distribution utilities over the **grid stability** arising due to the intermittent nature of wind or solar generation.
- **Increase in generation efficiency:** Industry experts believe with the same evacuation infrastructure — transmission lines and substations — developers can set up additional wind and solar sites at the same locations, increasing the generation efficiency with the average plant load factor (PLF) rising to 40% from 22%.
- **Achieve target** of 175 gigawatt (GW) of installed capacity from renewable energy sources by 2022, which includes 100 GW of solar and 60 GW of wind power capacity.

Key features of the policy

- **Objective:**
 - To provide a framework for promotion of large grid connected wind-solar photo-voltaic (PV) hybrid system or efficient utilization of transmission infrastructure and land.
 - To reduce the variability in renewable power generation and achieving better grid stability.
- It seeks to **promote new hybrid projects** as well as hybridisation of **existing** wind/solar projects.
- **On technology front:** It provides for integration of both the energy sources i.e. wind and solar at AC as well as DC level.
- **Procurement of power from a hybrid project** on tariff based transparent bidding process for which Government entities may invite bids.
- **Storage:** It also permits use of battery storage in the hybrid project for optimising the output and further reduce the variability.
- **Regulation:** It mandates the regulatory authorities to formulate necessary standards and regulations for wind-solar hybrid systems.
- For new hybrid wind-solar projects, the policy proposes to provide the developer with the option of **using the hybrid power for captive use**, third party sale or sale to state electricity distribution utilities.

- The Policy also provides for **flexibility in share of wind and solar components** in hybrid project, subject to the condition that, rated power capacity of one resource be at least 25% of the rated power capacity of other resource for it to be recognised hybrid project.
- All **fiscal and financial incentives** available to wind and solar power projects will also be made available to hybrid projects.
- Government support will be provided for **development of standards for hybrid systems**.
- Policy also aims to encourage new technologies, methods and way outs involving combined operation of wind and solar PV plants.

12.4.3. OTHER ALTERNATE ENERGY SOURCES

12.4.3.1. METHANOL ECONOMY

- Recently, government has stressed the need to adopt “**Methanol**” as an **alternate to fossil fuel** and bedrock for **energy security**.
- Country’s 90% of demand of methanol is met by the import due to **lack of domestic production unit** and availability of cheaper methanol in international market.
- India imports 99% of its methanol from Iran and Saudi Arabia where methanol is produced from easy and cheaply available natural gas.
- China is the leading producer of Methanol in the world.
- India has the 5th largest coal reserves (feedstock of methanol) which can be utilised for methanol and DME (Dimethyl ether) production.

About Methanol

- It is known as wood alcohol, it is colourless, obtained both naturally and artificially, biodegradable, flammable, poisonous, and renewable source of energy.
- It is a single carbon compound made from the destructive distillation of wood and also produced from coal, natural gas, biomass (i.e. products which are capable of producing syngas),
- **Use:** in organic synthesis, as a fuel, solvent, and antifreeze.
- Certified as fuel by Bureau of India Standards 2016.
- The gaseous version of Methanol – DME (Dimethyl ether) can be blended with LPG.

Need of Methanol

- **Huge fossil consumption:** India is the 6th highest consumer of fossil fuel and would become 3rd largest consumer by 2030. Adoption of methanol will minimise fossil consumption e.g. Methanol will reduce 20% diesel consumption by next 5-7 years.
- **Reducing import Bill** of crude oil and other petroleum products to the tune of over 5000 Crores annually in next 3 years.
- **Environment:** Fossil fuels increase GHG Emissions. Methanol on the other hand produces no particulate matter, no soot, almost nil SO_x and NO_x emissions.

Government Initiatives

- Efforts have been initiated towards Policy which calls for **15% blending of methanol in petrol**.
- Coal India Limited (CIL) has unveiled its plan to set up a **coal based methanol plant in West Bengal**.
- India has successfully converted a two wheeler engine, a Genset, power weeder (agriculture equipment) and is in process of converting many internal combustion engines to Methanol, including railways and marine.

NITI Aayog Road Map for Methanol Economy

- **Methanol Economy Fund-** has been created with a corpus of **4,000-5,000 crore** to promote production and use of the clean fuel.
- **Indigenous Technology-** Production of methanol from Indian high ash coal from indigenous Technology, in large quantities and adopting regional production strategies would be promoted.
- **Waste-to-Energy:** Promoting use of agricultural stubble, Stranded Gas & Municipal Solid Waste etc. for methanol production can give almost 40% of methanol production. It will also complement **Swachh Bharat Mission**.
- **Increasing the use in Transportation:** Methanol economy concept can be capitalised by automobile companies under Make in India initiative. This will result in greater FDI flow and increase in Employment.
- **Methanol for Clean Cooking Fuel goal:** in order to ease out the import burden of LPG due to programme such as Pradhan Mantri Ujjwala Yojana (PMUY), methanol or DME blending with LPG or complete adoption of methanol as cooking fuel is visualised by NITI Aayog.

- **Other Uses** – such as methanol as fuel in Industrial Boilers, telecom tower Gensets, producing various chemicals like formaldehyde and acetic acid.

Way-forward

- **Huge investment in infrastructure**– as methanol as a fuel is corrosive to some metals, including aluminium.
- **Gradual Adoption of Methanol- First** it is imperative to have a sufficient amount of methanol production and its supply to industries. **Second**, once a threshold level of confidence is reached, there should be simultaneous development of flexi-fuel vehicles which would be able to run on methanol/DME fuel blends.
- **Outsource the** manufacturing facilities for methanol/DME in Iran or Qatar as both these countries having huge reserves of natural gas can provide the same at very low prices.
- **Integrated Energy Production:** Government must set up a mega coal based complex for production of power, methanol and fertilizer in an integrated manner which would significantly reduce the cost of various commodities produced.

12.4.3.2. GOBARDHAN YOJANA

- The Gobardhan (**Galvanising Organic Bio-Agro Resources Dhan**) Yojana, announced in the Budget 2018-19, has been launched by the Haryana Government.
- It would be implemented under Swachh Bharat Mission-Gramin with twin objectives - To make villages clean and generate wealth and energy from cattle and other waste.
- It would focus on managing and converting cattle dung and solid waste in farms to compost, biogas and bio-CNG.
- An online trading platform will also be created to connect farmers to buyers so that they can get the right price for cow dung and agricultural waste.
- The challenge is to incentivise farmers to think of their cattle waste as a source of income and, in the process, also keep their communities 'swachh'.

The Need

- The 19th Livestock Census (2012) estimates India's cattle population at 300 million (highest in the world), putting the production of dung at about 3 million tonnes per day.
- According to a 2014 ILO study, the productive use of dung could support 1.5 million jobs nationally. For the farmer, there is a significant potential of greater income from the sale of cow dung.
- The ILO study also reports that the value of one kg of cow dung multiplies over 10 times, depending on whether the end product is fresh dung (sale price of INR 0.13) or as input for a one megawatt biogas plant along with compost output (INR 1.6)

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13. TELECOMMUNICATIONS

- An Indian Council for Research on International Economic Relations (ICRIER) study pointed out that a **10% increase in the rate of growth of broadband subscribers will result in a 2.4% increase in the GDP rate in India.**
- According to Annual Report 2016-17 of the Department of Telecommunications, the mobile industry in India currently contributes 6.5 per cent to the country's GDP, and employs over four million people directly and indirectly
- Indian telecom sector is **the second largest in the world by number of telephone subscribers** (1.2 billion subscribers) and by **internet subscriber base** (340 million internet subscribers) as on 31.10.2017
- Tele-density (defined as the number of telephone connections for every 100 individuals) in India, increased from 17.9 in FY07 to 93.88 in FY18
- India also has one of the lowest tariffs for telecommunication services in the world
- During the first quarter of 2018, India became the world's fastest-growing market for mobile applications
- Deregulation of Foreign Direct Investment (FDI) norms (100% FDI allowed) has made the sector one of the fastest growing and a top five employment opportunity generator in the country
- India will emerge as a leading player in the virtual world by having 700 million internet users of the 4.7 billion global users by 2025, as per **a Microsoft report**
- According to the Ericsson Mobility Report India, smartphone subscriptions in India is expected to increase four-fold to 810 million users by 2021, while the total smartphone traffic is expected to grow seventeen-fold to 4.2 Exabytes (EB) per month by 2021
- Presently, telecom sector is governed by National Telecom Policy, 2012. In May 2018, the government has put the draft National Telecom Policy 2018 (referred to as National Digital Communications Policy (NDCP), 2018) in public domain for consultation.

Importance of telecom sector

- Doubling of data use leads to an increase in GDP per capita growth rate of 0.5 percentage points (Deloitte 2017).
- 10 per cent increase in penetration of increases total factor productivity in the long run by 4.2 percentage points.
- Telecom is the second highest revenue earner for government after income tax.
- It is a top five employment opportunity generator in the country.
- In underbanked India, mobile banking can be a boost for financial inclusion
- Telecom services become the first line of defence in any natural disaster or emergency scenario.

Administrative/regulatory bodies concerning Telecom Sector:

- Ministry for Communications (MoC)
- Department of Telecommunications (DoT)
- Telecom Commission
- Telecom Regulatory Authority of India (TRAI)
- Telecom Dispute Settlement & Appellate Tribunal (TDSAT)
- Communications Commission of India (CCI)
- Department of Electronics and Information Technology (DeitY)

13.1. POLICIES GOVERNING THE TELECOM SECTOR

- To provide for world-class telecommunications infrastructure for rapid socio-economic growth of the country, the Government has been announcing its telecom policy statements on a regular interval since the liberalization of early 1990s
- There had been four National Telecom Policy statements viz. in 1994, 1999, 2004 and 2012. Draft of NDPC 2018 was put up for public consultation in May 2018.

Key features of National Telecom Policy, 2012

- **Licensing:** It aims to simplify licensing framework by establishing a unified license for all telecom services, converting to a single-license system for the entire country and removing roaming charges.
- **Spectrum:** It seeks to liberalise spectrum through a system where spectrum can be pooled, shared and traded.
- **Connectivity:** The policy aims to increase rural tele-density from the current level of approximately 39% to 70% by 2017, and 100% by 2020, enabling broadband access to all village panchayats by 2014 and to all villages by 2020 and recognising the 'Right to Broadband'.
- **Promotion of domestic industry:** through preference in procurements that have security implications for India or are for the government's own use.
- **Legislations:** The policy seeks to review the Indian Telegraph Act, 1885 as well as TRAI Act to remove impediments to effective functioning of TRAI.

Need for new Telecom Policy in 2018

- To restructure regulatory and licensing frameworks, to account for the transformations in the Telecom sector since the NTP 2012
- To leverage the convergence of voice, video and data services, especially to spur the socioeconomic development up to the bottom of the pyramid
- To account for the Industrial Revolution 4.0 build around the IoT, M2M and AI bringing together digital, biological and physical technologies in powerful combinations
- To provide reliable and secured data connectivity for all with assured quality of service
- To facilitate development of infrastructure and services for new technologies including 5G and IoT
- To encourage innovation and manufacturing
- To develop a large pool of digitally skilled man-power

National Telecom Policy 2018, also referred to as National Digital Communications Policy (NDCP), 2018

- The policy would set the mission and objectives to be accomplished by the end of calendar year 2022, when India will be celebrating its 75 years of independence
- The policy has envisaged attracting investments worth US\$ 100 billion in the sector by 2022
- The National Communications Policy aims to accomplish the following Strategic Objectives by 2022:
 - Provisioning of Broadband for All
 - Creating 4 Million additional jobs in the Digital Communications sector
 - Enhancing the contribution of the Digital Communications sector to 8% of India's GDP from ~ 6% in 2017
 - Propelling India to the Top 50 Nations in the ICT Development Index of ITU from 134 in 2017
 - Enhancing India's contribution to Global Value Chains
 - Ensuring Digital Sovereignty
- In pursuit of accomplishing these objectives by year 2022, the National Digital Communications Policy, 2018 envisages three Missions –
 - **Connect India** – Creating a Robust Digital Communication Infrastructure
 - **Propel India** – Enabling Next Generation Technologies and Services through Investments, Innovation, Indigenous Manufacturing and IPR Generation
 - **Secure India** – Ensuring Digital Sovereignty, Safety and Security of Digital Communications

13.2. CHALLENGES OF THE TELECOM SECTOR

One of the major issues faced by this sector is **declining profitability** which is further exacerbating the twin balance sheet (TBS) problem. Profitability is being affected by following issues:

- **Low revenues** - Dramatic reduction of prices & coming down of average revenue per user by 22% due to new entrant.
- **High Debt** - Unsustainable spectrum prices and low revenue is also leading to high debt. According to industry sources, telecom companies together carry a debt of approximately Rs 5 lakh crore.
- **High levies** - Government levy on the sector is in the 30 per cent-plus range of international standard. Other South Asian countries such as Pakistan, Bangladesh and Sri Lanka levy in the range of 20s.
- **Expensive spectrum** - The price of spectrum in India is among the highest in the world but telecom firms have to buy it to remain relevant and competitive in the business
- **Competition from over-the-top operators** such as WhatsApp as they don't have to pay taxes or levies to the government.
- **Restrictive government policies** – for example cross-holding norms prevent a telecom company from owning separate stakes in other operators during mergers and acquisition such as RJio or Airtel cannot acquire a stake in Tata Teleservices or Airtel; they can only buy-out 100 per cent of the company so as to create a merged entity.
- **Quality of telecom services** – is disappointing due to issues like call drop etc.
- **Differential pricing for data services** – Although TRAI promotes net neutrality, there are no laws enforcing it.

Interconnected Usage Charges (IUC)

- These charges are paid by a telecom services provider whose subscriber makes a call to the service provider whose subscriber receives the call.
- It allows subscribers of one network to seamlessly communicate with those of another network
- It is decided by TRAI & is the main source of income to the telecom companies.

- Recent reduction in **Interconnected Usages Charges (IUC)** by TRAI has been described by various operators as a huge loss of revenue
- **Consolidation of operators** – this will better the financial and operational efficiencies of the telecom firms, but it is hindered by a few government norms and also by the constrained balance sheets of telecom firms.

These issues have impacted the sector in the following manner:

- Many government programs like Digital India and Smart-cities are dependent on the sector and its sound financial health.
- The rising debt and reducing revenues acts as a disincentive for deployment of new technologies such as **VoLTE (Voice over Long-Term Evolution)**, Internet of Things etc.
- There may be a loss of up to 30,000 jobs in the sector due to business consolidation and cost-cutting.

13.3. ADDRESSING THE CHALLENGES

Various Steps taken by government to address the challenges include:

- **Reforms in spectrum management** through the processes like spectrum sharing, spectrum trading, spectrum harmonization as well as spectrum auction.
- **Bharat Net project** - For deeper digital penetration in rural areas, this project aims to link each of 2.5 lakh Gram Panchayats of India through Broadband optical fibre network.
- **Planning to auction 5G spectrum** to promote initiatives like Internet of Things (IoT), instant high definition video transfer etc.
- **Phased manufacturing programme (PMP)** – It is aimed at adding more smartphone components under the Make in India initiative and giving a push to the domestic manufacturing of mobile handsets
- **Other government programs:** DigiGaon, North-east mobile networks, revised Network for Spectrum (NFS) project
- **Relief package approved by the Union Cabinet in May 2018** – relaxing spectrum holding caps and extending the payment tenures for auctioned airwaves by four years, thus easing the debt burden and giving boost to mergers and acquisitions

Other steps that can be taken

- **Pay off debt** by telecom through the sale of its tower business, sale of fibre, monetising its real estate etc.
- **Innovation** – and investment in future technologies to build sustainable new revenue streams
- **Accepting TRAI recommendations** - such as reducing SUC (spectrum usage charges) fees to 1%, reducing licence fee payment to 3% and adopting revised definition of adjusted gross revenue.
- **Rethinking of floor price** by government while auctioning to ensure that strong players are able to absorb weaker ones without destruction of value and assets created.
- **Expediting the implementation of BharatNet** by engaging private partnership through the PPP model as suggested by Niti Aayog.

Internet economy expected to touch Rs 10 trillion (US\$ 155 billion) by 2018, contributing around 5 per cent to the country's GDP. With the government's favourable regulation policies and 4G services hitting the market, the Indian telecommunication sector is expected to witness fast growth in the next few years. The Government of India also plans to auction the 5G spectrum in bands like 3,300 MHz and 3,400 MHz to promote initiatives like Internet of Things (IoT), machine-to-machine communications, instant high definition video transfer as well as its Smart Cities initiative. The Indian mobile phone industry expects that the Government of India's boost to production of battery chargers will result in setting up of 365 factories, thereby generating 800,000 jobs by 2025.

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