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IAS SELF STUDY GUIDE

NOTE: Please remember that following '*answers*' are *NOT* '*model answers*'. They are NOT synopsis too if we go by definition of the term. What we are providing is content that both meets demand of the question and at the same time gives you extra points in the form of background information.

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General Studies Paper - III

Topic: Indian Economy; Economic growth and development; Mobilization of resources; Employment

Q1) Increasing the household savings rate and nudging savers to park their surpluses in financial assets have always been high on the agenda of Indian Finance Ministers however with little success. Suggest ideas to encourage citizens to park their money in financial assets. (250 Words)

[The Hindu](#)

Background:-

- In India, both investment and consumption are largely driven by households. Household consumption accounted for 59.4% of the GDP in 2016, according to the World Bank.
- Total savings, which are vital for investment, amounted to 32.5% of the GDP, of which household savings alone contributed 23.6% to the GDP, according to NITI Aayog

Why people do not show much interest in financial assets:-

- Indian savers prefer to **bet their surpluses on physical assets** such as gold or property, instead of in productive financial assets such as deposits, bonds and shares.
- **Tax laws encourage leveraged investments in property by allowing tax deductions on both the principal (Section 80C) and interest repayments (Section 24B) on home loans.** But when it comes to **financial investments**, many popular avenues (bank and post office deposits less than five years, recurring deposits, bonds) **receive no tax breaks** even on the actual investment.
- **Property investments also enjoy more generous capital gains exemptions** than financial products. Capital gains earned on selling residential property after three years is not taxed if you reinvest the proceeds in another house. But this reinvestment benefit is unavailable to financial products.
- **Capital gains tax rules for financial products are complex**
- **Flexibility to choose the tax saving instruments is restricted.** There's a restrictive list of 'approved' 80C investments that has grown over the years and it distorts choices for savers.
- **Present tax laws ignore individual risk-taking ability**, and try too hard to push investors towards equities.
- Tax procedures are very complicated
- If a **company goes bankrupt**, its shares are worthless and any debt it owes may be unrecoverable. **The rising volume of non-performing assets** indicates that corporate India is struggling to service debt obligations, which means corporate debt is high-risk

Ideas to encourage citizens are:-

- Instead of micromanaging savings under 80C, it would be good if the government did away with the approved list and offered just one deduction for financial investments. **That would allow savers freedom of choice based on individual goals.**
- Increasing financial literacy of people is the first and foremost thing which is necessary
- Treat equity gains as 'long term' only after three years.
- Fraudulent companies shall be dealt with appropriately to develop popular trust.
- In order to promote stock market knowledge among the retail investors, **there is a need for promotional activities** like TV shows, AD campaigns, documentaries providing information about scheme such as Rajiv Gandhi Equity Savings Schemes (RGESS) wherein new investors can be attracted towards the capital market.
- To establish a level playing field between physical and financial assets, **sale proceeds from financial assets, if held long term, should be allowed to be reinvested without capital gains tax.**
- A **uniform definition of 'long-term' and cost inflation benefits** for all financial products, whether they are bonds or bank deposits, would render them more attractive.
- **It would be desirable to tax both dividend and interest income at similar rates in the hands of investors.**
- Holding of trade fairs for promoting capital markets in tier II & tier III cities is required. This is another method wherein most of the banks, Non-Banking Financial Corporations (NBFC) and broking companies can put up their stalls and large number of investors can be attracted for such fairs through media campaigns.
- The social media platforms specially Face Book, Twitter, LinkedIn along with e-groups and websites can spread awareness about various options available for the investors in the present market situation. **The investor education can play a vital role** in improving the active participation of the investors in the market which can help them in the informed investment and in getting good returns.

Conclusion:-

These measures above will not just nudge savings behaviour closer to the policy objectives. They will also make financial products vastly more appealing to savers, by uncomplicating the tax rules that presently hamper their freedom of choice

Q2) Discuss the potential and prospects of tourism industry to revive the Indian economic growth and employment. (250 Words)

[Livemint](#)

Background:-

- Despite its rich and varied history, India has not been able to tap this industry effectively due to myriad of problems like general cleanliness, functional and tidy budget accommodation, food hygiene and safety of women remain major challenges.

Potential and prospects :-

- **Generating Income and Employment:**
 - Tourism in India has emerged as an instrument of income and employment generation, poverty alleviation and sustainable human development. **It contributes 6.23% to the national GDP and 8.78% of the total employment in India.** Almost 20 million people are now working in the India's tourism industry.
- **Source of Foreign Exchange Earnings:**
 - Tourism is an important source of foreign exchange earnings in India. This has favourable impact on the balance of payment of the country. The tourism industry in India generated about US\$100 billion in 2008 and that is expected to increase to US\$275.5 billion by 2018 at a 9.4% annual growth rate.
- The sector also has the potential to **create micro-entrepreneurs** who in turn can employ more people. **The multiplier effect it delivers is high.**
- In fact, tourism helped Spain which receives over 68 million international tourists annually fight its recent economic downturn.
- According to the World Tourism Organisation, **the sector provides for 10 per cent of the world's GDP**, 7 per cent of the global trade and creates one in every 11 jobs worldwide.
- **Travel and tourism sector in India has the potential to grow much faster and support 46 million jobs by 2025**, provided the right investments and policies continue to be implemented
- The plans to develop 10 tourist destinations to attract more people to the country and enhance amenities under **the Amrut programme**, is a testimony to the intent being in the right direction.
- **Even the allocation of Rs 1,48,528 crore to bring state-of-the-art facilities such as WiFi and CCTVs for the Indian Railways is a welcome move. This policy will not only help boost domestic tourism in the country, but also positively impact the hotel and aviation sector thereby increasing employment and the sectors' contribution to GDP.**
- **Rural areas:-**
 - Tourism in a place will put **the local culture, handicraft sector in the limelight and increase the standard of living of these people.**
 - It can help **develop rural areas which are tourist spots** providing better facilities there itself and can lead to less migration which will further reduce pressure on cities.
- It will have contribution to the generation of national income, expansion of employment opportunities, rising of tax revenue, generation of foreign exchange .and transformation of regional economy.
- **Indian Tourism offers a potpourri of different cultures, traditions, festivals, and places of interest. There are a lot of options for the tourists. India is a country with rich cultural and traditional diversity.** This aspect is even reflected in its tourism. The different parts of the country offer wide variety of interesting places to visit.
- **Direct benefits include economic support for hotels, retail shops, transportation services, entertainment venues and attractions, while indirect benefits include government spending on related infrastructure, plus the domestic spending of Indians employed in the tourism sector.**

Way forward:-

- Government needs to give importance to the World Economic Forum's Travel and Tourism Competitiveness Report.
- **The tourism and travel sector has huge potential to grow if the country further opens up the civil aviation sector**, improves civic governance, enhances communication strategy and focuses on consistency of policies, capacity building and community participation.
- **Take advantage of 600,000 villages**, each with their own cultures and heritage; eco-tourism; and cruise tourism to create unique experiences for travellers.

- **Integrate the “Incredible India” campaign into a more holistic campaign** that includes not only print but also other channels such as digital, social, placement, review sites, and global media and that focuses on the positives of visitor-created content, while also addressing the challenges these visitors report.
- **Enhance the perception and reality of India as a safe destination by designing and implementing enhanced security protocols.**
- **Invest in the development of both physical and digital infrastructure in order to confront the issue of last-mile connectivity.** Hazardous road travel and a lack of affordable hotels hamper international travellers’ experience, while high taxes hinder the industry’s profitability.
- Take advantage of the labour force available in India in order to improve tourists’ experiences by **training skilled and unskilled workers in the hospitality industry, through both public and private programmes.**
- While there are more than 50 active tourism boards from foreign countries represented in India, **India doesn’t have a tourism board itself which is necessary** to unify today’s fragmented travel and tourism industry.
 - This board could support enhanced industry coordination, joint messaging, building Indian talent, driving forward industry-wide policy recommendations and enacting change through policies as well as public-private policy initiatives and SME growth

Conclusion:-

- The future of both India and especially its travel and tourism industry is bright if it continues to focus on its opportunities and address its current limitations.

Q3) What is capital gains tax? What is the rationale behind Centre’s decision to bring back the long-term capital gains tax (LTCG) on equities, which was scrapped in 2004-05? Discuss its implications. (250 Words)

The Hindu

Background:-

- **In the recent budget, the government announced** the imposition of 10% tax on gains of over ₹1 lakh made on any form of investment in listed equities and mutual funds with a holding period of over one year.

What is a Capital Gain?

- Any profit or gain that arises from the sale of a ‘capital asset’ is a capital gain. This gain or profit is charged to tax in the year in which the transfer of the capital asset takes place.
- Capital gains are not applicable when an asset is inherited because there is no sale, only a transfer. However, if this asset is sold by the person who inherits it, capital gains tax will be applicable. The Income Tax Act has specifically exempted assets received as gifts by way of an inheritance or will.
- Short-term capital asset – An asset which is held for not more than 36 months or less is a short-term capital asset.
- Long-term capital asset – An asset that is held for more than 36 months is a long-term capital asset .From FY 2017-18 onwards – The criteria of 36 months has been reduced to 24 months in the case of immovable property being land, building, and house property.

Rationale behind the government’s initiative and benefits:-

- The Centre has justified the new tax arguing that it helps **avoid the erosion of its tax base and levels the playing field between financial assets and investment in manufacturing.**
- **Tax revenues for the government from share market has remained marginal due to the exemption.** The government was losing an estimated ₹49,000 crore in taxes from LTCG exemption
- **Several cases of misuse of LTCG have been reported in the last few years where investors used listed firms for legalizing illicit wealth. This can be tackled now.**
- It can bring parity between excessive speculation and investment, the government believes
- Foreign portfolio investors pay no tax even on short-term gains under the terms of the tax avoidance treaty that India has with Singapore and Mauritius. So, about 60 per cent of equity trades have zero tax. This will not be the case from now on
- Investors can now exercise greater freedom when it comes to redeeming their equity investments. **As the difference between LTCG and STCG is 5%, investors who had wait for an entire year just to avail of the tax benefits, even if they wanted to book profits earlier, won’t have to stay invested.** On several occasions, waiting for an entire year has proved to be costly for investors.
- Investment decisions will now be based on the market situation and not based on tax concerns.
- Until now, tax benefits were skewed in favour of listed equities but after the announcement, there would be a more level-playing field between listed shares and the other asset classes including real-estate, bonds and gold

Implications:-

- The **impact of the tax will be quite huge as FIIs and DIIs** might prefer other attractive destinations to park their money and get better returns as tax compliance stands to increase their operational costs
- The flip side of such move is the **government will have to collect LTCG tax in a manner similar to the income tax** since it can't forecast the timing and profit/loss arising from sale and purchase of securities by an individual.
- **The taxpayer will have to calculate and pay tax and declare it in tax returns. This will require more groundwork for taxmen to assess the returns** and revenue arising from the LTCG tax.
- Another aspect of LTCG tax collection is **any loss arising out of sale/purchase of securities can be set off against their gains, thereby reducing the net gains on which tax will be calculated.**
- Though the **grandfathering clause provides** some relief, it has also made things difficult.
 - The highly technical construct of the amendment seeking to grandfather the appreciation in the value of the stocks and mutual fund units up to 31 Jan 2018, has made things complex for investors and fund managers
- The **stock market volatility** may also go up now because the LTCG tax will result in a **behavioural change among investors.**
 - Since the difference between the STCG and LTCG is only 5% now, few investors may wait for a year to sell. Resultantly, the stock market volatility will increase due to increased short-term activity
- Will hit the average middle class investor. The sharp fall in both the Nifty and the Sensex after Budget day has been linked to the new tax.
- **Short term trading :-**
 - **The smaller differential between short and long-term capital gains tax itself will discourage the long-term holding of stocks in favour of short-term trading activity.** It is also likely to discourage to some extent the growing culture of investing in equities for the long run.
- **The double whammy of the STT and LTCG will further privilege short-term trading in stocks over long-term investment.** Being the only country in the world to impose both the STT and LTCG, **India is also likely to become a little less attractive to foreign investors when compared to its peers.**
- For domestic investors, tax advantage in equity market investments over other asset classes would diminish

Way forward:-

- Despite the constraints, the government would do well to at least soften the negative impact of the new tax by allowing indexation (allowing a set-off based on inflation rate) of capital gains and removing the STT on equity investments.

Q4) On what basis is the World Bank's Ease of Doing Business global rankings prepared? Why India has dismal ranking in one of the components of Ease of Doing Business index i.e. "enforcing contracts"? Why is it important to improve this component? Examine. (250 Words)

The Hindu

Background:-

- India for the first time moved into the top 100 in the World Bank's Ease of Doing Business global rankings on the back of sustained business reforms over the past several years.

Basis of world bank's ease of doing business:-

- Nation's ranking in the "ease of doing business" index is based on the average of 10 sub-indices which are:
 - Starting a business
 - Dealing with construction permits
 - Getting electricity connections
 - Registering property
 - Getting credit
 - Protecting minority investors
 - Paying taxes
 - Trading across borders
 - Enforcing contracts
 - Resolving insolvency.

Why India has low rank:-

- As per the World Bank, **the enforcing contracts indicator measures the time and cost for resolving a commercial dispute through a local first-instance court (competent court), and the quality of judicial processes index**, evaluating whether the country has adopted a series of good practices that promote quality and efficiency in the court system. India ranks very low in this.

- India's ranking in the 'enforcement of contract' component is 164. **The report says that it takes an average of 1,445 days (or nearly four years) to enforce a contract in India.** In this, the distance to frontier (DTF) ranking score is 40.76. **The all-told cost to a litigant to recover amounts legitimately due to him is 31% of the value of the claim.**
- The judiciary in India is already plagued with pendency of cases and case disposal is slow due to multiple factors like:-
 - More appeals
 - Low judges to cases ratio
 - Lack of modernisation of courts
- **The World Bank puts India at 156th position among 190 countries on starting new business. As far as construction permit is concerned India ranked poorly at 181.**

Why is it necessary to improve:-

- The World Bank report is the first touch point for investors who plan to do business in another country. **Its rankings are closely examined and can determine the investment attractiveness of a country.**
- The one about "enforcing contracts" is **directly dependent on a country's ability to provide an effective dispute resolution system.**

Way forward:-

- **Government is taking measures like Parliament even passed the Commercial Courts, Commercial Division and Commercial Appellate Division of High Courts Act.**
- The purpose behind the Act is to provide a forum with upgraded infrastructure to resolve a certain class of disputes, classified as "commercial disputes" in the Act, in a time-bound and effective manner. The legislation also requires establishment of appropriate infrastructure and manpower training on a constant basis.
- To secure changes in the remaining areas will require not just new laws and online systems but **deepening the ongoing investment in the capacity of states and their institutions to implement change and transform the framework of incentives and regulation facing the private sector. India's focus on 'doing business' at the state level may well be the platform that sustains the country's reform trajectory for the future.**
- For attracting new investment, both foreign and domestic, several macroeconomic issues have to be addressed. **These include political and economic stability, law and order maintenance, quality physical infrastructure, and buoyancy in financial markets.**

Q5) What is inverted duty structure (IDS)? How has IDS affected manufacturing sector in India? Examine. (250 Words)

[The Hindu](#)

Background:-

- The globally accepted norm is that customs duty rates on final products are always equal to or higher than the rates on components or raw materials used for the manufacture of the final products. However in India Inverted duty structure is used prominently.

Inverted duty structure:-

- An IDS means higher duty on intermediate as opposed to final/finished goods.
- The issue of inverted duty structure arises mainly because:
 - Import duty on finished products is lower than import duty on raw materials
 - Import duty on finished products is lower than duty rates on domestic procurement of raw materials
 - Free trade agreements/regional trade agreements (FTAs/RTAs) with various countries ensure that finished products attract negligible or concessional rates of duty
 - This inversion is not solely because of basic custom duty (BCD) but in some cases a result of other additional duties.

Impact on manufacturing sector:-

- Such an inverted levy is **distortionary and results in tax inefficiencies as the manufacturer builds up unused credits.**
- Natural corollary of an inverted duty structure is that **imports of the final products become cheaper, which adversely affects the competitiveness and sustainability of the domestic manufacturing industry.**
- The anomaly created by inverted duty structure affects domestic manufacture in key sectors, in line with the "Make in India" theme.
- The twin **objectives of fostering domestic manufacturing and fostering exports through FTAs which require reciprocal export concessions to be granted to foreign partner countries** are however greatly affected by the problem of inverted duty structure

- Unfortunately, a series of sectors remain adversely impacted by the IDS. Moreover, analysis shows that between 2011-12 and 2015-16, **the growth of manufacturing jobs not only first slowed after 2011-12 but also became negative.**
- **Chinese/other imports have swamped** India's small- and medium-sized enterprises and large manufacturing companies
- **It has raised the import-intensity of manufacturing as well as dampened job growth by raising capital intensity**
- **The share of manufacturing in GDP and employment has not risen since 1991**

Benefits:-

- The inverted duty structure has led to greater competition leading to cheaper products for customers .
- This also led to innovation to ensure high end at the same time cost effective products giving a diverse choice options for the customers.

Changes are being made:-

- The **goods and services tax (GST)**, especially the IGST or Integrated GST component, **has begun to erode the advantage that the IDS was giving to foreign exporters in Indian markets.**
- Also government took measures which show the **beginnings of a reversal of the IDS in electronics.**
- Also in the recent budget manufacturing sectors could get a fillip due to raised customs duties on capital goods and electronics, and silica for use in manufacture of telecom grade optical fibre. **These have been among the sectors adversely impacted by the IDS in the past 10 years or so.**

Way forward

- The resolution of the twin balance sheet problems (of companies being over-leveraged and banks unable to lend due to mounting non-performing assets), together with the Insolvency and Bankruptcy Code, should now open the floodgates for new manufacturing investment.
- It is also advisable and necessary to have greater involvement of all stakeholders while negotiating further RTAs/FTAs/CECAs, so that the interests of all Indian stakeholders are understood and fully protected.

Q6) Recently, the Parliament passed amendments to the National Bank for Agriculture and Rural Development (NABARD) Act, 1981. Examine implications of these amendments for government's push to boost the rural and agricultural sector, especially for rural entrepreneurship. (250 Words)

The Hindu

Background:-

- The 1981 Act provides for the establishment of the National Bank for Agriculture and Rural Development (NABARD). NABARD is responsible for providing and regulating facilities like credit for agricultural and industrial development in the rural areas. The government seeks to amend it through the NABARD (Amendment) Bill, 2017 .
- provides for empowering the Central government to increase the authorised capital of NABARD from Rs. 5,000 crore to Rs. 30,000 crore in consultation with the RBI. The amendments primarily seek to transfer the RBI's balance equity of Rs. 20,000 crore in NABARD to the Central government.

Amendments:-

- **Increase in capital of NABARD:**
 - The Bill allows the central government to increase this capital to Rs 30,000 crore. The capital may be increased to more than Rs 30,000 crore by the central government in consultation with the RBI, if necessary.
- **Transfer of the RBI's share to the central government:**
 - The Bill transfers the share capital held by the RBI and valued at Rs 20 crore to the central government. The central government will give an equal amount to the RBI.
- **Micro, small and medium enterprises (MSME):**
 - The Bill replaces the terms 'small-scale industry' and 'industry in the tiny and decentralised sector' with the terms 'micro enterprise', 'small enterprise' and 'medium enterprise' as defined in the MSME Development Act, 2006.
 - Under the 1981 Act, NABARD was responsible for providing credit and other facilities to industries having an investment of upto Rs 20 lakh in machinery and plant.
 - **The Bill extends this to apply to enterprises with investment upto Rs 10 crore in the manufacturing sector and Rs five crore in the services sector**
 - Under the 1981 Act, experts from small-scale industries are included in the Board of Directors and the Advisory Council of NABARD. Further, banks providing loans to small-scale, tiny and decentralised sector industries are eligible to receive financial assistance from NABARD.

- The Bill extends these provisions to the micro, small, and medium enterprises.
- **Consistency with the Companies Act, 2013:**
 - The Bill substitutes references to provisions of the Companies Act, 1956 under the NABARD Act, 1981, with references to the Companies Act, 2013. These include provisions that deal with: (i) definition of a government company, and (ii) qualifications of auditors.

Implications:-

- **Positive:-**
 - The amendments **recognise the vital role of micro, small and medium enterprises (MSMEs), as defined under the MSME Development Act of 2006, in rural entrepreneurship** and are intended to make financing easier for them.
 - Role of NABARD is critical to achieve the objective of doubling farmers' income and increasing the infrastructure in the rural areas.
 - This bill will enable NABARD to fulfill its commitment. Farmers, rural artisans and labourers would benefit and their income will increase.
 - Financial situation of NABARD will improve and loans will be provided to farmers and MSMEs.
 - It provides loans for agriculture, small scale industries among others.
- **Negative:-**
 - The All India NABARD Employees Association (AINBEA) is strongly opposed to the complete transfer of the RBI's shares to the Union government. **The relationship between the central bank and the development institution will help the cause of agriculture and rural development at a critical juncture when the country is faced with a serious agrarian crisis.**

Q7) What is social enterprise? A self-sustaining social enterprise has the potential to address contextual problems and provide meaningful, continuous employment. Analyse. (250 Words)

The Hindu

Social enterprise:-

- Social enterprises tend to operate with a purpose of creating value for the society and also generate income (if not wealth).

Potential:-

- The solutions they offer are supposed to be innovative, unique, people and environment friendly
- Social enterprises typically deal with people who live at the bottom of the pyramid, therefore they are beneficial to the poor, **generally by providing them with a means of livelihood.**
- Social entrepreneurship has evolved over the years and given India innovative and profitable ideas that address social problems. Successful examples such as Amul, Barefoot College, Grameen Bank, etc., **has the ability to create many more socially relevant enterprises**
- A localized, self-sustaining social enterprise, through forward and backward linkages, not only has the potential of addressing a contextual problem but **also of providing meaningful, continuous employment to the local populace** for whom self-employment, many a times at subsistence level, and informal employment are the norm.
- **Social enterprises have time and again demonstrated ways of empowering women at the grassroots level by providing them with income-generating activities, adding to a rise in rural household incomes**
 - Through engaging local women in the production of local handicrafts
 - Building capacities of women to formalize and manage their self-help groups.
 - By making women economically independent, these enterprises contribute to a tacit shift in power within existing societal norms.
- **Examples:-**
 - Aravind Eye Care System in south India, focuses on curing blindness among India's poor. The hospital chain serves approximately 12,000-15,000 outpatient visits and 1,500 surgeries each day.
 - Karuna Trust and its public-private partnership model serve over 2 million low-income clients by transforming government primary health centres into hubs of low-cost, high-quality healthcare delivery.
 - Nidan has organized close to a million informal-economy workers across India into collectives and enterprises, secured their access to markets, technology and financial services and successfully influenced government policy on their social and economic inclusion.
 - Safe drinking water is also a leading health challenge for many of India's urban poor, and now multinationals and small social enterprises alike respond to the problem.
 - One local company, Sarvajal, has created the "Water ATM", a stand-alone water dispenser that uses off-grid solar energy to power a reverse osmosis system and provides treated water 24 hours a day at a low cost. Users simply swipe a pre-paid card at a price Sarvajal claims is cheaper than other alternatives.

- A **great positive of social enterprises is the opportunity they afford to people to acquire new skill sets and enhance existing ones.** Furthermore, usage and adaptability of ever-changing technologies help improve the existing processes of enterprises, and build efficiency and the social well-being of people, **thereby enhancing value for all.**
- Beyond their direct reach and impacts, social entrepreneurs represent a powerful idea, an idea that is relevant today more than ever before that business can be a vehicle to create both economic value as well contribute to building a fair and equitable society.
- **Delivering on India's inclusive growth agenda calls for multi-pronged interventions.** One of them needs to be cultivating and nurturing its innovative social enterprises through public-private cooperation.

Challenges:-

- Their impact is **often limited to select geographies.**
- A big roadblock for social enterprises is **obtaining funding and the right backing for the business.**
- Since the enterprise is not "traditional", and is often a pilot venture, market feedback is not readily available. **That is why formal lenders remain apprehensive while lending to such ventures.**
- The scenario is changing steadily due to fewer restrictions and an increased risk appetite in the formal lending environment, **but it isn't growing fast enough.**
- Many social enterprises grapple with at a nascent stage is the weak formal structure of the organization.
- Very few of them are able to take their ideas off the ground; of those, even fewer can continue running their enterprises for a long duration.

Way forward:-

- However, in order to be relevant to rural areas, it's important that social enterprises are supported through a market-based model of financing rather than a philanthropic one to ensure their sustainability.
- **Development and impact bonds that provide a return against actual results to lenders have the potential to be a capital tool, thereby attracting funds to support social ventures.**
- One of the ways for companies to address these challenges, aside from **offering training on skills to budding entrepreneurs, is to offer mentorship support a way of sharing lessons, insights and foresight gathered through work experience.**
- **True public-private collaboration is key to make social enterprises successful.** When designing and implementing policies, the government could draw on the knowledge and experience of social entrepreneurs, the ideas and dynamism of its youth and the capabilities of the corporate sector to plan and execute large scale projects.
- **India's corporate champions have an opportunity to deepen their corporate global citizenship by joining forces with the government and social entrepreneurs in scaling the innovation.**

Q8) In recent times, offshore markets have become preferred destinations for investors to invest in Indian derivatives. What are the disadvantages of these derivatives moving offshore? How can Indian policymakers rein in the vast offshore market for Indian derivatives? Examine. (250 Words)

The Hindu

Background:-

- India's three main stock exchanges – the National Stock Exchange, BSE Ltd and Metropolitan Stock Exchange said they would stop licensing products and data to foreign exchanges to prevent trading from migrating overseas.

Why offshore markets have become preferred destinations for investors to invest in Indian derivatives:-

- Dollar denominated products on Singapore Stock Exchange and Chicago Mercantile Exchange benefit investors **in terms of cost of trading.**
- Also, unlike India, **Singapore, Taiwan and other South-East Asian markets have a friendlier tax regime and easier margin requirements.** They have far more friendly accessibility norms for overseas investors.
- These instruments are traded for **longer hours in offshore exchanges**, including hours when Indian exchanges are closed for business, **making them more investor-friendly.**
- Places like Singapore and Dubai, where these derivatives are traded, **are low-tax jurisdictions that offer investors the chance to lower their transaction costs as well.**
- The **fact that offshore derivatives are denominated in dollars adds to their allure.**
- **Constraints with India:-**
 - **In India, in contrast, the securities transaction tax and the capital gains tax discourage foreign investment in financial assets.**
 - India also requires all foreign investors to register with regulators.

- For foreign investors, trading derivatives in India's exchanges means factoring in currency risks for rupee-based contracts.
- The union budget announcement of LTCG along with STT is a retrograde step which will further push India's disadvantage.

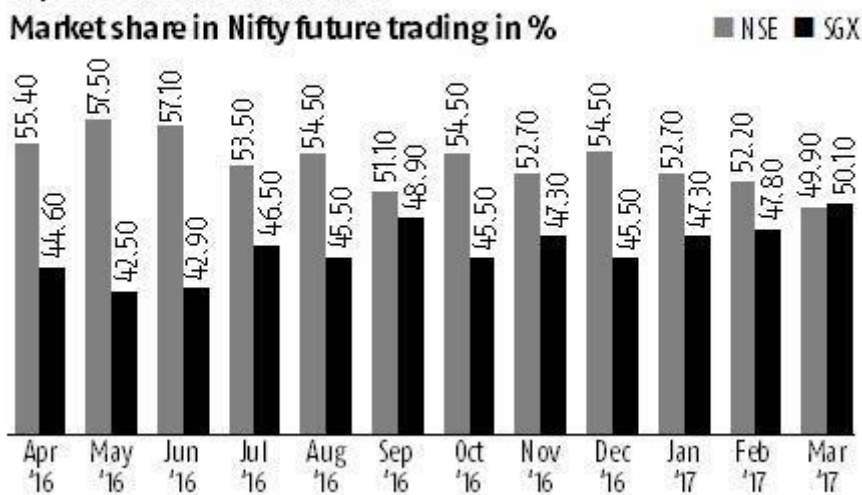
Disadvantages of these derivatives moving offshore are:-

- The volume of derivatives linked to Indian stocks trading in the offshore market is higher than volumes in the domestic bourses showing that **capital outflow is taking place leading to financial constraints in the Indian markets.**
- **More secrecy will be maintained** leading to difficulties in tracking down illegitimate transactions leading to money laundering and generation of black money.
- **Can lead to volatility of rupee**
- Offshore markets **do not come under Indian jurisdiction** so investor might not be protected.
- Also Foreign bourses, however, will likely **find other ways to list derivatives** linked to Indian stocks and indices without any help from Indian exchanges soon.

GOING GLOBAL

Introduction of single-stock futures could trigger further exports of domestic market

Market share in Nifty future trading in %



Source: Sebi paper

How can Indian policymakers rein in the vast offshore market for Indian derivatives:-

- NSE is also working with the regulators and the government to make Indian markets more attractive and competitive as compared to foreign jurisdictions.
- Offshore markets are thus simply catering to the unmet demands of foreign investors. India's policymakers should thus first of all address the structural problems that have caused trading in Indian derivatives to move offshore.
- **Changes in tax regime are needed to make the exchanges investment friendly.**
- **SEBI regulations:-**
 - After the SEBI's regulation that direct registration is mandatory for any overseas fund to trade in Indian single-stock futures a lot of US-based funds withdrew from the Indian derivatives markets. Efforts need to be made to make exchanges friendly rather than highly regulated.
- **Duration of the exchanges need to increase**

Q9) Why is it important for India to create more salaried jobs? How it can create such jobs?
Discuss. (250 Words)

[Livemint](http://www.livemint.com)

Background:-

- The unemployment rate in 2015-16 was 5% of the labour force, up from 4.9% in 2013-14. Around 12 million people enter the Indian labour market every year and India is undergoing a phase of jobless growth. This makes it necessary for India to focus on job creation

Why is it important to create more salaried jobs ?

- India needs to create regular, salaried jobs with growing earnings rather than self-employed ones **in order to join the ranks of the global middle class by 2047** according to the World Bank
- In a society with **wide inequalities**, the most urgent priority is to create productive, regular jobs.
- The jobs deficit that India faces has the **potential to turn the much-awaited demographic dividend into a demographic curse**.
- A growth strategy that focuses on productivity-led economic growth and good jobs will ensure not only that **growth is inclusive but that growth is sustainable**.
- With an ever-increasing number of the working population, the need of the hour is regular salaried jobs. Public sector, the largest provider of good jobs, employs only 5% of workers. So there is a need to create more jobs.
- **Regular jobs are urgent priority.**
 - According to data, between 2005 and 2012, over 13 million population entered the working age, while only 3 million jobs were created.
- Informal jobs would adversely affect India's development as a whole due to lack of skilled labour for high productive jobs. So India needs to focus on salaried jobs.
- If India cannot give the millions of people entering the job market employment, **anger will increase, and it has the potential to derail what has been built so far**
- A shift in the pattern of employment from permanent jobs to casual and contract employment has an **adverse effect on the level of wages, stability of employment, and employees social security**.
- Regular and salaried jobs are also **required to retain women in the workforce**.
- As skills expand, worker productivity rises, enabling wages high enough to lift many more Indians into the middle class, **likely lowering inequality**.
- The **World Bank argues that it is not the just the number of jobs but types of jobs as well**.
 - It said that while agriculture is still home to nearly half the workforce, output-per-worker is than half of the economy's average.
 - It also pointed out that in sectors like construction and retail, job creation was higher but output-per-worker and labour-productivity are low.
 - So quality jobs are needed.

How to create jobs ?

- **World Bank :-**
 - The existing stringent labour regulations create a segmented labour market with a high level of protection for a very small fraction of workers in jobs and high barriers for the entry of other workers into the protected segment of the formal labour market. So **reforms in land and labour markets in India would pay high dividends and help unshackle Indian businesses**.
 - **Well-functioning land markets** require clearly defined property rights, a reliable land registry, and predictable processes for investment and changes in land-use.
 - **Flexible labour markets** that facilitate the reallocation of workers in response to market conditions are important for productivity and job growth
 - Going forward **grandfathering current workers covered under existing laws and introducing easy mechanisms for firms to buy workers out of their old contracts are possible options**.
- **Appoint a National Jobs Adviser to the Prime Minister in the PMO.**
 - **The Adviser would**
 - **Align job growth planning with economic planning; ensure integration of the multiple policies** across central ministries, as well as with the states
 - Enable sharing of best practices between states, and provide a liaison between government and the private sector.
 - **Enable growth in existing Small & Medium Enterprises (SMEs):-**
 - While start-ups (especially digital start-ups) are glamorous, SMEs are the growth backbone of any nation and primary drivers of job growth. Yet India's policies favour micro-enterprises.
 - **There should be cluster development to support job creation in micro, small and medium enterprises (MSMEs).** Most of the unorganised sector employment is in MSMEs, which tend to be concentrated in specific geographic locations.
 - **Special packages are needed for labour-intensive industries to create jobs:-**
 - There are a number of labour intensive manufacturing sectors in India such as food processing, leather and footwear, wood manufacturers and furniture, textiles and apparel and garments.
 - The nature of the package will need to be individually designed for each sector defined as quickly as possible.
 - **Align urban development with manufacturing clusters to create jobs.**
 - **Public investments in health, education, police and judiciary can create many government jobs.**
 - **Education:** requires upgrading the quality of learning across the board – in primary and secondary schools, universities and training institutions.

- **Entry and exit of firms:**
 - The high cost of dismissing regular workers evidently hinders firms from hiring them.
 - **For a larger number of India's workers to access the security, opportunity, and benefits of a regular salaried job, these high costs, which protect only a minority of workers, need to be lowered.**
 - This would also need to be accompanied by **stronger labour market programs and institutions** to cushion both formal and informal workers from labour market shocks and improve their future earning potential.

Q10) Despite stringent measures, India has been unsuccessful in improving tax compliance rate. In your opinion, what measures should be taken to improve tax compliance in India? Discuss. (250 Words)

[Livemint](#)

Unsuccessful in improving tax compliance :-

- Rate of tax compliance is low in India, **with 36% of all individual taxpayers in the organized and unorganized sector filing tax returns.**
- Some of the behavioural factors considered include the **complexity of tax filing mechanisms, social status and lie aversion.**
- Tax compliance among individual taxpayers is at 11.6%. This, coupled with the low tax-to-GDP (gross domestic product) ratio, suggests that there is **still much the government can do to widen the tax base.**
- With an **increase in enforcement powers**, trust in government and tax authorities goes down, and there is a conducive environment for individuals to be dishonest in reporting their income on tax returns.

However recent events suggest that tax authorities have stepped up checks on irregularities in financial dealings by scrutinizing bank deposits post-demonetisation.

Measures needed to improve tax compliance :-

- **L arge-scale Central Board of Direct Taxes (CBDT) campaigns in recent years priming public goods and rewards for timely compliance can now be targeted to individual taxpayers** by highlighting the salience of their value for public goods contribution
- Specific targeting through pilot experiments could show the interaction of such norms with tax compliance behaviour.
- **One solution is to employ social norms in priming individuals to pay their taxes;** this has been successful in nudging individuals in countries such as the UK, Norway and Guatemala, to name a few.
- **Also easy registration and filing process can help people to file taxes**
- There is a need to have good collection of data to check who is not paying tax with the government .**This can be done by use of big data.**
- **Also there is need to push for financial inclusion** along with encouraging cashless transactions to make digital transactions more transparent
- **In line with the use of Gandhi's image to influence citizen behaviour in the Swachh Bharat Abhiyan programme, targeted behavioural interventions could make use of his likeness to nudge people towards honest behaviour.**
 - Such interventions are low cost, especially since the CBDT already has in place an email reminder system to communicate with taxpayers using the e-filing system.
 - The government's recent efforts at setting up a nudge unit could also be involved in such a policy intervention.

Q11) The unemployment rate among the educated is not only higher compared to the uneducated, it also increases with higher levels of education. Examine why. Also suggest measures to reduce both educated and uneducated unemployment in India. (250 Words)

[EPW](#)

Background:-

- According to world employment outlook report in India, the number of jobless is expected to increase to 18.6 million in 2018 and 18.9 million in 2019, against 18.3 million in 2017, as per the report. The unemployment rate is estimated at 3.5 per cent for all three years. This has a significant impact on the demographic dividend of India.

Reasons which show why educated unemployment increases with higher levels of education:-

- Lack of demand for workers and mismatch between the **aspirations of the well-educated and the availability of suitable employment opportunities may result in employment insecurity** among potential job-seekers.
- **Poor educational standards which is reinforced by the latest ASER survey** may also be responsible to a significant extent, for high levels of educated unemployment and underemployment.

- **Low absorption capacity of the labour market** in the developing countries vis-à-vis the developed countries.
- **The rate of educated unemployed has increased corresponding to an increase in education levels both in rural and urban areas.** And also, in both rural and urban areas, the unemployment rate among graduates and above is much higher than among those with secondary and above education.
- The educated are mostly engaged in regular salaried jobs. Educated do not take up informal jobs such as own account work, casual wage labour, helper in household enterprises, and so on. At the same time, **sufficient regular salaried jobs are also not available to absorb all of them.**
- **High social sector development as well as a large migration of educated people to the developed states creates more supply of educated labour** seeking higher wages than the demand in these states.
- **Educated females are less exposed to the job market than educated males.** In India men are still considered the principal income earners of households.
- Educated Hindus are better exposed to finding jobs than other minority religious groups
- **Socially disadvantaged groups do not get enough exposure in the job market** like the general castes and Other Backward Classes.
- Variables such as formal and informal vocational training, household size, gender, marital status, religion, social groups and regional factors have shown similar relationship in terms of sign and level of significance for educated unemployment and uneducated unemployment.
- Labour laws in India are complex and relatively strict. Employment protection legislation is restrictive, compared with other emerging economies and OECD countries. Thus, corporates in India tend to rely more on temporary contract labour, stay small or substitute labour for capital to avoid strict labour laws.
- **Automation in most economic activities:-**
 - Sectors like automotive, computers, finance, transport, etc, are currently witnessing dramatic automation growth. As a result, employment opportunities are gradually sinking

Measures needed to reduce educated unemployment and uneducated unemployment:-

- **Educated unemployment:-**
 - Besides promoting technical education, the government needs to focus more on creation of jobs and demand for workers since industries are unable to create sufficient job opportunities for all the technically educated people
 - Policies should ensure that the education systems prepare young people for the skill demands of employers through outreach programmes, training, **apprenticeships**, and access to job-search assistance measures.
 - More businesses should recognise the opportunity, and need, to invest in young people so that they can help in developing the qualities necessary for education and future employment.
 - **When it comes to NGOs they should engage collectively in policy advocacy on youth unemployment.** They should also partner with companies to develop skills and training programmes to tackle youth unemployment.
 - **Singapore has launched certain programmes** to establish partnerships between domestic and foreign universities to promote tertiary education. India could learn from such initiatives.
 - New age sectors like defence and aerospace, education and healthcare, and burgeoning green sectors like solar energy and wind, present another massive opportunity to identify 'upcoming jobs' and prepare talent accordingly. **India's ambition to create more than one million new jobs in the green energy sector by 2022 is encouraging.**
- **Uneducated unemployment:-**
 - **There should be cluster** development to support job creation in micro, small and medium enterprises (MSMEs). Most of the unorganised sector employment is in MSMEs, which tend to be concentrated in specific geographic locations.
 - Private sector leaders should build capacity among unskilled and semi-skilled workers to ensure sustainability of renewable energy projects and provide opportunities to rural communities. Government officials should create public training programmes to prepare the poor and less educated people especially semi-skilled and unskilled for employment in the clean-energy sector.
 - People need to be made self employed by providing training in skills and latest technologies for agriculture and other avenues especially in rural areas.
 - Women in rural areas who are left behind by men due to migration need to look into other sources of livelihood other than agriculture like animal husbandry etc.
- **Common measures:-**
 - **Increase public spending in education:-**
 - At 3.8% of GDP, **public spending on education in India** is lower than countries like Brazil and Malaysia.
 - The focus of the government needs to shift to spending on enhancing the quality of education and vocational training.

- Similarly, allowing foreign investment in sectors like legal and accountancy services will create employment as more foreign firms will move to India.
- Infrastructure investment can also be utilised as an engine of job-creation.
- Finally, India **needs to bargain hard with the US for easier work visa norms** so that pressure of some unemployment can be eased out to an extent.

Topic: Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

Q1) Examine the salient features and significance of the Consumer Protection Bill, 2018 (250 Words)

The Hindu

Background:-

- Consumer markets for goods and services have undergone a drastic transformation since the enactment of Consumer Protection Act, 1986

Provisions:-

- It **defines the "consumer"** as a person who buys any good or avails a service for a consideration.
- The **Bill covers transactions, both online and offline**, and includes tele-shopping and multi-level marketing.
- **Definition of "consumer rights" in the Bill** exhaustively covers the right to be protected against the marketing of goods, products or services that are hazardous to life and property.
- It also focuses on the right to be informed about the quality, quantity, potency, purity, standard and price of goods, products or services, as the case may be, so as to **protect a consumer against unfair trade practices**.
- It also includes the right to be assured, wherever possible, of access to a variety of goods, products or services at competitive prices. More importantly, **it involves the right to seek redress against unfair or restrictive trade practices, or unscrupulous exploitation of consumers.**
- **Regulatory authority:-**
- The Bill has a clause for the establishment of Central Consumer Protection Authority (CCPA) to regulate matters related to violation of consumer rights, unfair trade practices and false or misleading advertisements.
- In case of any violation of consumer rights or unfair trade practices, the authority can inquire or investigate either *suo motu* or on receipt of a complaint.
- Wherever necessary, they would have the power to recall goods that are unsafe or dangerous and reimburse the price to purchasers.
- The CCPA can discontinue any false or misleading advertisement or give orders to modify it within specific time
- The **Bill provides for product liability action in cases of personal injury**, death or property damage caused by or resulting from any product, and mediation as an alternate dispute resolution, **making the process of dispute adjudication simpler and quicker.**
- The **Bill seeks to set up a monitoring cell, to be constituted by the president of the National Consumer Disputes Redressal Commission** to oversee the functioning of the State consumer commissions from the administrative point of view.
- **The Bill provides for a State government to establish a consumer mediation cell to be attached to each of the district commissions and the State commissions.** Further, the Bill proposes that the Centre establishes a consumer mediation cell to be attached to the National Commission.
- **Penalty:-**
- The Bill states that any manufacturer who puts up a false or misleading advertisement, will be punished with imprisonment of up to two years and fine of up to Rs 10 lakh.
- For every subsequent offence, the offender will be punished with imprisonment that may extend to five years and fine, which may extend to Rs 5 million.
- Penalty can be imposed on the endorser, who could be a celebrity, but the provision of imprisonment is not applicable to the endorsers.
- The Bill states that no endorser will be liable to a penalty if he/she has exercised due diligence to verify the claims.

Significance:-

- **Speedy resolution:-**
 - **Provide time-bound redressal of their grievances.**
 - Provides for simplification of consumer disputes adjudication process for faster disposal of grievances through filing of complaints by a consumer from his place of residence, e-filing and video conferencing for hearing.

- **The CCPA**
 - will act in a manner similar to enforcement agencies in other jurisdictions such as the Federal Trade Commission (FTC) in the US. **This will be a landmark step in upgrading the implementation mechanism to global standards**
- It fills an institutional void in the regulatory regime extant. **The role envisaged for the CCPA compliments that of the sectoral regulator and any duplication of potential conflict is avoided.**
- This is the first time that **powers to take action for damage caused by a product have been introduced in a consumer protection framework.**
- Step towards providing ordinary consumers some protection of their interests and establishing points for **quick and effective administration and settlement of disputes.**
- Bill provides for **simplification of consumer disputes adjudication process** for faster disposal of grievances through filing of complaints by a consumer from his place of residence, e-filing and video conferencing for hearing.
- **New areas covered:-**
 - **It will allow Central government to regulate e-commerce and direct selling** among other important measures.
 - **It is a welcome step towards tackling misleading endorsements**
- It also has provisions for **'mediation' as an alternative dispute redressal mechanism.**

Demerits:-

- It has penalty provisions for the endorsers and on the other it is giving them a route to get away because the clause of due diligence will act in their defence
- It lags behind in tackling misleading advertisements endorsed by any celebrity
- This step will act as a deterrent for manufacturers since the liability quotient has increased

Measures needed:-

- **Lessons to be learnt:-**
 - Several countries like Canada, Estonia have devised advertisement regulations for unhealthy foods targeted at children
 - Countries such as the UK, Ireland and Belgium have specifically banned celebrity endorsement of unhealthy foods. The impact of such restrictions has been reported to be significant.

Conclusion:-

- The emergence of global supply chain, rise in global trade and rapid development of e-commerce have led to a new delivery system for goods and services and also provided new options and opportunities for consumers. Misleading ads, tele-marketing, multi-level marketing, direct selling and e-commerce pose new challenges to consumer protection and will require appropriate and swift executive intervention to prevent consumer detriment. This bill is the step in the right direction in addressing these issues.

Topic: Government Budgeting.

Q1) Critically analyse the merits and shortcomings of three new measures that were announced in the recent union budget with an aim to address agrarian distress in India. Also examine what else could have been introduced in the budget to address agrarian distress. (250 Words)

The Hindu

Background:-

- Indian agriculture is undergoing a tough time with farmer suicides still taking place .So tackling farm distress is essential to government's target of doubling farmers income by 2022.So it launched operation green, raised MSP, launched Gobardhan Yojana etc

1. Raise in MSP:-

- In the recent budget, government has decided to keep MSP for all the unannounced crops of kharif at least at one and half times of their production cost .

Merits:-

- **This decision will prove to be a 'historic' step towards doubling the income of farmers.**
- State Cooperative Banks, District Central Cooperative Banks and PACCS would get a lot of business from farmers.
- The government decision to raise the MSP by 1.5 times for all notified crops in the coming Kharif season would help SSBs, DCCBs and PACCS get business

- If the government means C2 as cost of production then it will help increase the farmer's profit.

Demerits:

- There are some **doubts if the finance minister meant the entire cost of production or some reduced amount** as difference between C2 which is the total cost of production and A2+FL (Only covers the partial cost of production) is substantial. **The MSP has been 50% higher than A2+FL for the last ten years.**
- Also, little attention has been paid towards altering the ongoing 'high input cost and low output price' regime.
- To develop and upgrade the existing 22,000 rural haats into Gramin Agricultural Market. It may also be mentioned that cost plus pricing of MSPs, be it cost A2+FL or C2, is fraught with dangers as it totally **ignores the demand side.**
- **Only a fraction of the farmers actually have access to MSP.**
- There is **no provision in the budget to increase the ambit of farmers** who are covered by MSP and that is a problem in addition to how the MSP is calculated
- Farmers also argue that **MSP is only announced for 25 crops**, while for other crops they have to deal with market volatility. There is no MSP for fruits and vegetables.
- **MSP often does not reach farmers** as the government does not procure on time and the farmer has to make distress sales at rates lower than the MSP.
- **There is no clarity on how the implementation takes place.**
 - There are concerns whether all states would agree with that cost
 - Also as MSP and Inflation highly co-related and any increase in MSP will eventually resulted into price hike of many agricultural products

2. **Operation green:-**

- Operation Greens wants to replicate the success of operation flood in fruit and vegetables, starting with tomatoes, onions and potatoes.
- reduce price volatility in these commodities, thereby helping farmers augment incomes on a sustainable basis. It also aims to provide these vegetables to consumers at affordable prices.
- Food processing sector is **happy about the operation green scheme promoting cluster based development of agri commodities and regions**. Cultivation of horticulture crops in clusters bring advantages of scales of operations and can spur establishment of entire chain from production to marketing, besides giving recognition to the districts for specific crops

Concerns:-

- Investment in agricultural research and development (Ag R&D). This is a serious concern in view of the low annual rate of growth in agriculture in the last four years.

3. **Gobardhan:**

The initiative has two objectives:

- To make villages clean and generate wealth and energy from cattle and other waste.
- To make the villages open defecation free this scheme will manage and convert cattle dung and solid waste in farms

Merits:-

- With the largest cattle population in the world, rural India has the potential to leverage huge quantities of gobar into wealth and energy. Cattle dung, kitchen waste and agricultural waste can be **tapped to create biogas-based energy.**
- 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.
- It is **expected to pilot similar opportunities to convert cattle dung and other organic waste to compost, biogas and even larger scale bio-CNG units.**
- It will **help in improving the quality of the life in the villages** by making them cleaner and healthier.
- With the implementation of this scheme **farmers will be able to generate better ways of income.** As the farmers just have to make use of animal waste farmers don't need to invest amounts in purchasing basic raw materials.

4. Increase institutional credit from Rs. 10 lakh crore in 2017-18 to Rs. 11 lakh crore in 2018-19. Therefore, targeting of the announced allocation to the poorer farmers and tenants in each State will go a long way in improving their purchasing power and augmenting investment, which is currently low.

Measures further needed are:-

- **MSP:-**
 - Government needs to analyse the recommendation of the M.S Swaminathan Report which suggested MSP over C2.
 - A hike in MSP should be supplemented with irrigation, and reduction in fertilizer cost.

- **Gobardhan:-**
 - Generating wealth from waste in rural areas will require the involvement of all actors and sectors. Investments from the private sector and local entrepreneurs will be needed.
 - Panchayats and village communities will have to play key roles to leverage the animal and organic waste that goes into water bodies, dumping sites and landfills.
- **Operation green:-**
 - **Link major consumption centres to major production centres with a minimal number of intermediaries.**
 - **Farmers can be organised in farmer producer organisations (FPOs) as it will make it easy for the input companies to sell their products to farmers**
 - **There needs to be investment in logistics, starting with modern warehouses, that can minimise wastage. Such storage facilities have to be cost effective. Large-scale investments in storage will require tweaking of the Essential Commodities Act.**
 - **Linking the processing industry with organised retailing**
- **The government must extend immediate help to farmers from rampant price volatility.**
 - The States can implement the 'price deficiency payment scheme' (difference between MSP and price received) as has been started in Haryana for some vegetables, and the Bhavantar Bhugtan Yojana in Madhya Pradesh for select oilseeds.
- **Technological interventions** that update farmers about sowing and harvesting time and extension services can help prevent misfortunes.
- **More drought and pest-resistant crops are needed**, along with better irrigation technology. Farmers also require interventions in the seed sector to raise production and diversify to alternate crops to induce higher growth.

Conclusion:-

- The long-term measures to increase their income and trigger agricultural growth, as reflected in the Budget, remain to accelerate investments in irrigation, infrastructure, improved extension services and institutions fully backed by a competitive marketing system.

Topic: Agriculture; Agriculture marketing and other issues; e-technology in the aid of farmers

Q1) Critically examine how the recent union budget seeks to address farm crisis in the country. (250 Words)

[The Indian Express](#)

Background:-

- Agricultural and farm crisis has been a bone of contention in India as almost over the half of the population is still dependent on agriculture. The recent budget has taken many measures with respect to the crisis and rural distress.

Positives:-

- Assurance of purchase of all crops for which MSP is declared **is a positive step.**
- The Agri-Market Infrastructure Fund, with a corpus of Rs 2,000 crore, is to be set up for developing and upgrading agricultural marketing infrastructure in the Gramin Agricultural Markets and Agricultural Produce Market Committees (APMCs). **This will enable farmers in remote locations who are devoid of any institutional mechanism to connect to markets.**
- **Operation Green** on the lines of Operation Flood to tackle the volatility of tomato, onion and potato prices is a positive development.
- The long-standing demand of income **tax exemption for farmer producer organisations** has been fulfilled.
- **A Rs 10,000 crore fund** to finance the infrastructure requirements of fisheries, aquaculture and animal husbandry **will generate rural employment and supplement farmer incomes.**
- The intent to **mitigate the air pollution** woes of Delhi-NCR by subsidising the machinery required for in-situ management of crop residue has now been addressed.
- The **focus on horticulture clusters and converting cattle dung and solid waste in farms to compost, fertiliser, biogas and bio-CNG** is also commendable.
- **National health protection scheme** would also help the poor farmers get health benefits
- Government proposed to raise the minimum support price (MSP) of all crops to 1.5 times that of the production cost.
- **GobarDhan' scheme** launched for galvanising organic bio agro resources , management and conversion of cattle waste to compost fertilizers, bio-gas and bio-CNG

Concerns:-

- It should have simultaneously announced acceptance of the **Ramesh Chand Committee's** recommendations on the calculation of MSP, **which it has not.**
- Many of last year's budget announcements have not been materialised due to lack of allocations.
- **Climate change worries have not been addressed**
- **Agriculture R&D has been ignored.**
- **There is no mention of the balanced use of fertilisers.**
- The demand for changing the Centre-state funding ratio from 60:40 to 90:10 for agriculture-related schemes has **unfortunately been overlooked.**
- The subsidy allocated in Budget 2018 may provide a temporary solution to the crop burning issue, but it may do nothing to help address the larger water crisis.

Way forward:-

- While this budget has stated a future linkage of MSP to input costs, it is critical that all underlying policy frameworks, procurement and input pricing, the structure and scope of MSP must focus on crop diversification.
- Targeted programmes like those under the Prime Minister Krishi Sinchai Yojna for 96 irrigation-deprived districts, where less than 30 per cent of the land holdings get assured irrigation, is the way forward.
- Implementing these will help the government in its commitment to achieve the goal of doubling farmer income by 2022.

Q2) It is argued that to make Pradhan Mantri Fasal Bima Yojana (PMFBY) really attractive for farmers, various serious measures need to be taken. In the light of the recent budget, discuss these measures. (250 Words)

[Down to Earth](#)

Background:-

- Agriculture insurance is recognised as an important part of the safety net for farmers to deal with the impacts of extreme and unseasonal weather. To protect farmers government has come up with Pradhan Mantri Fasal Bima Yojana

Pradhan Mantri Fasal Bima Yojana:-

- The PMFBY was launched by the Centre in 2016 to help farmers cope with crop losses due to unseasonal and extreme weather.
- It replaced the National Agricultural Insurance Scheme and the Modified National Agricultural Insurance Scheme.
- PMFBY was more farmer-friendly provisions than its predecessors. It reduced the burden of premium on farmers significantly and expanded coverage. It also promoted use of advanced technologies to estimate losses accurately and accelerate payments to farmers.
- **Government has further targeted at increasing the coverage. In Budget 2018-19, allocation to the PMFBY scheme is Rs 13,000 crore and a target of increasing coverage to 98 million ha gross crop area has been set.**
- **However still concerns remained:-**
 - **Gaps in assessment of crop loss:**
 - The sample size in each village was not large enough to capture the scale and diversity of crop losses.
 - In many cases, district or block level agricultural department officials do not conduct such sampling on ground and complete the formalities only on paper.
 - There is lack of trained outsourced agencies, scope of corruption during implementation and the non-utilisation of technologies like smart phones and drones to improve reliability of such sampling
 - Less number of notified crops than can avail insurance,
 - **Inadequate and delayed claim payment:**
 - Insurance companies, in many cases, did not investigate losses due to a localised calamity and, therefore, did not pay claims.
 - Only 32 per cent of the reported claims were paid out by insurance companies, even when in many states the governments had paid their part of premium.
 - **High actuarial premium rates**
 - Insurance companies charged high actuarial premium rates
 - **Massive profits for insurance companies**
 - **Coverage only for loanee farmers:**
 - PMFBY remains a scheme for loanee farmers farmers who take loans from banks are mandatorily required to take insurance. Like previous crop insurance schemes, **PMFBY fails to cover sharecropper and tenant farmers**

- **Poor capacity to deliver:**
 - There has been no concerted effort by the state government and insurance companies to build awareness of farmers on PMFBY.
 - Insurance companies have failed to set-up infrastructure for proper implementation of PMFBY.
 - There is still no direct linkage between insurance companies and farmers.
 - Insured farmers receive no insurance policy document or receipt.
 - Delayed notification by state governments
- **PMBY is not beneficial for farmers in vulnerable regions** as factors like low indemnity levels, low threshold yields, low sum insured and default on loans make it a poor scheme to safeguard against extreme weather events.
- However, **merely increasing the budget allocation for PMFBY scheme might not help the farmers.**
- There have been farmers' protests in various states against compulsory coverage of loanee farmers under this scheme. Farmer activists fear that this scheme might end up benefitting insurance companies more than the farmers.
- **CAG report:-**
- Private companies are not properly monitored and premium subsidy is released to them simply on the basis of affidavits provided by these companies without checking actual situation on the ground.

Various serious measures need to be taken:-

- **Insurance unit has to be brought down to individual farm level**
 - Currently insurance unit is at village level. This scheme does not guarantee relief for individual farmer in the event of crop loss. **Bringing insurance unit at individual farm level is a major technological challenge, which should be addressed at the earliest.**
- **Making claims payment fast and transparent**
 - There should be strict compliance of timelines with regard to the process of claim settlement to provide adequate and timely compensation to farmers.
- **Danger of discouraging mixed cropping and crop diversification**
 - A limited number of crops are notified by states under PMFBY. This can act as an impediment to crop diversification. PMFBY will have to make insurance relevant to farmers by including more and more crops under notification and by allowing insurance for mixed cropping.
- **Improve scheme monitoring and grievance redressal mechanism**
 - Dedicated common toll-free numbers should be channelised to address all queries, concerns and grievances of farmers with respect to crop insurance. This toll-free number should serve as a one-stop solution for crop insurance. Farmers should be able to avail of a single window that is accountable to them for all aspects of the scheme.
- **Coverage of losses expanded:-**
 - Coverage of tenant and sharecropper farmers should increase
 - Damage caused by wild animals, fire, cold waves and frost to crops should also be considered at the individual level. Damage caused by unforeseen weather events like hailstorms should also be included in the category of post-harvest losses.
- **Awareness:-**
 - Farmers must be informed before deducting crop insurance premium. They must be given a proper insurance policy document, with all relevant details.
- **Capacity building:-**
 - Panchayati Raj Institutions and farmers need to be involved at different stages of implementation.
 - Incentivise groups of small farmers or women farmers and promote group insurance.
 - Robust assessment of crop loss should be done through capacity building of state governments, involvement of PRIs and farmers in loss assessment, auditing and multi-level checking to ensure credibility of data and testing incorporating technology such as remote sensing, drones and online transmission of data.

Conclusion:-

- In an era of climate change, a universal, subsidised agriculture insurance is crucial to safeguard the lives and livelihoods of farmers. So India needs a farmer-friendly, fair and transparent agriculture insurance.

Q3) Discuss the objectives, significance and prospects of the Atal Bhujal Yojana (ABY). (250 Words)

[Down to Earth](#)

Background:-

- The Union Government has formulated ambitious water conservation scheme Atal Bhujal Yojana (ABY) to tackle ever-deepening crisis of depleting groundwater level.
- The Rs 6,000-crore will be piloted under the Ministry of Water Resources, River Development & Ganga Rejuvenation. It is awaiting cabinet's clearance.

Objectives:-

- The objective of scheme "Atal Bhujal Yojana" is to
 - Recharge ground water
 - Create sufficient water storage for agricultural purposes.
 - It also focuses on revival of surface water bodies so that ground water level can be increased especially in the rural areas.
 - It will give emphasis to recharging ground water sources and ensure efficient use of water by involving people at local level.

Significance:-

- This scheme will **help those who are in need for constant ground water supply** especially farmers who have been hard impacted by acute shortage of ground water for past several years.
- Its focus is **primarily on involvement of communities** and convergence with different water schemes.
- Its major component is **making society responsible and bringing about behaviour change to manage groundwater resource.**
- It will help **improve overall outlook towards water resource.**
- The scheme Atal Bhujal Yojana would seek to bring in innovative and successful practices to revive water bodies, improve ground water levels as well as conserve water,

Prospects:-

- By the implementation of this scheme ground water will recharge consequently increasing the level of ground water.
- Under this scheme, ground water will recharge and hence **it will provide sufficient water for the use of agriculture purposes** because in the past several years the ground water has decreased to a great extent.
- This scheme will also revive the water bodies like rivers so that the level of ground water can be increased especially in the rural areas.
- Farmers are facing acute shortage of ground water for the past several years this scheme "Atal Bhoojal Yojana" will surely help those who are in the need of pure ground water.
- The program will help states where water level has depleted.

Conclusion:-

- By creating awareness and catering to the implementation challenges successfully this scheme can change the water crisis especially in rural areas.

Q4) Learning from the success of Operation Flood, to succeed, the newly announced Operation Greens must build forward and backward linkages between farmers and markets. Discuss. (250 Words)

[The Indian Express](#)

Background:-

- Recently the finance minister announced Operation Greens, on the lines of Operation Flood, with a seed capital of Rs 500 crore .This is the right step especially when farmers are forced to dump the vegetables in the light of price volatility.

Operation green:-

- Operation Greens wants to replicate the success of operation flood in fruit and vegetables, starting with tomatoes, onions and potatoes.
- reduce price volatility in these commodities, thereby helping farmers augment incomes on a sustainable basis. It also aims to provide these vegetables to consumers at affordable prices.

Current problems:-

- The problem with the commodities like potatoes, onions, tomatoes are that their prices collapse when their production rises sharply.
- **This is because the country lacks modern storage facilities and the links between processing and organised retailing are very weak.** As a result, farmers often end up receiving less than a fourth of what consumers pay in major cities.

Lessons to be learnt from the success of operation flood which helps in building forward and backward linkages:-

- Operation Flood was **driven largely by smallholders** and the AMUL model has ensured that **75-80 per cent of the price paid by milk consumers goes to the farmers.**
- **Operation Greens needs to ensure that farmers receive at least 60 per cent of what consumers pay. In the case of milk, the producers get more than 75 per cent of what consumers pay.** The basic principles of Operation Flood would be useful to operationalise Operation Greens as well.
- The AMUL company's **reliance on a diffuse network of milk procurement centres**, because poor Indian farmers cannot afford to travel far to sell their milk, has also proved a powerful defence against foreign competitors. So in case of operation green **link major consumption centres to major production centres with a minimal number of intermediaries.**
 - So there is a need to map mega consuming centres and link their retail networks with the producing centres of each commodity.
- **Farmers can be organised in farmer producer organisations (FPOs).** Having strong FPOs will make it easy for the input companies to sell their products to farmers. It will also facilitate the food processing companies to buy what the FPOs produce .
- **The Agricultural Produce Market Committee Act will have to be changed to allow direct buying from FPOs, and giving incentives to these organisations, private companies and NGOs to build back end infrastructure as was done in the case of milk.**
 - The announcement of tax concessions to FPOs for five years is a welcome step in that direction, if it encourages building such critical infrastructure
- **There needs to be investment in logistics, starting with modern warehouses, that can minimise wastage. Such storage facilities have to be cost effective. Large-scale investments in storage will require tweaking of the Essential Commodities Act.**
- **Linking the processing industry with organised retailing:-**
 - On an average, about one-fourth of the produce must be processed. India is way behind on this curve compared to most Southeast Asian countries. Dehydrated onions, tomato puree and potato chips should become cheap, so that an average household can use them.
- **Processing industry adds value and absorbs surpluses.** The announcement of increasing the allocation for the food processing industry by 100 per cent is a welcome step. **The food processing ministry will have to coordinate with Operation Greens.**
- Food processing sector is **happy about the operation green scheme promoting cluster based development of agricommodities and regions.** Cultivation of horticulture crops in clusters bring advantages of scales of operations and can spur establishment of entire chain from production to marketing, besides giving recognition to the districts for specific crops
- **Educate the consumers:-**
 - Educating the consumers to use the processed products when fresh supplies become expensive.

Conclusion:-

- By developing such forward and backward linkages, the government can ease large price fluctuations, raise farmers share in the price paid by the consumer further reducing the farm distress and at the same time, ensure lower prices for the consumers a win-win situation for all.

Q5) Discuss the objectives, features and significance of the recently announced GOBAR-Dhan initiative. (250 Words)

The Indian Express

Background:-

- India's development depends mostly on lack of good health parameters in the country which are linked to lack of hygiene and sanitation. To give further impetus to Swachh Bharat, Gobardhan yojana is launched.

Objectives:-

- In the Union budget 2018 "GOBAR-Dhan" (Galvanising Organic Bio-Agro Resources-Dhan) scheme as launched.
- **The initiative has two objectives:**
 - To make villages clean and generate wealth and energy from cattle and other waste.
 - To make the villages open defecation free this scheme will manage and convert cattle dung and solid waste in farms

Features:-

- Under this scheme the solid waste and cattle dung will be composed into useful elements such as Bio-CNG and Bio-Gas.
- **Dung process and convert:**
 - **Under this scheme cattle dung will be processed and turned into useful elements that are needed in agricultural sector.** Also further process will be done for the residual or solid waste that will be created after cattle dung processing will be used as fertilisers in lands as well.
- **Village Development Programs:**
 - According to the Finance Ministry, nearly 187 projects for the village improvement have been introduced, among which 47 projects have completed successfully. Rest of the projects are in progress.
- **Budget Allocation:**
 - 16, 713 Cr has been allocated for village improvement programs. As per the records 115 districts have successfully implemented various village improvement programs and open defecation free livelihood. These districts will be considered as the indication of development of the villages.

Significance:-

- With the largest cattle population in the world, rural India has the potential to leverage huge quantities of gobar into wealth and energy. Cattle dung, kitchen waste and agricultural waste can be **tapped to create biogas-based energy.**
- 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.
- It is **expected to pilot similar opportunities to convert cattle dung and other organic waste to compost, biogas and even larger scale bio-CNG units.** It aims at the collection and aggregation of cattle dung and solid waste across clusters of villages for sale to entrepreneurs to produce organic manure, biogas/bio-CNG
- It will **help in improving the quality of the life in the villages** by making them cleaner and healthier.
- With the implementation of this scheme **farmers will be able to generate better ways of income.** As the farmers just have to make use of animal waste farmers don't need to invest amounts in purchasing basic raw materials.
- The government will **educate farmers to help setup their own compost plants**
- With the **generation of cheaper form of fuel corporate sector** may be interested in investing their money in the rural areas
- Bio gas manufacturing will get impetus and India would **generate cleaner fuel to cater to the targets of Paris agreement.**

Way forward:-

- Generating wealth from waste in rural areas will require the involvement of all actors and sectors. Investments from the private sector and local entrepreneurs will be needed.
- Panchayats and village communities will have to play key roles to leverage the animal and organic waste that goes into water bodies, dumping sites and landfills.
- Informal sanitation service providers can be integrated into the system by training and licencing them.

Conclusion:-

- With appropriate policies and practices, the sector can be scaled up into opportunities for growth, leading to increased incomes, long-term livelihoods and, of course, more Swachh villages.

Q6) In the light of the government's initiative to double farmers' income, examine the mechanisms and focus areas, especially from the perspective of small farmers and farm workers, through which this goal can be achieved. Also examine what India can learn from China's similar initiative. (250 Words)

EPW

Background:-

- The need to focus on farmers incomes instead of production or the growth rate in agriculture stems from the facts that there has been agrarian distress in the sector for the last two decades and a very large proportion of farming households in most of the central and eastern states live below the poverty line (BPL)
- 40% of Indian farmers disliked farming as a profession due to its low profits, high risk, and the lack of social status

Mechanisms and focus areas from small farmers and farm workers:-

- Within the farm sector, the increase in incomes can **come from greater production per unit area as a result of higher yields**. The increase can also come from higher cropping intensity, lower costs of production, higher prices, or a combination thereof
- **Diversification towards high-value crops can help raise incomes**, and are also desirable for social and environmental reasons
- **Crop insurance**, which still has not been effectively implemented despite the relaunch of crop insurance schemes such as the Pradhan Mantri Fasal Bima Yojana.
- The mechanisms for increasing farmers' incomes outside the farm sector include **access to off-farm and non-farm employment and occupations such as dairy farming or handicrafts**.
- **Focus on rainfed areas:-**
 - This makes sense, as 43% of the population and more than 60% of the agricultural area in India is in dry or rainfed regions.
- There is a need to reorganise agriculture in terms of institutions at the local level, with farmers **becoming part of collectives like cooperatives and producer companies**.
 - This will enable small farmers to get involved in domestic and global value chains, which can help them lower the costs of production and marketing, and achieve scale to realise higher prices and surpluses.
 - This requires investment in agriculture and agribusinesses by converting subsidies into investments.
- **Livestock, horticulture and agricultural wages** are significant sources of income for farming households in India, especially for marginal and small farmers. It is hence important to focus on livestock sector development and public employment programmes like the MGNREGS, to create income sources other than farming.
- **Even the residue of major crops like paddy and cotton, which is burnt in many states** can be utilised to create a new source of income for landless and marginal farmers and other rural workers, as part of the agro-industrialisation process .
- The major activities for achieving higher income targets include:
 - Expansion in issuing soil health cards
 - The promotion of the system of rice intensification
 - Drip and sprinkler irrigation
 - Enhancement of short-term crop loans.
- The other major steps include
 - linking up of markets with the national agricultural market, e-NAM
 - Expanding cold storage infrastructure and storage capacity
 - Building green/shed net houses
 - Agri-clinics and agricultural business centres

China's initiative and lessons to be learnt:-

- China set this objective of doubling farmers incomes in 2008, but it plans to meet it over 12 years (2008–20).
- The Chinese strategy of doubling the income of farmers involves
 - **Expanding channels for the generation of income**
 - Expanding the non-agricultural sector to shift surplus labour out of agriculture and into medium and large cities and **building an integrated labour market**.
 - This is a **part of a larger agricultural development model** which focuses on
 - Stable grain production
 - Building and strengthening farmer cooperatives
 - Expanding agribusinesses, food quality and safety, agricultural science and technology.
 - Creating a new social service system for agriculture for the supply of inputs, finance, insurance and extension by non-governmental organisations, and public and large private agencies.
 - It also includes subsidies for grain production and farm inputs, a minimum grain procurement price, reform of agricultural laws and regulations, and opening the agricultural sector to the world
 - China's farm success has been driven by **heavy public investments in the sector**. In China, the rate of growth of net capital formation in agriculture was in excess of 20% over the last decade.
 - High farm growth has translated into rapid reduction in poverty as well. **Several studies attribute China's dramatic decline in rural poverty to faster farm growth**.
 - The manner in which China put in place incentives for small farmers and supported them through sizeable public investments in agriculture and rural electrification holds important lessons for India.

Conclusion:-

- Given the diversity in agriculture across states, and their understanding of mechanisms to achieve it, different states would need varied strategies as they are at different levels of agricultural development in terms of growth rates and the level of farmer incomes.

Q7) Discuss the objectives and features of the Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM) scheme. (250 Words)

The Hindu

Introduction:-

- Electricity is a major concern in rural India, especially for farmers. Instead of transmitting electricity to the farmers, the government wants farmers to use solar energy to power their irrigation pumps so this scheme ensures India adheres to Paris agreement and achieve SDG.

Objectives:-

To achieve this, the Union Budget 2018 has allocated close to Rs. 48,000 crore to set up the Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM).

- This programme will help set up more than 28 GW of combined solar capacity through these solar pumps.
- Additionally, to ensure optimal use of this solar energy, and to incentivise farmers to shift to renewable energy, the government plans to purchase the surplus power through electricity distribution companies.

Features:

- Building 10,000 MW solar plants on barren lands
- Providing sops to DISCOMS to purchase the electricity produced,
- Solarising existing pumps of 7250 MW as well as government tube wells with a capacity of 8250 MW
- Distributing 17.5 lakh solar pumps.
- Government will provide 60% subsidy on solar pumps to farmers. It will be shared between Centre and States while 30% will be provided through bank loans. The balance cost will be borne by farmers.

Significance:-

- This proposal will **almost certainly increase agricultural incomes and reduce electricity losses when transmitting power to remote rural areas**. Analysts claim that losses from distribution could fall to about 12% from the current level of at least 23%.
- The advantage of this scheme is that power theft would drop significantly. Local generation of power would take care of this issue.
- KUSUM scheme will start with building 10,000 MW solar plants on barren lands and providing 1.75 million off-grid agricultural solar pumps.
- It will provide extra income to farmers, by **giving them an option to sell additional power to grid through solar power projects set up on their barren lands**.
- It will help in **de-dieselising the agriculture sector** as India had about 30 million farm pumps that include 10 million pumps running on diesel.
- The surplus electricity generated by farmers will be bought by state electricity distribution companies (discoms). Thus it will **help boost the country's emerging green economy**.
- It will **promote decentralised solar power production**, reduce of transmission losses of discoms as well as provide support to **improve financial health of DISCOMs** by reducing subsidy burden to agriculture sector.
- It will also promote energy efficiency and water conservation and provide water security to farmers.

Challenges:-

- **The feasibility of purchasing surplus solar power seems problematic.**
 - The solar panels will only generate electricity during daylight hours. So to maintain a consistent round-the-clock power delivery the grid operators will need to have a back-up source of power in the form of coal or oil.
 - Output from solar panels can also change due to clouds.
- **Issue of grid stability:-**
 - This balancing entails meeting the demand with adequate supply 24×7 to ensure there is no blackout.
- Variations in weather patterns make it more difficult for the grid operator to predict the balance of electrical energy that will be required to meet the demand.

Way forward:-

- More grid stability can be achieved by **integrating the grids into all-India grids**.
- Expected advances in storage technology would also significantly improve grid stability.

Topic: Issues related to direct and indirect farm subsidies and minimum support prices

Q1) Recently the union government promised a minimum support price (MSP) that is 50% higher than farmers' cost of production. In the light of the criticisms made against this move, critically examine how this will be implemented. (240 Words)

[The Indian Express](#)

[The Wire](#)

Background:-

- In the recent budget, government has decided to keep MSP for all the unannounced crops of kharif at least at one and half times of their production cost. This decision will prove to be a '**historic**' step towards doubling the income of farmers.

Criticisms of the move:-

- There are some **doubts if the finance minister meant the entire cost of production or some reduced amount** as difference between C2 which is the total cost of production and A2+FL (Only covers the partial cost of production) is substantial. **The MSP has been 50% higher than A2+FL for the last ten years.**
- It may also be mentioned that cost plus pricing of MSPs, be it cost A2+FL or C2, is fraught with dangers as it totally **ignores the demand side.**
- **Only a fraction of the farmers actually have access to MSP.**
- There is **no provision in the budget to increase the ambit of farmers** who are covered by MSP and that is a problem in addition to how the MSP is calculated
- Farmers also argue that **MSP is only announced for 25 crops**, while for other crops they have to deal with market volatility. There is no MSP for fruits and vegetables.
- **MSP often does not reach farmers** as the government does not procure on time and the farmer has to make distress sales at rates lower than the MSP.
- There is no clarity on how the implementation takes place.
 - There are concerns whether all states would agree with that cost
 - Also as MSP and Inflation highly co-related and any increase in MSP will eventually result into price hike of many agricultural products,

How is this supposed to be implemented:-

- The government will ensure payment of full MSP even if farmers sell below MSP.
- Grameen Agricultural Market (GRAM) will provide farmers a means to sell directly to buyers.
- State Cooperative Banks, District Central Cooperative Banks and PACCS would get a lot of business from farmers.
- The government decision to raise the MSP by 1.5 times for all notified crops in the coming Kharif season would help SSBs, DCCBs and PACCS get business
- If the government means C2 as cost of production then it will help increase the farmer's profit.

Way forward:-

- There need to be reforms in APMC acts to ensure farmer selling directly to farmers
- Government needs to analyse the recommendation of the M.S Swaminathan Report which suggested MSP over C2

Q2) High input cost, flawed MSP calculation and non-inclusive crop insurance scheme are problems perpetuating farm distress. Critically analyse. (250 Words)

[Down to Earth](#)

Background:-

- Indian agriculture is undergoing a tough time with farmer suicides still taking place. So tackling farm distress is essential to government's target of doubling farmers income by 2022

How High input cost is perpetuating farm distress?

- The risk-bearing capacity of the farmer has been declining for a long time. His financial wherewithal is so low that failure of a single crop can throw him into distress and push him to suicide.
- Farmers face price uncertainties due to fluctuations in demand and supply owing to bumper or poor crop production and speculation and hoarding by traders.
- The costs of farm inputs have increased faster than farm produce prices

- Lack of operational profits from the crop. Profitability depends on input quantities and their prices and output yield and its price.

MSP calculations leading to farm distress:-

- In the recent budget, government has decided to keep MSP for all the unannounced crops of kharif at least at one and half times of their production cost. There are some **doubts if the finance minister meant the entire cost of production or some reduced amount** as difference between C2 which is the total cost of production and A2+FL (Only covers the partial cost of production) is substantial. **The MSP has been 50% higher than A2+FL for the last ten years.**
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- There is no clarity on how the implementation takes place.
 - There are concerns whether all states would agree with that cost
 - Also as MSP and Inflation highly co-related and any increase in MSP will eventually resulted into price hike of many agricultural products,

Issues with crop insurance:-

- Even with Pradhan Mantri fasal Bhima yojana issues with crop insurance remain.
- **Gaps in assessment of crop loss:**
 - The sample size in each village was not large enough to capture the scale and diversity of crop losses.
 - In many cases, district or block level agricultural department officials do not conduct such sampling on ground and complete the formalities only on paper.
 - There is lack of trained outsourced agencies, scope of corruption during implementation and the non-utilisation of technologies like smart phones and drones to improve reliability of such sampling
 - Less number of notified crops than can avail insurance,
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 - Insurance companies, in many cases, did not investigate losses due to a localised calamity and, therefore, did not pay claims.
 - Only 32 per cent of the reported claims were paid out by insurance companies, even when in many states the governments had paid their part of premium.
- **High actuarial premium rates**
 - Insurance companies charged high actuarial premium rates
- **Massive profits for insurance companies**
- **Coverage only for loanee farmers:**
 - PMFBY remains a scheme for loanee farmers farmers who take loans from banks are mandatorily required to take insurance. Like previous crop insurance schemes, **PMFBY fails to cover sharecropper and tenant farmers**
- **Poor capacity to deliver:**
 - There has been no concerted effort by the state government and insurance companies to build awareness of farmers on PMFBY.
 - Insurance companies have failed to set-up infrastructure for proper implementation of PMFBY.
 - There is still no direct linkage between insurance companies and farmers.
 - Insured farmers receive no insurance policy document or receipt.
 - Delayed notification by state governments
- **PMBY is not beneficial for farmers in vulnerable regions** as factors like low indemnity levels, low threshold yields, low sum insured and default on loans make it a poor scheme to safeguard against extreme weather events.
- There have been farmers' protests in various states against compulsory coverage of loanee farmers under this scheme. Farmer activists fear that this scheme might end up benefitting insurance companies more than the farmers.
- **CAG report:-**
 - Private companies are not properly monitored and premium subsidy is released to them simply on the basis of affidavits provided by these companies without checking actual situation on the ground.

Other reasons leading to farm distress are:

- There has been a steady declining trend in land holdings leading to less returns for the farmer.
- Since small and marginal farmers have little marketable surplus, they are left with low bargaining power and no say over prices.
- The absence of marketing infrastructure and profiteering by middlemen adds to the financial distress of farmers.
- Also, the predominance of informal sources of credit, mainly through moneylenders, and lack of capital for short term and long term loans have resulted in the absence of stable incomes and profits.
- The absence of a robust market for buying and selling forward-looking contracts
- Uncertain policies and regulations such as those of the Agricultural Produce Market Committee, besides low irrigation coverage, drought, flooding and unseasonal rains, are some other factors that hit farmers hard.

Measures taken by the government:-

- **In the recent budget :-**
 - **Ujjwala scheme** is expanded with coverage increased from 3 crore to 8 crore beneficiaries.
 - For cleaning of India's polluted rivers, the **budget has increased fund allocation** for the National River Conservation Programme from last year's INR 7.23 billion (USD 114 million) to INR 7.70 billion (USD 121 million) for 2018-19, an increase of only 6.5 per cent.
 - **Operation Green** on the lines of Operation Flood for enhancing the production of tomato, onion and potatoes. A sum of Rs 500 crore has been allocated for this new measure.
 - Government will launch a scheme for **Galvanising Organic Bio-Agro Resources Dhan (GOBARDHAN)** that will promote composting and promote usage of biofuels .
 - **Issue of air pollution due to crop burning** in Delhi-NCR region as tackled as a special scheme to subsidise machinery required for in-situ management of crop residues was announced.
- Groundwater augmentation and management is an important method of ensuring adequate and timely availability of water for crops. Fortunately, the concept of 'more crop per drop' is being promoted by the government.
- Pradhan mantri krishi Sinchayi Yojana ,Soil health card etc

Way forward:-

- **MSP**
 - There need to be reforms in APMC acts to ensure farmer selling directly to farmers
 - Government needs to analyse the recommendation of the M.S Swaminathan Report which suggested MSP over C2
- **Crop insurance**
 - **Insurance unit has to be brought down to individual farm level**
 - Currently insurance unit is at village level. This scheme does not guarantee relief for individual farmer in the event of crop loss. **Bringing insurance unit at individual farm level is a major technological challenge, which should be addressed at the earliest.**
 - **Making claims payment fast and transparent**
 - There should be strict compliance of timelines with regard to the process of claim settlement to provide adequate and timely compensation to farmers.
 - **Danger of discouraging mixed cropping and crop diversification**
 - A limited number of crops are notified by states under PMFBY. This can act as an impediment to crop diversification. PMFBY will have to make insurance relevant to farmers by including more and more crops under notification and by allowing insurance for mixed cropping.
 - **Improve scheme monitoring and grievance redressal mechanism**
 - Dedicated common toll-free numbers should be channelised to address all queries, concerns and grievances of farmers with respect to crop insurance. This toll-free number should serve as a one-stop solution for crop insurance. Farmers should be able to avail of a single window that is accountable to them for all aspects of the scheme.
 - **Coverage of losses expanded:-**
 - Coverage of tenant and sharecropper farmers should increase
 - Damage caused by wild animals, fire, cold waves and frost to crops should also be considered at the individual level. Damage caused by unforeseen weather events like hailstorms should also be included in the category of post-harvest losses.
 - **Awareness:-**
 - Farmers must be informed before deducting crop insurance premium. They must be given a proper insurance policy document, with all relevant details.
 - **Capacity building:-**
 - Panchayati Raj Institutions and farmers need to be involved at different stages of implementation.
 - Incentivise groups of small farmers or women farmers and promote group insurance.
 - Robust assessment of crop loss should be done through capacity building of state governments, involvement of PRIs and farmers in loss assessment, auditing and multi-level checking to ensure

credibility of data and testing incorporating technology such as remote sensing, drones and online transmission of data.

- In some countries farmers sell half their crop in futures, thereby protecting their investment. Since there are no futures markets in India we need to find a creative solution.
- **Inputs:-**
 - Input usage can be brought down by using integrated farming methods in which there is a balance between preventive agronomic methods and some curative chemical methods without sacrificing yields and quality.
 - There is a need to reduce tillage and promote better soil structures. Minimum tillage helps prevent soil erosion.
 - Soil structures, damaged because of indiscriminate use of chemical fertilisers, need to be restored. Biotechnology solutions like nitrogen-use efficiency gene and phosphorus-use efficiency gene reduce consumption of fertilisers significantly.
 - Input prices may be reduced by creating a digital marketplace which will eliminate middlemen.
- The Government should create a unified, reliable data base of farmers with complete details. It should be accessible by paying a fee. It can help in integrating many services.
- In rainfed areas, water security primarily depends upon rainwater harvesting and the efficient use of the available water through techniques like drip irrigation, and the appropriate choice of farming systems.
- The **government must resolve to address the structural issues and there is a need to give farmers not just a better**, but also more stable, return on their crops.

Q3) Discuss the merits, challenges and future prospects of direct benefit transfer (DBT) in fertilizers. Should fertilisers subsidy be directly transferred to the farmer's bank account? Examine why. (250 Words)

The Hindu

Introduction:-

- India has successfully conducted direct benefit transfer in case of LPG and now it wants to expand to fertilizer as well. So far DBT in fertilizers has been rolled out in 19 States and Union Territories and 12 States are expected to come on board. DBT in fertilizers is expected to expand its footprint in the entire country.

Merits:-

- DBT in fertilizer envisages transfer of subsidy to manufacturers upon authentication of purchase by farmers. **This restricts diversion and brings about greater transparency, accountability and efficiency.**
- Given the complex nature of fertilizer subsidies, with multiple producers and varying cost structures, **this was perhaps the best option to begin with.**
- **Quick subsidy payments on a daily basis is expected to end delays in companies receiving their dues from the government,** besides leaving an electronic trail of every transaction with all relevant details.
- **It will plug leakages and save huge amount of money to the exchequer.**
 - Sales of neem-coated Urea have already stopped illegal diversion of fertilizer for non-agriculture applications like in plywood and textile sectors or for milk adulteration.
- New system will completely put this practice to an end when **companies will have to provide details of end users.**
- Once the system functions fully, **it will lead to better soil health management, balanced fertilization, and better productivity.**
- **Based on NITI Aayog findings:-**
 - 85% of farmers received transaction receipts and the grievance redress mechanism has improved and 79% retailers are satisfied. A majority of farmers (and retailers) prefer the DBT system

Demerits:-

- Introduction in the fertilizer sector seems a gigantic task **as the beneficiaries and their entitlements are not clearly defined at this present.**
- Different inputs – urea, phosphatic and potassic fertilizers – have different rates of subsidies. **Besides, it would be premature to accept that all the farmers would be able to buy their requirements of fertilizers at market rate and wait for 15 days or a month to get the subsidies.**
- For farmers, there is no change in the system when DBT is rolled out except that the purchase will be recorded in a Point of sale machine. For retailers too, there is not much change, except that they have to upload data.
- An important issue has been **connectivity**, like other IT-based initiatives, especially in rural areas. Developing the systems and sensitising all stakeholders to migrate to the new system was an arduous task .
- A major concern is of **some dealer attrition, which is probably on account of declining margins and reduced possibility of diversion or sale at a higher price.**

- Under DBT, manufacturers will not get subsidy. They will have to sell fertilisers at cost-based or market determined price, whichever is lower. **While low-cost units will benefit, high-cost units may lose.**
- Under DBT, **importers will have to sell at market price and will be under pressure to source imported urea at competitive price.** Assured margins will be a thing of past.
- Under DBT scheme, **dealers will have to pay at least two to three times more. This will require greater deployment of working capital.** If banks do not lend more, many of them will be forced to leave this business, This will in turn affect sales.

Prospects :-

- Innovative solutions such as retailers can use desktops, laptops, tablets, smartphones, etc. to run the application are expected to help.
- The revamped toll-free number will soon allow conversations in regional languages.
- Reducing the waiting time for farmers purchasing fertilizers is important. While Aadhaar is the preferred form of identification of buyers, **other forms of identification may also be used.**
- As the pilot expands to more States, the efficiencies of the new system would be increasingly visible. **The broad and overriding goal is to ensure that under no circumstances should any farmer be denied or refused the opportunity to purchase fertilizers.**

Subsidy directly to the bank account:-

- The Standing Committee on Chemicals and Fertilizers (2016-17) has recently emphasised that while implementing DBTs, subsidy should be disbursed directly to the farmer's bank account.
- **Centre would launch the DBT in real sense when subsidies will pass directly to the farmers.** This is the first step towards direct benefit transfer but unless the money is given to the farmers accounts it cannot succeed.
- The current method may result in Rs 5000 to Rs 7,000 crore in savings by plugging leakages but for more savings they have to be linked to bank accounts.

No, subsidy should not be transferred to the bank account due to the following reasons:-

- There are difficulties at directly transferring subsidies to farmers' bank accounts .
- Also the banking system is not very spread out in rural areas
- Still many people do not have banking account
- Also when cash is transferred in the bank account it can be used for other purposes.

Conclusion:-

- The massive amount of data being generated is expected to provide a clear picture of farming activity in the country and help make future planning for the sector more effective.

Topic: Public Distribution System- objectives, functioning, limitations, revamping

Q1) Critically comment on the functioning of the existing TPDS mechanism and the role played by the centre and states. Also discuss challenges in the effective implementation of TPDS and alternatives to reform the existing machinery. (250 Words)

PRS India

Background:-

- India is the fastest growing large economy in the world today. Despite this, one in every five Indians is poor. The "Global Nutrition Report 2016" once again demonstrates India's slow overall progress in addressing chronic malnutrition. So TPDS can be one of the avenues to ensure food and nutrition to the poor.

Merits:-

- **Identification of eligible households under existing TPDS**
 - The government launched TPDS in order to target food grains entitlements to poor households. Therefore, identification and classification of beneficiaries is crucial to fulfil the goals of the scheme.
- **Role of Aadhaar**
 - Aadhaar number is being used to accurately identify and authenticate beneficiaries entitled to receive subsidies under TPDS and other government schemes.
 - **Using Aadhaar** would help eliminate duplicate and fake beneficiaries, and make identification for entitlements more effective.
- **Diversification of commodities under PDS:**
 - The list of items which are distributed under PDS system have been extended to meet the day-to-day requirements of the ordinary man.

- **Increased transparency:**

- Records are now available on the web portal of this scheme and hence, the transparency involved in this system has increased.
- Technology based reforms to TPDS like digitisation of ration cards ,Use of GPS technology , Issue of smart cards in place of ration cards ,SMS based monitoring Use of web-based citizens portal have already been undertaken by some states.

Role of centre and states:

- **Entitlements under TPDS**

- Eligible beneficiaries are entitled to subsidised food grains such as wheat and rice. States have the discretion to provide other commodities such as sugar, kerosene, and fortified atta under TPDS.
- The government does not identify APL households therefore, any household above the poverty line is eligible to apply for a ration card.
- The centre allocates food grains to states for APL families in addition to BPL families; however, this allocation is based on availability of food grains in the central stocks and the average quantity of food grains bought by states from the centre over the last three years.

- **Management of food grains for TPDS**

- The central and state governments share responsibilities in order to provide food grains to the identified beneficiaries.
- The centre procures food grains from farmers at a minimum support price (MSP) and sells it to states at central issue prices. It is responsible for transporting the grains to godowns in each state. It also allocates the grains to each state on the basis of a formula.
- States bear the responsibility of transporting food grains from these godowns to each fair price shop (ration shop), where the beneficiary buys the food grains at the lower central issue price. Many states further subsidise the price of food grains before selling it to beneficiaries.
- The Food Corporation of India (FCI) is the nodal agency at the centre that is responsible for transporting food grains to the state godowns.

- **Procurement of food grains from farmers**

- The food grains provided to beneficiaries under TPDS are procured from farmers at MSP. The MSP is the price at which the FCI purchases the crop directly from farmers; typically the MSP is higher than the market price. This is intended to provide price support to farmers and incentivise production.
- Decentralised procurement:
 - Decentralised procurement is a central scheme under which states/Union Territories (UTs) procure food grains for the central pool at MSP on behalf of FCI.
 - The scheme was launched to encourage local procurement of food grains and minimise expenditure incurred when transporting grains from surplus to deficit states over long distances. These states directly store and distribute the grains to beneficiaries in the state.
- The centre procures and stores food grains to:
 - Meet the prescribed minimum buffer stock norms for food security
 - Release food grains under TPDS on a monthly basis
 - Meet emergency situations arising out of unexpected crop failures, natural disasters, etc.,
 - Sell through the Open Market Sale Scheme (OMSS)
 - The central government introduced the Open Market Sale Scheme (OMSS) in 1993, to sell food grains in the open market; this was intended to augment the supply of grains to moderate or stabilise open market prices.
- **Storage of food grains**
 - Apart from the food grains requirement for immediate distribution under TPDS, the central government maintains minimum buffer reserves of food stocks for emergencies.
- **Distribution of food grains to beneficiaries**
 - The responsibility of distributing food grains is shared between the centre and states.
 - The centre, specifically FCI, is responsible for the inter-state transport of food grains from procuring to consuming states, as well as delivering grains to the state godowns.
 - Once FCI transports grains to the state depots, distribution of food grains to end consumers is the responsibility of state governments.
 - On receipt of food grains, states allocate the grains to each district and further to each Fair Price Shop (FPS; ration shop) within the first week of the month.
 - State governments are responsible for transporting food grains from the state godowns to the doorstep of each FPS in the state.

Challenges and issues:

There are several issues to consider while analysing the implementation of TPDS, which relate to the (i) identification of eligible households, (ii) trends in procurement vis-à-vis production of food grains, (iii) storage space for food grains, (iv) food subsidy, and (v) leakage of food grains.

- **Identification of beneficiaries**
 - Like any system of targeting, TPDS also suffers from inclusion and exclusion errors.
 - This implies that entitled beneficiaries are not getting food grains while those that are ineligible are getting undue benefits
- **Trends in procurement vis-à-vis production**
 - In years of drought and domestic shortfall, India will have to resort to large scale imports of rice and wheat, exerting significant upward pressure on prices. This raises questions regarding the government's ability to procure grains without affecting open market prices and adversely impacting the food subsidy bill.
- **Rising food subsidy**
 - The food subsidy has increased over the years. The cost of handling food grains (MSP and other costs) has increased due to rising costs of production such as labour and energy costs, including fertilisers and increasing costs for handling and distributing food grains.
- **Shortfall in storage capacity with FCI against the central pool stock**
 - FCI's storage capacity (both owned and hired) has not increased commensurate to the growth in procurement. This implies that a certain amount of grains is being stored in unscientific storage, leading to the rotting of food grains.
 - The holding of stocks above the minimum buffer norms also adversely impacts prices of grains in the open market. This affects poor households, which buy the remaining requirement of food grains from the open market.
 - Food grain supplied by ration shops are either not enough to meet demand or are of inferior quality
- **Aadhar enabled PDS issues:**
 - Even in state capitals ,network failures and other glitches routinely disable this sort of technology.
 - Internet dependence is needed but still internet services are not available in rural areas.
 - Many people had been deprived of rations because they don't have an Aadhar number.
- **Leakage of food grains**
 - TPDS suffers from large leakages of food grains during transportation to and from ration shops into the open market.
- **Cost:**
 - PDS is not cost effective, its operations are too costly and the ratio between procurement and transportation is too high pointing to 'wasteful' movements.
- **Lack of effective contribution towards household food security.** In fact, it remains one of the weaker components of the food policy trioka of procurement, distribution and stocking.

Reforms needed :-

- **Reforms to TPDS:**
 - Includes doorstep delivery of grains to ration shops, leveraging Aadhaar for targeting of beneficiaries, and maintenance of adequate buffer stocks of food items
- **Universal PDS**
 - Unlike most states in the country, Tamil Nadu retained the Universal PDS, providing subsidised food grains to the entire population. Universal PDS helps the state avoid errors in targeting beneficiaries.
- **Cash Transfers :-**
 - Beneficiaries would be given either cash or coupons by the state government, which they can exchange for food grains. Some potential advantages of these programmes include:
 - Reduced administrative costs
 - Expanded choices for beneficiaries
 - Competitive pricing among grocery stores.
 - It helps reduce fiscal deficit by curbing expenditures earmarked for the pDS as well as avoiding sustainability higher costs of transferring food rather than cash.
- **Food coupons:-**
 - Beneficiaries would directly be given either cash or coupons which can be exchanged for food grains. Efforts have been made to introduce cash transfers for various schemes with the Unique Identification Number as a way to improve identification and prevent leakage of subsidy.
- **EPOS (electronic point of sale) devices:-**
 - Automation of fair price shops, through handheld devices or computers
- **Retail price at FPS should be uniform throughout the state/area** after weight averaging the transport cost for the FPS.
- **Streamlining of the supply chain** by construction of small intermediary godowns between FCI's base godown and FPS in the interior

- **Setup vigilance committees of local people** with substantial representation of women for each FPS at the village level and also at higher levels
- **Reduction in PDS prices**
- Community management of FPS
- Setting up proper channels for grievance redressal
- Raising FPS commissions.
- Entitlement card's easy availability and improvement in its design and durability
- Doorstep delivery of PDS commodities

Conclusion:-

Over the years, PDS has become an important part of Government's policy for management of food economy in the country. The Targeted Public Distribution System (TPDS) is an important instrument of policy aimed at reducing poverty through the mechanism of delivering minimum requirements of food grains at highly subsidised prices to the population below the poverty line.

Topic: Infrastructure; Investments

Q1) In the recent budget it was announced that the Central government will increase the ambit of the Ujjwala scheme from the existing five crore to eight crore beneficiaries. Critically evaluate the performance of the scheme and comment on the feasibility of the new target. (250 Words)

[DOWN to Earth](#)

[Down to Earth](#)

Background:-

- The Prime Minister's Ujjwala Yojana (PMUY) aims at making poor women free from the smoke of burning wood.
- Families below the poverty line (BPL) can get free LPG (liquefied petroleum gas) connection.
- Initially, the target was to provide free LPG connections to about 5 crore poor women. But in view of the pace of implementation of the Ujjwala scheme and its popularity among women, the government proposed to increase the target of providing free connections to 8 crore poor women.
- Under Ujjwala, the government aims to give 50 million LPG connections to BPL families by 2019. For this, it has allocated Rs 8,000 crore.

Success:-

- Successful made women realise the benefits of LPG cooking as cooking with it is quite easy compared to the traditional chulha.
- The number of indoor air pollution deaths would be reduced
- Within a year, the government had distributed more than 22 million LPG connections, exceeding the target of 15 million. Uttar Pradesh has benefitted the most.
- It brought down the upfront cost. Earlier, an LPG connection would cost Rs 4,500 to Rs 5,000. Now it cost barely Rs 3,200.
 - Of this, the government gives half the money as a one-time grant. This grant of Rs 1,600 covers the cost of a 14.2 kg cylinder, pressure regulator, hose and miscellaneous charges. They have to bear the cost of a two-burner stove, which comes to another Rs 1,600.
- If they cannot bear the cost of stove, they can get a loan from oil marketing companies. **Thus, one can get the LPG connection for free under Ujjwala.**
- The extraction of firewood from forests earlier has intensified India's environmental problems but with use of LPG this has reduced.
- The new target is feasible when it comes to number of connections to be established.

However some concerns remain:-

- **High Refill cost:-**
 - Economic Survey 2018 had highlighted that only 79 per cent of beneficiaries came to refill the cylinder.
 - While the number of LPG connections across India has increased by an impressive 16.26% since the scheme was launched, the use of gas cylinders increased by only 9.83%. according to data from the government's Petroleum Planning and Analysis Cell
 - If the family has availed a loan at the time of taking the connection, it will have to shell out more money for the first few refillings .
- **High installation cost:**

- CRISIL data – Of those surveyed, 86% said they had not shifted from biomass to LPG because the price of installing a connection was too high.
- **The long waiting time to get a refill for an empty LPG cylinder.**
 - Gram-panchayat level surveys found that in a fourth of the panchayats, users had to wait for more than 15 days on average to get a cylinder refilled.
- As per **Census 2011, nearly 121 million house-holds are still in the chulha trap.** This takes a huge toll on the health of women and children. **Indoor air pollution is now the second biggest killer in India after high blood pressure.**
- LPG usage in villages depends on what other fuels are available. Since many families get cow dung, crop residue, twigs and fuel wood free, they ration their use of LPG.
- **The distribution of LPG in remote villages:**
 - LPG cylinders are distributed by three oil marketing companies in India, namely Indian Oil, Bharat Petroleum and Hindustan Petroleum. These companies appoint dealers and distributors all over the country.
 - **In the past three years more than 5,000 LPG distributors have been added in the country, according to the petroleum ministry. Close to half of these distributors have been recruited in the past 16 months alone. However, this is not yet sufficient.**
 - Gas agencies do not provide door-to-door facility. **Many women carry the empty cylinder over a distance of three to 15 km.**
 - Since the distributors are not willing to go to remote areas this leaves scope for middlemen who either overcharge or divert the gas
- **It is failing in its objective of persuading households to stop using firewood and traditional biomass fuels that have the potential to cause respiratory diseases.**
- Relying too much on LPG also makes India **dependent on petroleum imports**

Way forward:-

- **Grading the subsidy according to the economic strata.**
- **Making people more aware of the benefits of LPG especially the health benefits.**
 - Village level ASHA workers can be roped in to create awareness about the ill effects of traditional chulhas. This will create a bottom up demand for cleaner fuels.
- **Diversifying fuel options** and making cylinders in different portable sizes available is needed.
 - Since biomass is abundantly available in Indian villages, the government should continue its efforts on clean cook stoves and community-based biogas plants, so that the poor have **alternative cleaner fuels.**
- **The cost of refilled cylinders would have to be further subsidised by the government.** In addition, the infrastructure for delivering cylinders – bottling plants, dealers and distributors had to be enhanced substantially.
- To arrive at an accurate assessment of the Pradhan Mantri Ujjwala Yojana, experts say, merely counting the number of new gas connections cannot be the only yardstick.

Q2) It is now well recognised that there is an investment slowdown in India, which is delaying a full-blooded recovery in the economy. How does this investment slowdown affect formal and informal sector? What are its policy implications? Examine. (250 Words)

The Hindu

Background:-

- Private investments which are the principle engine of growth, are slowing down in India and has **offset the government's macroeconomic stimulus of increased public investments.**
- The slowdown started five years ago and according to Economic Survey 2018 it is the most severe in India's history.

Investment slowdown impact on formal and informal sector:-

- **Formal sector:-**
 - **The corporate sector is not the source of the decline.**
 - Corporate investments have been on the upswing, rising through the five-year slowdown.
 - There is negligible change in the investment behaviour of public and private finance corporations. **Public non-financial corporations reduced investments marginally.**
 - Corporates could have borrowed from overseas and raised funds from the capital markets. So companies are facing investment issues leading to infrastructure bottlenecks as well.
 - Jobs are not being created.
- **Informal sector:-**
 - **The sharpest pullback has been by the household sector** as investments fell since the start of the slowdown. **The bad bank loans also have restricted the funds supply to this sector.**

- **Liquidity crunch:-**
 - When the government (Centre plus the States) takes up larger portions of what net savers can provide, **corporates can still access capital, but the informal sector is left without recourse.**
- The informal sector depends solely on the domestic pool of savings, largely through **bank loans, to finance its investments which was affected adversely.**
- **This give rise to more informal lending with high rates of interest**

Policy implications:-

- The government's borrowings from the savings pool and from the banks seem to have crowded out the unincorporated enterprises or the informal sector. So crowding out is taking place.
- **Savings:-**
 - The formal-informal divide shows up also in savings. **Corporate savings are rising consistently, while those of the household sector are slowing.**
- Shows the vulnerability of the informal sector so implications like employee entrenchment, wage reduction might happen.
- Wider protests are visible all over the country due to low market demand .So government need to take policy imperatives to change the situation.

Way forward:-

- The Survey recommends
 - **urgent prioritisation of investment revival to arrest more lasting growth impacts**
 - Policy focus to be on both big and small companies, creating a conducive environment for the smaller industries to prosper and invest.
- Urgent fiscal deficit reduction, quick clean-up of the bad loans mess, and restoration of banks health are more likely to revive private investments.

Q3) It is argued that more than a manufacturing-centric EV policy, India needs a set of ecosystem-level EV policies. What do you understand by this? In the light of present EV policy that's being mooted by the government, discuss the statement. (250 Words)

Livemint

Background:-

- Electric vehicles (EVs) are growing in popularity and certainly in mind space. They are cleaner and more efficient, easy to maintain and there is an advantage of regenerative braking. On the whole it is a package to fight against climate change and global warming as green house gas emissions are reduced.

Problems with current model/why India needs to focus on ecosystem EV :-

- Most worries hinge on battery costs and manufacturer readiness. Also at current the electric vehicles take longer time to charge than conventional vehicles.
- A more India-specific concern will be that of **the electricity grid** as there are doubts when it can successfully handle the demand.
- India needs to focus on ecosystem EV because the **present system does not help environment as most power comes from coal-fired power**
- **Will use solar photovoltaics (PV) to charge EVs.** This means that Renewable energy may at best contribute some fraction of energy at different times but with personal vehicles and public transport mostly charged at night solar energy advantage as an alternative is constrained.

What more needs to be done ?

- **EVs and the grid can have enormous synergy.**
 - Not only can EVs charge whenever there is "surplus" power, they have a battery useful for absorbing variable renewable energy. **They can even offer backup power for the grid.**
- Time-of-day pricing(**cheap charging when power is surplus**) is missing today. Without this, India cannot have signalling to purposely make demand vary to match supply conditions. Such responsiveness is a hallmark of the "future grid"
- EVs can and should use Renewable energy as much as possible as it helps in cleaning the environment.
- India could compensate cleaner vehicles through reduced registration charges, or even aim for mandating EVs for taxis and selected (urban) public transport vehicles.
- There are other ways to spur EVs, **including dedicated charging spots**, and discounted or free parking.
- The long-run goal isn't **just to make vehicles electric but to reduce personal driving.** This means urban redesign for walking/biking, more shared services, and more and better public transport

- The government mainly needs to create the right frameworks and help overcome “network effect” problems, covering both the grid and charging infrastructure.
- **To meet India’s demands for batteries amid a global surge in electric vehicle demand, the entire mineral supply chain needs to be overhauled and expanded**
 - In order to avoid a scenario like the one that played during the oil crises of the 1970s it is imperative that India secure mineral supplies for its domestic industry by acquisition of overseas assets such as mineral reserves and the associated production.
 - India has long-term trade relations with lithium-producing countries in Latin America through preferential trade agreements (PTAs).
 - India needs to formulate policies incentivising domestic public and private mining companies to invest in overseas lithium mining assets.
 - Reducing the battery size and adopting “swappable” battery technology are other alternatives
- **India does need to have a low-emission vehicle policy**, one that surrounds alternative energy sources such as bio-gas and bio-diesel.
- Because **hybrids are a mesh of existing and future technologies** and do not require the establishment of charging infrastructure, although popularising plug-in hybrids that can be charged both from their own engines and the grid, will actually help in the gradual seeding of such infrastructure before a shift to electric vehicles.
- **Focus on wireless ranging** as it allows for significantly smaller batteries or the ability to travel longer distances with a larger battery.

Conclusion:-

- When India is focusing on reaching the targets on the Paris agreement and striving for cleaner environment the focus on electrical vehicles is the right direction.

Topic: Science and Technology- developments and their applications and effects in everyday life

Q1) Blockchain is ranked close to the peak of the hype cycle of technologies with inflated expectations and bitcoin and other cryptocurrencies represent the mother of all bubbles.
Comment. (250 Words)

[Livemint](#)

Background:-

- Blockchain, the shared database technology that powers cryptocurrencies such as bitcoin, has over the past three years developed an almost unchallenged reputation as the next big thing in finance and technology.
- It is said to have wider applications of making banking sector more secure, can be used in Indian elections to make EVM more effective etc

However many concerns have been raised recently :-

- It lacks the kind of basic common and universal protocols that made the Internet universally accessible (TCP/IP, HTTP, and so forth).
- Its promise of decentralized transactions with no intermediary authority amounts to an untested
- Blockchain has existed for almost a decade, and still has mainly only one application:
- They are horribly inefficient when compared to traditional, centralized solutions.

Cryptocurrency issues:-

- Cryptocurrencies such as bitcoin do not even fulfil their own stated purpose.
 - As a currency, bitcoin should be a serviceable unit of account, means of payments, and a stable store of value. **It is none of those things.**
 - **No one prices anything in bitcoin and also very few retailers accept it.**
 - It is a poor store of value, **because its price can fluctuate by 20-30% in a single day.**
- **As is typical of a financial bubble, investors are buying cryptocurrencies not to use in transactions, but because they expect them to increase in value.**
- **Indeed, if someone actually wanted to use bitcoin, they would have a hard time doing so.** It is so energy-intensive to produce, and carries such high transaction costs, that even Bitcoin conferences do not accept it as a valid form of payment.
- **The idea that hundreds of cryptocurrencies could viably operate together not only contradicts the very concept of money.**
- Unless the supply of a currency tracks potential nominal GDP, **prices will undergo deflation.**
 - That means if a steady-state supply of bitcoin really did gradually replace a fiat currency, the price index of all goods and services would continuously fall.

- By extension, any nominal debt contract denominated in bitcoin would rise in real value over time, leading to the kind of debt deflation
- Cryptocurrencies were also linked with wider issues like Black money, money laundering, using them for terrorism finance etc

Topic: Awareness in the fields of IT, Space, Computers, robotics, biotechnology;

Q1) Artificial Intelligence (AI) heralds the next phase of digital capitalism where capital accumulation is powered by data. Elaborate the statement and discuss who should own data in AI driven digital capitalism and why. (250 Words)

The Hindu

Background:-

- **Artificial intelligence** is the simulation of human **intelligence** processes by machines, especially computer systems. With AI data is in a very vulnerable position as data accumulators receive great gains at the cost of people's privacy. So the people who are generating data need to be rewarded.

Statement explanation:-

- Worldwide spending on AI solutions will grow to \$57.6 billion by 2021.
- The majority share of the investments is being made by the companies like Alphabet, Google, Amazon etc. All these companies hail from the most profitable sector of global capitalism (technology). So it's clear that **AI is critical for future profitability.**
- **With digitisation corporates got data which is the means to access markets.** For instance Uber operates in multiple countries based on data.
- The corporate which have access to data of people are receiving the advertising revenue for instance Google and Facebook which do not produce any content at all but based on search patterns and the things posted the algorithms assess a person's preferences. So every interaction is turned into a data point and fed it all into an algorithm.
- Platform businesses like Uber, Airbnb leverage their ability to scale-up the digitisation of a given activity to quickly build monopolies that, in turn, boost their ability to collect more data.
- Once a platform is in place to ensure a steady supply of fresh data to train an algorithm, the company can eventually move to a position where it can offer an array of AI solutions

Who should own data and why ?

- Citizens must consider data ownership carefully.
- The platform-based, chargeable AI services being rolled out by the likes of Amazon and Google can be used for rent-seeking. **So, there is no reason why people should continue to surrender ownership of their personal data without due compensation.**
- People should have control of their own data. **They should be able to see how their data are used, and they should be able to take it with them on leaving the service provider.**
- **There is very little idea what personal data companies own about people, what they do with it, or where they store it. This does not just raise issues about privacy, but also security.** It is also **profoundly disempowering.** Most people believe they should have as much control as possible of their intellectual property or their physical selves.

Way forward:-

- The time has come to put in place a new data ownership regime so that private capital is made to pay if it wants to use people's personal data for commercial gain.
- A more equitable distribution of the profits derived from data is essential to ensure that the original owner-producers of data get their due share.
- **Hub of All Things in UK** devised a mechanism where personal data can be kept within a database over which you have full control. New regulation coming down the road should give a boost to projects like this.
- In Europe, General Data Protection Regulation, as well as proposed new ePrivacy legislation, **will mean companies have to be much more transparent about what personal data they hold on their customers or users, and what they do with it. This provides a new opportunity for people to take back control.**

Conclusion:-

- In the age of imperialism and colonialism developed countries took away resources from third world countries. In the age of digitisation they would have the power over data from the people of developing countries.

Q2) Analyse the benefits and risks of emerging breakthroughs in the Artificial Intelligence (AI) field for India. (250 Words)

IDSA

Background:-

- Artificial Intelligence (AI) brings in a host of real-world applications which had earlier merely been a subject of science fiction novels or movies. The breakthroughs such as the social humanoid robot Sophia became a citizen of Saudi Arabia, Apple's Siri can receive instructions and interact with human beings in natural language.
- So AI has made inroads to automation and decision support systems to complement or augment human abilities.

Benefits :-

- **AI enhances the ability of computer systems to learn from their experiences over time**, makes them capable of reasoning, perceiving relationships and analogies, helps solve problems, as well as respond in natural languages and adapt to new conditions.
- AI allows machines to sense and comprehend their surroundings and act according to their own intelligence or learning.
- **Governance:-**
 - As India is poised for reforms in governance, **AI can actually help with process optimization and cost savings for the government, in addition to solving some strategic problems or assisting in decision making.**
- **Economy:-**
 - Economic growth is vital for development, and the next generation of economic growth is anticipated to be fuelled by technologies relating to big data, block chain, quantum computing and AI. **These game changing technologies will spur innovation, create value for the investors, generate specialized job domains and as a result, propel economic growth.**
 - Issues such as tax evasion, money laundering etc can be easily addressed using AI.
 - 68% of Indian business decision-makers believe AI will help their business in various ways such as boosting productivity, generating growth and addressing societal issues
- India has one of the world's largest automotive industries, with a significant production and consumption base. **AI applications have vast scope in the automotive sector**, ranging from enhancing fuel efficiency to passenger safety to the concept of self-driving vehicles.
- **Healthcare:-**
 - Healthcare sector in India is burgeoning with innovation and demand, having business models unique to the Indian requirements and spending power. **AI can augment the potential of government and private sector to deliver healthcare services and products with improved drug safety**, better diagnosis and analysis of clinical reports for preventive and accurate treatment.
- **Defence:-**
 - **More advanced applications of AI extend to the domains of foreign, defence and security policies.** Deep learning in AI can unravel futuristic functions by augmenting decision making ability of the humans with access to the information derived from large data sets.
- **Security:-**
 - AI has many peace time applications as well. It can be used to train soldiers and pilots, simulate war-game, synthesize information from surveillance systems and address critical problems in optimizing logistics, fleet management and maintenance
- **Vision and Voice systems to interpret** and comprehend visual inputs such as images, clinical diagnosis and facial recognition or voice inputs to recognize the source of the sound.
- **Law enforcement or internal security requirements** for detecting and recognizing individuals or criminals, with multitudes of data streaming from police databases or the network of surveillance cameras.
- **Banking and financial services** for fraud detection using advanced algorithms to identify patterns in transactions and consumer behaviours which are risk prone.
- **AI is also helping insurance providers** arrive at better risk assessment.
- Countries such as India can benefit a lot from the use of AI by focusing on sectors such agriculture, manufacturing, infrastructure etc.

Concerns and Risks:-

- The armed forces of US and China have already invested billions of dollars to develop LAWS, intending to gain strategic and tactical advantage over each other. **This runs the risks of an arms race.**
- There is **no clearly stated policy document** or vision statement for AI development.
- AI has to meet the first and **foremost challenge of acceptability with the users** from the government, public sector and the armed forces, or even the private sector.
 - As users of AI, their interest in the technology augmenting their own ability, and not posing a threat, is quite pertinent.

- **Technical competence in this fast-paced sector, primarily in the case of government, could be a road block.**
- AI can better adapt to the goals and expectations of the Indian decision makers, if the technology development is indigenous. **Foreign dependence in this case would be detrimental and unproductive.**
- AI has set off an economic and technological competition, **which will further intensify.**
- LAWs operate without human intervention, and there is **formidable challenge in distinguishing between combatants and non-combatants, which is a subject of human judgment.**

Conclusion:-

- More than a technology developer or consumer, India can play a vital role in defining the multilateral rules of the road and help setting up of best ethical standards to dissuade any arms race in LAWs, ensuring safe and beneficial Artificial Intelligence for all.
- Strides in supercomputing and Big Data analytics are further enhancing AI applications relating to advanced training or learning and India should be ready for that.
- China is investing \$2.1 billion in creating an AI research park. It is time to ensure that India is not left behind in this important skill.

Topic: Issues relating to intellectual property rights

Q1) What do you understand by patent exclusivity and secondary patents? Examine the innovations in Indian patent law that have made medicines affordable and the ways through which big pharma companies try to subvert these laws. (250 Words)

[The Hindu](#)

Patent exclusivity:-

- Patents offer their owners market exclusivity for a limited period of time. For medicines, this exclusivity should last as long as the primary patent which relates to the active pharmaceutical ingredient (API) of the medicine is in effect, typically 20 years.
- The end of patent exclusivity is referred to as a patent cliff, because drug prices fall steeply afterwards by as much as 80% owing to generic competition.

Secondary patents:-

- Secondary patents work like this: Companies file for additional, defensive patents to thicken the protection around their original base patents.
- **The secondary patents prop up before the expiry of a primary patent thereby stretching the exclusivity beyond 20 years, a practice that is called “evergreening”.** This strategy is most lucrative when employed in the context of so-called **blockbuster medicines**, which reap annual revenues exceeding \$1 billion.

Innovation in Indian patent law which made medicines affordable:-

- **Secondary patents for several blockbuster medicines have been rejected by the IPO** dramatically expanding access to medicines for important health problems such as cancer, AIDS, asthma and cardiovascular diseases.
- **The U.S. recognises and encourages secondary patents. India does not. So cheaper versions of medicines are released in the market.**
 - The rejection of a secondary patent for Novartis Glivec, a crucial leukaemia cure, was upheld by the Supreme Court of India in 2013, while the same was granted in the U.S.
- In the last decade, it was found that the IPO rejected about 95% of all pharmaceutical patent applications on its own. Only 5% were through the intervention of a third party, such as a pre-grant opponent.
- **To be deemed patentable, applications for secondary patents have to clear significant hurdles:-**
 - Secondary patents were rejected largely due to the stringent thresholds imposed by Sections 2(1)(ja) and 3(d).
 - As per Section 2(1)(ja) of the Patents Act, **the product in question must feature a technical advance over what came before**. Because secondary patents for pharmaceuticals are often sought for trivial variants, they typically fail to qualify as an invention.
 - Further, when a medicine is merely a variant of a known substance, **Section 3(d) necessitates a demonstration of improvement in its therapeutic efficacy. The provision also bars patents for new uses and new properties of known substances.**
 - **This additional requirement is unique to Indian law, and along with Section 2(1)(ja), ensures that bad patents stay out of the system.**
 - Section 3(d) is complemented by other exceptions to patentability like
 - Section 3(e) ensures that patents for combinations of known substances are allowed only if there is synergistic effect

- Section 3(i) ensures that no exclusivity can be claimed over methods of treatment.
- These provisions also extend to biologics, the new big players in the therapeutics marketplace.
- **Compulsory licensing:-**
 - CL is granted subject to three conditions:-
 - one of them is about price. The reasonable requirement of the public with regard to the invention should be satisfied.
 - The price at which it is made available should be reasonably affordable.
 - It should be worked in India.
 - **The Patents Amendment Act, 2005, introduced “Product Patent” in India.**
 - The product patent was granted for the new product for a period of twenty years
 - This has helped Indian pharmaceutical industry to develop generic versions of the new medical drugs without having fear of infringement of patent.
 - This has also helped in achieving a key-objective of policymakers in the developing world to ensure the availability of new medical treatments to save millions of lives by production of cheap generic versions of on-patent drugs.
 - The introduction of product patents is considered as a major incentive for developing new medicines

Ways through which pharma companies try to subvert laws:-

- The threat of precipitous fall in profits **drives pharmaceutical companies to find new ways to postpone their exclusivity by filing secondary patents for derivatives and variants of the API**, such as a physical variant of the API, a new formulation, a dosage regimen, or a new method of administering the medicine.
- These additional patents rarely represent anything new in terms of science. **Instead, their purpose is to prolong a company’s monopoly and, along with that, its ability to charge high prices for its drugs. Some drugs have dozens of secondary patents.**

Conclusion:-

- India must have more trained professionals to handle the rising trend of patents. Apart from efficient administration, the country requires special patent courts to process the pending patent litigations.
- Else, with a very few patent lawyers and lack of awareness among the people about the benefits of the IPR as a whole, India’s journey to the 21st century global patent system will remain incomplete.

Topic: Achievements of Indians in science & technology; indigenization of technology and developing new technology.

Q1) The recent economic survey while admitting scientific and technological innovations underpin economic prosperity, carries an entire chapter on transforming science and technology in India. Discuss its mains observations and recommendations regarding boosting S&T research in India. (250 Words)

[The Hindu](#)

Background:-

- Science, technology, and innovation have instrumental and intrinsic value for society. They are key drivers of economic performance and social well-being

Observations by economic survey 2018 :-

- India **under-spends on research and development (R&D)**, even relative to its level of development.
- **India’s R&D spending is also mostly carried out by the government.** Private investments in research have severely lagged public investments in India.
- It pointed out a **lack of enough skilled workforce** that can carry out quality research, especially in the science, technology, engineering, and mathematics fields.
- **Universities in India also play a relatively small role** in the research activities of the country.
- Indian Ph.D. students obtain their degrees either within India or abroad, especially in the US. However, **it appears that fewer Indian students have been enrolling in recent years for such degrees**, whether due to more attractive options after a master’s degree or rising work visa challenges.
- Publicly funded research in India concentrates in specialized research institutes under different government departments.
 - **About three-fifths of the public investment is spread over the key government science funding agencies** like Atomic Energy, Space, Earth Sciences, Science and Technology and Biotechnology. Given the country’s severe

health challenges, **the low and virtually stagnant budget of the Indian Council for Medical Research (ICMR) is striking.**

- **This leaves universities to largely play a teaching role.**
- While India has made considerable strides in improving access to primary and secondary education, **learning outcomes have been weak.** This weakness denies India access to the intellect and energies of millions of young people.
- **Domestic patent system:-**
 - While India's patent applications and grants have grown rapidly in foreign jurisdictions, the same is not true at home.
 - Indian residents were granted over 5000 patents in foreign offices in 2015, the number for resident filings in India was little over 800.
 - **The decrease in grants could have been due to a stricter examination process. Evidence suggests that there is a severe backlog and high rate of pendency for domestic patent applications.**

Recommendations :-

- **Research and development:-**
 - It calls for doubling research and development expenditure
 - Much of the increase should come from the private sector and universities.
 - The private sector should be incentivized to both undertake more R&D but to also support STEM research through CSR funds.
 - Current tax law already favors CSR investment into R&D, but the types of R&D activities eligible can be expanded.
 - Government can also work with the private sector to create new R&D funding opportunities, which are also in line with private sector interests.
 - There is a need for greater State Government spending, especially application-oriented R&D aimed at problems specific to their economies and populations
 - State governments too need to recognize the need to invest in application oriented research aimed at problems specific to their economies and populations.
 - Link national labs to universities and create new knowledge eco-systems
- **Enhanced competitive research grants for the Indian Institutes of Technology, the Indian Institutes of Science Education and Research, and universities will help address the needs of a larger pool of scientific talent outside national labs** and bring in returns by way of publications, patents and innovations that can meet immediate needs.
- India should **take a more mission-driven approach** in areas such as dark matter, genomics, energy storage, agriculture, and mathematics and cyber physical systems.
- Vigorous efforts to improve the "ease of doing business" need to be matched by similar ones to boost the "ease of doing science".
- **India needs to gradually move to have a greater share of an investigator-driven model for funding science research.**
 - The government's recent hiring of over 450 additional patent examiners and creation of an expedited filing system for Indian residents in 2017 will therefore be a welcome and crucial intervention to help fix the existing patent system

Conclusion:-

- India needs to understand that no country can create a vibrant superstructure of R&D with weak foundations of primary and secondary education for so many of its young.

Q2) In recent years the private sector is leading a new space race. How can India help private sector in India to boom in the space sector? Examine. (150 Words)

[Livemint](https://www.insightsias.com/livemint)

Background:-

- The Falcon Heavy launch by SpaceX that put the car on its trajectory confirms that the private sector is leading a new space race.
- In the past two decades, through a combination of technology, policy, and will, governments of more than a dozen countries have successfully transferred many space operations to the private sector and it has yielded good results.

Indian scenario:-

- Private sector companies have operated in the space sector since the 1980s. This is not confined to the US. **A healthy ecosystem has sprung up around ISRO (the Indian Space Research Organisation) but a bit more constrained than it is in the US due to strategic and regulatory issues.**
- Start-ups like Moon Express and Bengaluru-based Team Indus are aiming to compete in Google's \$20 million Lunar X Prize competition and put landers on the moon.
- Till date, approximately 80% of the development work on launch vehicles has already been outsourced, with ISRO only focusing on the supervision. Even Chandrayaan II, which is scheduled for launch in 2018, has many sub-systems developed by private enterprises.
- **Issues:-**
 - **Space activity is still governed by the 1967 Outer Space Treaty.** It bars state actors from militarizing or claiming celestial bodies and calls upon states to regulate all private sector activity originating within their borders. **Countries like the US and India haven't quite come to grips with the problem yet.**
 - The regulatory setup in India is not effective. **It lacks a nodal body which is an independent body that creates a level playing field for government and private enterprises**

How to engage private sector:-

- **ISRO role:-**
 - Indian Space Research Organization (ISRO) is increasingly looking for collaboration with the private sector to increase the number of satellites, explore more research-related opportunity areas and to overcome manpower and budgetary constraints (the budget of ISRO stands at 1.9 billion dollars against 19 billion dollars of NASA).
 - ISRO is going to double the number of satellites launched in the next two years and this would necessitate active involvement and participation of the private sector.
 - ISRO is trying to bring in private industry to augment ISRO's efforts in terms of launch vehicles, satellites and ground applications. With the existing ISRO manpower, it is not possible.
- **Increasing the budgetary allocation for research and development in space sector.**
- With the introduction of the **new Space Activities Bill**, the Indian government has also opened up opportunities for the private sector and made it much easier for them to sustain and thrive.
- Children should be encouraged to be more creative and talented students need to be given proper exposure.
- Tax exemptions can be given to the private players to make India a attractive market.

Conclusion:-

- Throughout the globe, space sector is no longer the reserve of the government, as the entry barriers to private players are being lifted and entrepreneurs are exhibiting a keen interest to foray in this niche sector.
- To thrive in this throttling competition and be head-and-shoulders above others in the same segment, **innovative research has to be fostered and dynamic players have to be brought onboard. This is not possible without engagement, collaboration, partnership and devolving some of the roles to the private industry.**

Q3) What are Lethal Autonomous Weapon Systems (LAWS)? Should LAWS be banned? Examine. (250 Words)

IDSA

Lethal autonomous weapons system :-

- The use of AI in military applications, specifically those termed as Lethal Autonomous Weapon Systems (LAWS).
- LAWS are weapon systems that once activated, can select and engage targets without further human intervention.

Why LAWS should be banned:-

- The prospects of this military application has given rise to the Campaign to **Stop Killer Robots, a global coalition of 64 non-government organisations (NGOs) launched** in 2013 under the aegis of Human Rights Watch with the aim of pre-emptively banning fully autonomous lethal weapons.
- **Retaining human control over the use of force is a moral imperative**
- Weapon systems that have autonomy in the critical functions of 'select and engage' would be in **violation of International Humanitarian Law (IHL), and specifically its principles of distinction and proportionality.**
 - While the former principle requires weapon systems to be able to reliably distinguish between combatants and civilians, the latter requires value judgement to be used before applying military force.
 - **According to this argument, LAWS will never be able to live up to these requirements.**
- In addition, **there is also the consideration of what is known as the Martens Clause, wherein it is contended that delegating to machines the decision power of 'life and death' over humans would be against the principles of humanity and the dictates of public conscience.**

- may prove to be disastrous if acquired by Terrorist organisations

Counter view :-

- Development and deployment of LAWS would not be illegal, and in fact would lead to the **saving of human lives**. This is because without the driving motivation for self-preservation, **LAWS may be used in a self-sacrificing manner**, saving human lives in the process.
- Moreover, **they can be designed without emotions that normally cloud human judgment during battle leading to unnecessary loss of lives**.
- Autonomous weapons would have a **wide range of uses in scenarios where civilian presence would be minimal or non-existent**, such as tank or naval warfare, and that the question of legality depends on how these weapons are used, and not on their development or existence.
- **Indian scenario:-**
 - **Autonomous systems designed to disarm improvised explosive devices (IEDs) are already in use by Indian forces**, although these are non-lethal and defensive in nature.
 - Future possible applications include AI-enabled drone swarms to boost surveillance capabilities, robot sentries along the borders to check infiltration by terrorists, autonomous armed UAVs for use in conventional as well as sub-conventional scenarios and so on.

Conclusion:-

- Given India's security landscape, perhaps there is a need to adopt a radically different approach for facilitating the development of LAWS. Only a determined effort, with specialists on board and due impetus being given from the apex level, is likely to yield the desired results.
- Also an international treaty to regulate LAWS needs to be generated to make countries accountable and not misuse these weapons.

Q4) What are the salient features of the Space Activities Bill, 2017? Examine how the use of outer space by ISRO has helped common man in India. (250 Words)

Livemint

Background:-

- With ISRO launching its 100th satellite recently and preparations in full swing for the launch of Chandrayaan-2 around the end of March this year, ISRO has come a long way in its journey of five decades.
- There is a need for national space legislation for supporting the overall growth of the space activities in India. This **would encourage enhanced participation of non-governmental/private sector agencies in space activities in India**, in compliance with international treaty obligations, which is becoming very relevant today.

Features of Space activities bill 2017:-

- It is a proposed Bill to promote and regulate the space activities of India. **The new Bill encourages the participation of non-governmental/private sector agencies in space activities** in India under the guidance and authorisation of the government through the Department of Space.
- The provisions of this Act shall apply to every citizen of India and to all sectors engaged in any space activity in India or outside India
- A **non-transferable licence** shall be provided by the Central Government to any person carrying out commercial space activity
- The Central Government will **formulate the appropriate mechanism for licensing**, eligibility criteria, and fees for licence.
- The government **will maintain a register of all space objects** (any object launched or intended to be launched around the earth) and develop more space activity plans for the country
- It will provide **professional and technical support for commercial space activity** and regulate the procedures for conduct and operation of space activity
- It will **ensure safety requirements and supervise the conduct of every space activity of India and investigate any incident** or accident in connection with the operation of a space activity.
- It will share details **about the pricing of products** created by space activity and technology with any person or any agency in a prescribed manner.
- If any person undertakes any commercial space activity without authorisation they shall be **punished with imprisonment up to 3 years or fined more than ₹1 crore or both**.

How use of outerspace by ISRO has helped common man in India:-

- The purpose of India's space programme is the application of advanced technologies to the real problems of man and society.

- The impact of ISRO's activities has been **seen in various fields** including
- **Agriculture:** IRS satellites have helped in agricultural crops inventory, handling drought, precision farming etc
- **Fisheries:** Monitoring of waterbodies and identification of potential fishing zones.
- **Meteorology**
- **Telecommunication:** services offered by INSAT/GSAT satellites in the area of tele-education and telemedicine
- **Remote sensing and disaster management:-**
 - ISRO's Disaster Management Support (DMS) programme, monitoring and tracking of depressions and cyclones, and the prediction of landfall through Early Warning Systems.
 - Advantages during Forest fires, landslides, earthquakes
- This is precisely why Indian space program is still a very 'civilian space program'. The Satellite Instructional Television Experiment (SITE) in 1975 is one such example where outer space technology was used to educate the poor in India.
- The Indian space program has played a big role in **India's rise in the international system**. India is among the select-few, elite group of nations which have a robust and comprehensive space program.

Concerns:-

- Many experts criticise India's space programme is as a waste when so many of the nation's citizens struggle to fulfill basic needs.

Conclusion:-

- Space technology has broader applications and the investment in this field would help the country exponentially in streamlining development activities better.

Q5) Future space exploration will be driven by private intentions, commitments and contracts. In this regard, for the Indian Space Research Organisation (ISRO) frugal engineering plays its part but it is not an end unto itself. Discuss. (250 Words)

The Wire

Background:-

- ISRO contribution with Mars mission, Chandrayaan 2 has caught the world by surprise especially with such low costs. ISRO may have been successful in keeping costs down but in the long run the numbers will only go up so frugal approach is not very effective in long term.

Why India cannot be frugal any more:-

- Future is about simplifying the system, miniaturising the complex big system, strict quality control and maximising output from a product and make the missions cost-effective. This needs **significant improvements in technology and innovation**.
- Frugal engineering is a brand of engineering targeted at markets where there is a marked preference for function over form for getting the job done over making it look good while it's doing it. So **while frugal engineering may be a good thing in many environments, it shouldn't be so for space. Launch vehicles always need to meet a safety threshold**
- **Private players:-**
 - The manpower of ISAC/ISRO is not adequate for meeting both the increased load of making more satellites and also for the R&D that India needs for future satellites
 - The present bid to outsource AIT(assembly, integration and testing) will help ISRO re-deploy human resources effectively and focus on R&D
 - It would also aid self-reliance by way of an independent Indian satellite industry.
 - Indian Space Research Organization (ISRO) is increasingly looking for collaboration with the private sector to increase the number of satellites, explore more research-related opportunity areas and to overcome manpower and budgetary constraints.
 - ISRO is going to double the number of satellites launched in the next two years and this would necessitate active involvement and participation of the private sector.
 - Most state-owned space agencies believe that collaboration with private players is vital for capacity building, cost reduction and getting an extra mile cutting-edge advantage.

What has to be done ?

- **Increasing the budgetary allocation for research and development in space sector.**
- With the introduction of the **new Space Activities Bill**, the Indian government has also opened up opportunities for the private sector and made it much easier for them to sustain and thrive.
- Children should be encouraged to be more creative and talented students need to be given proper exposure.

Conclusion :-

- To thrive in this throttling competition and be head-and-shoulders above others in the same segment, innovative research has to be fostered and dynamic players have to be brought onboard. This is not possible without engagement, collaboration, partnership and devolving some of the roles to the private industry, as is the consensus among senior ISRO officials.

Q6) In the light of the objectives and design of the newly announced Prime Minister's Fellowship Scheme (PMRF), critically analyse if PMRF would be successful in improving quality of research in the frontier areas of S&T and also stop India's brain drain. (250 Words)

The Wire

Background:-

- India does not have enough quality PhD students in STEM fields, leading to poor quality research and lack of quality faculty so there has long been emphasis on the importance of innovation and technology for the progress and development of the nation.
- This Prime Minister's Fellowship Scheme (PMRF) is key to realizing his vision of development through innovation.

PMRF:-

- The government wants to encourage undergraduate students (or those studying in five-year integrated programmes) from IITs/NITs/IISERs/IIITs (only centrally funded ones) to join IITs/IISc for PhD and offers them a huge financial incentive, both in terms of personal money (three times what regular PhD students in these institutes will get) and research grant.
- It will be implemented for period of seven years beginning 2018-19 at total cost of Rs. 1650 crore.
- Maximum of 3000 Fellows would be selected in three year period, beginning 2018-19.
- Selected students will be offered monthly fellowship of Rs.70,000 for first two years, Rs.75,000 for 3rd year and Rs.80,000 in 4th and 5th years.
- Each selected fellow students will be also provided research grant of Rs.2 lakh for period of 5 years to cover their foreign travel expenses for presenting research papers in international conferences and seminars.

Positives:-

- With such a good stipend structure, PMFS is sure to **attract the finest engineering brains in the country to pursue research, reaping a rich R&D dividend** for the country.
- The scheme will help **tapping talent pool of country for carrying out research indigenously in cutting edge science and technology domains.**
- The research undertaken by fellows under this scheme **will address national priorities**
- Also shortage of quality faculty in premier educational institutions of country would be addressed .
- This initiative of the government will convert brain drain to brain gain.
- By participating in international research conferences, the Indian researchers can get feedback on their researches, **meet their peer group in foreign countries and get in touch with experts working in their area.**

Concerns:-

- **The eligibility of students is very narrow** as the focus of this scheme is only for centrally funded technical institutes (CFTI) students rather than benefiting all bright scholars across institutions.
 - The scheme is not open to those who have completed, or are doing, ordinary MSc or MTech courses.
 - The scheme unduly favours those who cleared the Joint Entrance Examination, through which the CFTIs select students for their BTech and integrated master's courses.
- **Institutes hosting PhD students are** only IIT's and IISc when there are pool of colleges which are focussed on research like IISERs, TIFR, CMI and ISI etc.
- **Quantum of support will demoralise Ph.D students:-**
 - For instance at IIT Kanpur, about 250 PhD students a year are admitted. Only a fraction of these would get the PMR fellowship.
- The goal of the scheme is ostensibly to encourage PhD research. Experts suggest that the scheme might end up discouraging a large number of excellent students from doing PhD.
- The scheme suggests that these PhD students will work in research areas that are national priorities. **But there is no prior list of national priorities set .**
- **India's allocations towards research are still a fraction of pale allocations abroad.** India's annual allocations for science research have doggedly remained under less than 1% of its GDP for over a decade.

- **According to experts the scheme does not do much for the research ecosystem as a whole** and makes no effort to ensure that there is no brain drain, which is one of its intended outcomes.
- There is **lack of incubation centres** in India. All over the world it is through the incubation centres where new ideas are developed and taken to the market which is lacking in India. Research in India is primarily linked to academics and promotion in jobs.
- Researchers need to have continuous interaction with the industry which is not dealt in the scheme. There has been **lack of assurance for the researchers in terms of jobs and career development compared to US and other countries.**
- **The critical infrastructure in the universities and higher educational institutions is abysmally low in India which makes talented pool of researchers to prefer countries with better facilities.**

How to improve it?

- The **procedure followed by the Visvesvaraya PhD Scheme could be considered:-**
 - That scheme offered a stipend marginally higher than the Junior research fellowship scheme 's and was available only to first-year PhD students who had already shown glimpses of their talent of the CFTIs and other accredited tech schools, including top private institutions.
 - It did not require the beneficiaries to have obtained their undergraduate or postgraduate degrees from any particular set of institutions.
- The **industry has a fear of spending huge amount on R&D without assured returns.** There has to be a **comprehensive approach where the government, private sector, academic institutions should take equal interest for research and innovation.**
- Government needs to invest in the infrastructure of existing universities and institutes and also look into improving the education system which focuses more on rote memorization than creative learning.

Conclusion:-

- India is slowly trying to strengthen the research ecosystem but some lessons can be learnt from by following Chinese approach e., massive funding for some universities to attract the best talent , launching number of institutions in areas which are for the future like Renewable energy , electric cars, robotics, AI , Data Analytics , Machine learning etc it is attracting the best talent from the world.

Q7) A recent report submitted to the union government has pointed out that the Make in India initiative has failed to demonstrate its true potential due to various reasons. With special focus on defence indigenisation efforts, examine why Make in India has failed to live upto its potential. (250 Words)

The Indian Express

Background:-

- A country will move up the ladder of prosperity if it can manufacture the goods and produce the services required by its people and also export a considerable part of those goods and services.
- So the government's goal was to give the highest priority to 'Make in India' and defence manufacturing was at the heart of the programme but however the results are not up to the mark.

Why Make in India has failed?

- **Factor costs:-**
 - To make the product, the intending manufacturer must make it better or cheaper or reach it to the consumer sooner or be able to offer something which makes the product more attractive to the consumer.
 - It is here India faces the hurdle of 'factor costs'. Land, labour, electricity, technology, transport, cost of capital, cost of borrowing, and many others are factor costs
- India's investment in research and development is still abysmally low.
- Also experts think that demonetisation and GST have made credit very difficult from banks.
- **Defence:-**
 - There has been little policy or administrative support to make Make in India a success.
 - India has been assembling Russian fighter aircraft and tanks for decades, got in technology for guns and submarines, **but it is still nowhere near building them on its own**
 - Navy had set up a Naval Design Bureau and made impressive strides in ship design and construction comparable to the best in the world. **But the challenge is the weapons and sensors on board, which are largely imported.** To address this, a balance needs to be struck between the two India's 'Make in' and 'Made in' or indigenisation. **They do not supplement each other.**

- **Procedural delays:-**
 - The average time taken was 52 months, which was more than twice the laid down duration of 18-25 months stipulated in the Defence procurement policy.
- Desired level of indigenisation and self-reliance in Defence Manufacturing, Research and Development and timely equipping of Services are **some of the areas where the situation continues to be far from satisfactory**
 - Of the 144 schemes construed during the last three Financial years, only 8-10 per cent fructified within the stipulated time period.
- **There is the evident lack of synergy between the stakeholders that is among the various departments of the Ministry of defence.**
- India still focuses on buying the complete products like Rafale fighter jets from France so indigenisation is neglected.

Way forward:-

- Meticulous monitoring of delay of each scheme as specified in the Defence Procurement Policy (DPP) has to be assigned as a specific responsibility to a suitable office within the Minister of Defence (MoD).
- Whatever price is paid or strategic partnerships are forged, no one will part with their core technologies. **Critical technologies must be developed indigenously, whatever the cost.**
- **Planning task for the three services needs to be further synergised.** This task could be first handled by CISC which could be vetted with executive powers to evolve and integrated plan using latest scientific models and to accord inter-service prioritisation on budgetary projections.
- The offset policy which has so far failed to yield any meaningful returns needs to be tweaked. **This can be an enabler in developing the required skills in shaping the ecosystem. Placing a moratorium on import of certain class of products/technologies presents a sensible option.**

Conclusion:-

- It is time to realign the 'Make in India' initiative to derive true value out of it. 'Make in India' needs a course correction to position it within the larger realm of technology development. Only then can India insulate itself from external pressures and exercise strategic autonomy in decision-making.

Topic: Environmental pollution; conservation;

Q1) The Economic Survey 2018 finds that climate change is now hurting Indian agriculture and farmers considerably. In this regard critically examine how the latest union budget seeks to address environmental concerns raised by the Economic Survey 2018. (150 Words)

Down to Earth

Background:-

- The **Economic Survey 2018** found that the effect of extreme temperature shocks on productivity in un-irrigated areas, which account for more than half of our agricultural land, is significant.
- An extreme temperature shock in unirrigated areas reduces yields by 7 per cent for Kharif and 7.6 per cent for Rabi.
- Similarly, extreme rainfall shocks lead to reduction in yield. These losses could rise significantly in the coming years as the warming level reaches 1.5 degrees Celsius in the next 10 years.

Union Budget measures:-

- **Ujjwala scheme** is expanded with coverage increased from 3 crore to 8 crore beneficiaries.
- For cleaning of India's polluted rivers, the **budget has increased fund allocation** for the National River Conservation Programme from last year's INR 7.23 billion (USD 114 million) to INR 7.70 billion (USD 121 million) for 2018-19, an increase of only 6.5 per cent.
- **Operation Green** on the lines of Operation Flood for enhancing the production of tomato, onion and potatoes. A sum of Rs 500 crore has been allocated for this new measure.
- Government will launch a scheme for **Galvanising Organic Bio-Agro Resources Dhan (GOBARDHAN)** that will promote composting and promote usage of biofuels.
- **Issue of air pollution due to crop burning** in Delhi-NCR region as tackled as a special scheme to subsidise machinery required for in-situ management of crop residues was announced.

Many issues were not dealt:-

- **Crop burning and air pollution is not restricted to only Delhi-NCR and the surrounding states.** It is happening in large parts of the country. Most cities do not meet the ambient air quality standards.
- **Allocations for renewable energy and environment in India's federal budget was criticised**

- The budgetary allocation for the Ministry of New and Renewable Energy (MNRE), which deals with the solar and wind power sector in India, **rose by a mere 9 per cent to INR 103.2 billion**. In comparison, MNRE allocations expanded in the past two fiscal years by 37 per cent and 52 per cent, respectively.
- Renewable energy sector is already facing policy and trade regulation uncertainties which would be further complicated because of no measures in budget
- India aims to install a renewable energy capacity of 175 GW by 2022. It is now unlikely that the government will achieve this target experts said.
- Incentives that were already there, like 80 per cent accelerated depreciation and tax holidays for renewable energy, were withdrawn last year. **Due to this, the investment in renewable energy was appallingly low this year,**
- **Environment:-**
 - The budgetary allocation for the Ministry of Environment, Forest and Climate Change (MOEFCC) rose by a mere 4.5 per cent for 2018-19 compared with a growth in allocation by 19 per cent for the previous financial year.
 - Sustainable development, climate change, and environment conservation are not dealt effectively in the budget
 - **Groundwater irrigation schemes** were announced without much focus on water recharge.
 - Funding for the government's mega Ganga clean-up programme remained the same as last financial year
- **Climate change:-**
 - The budget for the climate change action plan and the adaptation fund has more or less remained the same as the last year at about Rs 150 crore.
- **Withdrawal of cesses:-**
 - The budget is **also silent on various environmental cesses**. Due to the implementation of the goods and services tax (GST), all environment-related taxes have been withdrawn.
 - The **National Clean Energy Fund**, financed through a cess on coal consumption, has been diverted to compensate states for losses incurred due to GST.
 - **The water cess**, which charged industries for water consumption, was withdrawn.
 - In the budget there is no mention of how these cesses would be replaced or compensated.

Way forward:-

- A national action plan to combat air pollution backed with significant budgetary allocation would have been an appropriate response .
- 'Ease of Living' is not only about infrastructure; it is also about a clean and healthy environment. India needs to ensure that

Q2) What is ozone pollution? Why is it still a cause for concern? Examine. (250 Words)

Down to Earth

Background:-

- In India pollution discussion is mainly concentrated with particulate matter but ground level ozone/surface ozone is equally hazardous .A recent study shows that the O3 levels will continue to rise drastically particularly in North India.

Ozone pollution:-

- Ground level or "bad" ozone is not emitted directly into the air, but is created by chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight.
- Emissions from industrial facilities and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NOx and VOC.

Effects :-

- Breathing ozone can trigger a **variety of health problems, particularly for children**, the elderly, and people of all ages who have lung diseases such as asthma.
- Ground-level ozone can also have **harmful effects on sensitive vegetation especially during the growing season** and ecosystems including forests, parks, wildlife refuges and wilderness areas
- It is the **main ingredient in smog**.
- According to data by 2050's **ozone levels will increase by up to 4.4% in many places in north India particularly Uttar Pradesh**.
- Due to this there will be a decrease over forest patches of the western ghats in the south of 3.4%
- Climate change will adversely impact soil, moisture, rains, vegetation density etc which will further impact the absorption of ozone.

- Man made sources like vehicles, power plants or machines which uses fossil fuels where the O₃ component will increase by up to 45% in parts of North India.
- Ground-level ozone is a greenhouse gas that is detrimental to crop productivity. Elevated ground-level ozone exposures affect agricultural crops and trees, especially slow growing crops and long-lived trees.
- Ozone damages the leaves and needles of sensitive plants, causing visible alterations such as defoliation and change of leaf colour.

Way forward :-

- A policy is necessary to successfully reduce the effect of this pollutant.
- Surface ozone not only damages health but also destroys crops. In a country where food insecurity is high, this should be reason enough to act.

Q3) While supporting the mitigation efforts to reduce impact of climate change and global warming, adaptation projects aimed at helping people adapt to climate change effects also needs to be encouraged. Discuss. (250 Words)

The Hindu

Background:-

- There are two main policy responses to climate change: mitigation and adaptation. Mitigation addresses the root causes, by reducing greenhouse gas emissions, while adaptation seeks to lower the risks posed by the consequences of climatic changes. Both approaches will be necessary, because even if emissions are dramatically decreased in the next decade, adaptation will still be needed to deal with the global changes that have already been set in motion.
- Adaptation strategies involve the modification of human behaviour or the environment in order to avoid the harmful consequences produced by climate change. Human communities will have to take steps to adapt to dangerous climate change that all of mitigation efforts will not be sufficient to prevent.

Adaptation projects need to be encouraged because:-

- **Adaptation measures may be planned in advance** or put in place spontaneously in response to a local pressure.
 - **They include large-scale infrastructure changes** such as
 - Building defences to protect against sea-level rise
 - Improving the quality of road surfaces to withstand hotter temperatures
 - Behavioural shifts such as individuals using less water, farmers planting different crops etc.
 - Adaptation **measures can help reduce vulnerability** for example by lowering sensitivity or building adaptive capacity as well as allowing populations to benefit from opportunities of climatic changes, such as growing new crops in areas that were previously unsuitable
 - Low-income countries tend to be more vulnerable to climate risks and **some adaptation measures such as increasing access to education and health facilities will overlap with existing development programmes**. But adaptation goes beyond just development to include measures to address additional risks specifically caused by climate change, such as raising the height of sea defences.
 - **Investing in education could be a better way to reduce vulnerability to climate-related disasters**
 - Education directly improves knowledge, the ability to understand and process information, and risk perception. It gives them the knowledge and skills to adapt flexibly.
 - Adaptation is important because while scientists can make long-term projections of climate change, year-to-year weather variations mean they can't say exactly when a disaster will hit and how severe it will be. **So a flexible approach to adaptation gives people and communities more capacity to cope when a disaster occurs.**

Adaptation projects are failing:-

- Studies show that adaptation projects were not helping the most vulnerable communities, and benefits were simply reaching those who had been assisted earlier.
- When several projects from the global Adaptation Fund managed by the United Nations climate secretariat to help developing countries with climate change adaptation projects, were analysed, **they too were found not to take into account unequal power structures**.
- It is shown that adaptation strategies are being influenced by the following processes:-
 - **Enclosure, which is when private agents acquire public assets or expand their authority over them.**
 - **Exclusion** is associated with some stakeholders getting excluded or marginalised, **thus limiting their access to decision-making processes.**
 - **Encroachment**, in which the **adaptation actions undertaken during the project end up intervening in areas that are rich in biodiversity**, thereby interfering with ecosystem services and often resulting in an increase in greenhouse gas emissions.

- **Entrenchment**, where the condition of those who are already marginalised in the local social context worsens from the intervention.
- **International examples:-**
 - A desalination plant was constructed in Australia, **by seizing valuable land from the Bunurong aboriginal community and turning it over to private actors.**
 - In Norway, as there was low representation of community organisations and environmental groups during the coastal planning process, **their interests were not represented**
 - In Alaska, private contractors built a barrier against the sea even though **this was against the wishes of the local community.**
- **Politics and power struggles** to control resources need to be acknowledged as being part and parcel of adaptation projects.

Way forward:-

- While considering and designing climate change adaptation projects, in addition to vulnerabilities and costs, **issues around equity, justice and social hierarchies must be equally considered.**
- Policies on adaptation **need to consider the multiple scales of effects of the project not just on a household, community or state, for instance.** Forces of political economy and ecology that are an integral part of societies cannot be wished away when considering adaptation projects.

Q4) Critically comment on the environmental policy that is being followed in India to raise forest cover to 33% of the geographical area. (250 Words)

The Hindu

Background:-

- India has increased its total forest cover by 1% to around 24% but the target of 33% is still a distant dream. So there is a need to analyse the measures taken by the government.

Government approach:-

- India has enacted many legal acts to make sure the forest cover increases like
 - The forest rights act 2006
 - CAMPA act
 - National environmental policy 2006
- Focussing on afforestation programmes and growing trees along the highways
- Protection to national parks, biosphere reserves, sacred groves etc
- Community development approach by promoting social forestry and agro forestry

However still concerns remain:-

- There have been instances of private players displacing tribal communities from the forests and cutting down forests for industries.
- The **ecosystem services performed by plantations that have a lot of trees grown for commercial purposes cannot be equated with those of an undisturbed assemblage of plants, trees and animals.**
- A **flawed definition of "forest cover"** allows the government to claim growth in total forest cover despite large-scale deforestation.
- India's forest cover could actually be **masking massive deforestation as the areas** that have turned green are not necessarily natural forests, but plantations
- Environmental economists have come to **regard the calculation of national accounts of wealth and development as weak, because governments do not add the benefits of functions such as flood control and climate moderation to the value of forests.**
- Rotational felling of trees by forest departments, diversion of forest lands for developmental activities, submergence of forest cover, agriculture expansion, **biotic pressures and natural disasters as other reasons for the decrease in the forest cover.**
- **There have been instances of violation of forest right act ,even the CAMPA act, land acquisition rules and regulations.**

Way forward:-

- India must review the programmes that it has been pursuing to revive forests, and move away **from monoculture plantations** that are favoured by even forest development corporations in many States.
- **Scientific reforms to bring true nature back are needed.**

- The latest assessment categorises more than 300,000 sq km of area as open forests with a tree canopy of 10-40%. These lands provide the opportunity to bring back diverse, indigenous trees.
- Such a measure, combined with a policy against allowing open cast mining, can bring about a renaissance.
- Dedicated efforts will be required to protect the precious forests of the Northeast.

Q5) In November 2017, the environment ministry urged the Supreme Court to push a deadline to cut emissions of oxides of nitrogen (NO_x) from thermal power plants to 2022. Why is emission of NO_x is a serious matter? Examine how emission of NO_x from power plants be controlled. (250 Words)

[The Wire](#)

Background:-

- According to 2015 law, thermal power plants in India were expected to cut their NO_x emissions by December 2017 but they did not. This highlighted the need to focus on NO_x emissions. Justifying the delay, the Centre claimed that there is no proven technology for reducing the NO_x emissions in line with the new norms.

Why is emission of NO_x is a serious matter ?

- NO_x reacts with ammonia, moisture, and other compounds to form nitric acid vapour and related particles. **Small particles can penetrate deeply into sensitive lung tissue and damage it**, causing premature death in extreme cases.
- Inhalation of such particles **may cause or worsen respiratory diseases**, such as bronchitis, or may also aggravate existing heart disease.
- NO_x reacts with volatile organic compounds in the presence of sunlight to **form and to destroy ozone**
- NO_x gases play an important role **in the formation of smog**, producing the brown haze often observed over cities
- NO_x pollution can also **worsen asthma and heart disease, and is tied to elevated risks of premature death**.
- More environmental problems are caused by NO_x pollution. **In the presence of rain, nitrogen oxides form nitric acid, contributing to the acid rain problem.**
- Additionally, NO_x deposition in the oceans provides phytoplankton with nutrients, worsening the **problem of red tides and other harmful algae blooms**.
- Thermal power plants among India's chief polluters **pushed nationwide levels of NO_x up by 20%**.
- The secondary particulates formed through transformation of gaseous emissions, unlike primary particles such as dust formed from aerosols such as NO_x are the key cause for the recent **increase in PM 2.5 levels across India, leading to a potential health emergency in India.**

Measures being taken:-

- India does have indigenous technology available to cap NO_x emissions, according to the Central Pollution Control Board (CPCB). The technology was also tested at the National Thermal Power Corporation's (NTPC) Badarpur thermal power plant and has given excellent results of >95% NO_x reduction
- In December 2015, the environment ministry notified new air pollution regulations under the Environment Protection Act, 2015.
 - More than 300 thermal plants nationwide were expected to adopt technologies to curb their NO_x emissions along with sulphur dioxide (SO₂) and mercury.
 - **The ministry also introduced stricter norms for particulate pollution.**
 - According to the new rules, coal power plants installed before December 2003 are expected to cap their NO_x emissions to 600 milligrams per cubic metre
 - For plants installed between 2003 and 2016, the emissions should be capped at 300 mg/Nm³. For the plants installed after December 2016 the limit is 100 mg/Nm³.
- **Selective catalytic reduction** and **Selective non catalytic reduction** are methods employed globally to reduce NO_x emissions by using ammonia or urea to break NO_x into nitrogen and water.

How emission of NO_x from power plants be controlled?

- One way of controlling NO_x emissions is to **use low-nitrogen fuels**.
 - Use of low nitrogen fuels such as natural gas. Natural gas has the added advantage of emitting almost no particulate matter or sulphur dioxide when used as fuel.
- Another is to **modify combustion conditions to generate less NO_x**.
 - Combustion control may involve any of three strategies:
 - (a) reducing peak temperatures in the combustion zone
 - (b) reducing the gas residence time in the high-temperature zone
 - (c) reducing oxygen concentrations in the combustion zone.

- Process modifications include using specially designed low-NOx burners, reburning, combustion staging, gas recirculation, reduced air preheat and firing rates, water or steam injection, and low excess air (LEA) firing.
- These modifications are capable of reducing NOx emissions by 50 to 80%.
- **Flue gas treatment techniques, such as selective catalytic reduction (SCR) processes**, can remove NOx. Flue gas treatment systems can achieve greater emissions reductions, but at a much higher cost
- NOx can be used in some industries like fertiliser where it does not affect atmosphere directly Locating Thermal Power Plants away from residential areas may lessen their Impact on humans.

Q6) The Compensatory Afforestation Fund Act (CAF Act), 2016 has raised serious concerns about the human and environmental costs of compensatory afforestation (CA). In the light of these concerns, discuss the role of local communities and gram sabhas in ecological restoration. (250 Words)

[Livemint](#)

[Livemint](#)

[Reference](#)

Background :-

- Local communities in the forests have a holistic traditional scientific knowledge of their lands, natural resources and environment .
- In view of the interrelationship between the natural environment and its sustainable development and the cultural, social, economic and physical well-being of these people national and international efforts to implement environmentally sound and sustainable development should recognise, accommodate, promote and strengthen the role of local communities.

What are concerns raised by the act about compensatory afforestation:-

- Evidence establishes that **CA plantations destroy natural forests, harm biodiversity, undermine the rights and nutrition of local communities, and disguise rampant misuse of public funds.**
- **Subverts forest rights act and PESA:-**
 - By allocating more than Rs50,000 crore, **the Act enables the forest bureaucracy to entrench its control over forests and subvert democratic forest governance established by the Forest Rights Act (FRA), 2006 and Panchayats (Extension to Schedule Areas) Act (Pesa), 1996.**
- Case studies on plantation sites from states like Odisha, Jharkhand, Maharashtra and Chhattisgarh reveals that
 - **60% of these are monocultural commercial plantations, sometimes set up in the name of “forests”.**
 - These plantations have been carried out over forest lands both claimed and titled under the FRA, and even over dense natural forests.
 - The consent of these communities has not been sought, **violating their legal rights and leading to livelihood distress..**
- The draft rules recently released are criticized as they
 - **Add a stamp of approval to existing land and forest rights violations.**
 - Will enable forest officials to set up plantations on traditional forests without even this consultation in many of the 1.77 lakh villages across India that have forests.
- The working plans have nothing to do with obtaining the consent of gram sabhas, but lay down the forest department's proposals for forest management.
- The Act **lacks a mechanism to monitor expenditure of funds**, despite the comptroller and auditor general (CAG) report, 2013 finding massive misutilization by the forest department
- **International study:-**
 - So far **communities have got titles to govern only about 3% of the 34.6 million hectares of land traditionally used by them.** The study estimates that the rights of around 190 million Adivasis and other forest dwellers remain unrecognised.
- **How the role of gram sabha is subverted by the latest act:-**
 - **The draft rules have restricted the definition of the gram sabha in a manner that the Forest Rights Act does not permit.** This one rule [requiring minimum 1,500 members] is sufficient to render any role for gram sabhas meaningless.
 - Another route to bypass the need for consent or consultations with the gram sabhas has also been created in the draft rules. **Instead of consulting gram sabhas, the rules say that state Forest Departments can instead consult village-level Forest Protection Committees that are constituted under the Joint Forest Management Scheme of the government** through which the department claims to involve local communities in forest management

- However, unlike the gram sabhas, these committees are controlled by the Forest Department and do not come under the Forest Rights Act.
- The latest draft rules fails to address the concerns and demands raised by tribal organizations and forest rights groups.

Role of gram sabha in ecological restoration :-

- It promotes
 - of micro watersheds and/or identifiable natural units
 - Community-based management of sacred groves
 - Planting of natural vegetation in high-slope areas, barren lands and other common lands
 - Green belt development and catchment conservation
 - Conservation of wetlands
 - Nursery raising of local species of flora through MGNREGS
- It initiates
 - Afforestation drives
 - Steps to make wetland cultivation chemical-free and sustainable
 - Develops Bio-diversity register and Community monitoring system on poaching.
- Under the Forest Rights Act, 2006 (FRA), **the Gram Sabha has been assigned a substantial role for the implementation of the provisions of the Act.**
 - **The Gram Sabha plays a central role in safeguarding the customary and religious rights of Scheduled Tribes (ST) and Tribal Forest Dwellers (TFD).**
 - It is also important in its role in acknowledging and deciding upon community forest rights claims.
 - It also safeguards rights, preserves customs, cultural identity and community resources.
- **The Union Environment Ministry's clearance for a project that affects communities is dependent on the votes in a Gram Sabha reflecting the opinion that the people want the project to go ahead.**
 - It helps protect the rights of people who have lived on and off the land for generations and check if they are in favour of the project.
 - It is also a platform where people can make an informed decision after considering the resettlement or alternative packages prepared for the affected individual forest rights holders and communities whose forest rights are recognize.

Role of communities in ecological restoration:-

- By working together as a community, efforts to reduce impact on the environment are multiplied.
- It is well-established that communities are the best stewards for the governance and conservation of forests.
- Forest Survey of India reports show that forest cover in tribal districts, constituting 60% of the country's total forest cover, increased by 3,211 sq. km over 2001-03.
- In Odisha alone, more than 12,000 self-initiated forest protection groups (known as CFM groups) cover more than 2 million hectares of forest.
- **These community-led initiatives have successfully regenerated forests by adopting sustainable- use practices, regeneration through traditional knowledge of forests and species, guarding and penalizing poachers, among others.**
- Carbon offset projects can be fantastic community building events and help communities go green. Community gardens can allow residents to grow some of their own food. Tree planting and green-scaping will make a community more appealing, too.
- Preserving open space in building and zoning plans, especially preserving mature trees and planting new ones helps keep communities healthy.

Conclusion:-

- The CAF Act needs to be integrated with the FRA and PESA by centering the role of gram sabhas and incorporating land and forest rights guarantees. Only then India's target of 33% forest cover would be achieved.

Topic: Security challenges and their management in border areas; linkages of organized crime with terrorism

Q1) In the light of the repeated success of terrorists in infiltrating high-security military complexes within India's borders, discuss critically why has India failed to prevent such infiltrations and what needs to be done to prevent such future attacks. (250 Words)

[The Hindu](#)

Background:-

- Sunjuwan army base attack is the latest in a series of attacks on military installations over the last few years. The worrisome aspect is the repeated success of terrorists in infiltrating high-security military complexes.

India failed to prevent such infiltrations because:-

- The Sunjuwan attack exposes the **vulnerabilities in perimeter security and the scant progress made in improving the security protocol** since the attack on the Pathankot Air Force station in January 2016.
- **The forces guarding the military perimeters continue to face the same equipment shortfalls that cripple their fight against terrorism.**
 - Hand-held thermal imagers (HHTIs) are prioritised for deployment along the LoC fence. Sentries on guard duty do not have night sights or weapon sights mounted on their weapons.
 - The soldiers were equipped with normal infantry weapons and did not even have bulletproof jackets or night vision devices to help repel a militant strike.
- **Bases did not have control rooms or electronic fences that would trigger off an alarm in case of an intrusion.**
- There was no clear line of sight of the perimeter and compounds were overgrown with trees that could conceal attackers. They **lacked the multi-tiered fencing to keep attackers away from parked assets like aircraft.**
- **Many bases lacked Quick Reaction Teams** that would immediately respond to an attack nor laid down procedures in case of an emergency.
- Of particular concern has been the effectiveness of the 3,323-km-long international border with Pakistan, manned by the home ministry. Recent attacks in Gurdaspur, Samba and Pathankot **came through gaps in the border fence along the international border** policed by the Border Security Force.
- The **Campose Committee report was submitted but** its recommendations have not been implemented. It points to several loop-holes including command and control issues, lack of infrastructure and recommended short- and long-term measures. Even identifying a response mechanism in case of an attack has yet to be notified.
- **Many bases along the border are located in tough terrain, and are in close proximity to civilian dwellings,** demanding care from the soldier to avoid civilian casualties in crossfire while adhering to the standard operating procedures.
- **Failure of coordination:-**
 - Intelligence agencies and the local police failed to detect the militants. Initial investigations now show they were in India for at least a week.
 - A major problem in live situations like Pathankot is the ambiguity in the chain of command when multiple agencies are involved. This proved to be a problem in Nagrota as well.
- India still relies heavily on putting more boots on the ground. **There is no holistic approach to make sure that the soldier is fully backed by technology and calibrated security drills.**

What is India doing:-

- In July 2017 **the government delegated substantial financial powers to the three services** to strengthen perimeter security at military installations.
- The Defence Ministry sanctioned Rs. **1,487 crore to strengthen sensitive military installations** across the country as per the recommendations of a 2016 audit.
 - **Defence Minister has also directed the Army to complete its implementation by the end of the year.**
- Almost simultaneous to the surgical strikes, **India evacuated border villages to prevent civilian casualties from the expected cross-border shelling.**
- The Border Security Force (BSF) **launched "Operation Rustom" with general idea of stepping up vigil along its Border Out-Posts (BOP)** located along the Line of Control and the International Border.

What needs to be done:-

- **The Sunjuwan attack underscores the need for speedy measures on the ground, beyond the inquiries and policy announcements, to overhaul the system.**
- The Campose committee report submitted to the government :-
 - **The short-term measures included a revamp of how India responds to intelligence inputs and a new standard operating procedure in responding to terror strikes.**

- The long-term measures include induction of more technology, such as smart-fencing for military installations, better equipment for forces and even raising a specialized force to protect bases.
- The border fence needs to be boosted with more modern advances in sensor technology, particularly buried seismic sensors.

WHAT THE CAMPOSE PANEL SAID

Appointed by defence minister Manohar Parrikar in January 2016 and headed by former VCOAS Lt General Philip Campose, it recommended the following:



HUMAN SECURITY

- Create quick reaction teams within bases to reduce response time to a terror attack
- Improve profile of DSC sentry. Recruit them while they are in military service. Train and equip them with modern assault rifles, bulletproof jackets, night vision devices and to operate with other military units
- Raise a territorial army-style force for static security of establishments

INFRASTRUCTURE AND PERIMETER DEFENCE

- Strengthen wall and fence security
- Create e-fences which trigger alarms in the control room
- Create multi-tier fences in large establishments to give QRTs time to reach intrusion points. Internal fences to protect high-value assets like ATCs and parked aircraft



RESPONSE MECHANISM

- Lays down the defence mechanism of an installation
- In case of a breach where the second responder will come from (eg, in the case of Pathankot, it would be the army brigade)
- Inter-service audit team operating out of Integrated Defence Staff to audit security preparedness of major military bases and evaluate response drills

Q2) The Financial Action Task Force (FATF) has become the spearhead against global efforts combating the financing of terrorism (CFT). Analyse the basis for FATF's growing effectiveness in the fight against terrorist finance and how it helps India to deal with cross-border terrorism. (250 Words)

IDSA

Background:-

- Over a period of time the FATF has gained perceptible credibility as a professional organisation, which has succeeded in not only increasing awareness regarding the challenges being faced by the global financial system, but also human security issues like terrorism.

How FATF has become the spearhead against financing of terrorism :-

- The FATF has been at the forefront of international efforts to fight money laundering and CFT. Its efforts have been in conjunction with relevant resolutions of the United Nations Security Council (UNSC).

- It has gained considerable influence over the regulatory framework that deals with financial transactions, **in an attempt to make it less liable to exploitation by both profiteers and terrorists.**
- *Terrorist financing investigation and prosecution* ensures that terrorist financing offenses and activities are investigated and persons who finance terrorism are prosecuted and subject to effective, proportionate and dissuasive sanctions.
 - This can be employed to keep a tab on the prosecution of UNSC declared terrorists like Hafiz Saeed and his organisation.
 - This was also indicated by the FATF in its follow-up reporting and has become one of the major factors for Pakistan being pressurised to take requisite action against terrorists operating from its soil
- *Terrorist financing preventive measures & financial sanctions* require that terrorists, terrorist organisations and terrorist financiers are prevented from raising, moving and using funds, and from abusing the non-profit sector.

Basis of this effectiveness:-

- The **organisation does not grant overriding voting rights to any of its members.** There is no veto power that any country or organisation enjoys. **The FATF follows a consensus-based model of decision making** within the plenary, the highest decision-making body that meets thrice a year.
- **Adopts a policy of naming and shaming :-**
 - The policy of the FATF has a corrective underlying principle to this approach. The fact that a country can be placed on a list and then removed thereafter on receipt of assurance from the highest political authority, along with a judgment on the progress made to implement the guidelines, has ensured an improvement in the overall CFT and AML standards.
- **The basis of listing countries by the FATF is on the basis of their compliance with transparent guidelines and their effective implementation.** In addition, the incentive of being removed from the list on the basis of even a gradual response, has led to desired results.
- The actions of the UN often tend to get deeply influenced by geopolitical considerations, rather than technical parameters, **which are based on objective and professional analysis, as in the case of the FATF.**
- **The FATF gains credibility by its ability to hurt a country where it hurts the most, its economic well-being.** For instance it applied this with Pakistan until 2015, neither by applying or recommending sanctions. It does so by indicating to the financial world that a country is in violation of CFT and anti-money laundering (AML) guidelines.

How it helps India to deal with cross border terrorism

- **Recent proposal that Pakistan will put back in the list** could affect Pakistan's credit rating. **This will adversely impact its ability to raise loans from major international financial institutions to service existing debt.** This will become even more difficult as compared with the previous listing, given the adversarial relationship with the US and the latter's influence in major financial institutions. So Pakistan will not have adequate resources to fund terrorism
- The decisions of the **United Nations Financial Action Task Force (FATF)** are about using the threat of economic punishment to move Pakistan away from funding terrorists operating against Afghanistan and India
- **Being on the grey list would mean that Pakistan's transactions are closely monitored. This would further cripple the country's economy** as companies across the world would hesitate from doing business with Pakistan. The International Monetary Fund and the World Bank too would avoid giving loans to Pakistan.

Topic: Role of media and social networking sites in internal security challenges, basics of cyber security;

Q1) What is cryptojacking? Examine why cryptojacking poses challenges to critical infrastructures, regulators and consumers alike. (250 Words)

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Cryptojacking :-

- Cryptojacking is defined as the secret use of your computing device to mine cryptocurrency.
- Cryptojacking used to be confined to the victim unknowingly installing a program that secretly mines cryptocurrency.
- One of the most successful is Monero, which builds a degree of privacy into transactions (something bitcoin doesn't do). Currently it requires no specialised hardware for mining, so anyone with computing power to spare can mine it.

Challenges posed by it :-

▪ **Critical infrastructure:-**

- **The critical infrastructure security firm Radiflow announced that it had discovered cryptocurrency mining malware in the operational technology network** (which does monitoring and control) of a water utility in Europe which is the first known instance of mining malware being used against an industrial control system.
- The researchers note that **the malware was built to run quietly in the background**, using as much processing power as it could to mine the cryptocurrency Monero without overwhelming the system and creating obvious problems.
- The miner was also **designed to detect and even disable security scanners** and other defence tools that might flag it.
- Such a **malware attack increases processor and network bandwidth usage**, which can cause industrial control applications to hang, pause, and even crash potentially degrading an operator's ability to manage a plant.
- **Industrial plants may prove an enticing environment for malicious miners.** Many don't use a lot of processing power for baseline operations, but do draw a lot of electricity, making it relatively easy for mining malware to mask both its CPU and power consumption.
- The inner networks of industrial control systems are known for running dated, unpatched software so it makes it easy to cryptojack.

▪ **Regulators:-**

- **Under-preparedness of regulators** in curbing hi-tech crimes and safeguarding consumers from such untoward incidents.
- **Lack of competence with the regulatory bodies** to implement requirements. Most of the technical competence lies with the private sector, which is leading innovation in this segment.
- Their **limitations in investigation** and identification of the perpetrators.
- **Cryptojacking is decentralised**, which means that there is no single authority for mediation or resolving disputes, unlike in the case of the banking system.
- The underlying technology **ensures anonymity for users**, and technically it is next to impossible for investigating agencies to establish the identity of the transacting parties
- Given the **transnational nature of such crimes and frauds**, it is equally difficult to prosecute the perpetrators and bring them to justice in accordance with domestic laws.

▪ **Consumers:-**

- Hardly any **safeguards for consumers against fraudulent activities**, leaving a sense of uncertainty over consumer protection and dispute settlement mechanisms.
- This means the website or internet provider doing the cryptojacking can mine cryptocurrency with little cost to themselves.
- The problem for the computer's owner is that this takes up processor power, making other operations take much longer. Having systems freeze, losing data users were working on can have a **significant effect on productivity**

Way forward:-

- So India needs to develop the infrastructure to effectively deal with cryptojacking by investing in technology more, making people aware about the consequences of this process.

Topic: Money-laundering and its prevention

Q1) The Central government has proposed changes to various provisions of the Prevention of Money Laundering Act (PMLA) through the Finance Bill. Examine these amendments and also evaluate the efficacy of previous measures in preventing money laundering. (250 Words)

[The Hindu](#)

Amendments to PMLA made through Finance bill are :-

- Following amendments have been made in the Prevention of Money-laundering Act, 2002 (PMLA) through Finance Act 2018. The Amendments aim at further enhancing the effectiveness of the Act, widen its scope and take care of certain procedural difficulties faced by the Enforcement Directorate in prosecution of PMLA cases.

- **Amendment in definition of “proceeds of crime”:**

- The definition of “proceeds of crime” in PMLA was amended in 2015 to include “property equivalent held within the country” in case proceeds of crime is taken out or held “outside the country”. **The present amendment shall allow to proceed against property equivalent to proceeds to crime held outside the country also.**

- **Amendment in bail provisions:**

- Amendment proposed in Section 45(1) would make the applicability of bail conditions uniform to all the offences under PMLA, instead of only those offences under the schedule which are liable to imprisonment of more than 3 years. **This will be a significant step forward in delinking the proceedings against scheduled offences and Money laundering offences under PMLA.**
- **Further limit of Rs .one crore shall allow court to apply bail provisions more leniently to less serious PMLA cases.**

- **Corporate frauds included as Scheduled offence:**

- Section 447 of Companies Act is being included as scheduled offence under PMLA so that Registrar of Companies in suitable cases would be able to report such cases for action by Enforcement Directorate under the PMLA provisions. **This provision shall strengthen the PMLA with respect to Corporate frauds.**

- **Measures to enhance effectiveness of investigations**

- Section 5(1) of the Act provides that every order of provisional attachment passed by an officer of Enforcement Directorate shall cease to have effect after 180 days from the date of the provisional attachment order, unless confirmed by the Adjudicating Authority under PMLA within that period. **The section is proposed to be amended to include the period of stay in this time limit of 180 days and also further period of not more than 30 days to take care of delays if any in communication of judicial orders.**
- Under the existing provision of Section 8(3), presently, the Directorate is required to file prosecution immediately after confirmation by Adjudicating Authority. **Proposed amendment gives 90 days more for investigation to ED, before prosecution is filed.**
- New sub-section (2) of section 66 is being introduced to provide for clear guidelines to share the information relating to contraventions of other laws noticed during investigation by ED, with concerned authorities under the said Acts. **This shall enable exchange of information among agencies and enhance effectiveness of efforts against black money.**

- **Measures for restoration of property of persons adversely affected by PMLA investigation**

- Present provisions under Section 8(8) allow distribution of confiscated property to the rightful claimants, only after the trial is complete. **Present amendment allows Special Court, if it thinks fit, to consider the claims of the claimants for the purposes of restoration of such properties even during trial also, in such manner as may be prescribed.**
- It will help provide quick relief in cases involving public money, including Ponzi scams.

Previous measures:-

- The Government of India aligned its domestic anti-money laundering/countering the financing of terrorism (AML/CFT) laws with international standards by enacting amendments to the Prevention of Money Laundering Act in 2012, and in 2016 initiated a National Risk Assessment for anti-money laundering/countering the financing of terrorism to assess the country's terrorist financing risk.
- India is a member of the Financial Action Task Force (FATF) and two FATF-style regional bodies – the Eurasian Group on Combating Money Laundering and Financing of Terrorism and the Asia/Pacific Group on Money Laundering.
- India's Financial Intelligence Unit-India is a member of the Egmont Group of Financial Intelligence Units.
- The government regulates the money services business (MSB) sector, requiring the collection of data for wire transfers and the filing of suspicious transaction reports (STRs) by non-profit organizations.
- Foreign exchange management Act (FEMA) 1999 has been amended
- Enactment of the Benami Transactions (Prohibition) Amendment Act, 2016.

Concerns:-

- **It has yet to implement the legislation effectively, especially with regard to criminal convictions**
- **Law enforcement agencies** in India open criminal investigations reactively and seldom initiate proactive analysis and long term investigations
- While the Indian government has taken action against certain hawala financing activities, prosecutions **have generally focused on non-financial businesses** that conduct hawala transactions as a secondary activity.
- **The government has not taken adequate steps to ensure all relevant industries are complying with AML/CFT regulations.**

- **The degree of training and** expertise in financial investigations involving transnational crime or terrorism-affiliated groups varied widely among the federal, state, and local levels and depended on the financial resources and individual policies of various jurisdictions
- **According to experts US investigators have had limited success** in coordinating the seizure of illicit proceeds with Indian counterparts
- While the Indian government supervised, regulated, and monitored these entities to prevent misuse and terrorist financing, **a large unregulated and unlicensed MSB sector remained vulnerable to exploitation by illicit actors.**

Conclusion:-

- The Indian government is serious about curbing money laundering so India has to focus on financial literacy education so that people are aware .