

# SYNOPSIS



## TEST 3

### CONNECT TO CONQUER (C2C) PHASE II

## Contents

- Q.1) Private investments and exports are the two truly sustainable engines of rapid economic growth in India. Substantiate. (10 marks, 150 words)..... 4
- Q.2) The GST Council offers a model “technology” of cooperative federalism to apply to many other policy reforms. Comment. (10 marks, 150 words) ..... 5
- Q.3) Keeping in mind the rising young population in India, it is essential that the skill development initiatives concentrate on imparting practical skills relevant to the changing socio-economic environment. Comment. (15 marks, 250 words)..... 6
- Q.4) What are the factors that impart vulnerability to the government’s fiscal account? How can they be addressed? Analyse. (15 marks, 250 words) ..... 8
- Q.5) Why hasn’t India been able to fully tap its export potential? Examine. Also discuss the role ‘Make in India’ can play in this regard. (10 marks, 150 words) ..... 9
- Q. 6) Discuss the factors causing low Tax to GDP ratio in India. Also examine the effects of GST and demonetisation on formalisation of the economy. .... 11
- Q.7) The widened current account deficit (CAD) in India reflects deterioration in economy’s competitiveness. Substantiate. How can this be addressed? Analyse. (15 marks, 250 words) 13
- Q.8) What is the Twin Balance Sheet (TBS) challenge? How can the new Indian Bankruptcy Code (IBC) and the announcement of recapitalisation package for Public Sector Banks (PSBs) address the same? Elaborate. (15 marks, 250 words) ..... 15
- Q.9) Why do Indian farmers face income uncertainty? Examine. Also discuss the policy measures that have been taken and need to be taken to address it. (10 marks, 150 words) . 16
- Q.10) The diffusion of organized retailing in farm sector is a new phenomenon in India, evident from the arrival of start ups in the retail segment of the agricultural value chain. What are its implications for the farming community? Also give policy suggestions to make this transformation farmer friendly. (10 marks, 150 words) ..... 19
- Q.11) Enumerate the measures that can be taken to raise farm productivity while strengthening agricultural resilience in India. (15 marks, 250 words)..... 21

- Q.12) There will be 1.8 billion Indians by 2050. It is suggested that genetically modified (GM) crops could be the only way to feed them all. What is your view of this assessment? Critically comment. (15 marks, 250 words)..... 22
- Q.13) Jute, also known as the golden fiber of the country holds immense potential for sustainable socio-economic development. Elucidate. What measures are required to be taken to maximise jute production in India? Discuss. (10 marks, 150 words)..... 24
- Q.14) Despite being the second largest fish producer in the world, India hasn't been able to extract the full potential of aquaculture industry. Examine the reasons. How can the fishing industry usher in the blue revolution? Suggest. (10 marks, 150 words)..... 26
- Q.15) In the WTO era, Information Technology (IT) has become indispensable for the farm sector. Explain by taking suitable examples. (15 marks, 250 words) ..... 27
- Q.16) Livestock wealth is central to rural economy In India. Discuss the importance of livestock as a means of sustainable rural development. Also discuss the salient features of the National Livestock Mission. (15 marks, 250 words) ..... 28
- Q.17) Dairy farming is a source of income and nutrition to a large number of Indian families. What are the typical features of the dairy sector in India? What are the problems being faced by the sector? Also, suggest a roadmap for improving the performance of the dairy sector. (10 marks, 150 words) ..... 32
- Q.18) What are the demand drivers for the food processing industry in India? Also discuss the present set of challenges being faced by the industry. (10 marks, 150 words) ..... 33
- Q.19) For tapping the true potential of the farm sector, there is a need to create modern infrastructure with efficient supply chain management from farm gate to retail outlet. Discuss. In this regard, examine the provisions of the Pradhan Mantri Kisan SAMPADA Yojana. (15 marks, 250 words) ..... 36
- Q.20) In India, land reform measures were conceived boldly but were implemented badly. Substantiate. (15 marks, 250 words) ..... 38

**Q.1) Private investments and exports are the two truly sustainable engines of rapid economic growth in India. Substantiate. (10 marks, 150 words)**

**Approach:**

- Briefly provide what factors are responsible for rapid economic growth in India and highlight the significance of private investments and exports influencing these factors.
- Show how India's economic future can improve with investments-led growth and export-led growth, thus making them the truly sustainable engines of rapid economic growth.

**Body:**

India's future GDP growth depends on its 4 main engines of rapid economic growth – exports, consumption, private investment and government investment.

Of these, 'private investments' and 'exports' play very crucial role. However, there has been a continuing slow down - in the investment rate (especially the private) and in exports - after the global financial crisis (GFC).

**Significance of Private investments on economic growth**

- For strong growth, there is need to develop both physical and social infrastructure, such as roads, railways, ports, hospitals, schools and universities.
- There is an urgent need to activate stalled projects and clean up balance sheets of corporate firms and the banking sector to revive the investment cycle. It is important to revive overall investment --- especially in infrastructure ---- for balanced growth.
- There is a need to revive labour-intensive manufacturing sector and also other sectors such as agriculture and construction, which generates large employment opportunities.

The best possible way of meeting above demands is through efficient investment, especially private investment when the public investment is already burdened with stress and twin balance sheet problems.

**Significance of Export on economic growth**

- There is a need for India to diversify its economy, to create jobs and reduce vulnerability to fluctuating global market prices for raw commodities.

- The best possibility is to find new export markets for goods and services, as exports, along with the imports of new technologies, is an important engine of development.
- Export production allows economies with narrow domestic markets to overcome size limitations and to reap economies of scale. (Example – Pharmaceuticals, Textile, Leather Apparel, Agro-processing products and Automobiles)
- By relaxing the foreign exchange constraints, higher exports can permit higher imports of capital goods thereby strengthening the productive capacity of the economy.
- Exports lead to an improvement in economic efficiency by enhancing the degree of competition.
- Exports can contribute to productivity gains through diffusion of technical knowledge and learning by doing.

Thus, export-oriented production and private investment can truly transform all the sectors of the economy, by bringing specialization and efficiency in these sectors and in turn improves productivity in the economy and finally leading to higher output growth.

**Q.2) The GST Council offers a model “technology” of cooperative federalism to apply to many other policy reforms. Comment. (10 marks, 150 words)**

**Approach:**

- In introduction, establish how GST Council promotes cooperative federalism.
- In the body discuss how the same can be incorporated in other reform measures.

**Body:**

Since its advent GST is being lauded for its potential to create one Indian market, expand the tax base, and foster cooperative federalism.

Both the Centre and the States agreed to share their powers to achieve uniformity and remove compartmentalisation in indirect taxation. The Constitution of India has also been amended accordingly.

Under the GST regime, the Centre & States will act on the recommendations of the GST Council comprising of the Union Finance Minister, Union Minister of State for Finance and all Finance Ministers of the States.

2/3rd of Voting power is with the States and 1/3rd with the Centre which reflects the accommodative spirit of federalism. Even though the Constitution provides for decisions being taken by a 3/4th majority of members present and voting, the consensus has been the guiding principle for taking decisions in GST Council.

The GST Council has formed a three tier structure consisting of: the Office of the Revenue Secretary, a GST Implementation Committee and eight (8) Standing Committees. All these Committees have representation of Centre and State Officers in the spirit of cooperative federalism to ensure effective coordination for smooth implementation of GST.

Thus from the above it is evident that GST Council offers a model “technology” of cooperative federalism.

Economic survey has rightly pointed out the following three areas that need to be revamped on the lines of the cooperative federalism model of GST Council:

**Employment:** finding good jobs for the young and burgeoning workforce, especially for women. (Example – Standard All India Labour Laws; National Minimum Wage)

**Education:** creating an educated and healthy labour force. (Example – By having Central level council on education we can easily resolve issues such as NEET, NEP etc.)

**Agriculture:** raising farm productivity while strengthening agricultural resilience. The Survey has called for reviewing cereal centrality of agricultural policy, doing away with power and fertilisers and allocating more resources for micro irrigation technology. (Promoting e-NAM; Nationalised MSP and Standard land reforms model)

The “cooperative federalism technology” of the GST Council could also be used to create an integrated fragmented and inefficient electricity markets, solve interstate water disputes, implement direct benefit transfers (DBT), make access to social benefits portable across states, and combat air pollution.

**Q.3) Keeping in mind the rising young population in India, it is essential that the skill development initiatives concentrate on imparting practical skills relevant to the changing socio-economic environment. Comment. (15 marks, 250 words)**

**Approach:**

- Highlight the bleak scenario present in India with regard to high population and low skills or skill gaps.
- Provide what kind of socio-economic changes are happening and why is it essential that the skill development initiatives should concentrate on imparting practical skills addressing those changes.

**Body:**

India has witnessed rapid growth in recent years, driven by the development of new-age industries. The rise in the purchasing power has resulted in the demand for a new level of quality of service.

With the changing economic environment, it is essential to focus on imparting and promoting the skill sets of the young population of India as the countries with advanced and improved levels of skills adjust more effectively to the opportunities and challenges of world of work.

**Why skills development system in India should concentrate on imparting practical skills relevant to the changing socio-economic environment?**

- In the globalized economy, with the rise in competition, workers are required to have higher levels of skills and knowledge which will enable them to complete their tasks efficiently so as to meet the required quality standards and increase the efficiency of the value chain process as a whole.
- Due to the rapid technological changes, and rising complexity of economic activity, jobs are increasingly becoming skill-intensive leading to skill shortages and thus unemployment. (e-Commerce, Big Data; Artificial Intelligence; Robotics and Automation)
- Even the rapid social changes happening due to globalization there is a need to impart soft skills to adjust to new cultures. (material values vs orientation skills)
- Similarly entry of women in hitherto unheralded sectors like corporate work, armed forces there is a need for change in approach and gender socialization is needed for which a new dimension of skill development is needed.

Thus it is required to reform the training and education system so as to upgrade the skills of the workforce in order to facilitate them in applying and diffusing the newly adopted technologies.

Such challenges are greater for developing countries like India, which needs more skilled workforce to attract foreign direct investments (FDI), expand foreign trade, and thereby stimulating industrial and economic development.

In India, enormous skills gap exists between what industries demand based on the rapid economic growth and the skills that young people acquire through education and training. This demand-supply gap not only affects the economic growth, but also prevents the inclusive growth of the economy as a whole.

India is poised to become the youngest country of the world by 2020 and the nation will have remarkable percentage of the total population available for working and contributing towards Gross Domestic Product.

Hence, it is the responsibility of the government to be aware of such skill gaps and it is essential that the skill development initiatives bridge those gaps in order to ensure inclusive growth.

**Q.4) What are the factors that impart vulnerability to the government's fiscal account? How can they be addressed? Analyse. (15 marks, 250 words)**

**Approach:**

- Question has two parts, in the first enlist various factors which negatively impact government's fiscal account; and
- In the second parts give measures to tackle the same.

**Body:**

A fiscal deficit occurs when a government's total expenditures exceed the revenue that it generates, excluding money from borrowings.

**Factors that impart vulnerability to the government's fiscal account:**

- **Populist measures** of both central and state governments. E.g. loan waivers to farmers by several state governments. (Example – Andhra Pradesh, Karnataka, Maharashtra government's loan waiver schemes)
- Recent taxation reforms like GST have resulted in the **decline of revenue collection**, though they are bound to have positive impacts in future. Also measures like Demonetisation had short term negative impacts.
- Government is **unable to fulfil its disinvestment targets**. Similarly spectrum licensing has also met with a mild market response.
- The central government's **overall capital expenditure declined** from 1.9% of GDP to 1.6% of GDP in 2017-18 and is expected to stay at 1.6% in 2018-19 at a time when



investment has stagnated. Additionally, not all of the capital expenditures are for investment—some of these are for bank recapitalization.

- **Rising prices of oil** will burden our import bills on the other hand export growth is dwindling thus increasing CAD. (Government expenditure on Petroleum products by 25%, according to Price Petroleum Planning & Analysis Cell)
- The Economic Survey argues, growth was dampened by a combination of factors: high real interest rates, the twin balance sheet problem etc.

**Measure of mitigate aforesaid issues:**

- Government must bring policy reforms to rationalise subsidies with the help of JAM trinity.
- Government should further do taxation reforms to ensure simpler tax regimes with less discretion to tax officers and no retrospective taxes.
- Industrial reforms with better exit policies and labour laws is the need of the hour.
- Effective collection of revenue generated from government basic services such as electricity bills and water bills.
- Improving the efficiencies of PSUs and liquidating the inefficient ones.
- Framing a proper asset monetisation plan will help a lot in generating non-tax revenues as the government is among the largest owners of property and immovable assets in the world.

Recent initiatives of government including accepting the key recommendations of the N.K. Singh committee on fiscal discipline to bring down debt-to-GDP ratio to 40% by 2024-25 are the steps in right direction.

**Q.5) Why hasn't India been able to fully tap its export potential? Examine. Also discuss the role 'Make in India' can play in this regard. (10 marks, 150 words)**

**Approach:**

- Question has two parts, in the first enlist various factors which inhibit India to fully tap its export potential; and
- In the second parts explain how Make in India can mitigate these factors.

**Body:**

India's future GDP growth depends on its 4 main engines of rapid economic growth – exports, consumption, private investment and government investment. Among these, 'exports' play very crucial role.

### **Reasons for India failing to fully tap its export potential:**

#### **External Factors:**

- Global slowdown is one of the major factor.
- Imposition of non tariff barriers by importing countries like imposition of phyto-sanitary norms of WTO. (Example - Indian Mangoes were banned by EU)
- China's devaluation of its currency also plays a crucial role in making its export cheap.
- In most of our FTAs, our counter parts are getting more benefits. For example, India-ASEAN FTA has negative impact on India's export of oil palm and textiles because of competition from Indonesia and Vietnam.
- Most of India's preferential trade agreements (PTAs) have limited product coverage. For example, the India-Mercosur PTA doesn't include textiles and apparel items.

#### **Internal Factors:**

- India's export is not diversified which is evident from the fact that top 20 export categories account for 78 % of the total.
- Competition from neighbouring countries facilitating cheap labour and favourable policies. E.g. Competition in Textile from Vietnam and Bangladesh.
- India is still exporting majority of raw material instead of the final products. e.g. India is exporting cotton yarn rather than technical textiles.
- Poor logistics infrastructure results in weak trade facilitation regime. Cost of India's logistics as a percentage of GDP remains as high as 13-14 %, compared with 7-8 % in developed countries.
- India's ill-conceived trade pacts have resulted in inverted duty structure - High import duties on raw materials and intermediates, and lower duties on finished goods - That discourage the production and export of value-added items. e.g. apparel can be imported into India duty free while its raw material -manmade fibres attract an import duty of 10 %.
- Lack of food processing industries have resulted in the post harvest losses.
- As per Economic Survey, there is huge state-wise regional disparity in prevalence of manufacturing industries where few states contribute to major chunks of export.

#### **Role of Make in India:**

- It will attempt to reduce red tape, enhance foreign direct investment limits, revamp labour laws and environmental clearance processes, thus making manufacturing hassle free.
- Various reforms aligned with parameters of World Bank's 'Ease of Doing Business' index to improve India's ranking on it will surely result in promoting India as a manufacturing centre.
- To promote fast and economical movement of goods government intends to develop industrial corridors, waterways etc. E.g. Sagarmala is overhauling the ports whereas Bharatmala is overhauling the roadways.
- Initiatives like Sampada are promoting food processing industry in India which in turn will give impetus to export of processed food.
- Innovation and research activities are supported by a fast-paced registration system and improved infrastructure for Intellectual Property Rights (IPR) registrations.
- Sector specific trainings are also promoted to ensure availability of skilled labour force which in turn will increase production yield thus making export more competitive.
- Government through various subsidies, promoting technological overhauling of manufacturing units. (Example through 'Power Tex' initiative, government is promoting power looms in textile industries)

**Q. 6) Discuss the factors causing low Tax to GDP ratio in India. Also examine the effects of GST and demonetisation on formalisation of the economy.**

**Approach:**

- Briefly mention what is tax to GDP ratio
- Then mention what all factors causing low tax to GDP ratio in India
- In a paragraph explain the effects of GST and Demonetisation on formalisation of the economy

**Body:**

**Concept of tax to GDP ratio:**

Tax-GDP ratio is one of the method used to assess a country's development and is calculated by dividing the tax revenue collected by the Government from the GDP of that country. Tax and GDP are related, since a higher GDP will automatically lead to a higher tax collection.

India's Tax to GDP ratio remained around 16% which is lower than similarly placed developing countries, leave alone the Tax to GDP ratio of developed countries as there is around 30%.

#### **Factors effecting low Tax to GDP ratio:**

- Structural factors such as low per capita income keep tax collections low.
- Low average incomes and a high poverty rate result in a very small portion of the labour force being eligible to pay personal income taxes.
- As per OCED report, income taxes accounted for a lower proportion around 16% of the general government's revenue.
- A large proportion of economic activity that is generated by SMEs.
- Although SMEs have enjoyed strong profitability growth over the past decade, the government has not captured their earnings in tax revenues due to a variety of exemptions and compliance issues.
- Lack of policy initiatives has also kept the tax take low.
- Certain tax exemptions on agriculture related activity and until the mid-nineties, on most services as well.
- The tax net has been progressively expanded to include a greater number of services each year, and service tax revenue has grown the fastest of all revenue sources. Yet, service taxes constitute merely 5 per cent of total general government revenues, although they comprise about 60 per cent of GDP.
- Other reasons for low tax to GDP ratio are: drop in excise, customs revenue and drop in corporate tax revenue; high tax evasion.

#### **Effects of GST and demonetisation on formalisation of the economy:**

Economic Survey shows how the Indian economy is becoming more formalized. The reason for this shift is important and is not just because of the possibility of higher tax revenues for the government to spend; it is also about a profoundly different social contract between citizens and the state.

There are four key shifts that are mentioned in different parts of the Economic Survey.

- The introduction of the GST has brought more firms into the tax net. The number of enterprises paying indirect taxes has gone up by 3.4 million, an increase of 50%.
- Only around a quarter of the 240 million Indian working outside farms file their income tax returns.

- The demonetization decision seems to have led to a statistically significant increase in the number of new income tax filers, after controlling the problems such as the previous trend as well as seasonal patterns of change in tax filers.
- The demonetization shock is one of the reasons that Indians are putting a greater proportion of their savings in the formal financial sector.
- Bank deposits swelled after November 2016, though the stock market has also made financial savings through mutual funds more attractive compared to gold or real estate.

### **Conclusion:**

It is quite evident these changes will lead to the development of the formalization of the Indian economy can be explained by the two big policy risks taken by government; demonetization as well as the decision to push for a compromised GST. According to the Tax Administration Reform Commission, technological innovations have helped tax administration significantly. PAN based transactions; online tax filings etc., have improved the efficiency of tax administration in the country.

**Q.7) The widened current account deficit (CAD) in India reflects deterioration in economy's competitiveness. Substantiate. How can this be addressed? Analyse. (15 marks, 250 words)**

### **Approach:**

- Introduction: CAD
- How widened CAD in India reflects deterioration in economy's competitiveness.
- In the last part mention points how it can be addressed

**(Just for understanding)**

### **Current Account Deficit:**

The current account deficit is a measurement of a country's trade where the value of the goods and services it imports exceeds the value of the goods and services it exports.

### **Body:**

**Effects of widening CAD on India's economic competitiveness:**

- India's current account deficit is on course to triple to 2% of GDP in 2017-18: even though crude prices averaged last fiscal, affected by underperforming exports and overperforming imports.
- Now, if crude prices were to stay average in 2018-19, experts estimate the CAD would widen towards 3% of GDP.
- Sudden collapse of export markets, due to a global shock, reduces income and increases the CAD.
- We export gold which account for a major share of imports.
- While imported machinery and other intermediate goods are inputs, the higher costs would raise production costs.
- Over the last five years, even as oil prices collapsed and India's fiscal reaped a large windfall, the consolidated deficit has not witnessed any meaningful reduction.
- While the Centre has reduced its deficit, states have increased theirs, such that the consolidated deficit has only inched down from 6.9% to 6.5% over the last five years.

#### **Steps need to be taken to improve economic competitiveness:**

- Policymakers should not focus too much on real depreciation of currency.
- There are bound to be inflationary consequences of the rupee depreciation.
- Under the new inflation-targeting framework, this will need to be countered by monetary tightening.
- External stress need to be buffered through a weaker currency and higher rates, as is being witnessed all around the world.
- Govt needs to work on fiscal policy at the Central and states, as it is crucial to make sure it does not slip again.
- The more expansive the fiscal policy, the more it will offset the real depreciation that will occur from the positive terms-of-trade shock reversing, and thereby not hurting the competitiveness of the tradable sector.
- Policymakers need to work on improving underlying trade competitiveness, apart from exchange rate, by boosting infrastructure, total factor productivity and assimilating into global value chains.

#### **Conclusion:**

The recent rise in crude prices and the real depreciation that it will induce may well be a blessing in disguise, because it may help improve underlying competitiveness. But the scale of what needs to be done to improve trade competitiveness, more fundamentally, remains daunting and should be underestimated only at our own peril.

**Q.8) What is the Twin Balance Sheet (TBS) challenge? How can the new Indian Bankruptcy Code (IBC) and the announcement of recapitalisation package for Public Sector Banks (PSBs) address the same? Elaborate. (15 marks, 250 words)**

**Approach:**

- Explain what is twin balance sheet
- Analyse whether the IBC and recapitalisation will address it or not

**Body:**

A balance sheet is a financial statement that summarises a company/institution's assets, liabilities and shareholder's equity at a specific point of a time. The twin balance sheet problem refers to the ballooning of debt on the books of corporate entities and the estimated Rs10 trillion of stressed assets that have piled up at banks because of the inability of borrowers to repay.

**TBS is two-fold problems for Indian economy which deals with:**

- **Overleveraged companies:** Debt accumulation on companies is very high and thus they are unable to pay interest payments on loans.

**Note:** 40% of corporate debt is owed by companies who are not earning enough to pay back their interest payments. In technical terms, this means that they have an interest coverage ratio less than 1.

- **Bad-loan-encumbered-banks:** Non Performing Assets (NPA) of the banks is 9% for the total banking system of India. It is as high as 12.1% for Public Sector Banks. As companies fail to pay back principal or interest, banks are also in trouble.

**Insolvency and Bankruptcy code Act-2016 to solve the TBS problem:**

It has been formulated to tackle the Chakravayuha Challenge of the exit problem in India. The aim of this law is to promote entrepreneurship, availability of credit, and balance the interests of all stakeholders by consolidating and amending the laws relating to reorganization and insolvency resolution of corporate persons, partnership firms and individuals in a time bound manner and for maximization of value of assets of such persons and matters connected therewith or incidental thereto.

**Recapitalisation package for Public Sector Banks:**

Due to Massive Capital Constraints, the government has promised under the Indradhanush scheme to infuse Rs 70,000 crores of capital into the public sector banks by 2018-19. But this is far from sufficient, so Indian government had come up with different scheme to recapitalize the banks:

- India has till now pursued a decentralised approach where individual banks have taken decisions on its own to resolve NPAs. This approach has not resolved the problem and time have now come to create a centralised agency called Public Sector Asset Rehabilitation Agency (PARA).
- The main function of PARA would be to take charge of the largest, most difficult cases, and make politically tough decisions to reduce debt.
- The funding of this body would come either by selling the bonds or by inviting private companies to buy its equities.
- The surveys also suggest that instead of investing funds and recapitalize the banks year after year, it would be better for the government to focus on recovery.

### **Conclusion:**

Twin Balance Sheet Problem (TBS) is a major problem that Indian economy is facing today. The past mechanisms of resolving this problem in the form of decentralised approach have failed. There is no point of delaying this problem because the delay is very costly for the economy as impaired banks are scaling back their credit while the stressed companies are cutting their investments. IBC and the centralised agency in the form of PARA would allow debt problems to be worked out quickly. The time has come for India to consider this approach to solve the issue of TBS.

**Q.9) Why do Indian farmers face income uncertainty? Examine. Also discuss the policy measures that have been taken and need to be taken to address it. (10 marks, 150 words)**

### **Approach**

- In the first part briefly mention the various factors that cause variability of income in farming.
- In the second part elucidate upon the steps taken so far and steps needed further to minimize this uncertainty.

### **Body**



Risk is an integral part of Agriculture. Every day farmers confront with different types of risks which causes income uncertainty.

The sources of risk in agriculture can be grouped generally as follows.

- **Production Risks:** Includes weather, pests, disease, technology(GM crops) and other event that are directly affects production quality and quantity.
- **Price Risk:** Uncertainty in the Market for commodities such as changes in the prices of inputs or outputs. Eg: Seeds, fertilisers etc.
- **Financial Risk:** The method in which capital is required and financed and the firm's ability to pay financial obligation like insurance cover, lack of remunerative prices.
- **Institutional Risk:** Changes in Governmental or legal policies which affects the agriculture. Eg: WTO and India,
- **Personal Risk:** Risk common to all Businesses, such as death, injury/ disease to the farmer / proprietor.

#### Steps initiated by the Government

- **Agriculture Insurance:** The present credit linked Insurance Scheme (NAIS) has proven its worth as crucial risk intervention mechanism but it suffers from several limitations such as, low indemnity levels, high prices, no coverage for all horticulture crops, poor servicing and awareness level, inadequate loss coverage. Hence the Government has introduced PMFBY (Fasal Bima Yojana) which has low premium and all weather coverage and includes horticulture too
- **Price support Measures:** A vital tool in helping farmers and consumers in achieving food security, while extending remunerating prices to the farmer for their produce.eg MSP, Price control mechanisms in case of shortage, buffer stocks etc.
- **Emerging Commodity Markets:(e-NAM)** Recently introduced in India to benefit the farmers for price discovery and protect them from adverse price fluctuations. But due to predominance of small and marginal farmers, lack of awareness, participation has been negligible.
- **Contract farming:-**Its aim is to bring the management of agriculture with the best practices of agricultural productions. Recently NITI Aayog has released a strategy paper to encourage contract farming
- Setting up a Centre for Risk management in agriculture in public private partnership mode for research, capacity building and popularizing risk management solutions in agriculture.

- There are number of scheme launched by the Government like Krishi Kalyan Cess, Paramparagat Krishi Vikas Yojna (PKVY)(for organic farming), Pradhan mantri krishi sinchai yojana(PMKSY) to increase irrigation facilities, Mera goan Mera Gaurav, soil health card, Krishi dak etc.
- The government has also constituted a committee under the chairmanship of Mr.Ashok Dalwai to suggest roadmap for farmers to double their incomes by 2022.

### Steps to be taken

- **Enterprise diversification:** One effective way to reduce income variability on the farm is diversify the enterprise by combining different production processes. Diversification can be included the different crops, combination of crops and live stock, different end points in the same production processes or different variations in the same crops.
- **Guaranteed Agricultural Prices:** This measure involves enactment of legislation giving the farmer more or less precise guarantee of the price level or the minimum price he may expect some time ahead. In the U.S.A. for example, legislation provides a system of guaranteed price for a wide range of farm products such as maize, cotton, wheat, rice, tobacco, groundnuts, wool, honey, milk and butter
- **Smart irrigation systems** such as drip, sprinklers and efficient water management should be made a priority and allocated across the country where needed and incentives must be provided for adoption of such techniques.
- **Data driven supply-chain management:** India must start using data to continuously improve the efficiency of its agricultural supply chains. New technologies such as sensors, GPS and satellite imaging can help collect meaningful data to make India's agriculture system more resilient. This enables different sections of the supply chain to monitor environmental and other conditions. It can be used to adapt how crops are produced, stored and distributed to reduce waste.
- **Evidence based research:** Agricultural research will be vital in increasing yields but also in increasing resilience to all the problems that could come with climate change – including extreme heat and precipitation, pests and crop disease. Research will be especially important for crops such as pulses and soybean, which are crucial crops and highly vulnerable to weather and climate change.

**Q.10) The diffusion of organized retailing in farm sector is a new phenomenon in India, evident from the arrival of start ups in the retail segment of the agricultural value chain. What are its implications for the farming community? Also give policy suggestions to make this transformation farmer friendly. (10 marks, 150 words)**

### **Approach**

- Mention briefly about the importance of organized retailing in farm sector.
- Give an overview of how start ups are changing the agricultural space in India.
- In the third part press the need for these start ups to become more farmer friendly for easier dispersion of knowledge and easier adoption of such practices.

### **Body**

Organized retailing in India has been a relatively new feature since the opening up of the economy in 1991 following the LPG reforms. However their prevalence has been both marginal and diffusive in the agricultural sector due to the inherent weaknesses in Indian farming like fragmented land holdings, lack of irrigation and mechanization, absence of contract farming and also external factors like suspicion of corporatization of agriculture etc.

Organized retail can be helpful in revitalization of Indian agriculture

- Prevents food wastage - It is well known that around 33% of food is perished during harvest and transport organized retail can prevent this by shoring up storage facilities like cold storages etc.
- Better price discovery (price determination based on demand and supply) - thus greater income security
- Absence of exploitation of middle men and guaranteed income for produce rather than seasonal demand.

Today there are many start ups which are involved in agri tech and value chain few examples of how they are helping farming community can be gauged by the following examples.

- **Access to the market, directly**

Post the crop harvesting phase, access to the market is one of the key problems faced by the agrarian community. Further, the middle men and wholesale commission agencies often dictate the prices at which fruits and vegetables are sold. This interference by the commissioning agents not only reduces the farmers income but it also encourages them to use pesticides to gain a larger harvest, at the cost of quality of the produce.

Eg: Organic Thellawalas a start up has enabled a transparent pricing mechanism.

- Thermal imaging is used to assess a crop's yield by determining the condition of the seeds, the soil, the cropping pattern, the weather, access to water, use of fertilisers, and the lack of pests. Eg: Vdrone a start up helping in Karnataka
- BigHaat is a Bengaluru-based startup empowering farmers through an e-commerce platform, which lets them buy seeds, crop protection nutrients and solutions, and agro instruments online. Enabling last-mile connectivity with logistics partners like India Post and Ship Rocket, it has helped about 50,000 farmers across 20 states.
- Sharing of agri equipment by renting will enable farmer produce more and decrease cost eg: Ravgo in Haryana.
- Fly Bird Farm Innovations a start up uses sensors in the soil to detect moisture content and control irrigation on need basis. Which has optimised farm practices. The startup's technology has helped farmers save 25-30 percent of water and improve crop yield by 10-15 percent.
- Crofarm helps farmers get better price discovery by enabling them to go online and sell in market place etc.

### Limitations

- But there are inherent disadvantages too as farmers who are not technologically fluent and in far away areas cannot take advantage of the innovation.
- Many of the start ups are urban based and critics argue that the impact will be miniscule and temporary and will remain a fad unless there is a meaningful reform led by the state.
- Fear of corporatization and technologization of agriculture , which may lead to both social and economic exploitation of farmers .

There is a need for state intervention in the sector to make a harmonious transition from agriculture to agri-tech India which can be done in following ways.

- Agriculture extension services to farmers to dispel myths about use of technology.
- Taking up agricultural start ups in mission modes and providing them loans at concessional rates.
- The state can actually play a catalytic and protective role. For instance, it can encourage contract farming which will bring hitherto disparate farmers into one collective.
- A three-way partnership among organised retail, farmer groups and the Government will accelerate production of crops that are market-driven and of standardised quality.

This will ensure farmers are not cheated while retailers will receive requisite product delivery from growers.

- It is necessary to lay down regulatory guidelines and set up a regulatory authority with requisite powers to advance the interests of all stakeholders.

It is important that an enabling environment is created for farmers to participate productively in the retail revolution with a policy that is equitable.

**Q.11) Enumerate the measures that can be taken to raise farm productivity while strengthening agricultural resilience in India. (15 marks, 250 words)**

**Approach**

- Straight forward question we need to mention steps that can both increase productivity and also built up resistance to climate related factors in order to boost agricultural income of farmers.

**Body**

The economic survey 2017-18 stressed upon the adverse impact of climate change on agricultural production in India. The production of our major crops rice and wheat could reduce by 7% and 10%, respectively, by 2030, according to the Intergovernmental Panel on Climate Change (IPCC) assessment report of 2014.

Further, the Parliamentary Standing Committee on Agriculture has asserted that losses due to climate change account for overall GDP loss of 1.5% of agricultural economy.

In order to overcome this challenge we need to have a two pronged strategy.

- Need to increase farm productivity by using innovative technology.
- Need to supplement farmers' income by other means so that he doesn't depend only upon farm income.

The following measures can be taken

- Need to shift pattern of agriculture for marginal farmers and tribal communities from shifting agriculture to an integrated agriculture system.
- Organic farming practices like use of compost rather than inorganic fertilisers to improve soil health and also retain sub surface moisture.
- The main challenge, particularly in developing countries, is that farmers have the low adaptive capacity, as most of them are small and marginal farmers autonomous

adaptation cannot be expected. Hence, policy-driven incentivized adaptation is required.

- Efficient use and management of water at farm and landscape level like Water harvesting, using simple structures like farm bunds and farm ponds, has made a great difference in building resilience on farms
- Other methods such as trash mulching, composting, wide planting, intercropping, bio fertilizer application, and nutrient and pest management. Surface and subsurface drip irrigation.
- Farmer learning groups need to be established to provide peer support and mentorship as well as role modelling for faster adaptation.

For example farmers in Maharashtra were able to reap a good harvest and improve their nutrition with crop planning. Their change from mono cropping to mixed cropping was possible owing to community participation and ownership.

- Enhancing farm biodiversity through practices like inter-cropping and crop diversification. Biodiversity not only nurtures the ecosystem, it also provides multiple alternative sources of income.

For example the coastal farmers in Odisha have taken up 'mud crab farming' while the tribal communities in Bundelkhand region have adopted agro forestry as an alternative livelihood option.

- There is a need to invest more in R&D in agriculture to sustain agricultural productivity in the long run need to develop climate resistant crop and seed varieties.
- Methods such as SRI (System of Rice Intensification) and NICRA needs to be converged with governmental schemes like MNREGA and NRLM to increase sustenance and decrease susceptibility.
- Further innovative practices like peri urban agriculture (peripheral areas of a city) for diversifying urban livelihoods for poor and marginalised communities, ensuring local food supplies, particularly vegetables and fruits, and conserving open areas that serve as flood buffers.

**Q.12) There will be 1.8 billion Indians by 2050. It is suggested that genetically modified (GM) crops could be the only way to feed them all. What is your view of this assessment? Critically comment. (15 marks, 250 words)**

**Approach:**

- In introduction, discuss the problem caused by increase in population and viable measures.
- Asses the case statement and since you need to critically comment, write the negative aspects of GM crops.

**Body:**

Even though currently we have a food surplus, but the rate at which our population is growing, soon we will have more mouths to feed. For that we will require more production. This can be achieved by three ways –

- Increase in the crop area.
- Increase in productivity of food grains.
- Reduction in food wastage.

Since almost 50% accounted land in India is under agriculture, which is also one of the largest in the world (percentage wise), increasing the cropping area is not feasible. Hence we are left with the other two choices. GM crops are seen as a solution to both.

**Just for understanding** - (In GM plants, one or more genes coding for desirable traits have been inserted. The genes may come from the same or another plant species, or from totally unrelated organisms. The traits targeted through genetic engineering are often the same as those pursued by conventional breeding. However, because genetic engineering allows for direct gene transfer across species boundaries, some traits that were previously difficult or impossible to breed can now be developed with relative ease.)

Genetically modified plants have significantly higher yield and better shelf life.

In a country like India, where undernourishment is a big problem, second generation GM crops can be biofortified with desired nutritious value.

Apart from this there are some other benefits of GM crops like – they can be herbicide resistant so weeding can be an easy process. With higher yields, they would require more labour to harvest creating more employment.

However, there are some concerns associated with GM crops like –

- **The safety is uncertain** – People have been consuming GM crops only since 1990s and a long term data is not available as to how it will affect the human health. Clinical trials on animals have shown mixed results.

- **Environmental issues** – GM crops are generally invasive in nature and they push the traditional seeds out of use. This can hamper the biodiversity of a region.
- **Chemical contamination** – Genetically modified crops are often sprayed with powerful pesticides and herbicides, and are fertilized with chemical fertilizers. These chemicals then contaminate the environment by traveling through the air; they leach into the ground, where they end up in fresh-water sources.
- **Socio-economic condition of the farmer** – Water requirement and irrigation facility has increased.

Considering the above issues we can say that GM crops are not the 'only' solution to our futuristic food crisis. Some measures that can be taken to increase the food production are –

Yield of the crops can be increased making the current agricultural practices more efficient and scientific. Some measures that can be taken are –

- Land pooling for community farming can increase the net land and increase production.
- Use of traditional methods of crop rotation and using leguminous crops to maintain soil fertility
- Integrated pest and nutrient management
- Making irrigation more efficient to judiciously use the water resource as well as to reduce dependence on monsoon.

**Note:** You can suggest more measures in conclusion.

**Q.13) Jute, also known as the golden fiber of the country holds immense potential for sustainable socio-economic development. Elucidate. What measures are required to be taken to maximise jute production in India? Discuss. (10 marks, 150 words)**

**Approach:**

- Direct question.
- The question has got two parts, in first part you need to mention the significance of Jute fiber and in the second measures to increase jute production.

**Body:**

Known as the 'golden fibre' jute is one of the longest and most used natural fibre for various textile applications. It thrives in tropical lowland areas with humidity of 60% to 90%. Jute is a



rain-fed crop with little need for fertilizer or pesticides. Yields are about 2 tonnes of dry jute fibre per hectare. Jute is one of the most affordable natural fibres and considered second only to cotton in amount produced and variety of uses of vegetable fibres.

With the growth of synthetic fibres, the production of jute faced a setback but now with promotion of the idea of sustainable development avoiding the use of Plastics, Jute presents a golden opportunity for sustainable socio – economic development in the country, especially in North Eastern Regions.

- The climate is suitable for jute production and jute cultivation fetch good income.
- Jute industry is highly labour intensive (employment generation) and it has multiplier effect in every rupee invested.
- With increased involvement of women, this helps in financial inclusion of women.
- Jute industry will give boost to other allied industries like chemical industry.
- Jute can be blended in different fibres like cotton, silk and wool and can give a boost to textile industry. (Geo textiles)
- Jute is predominantly grown by small and marginal farmers.
- Jute industry is also helpful in giving boost to cooperative societies.

#### **Measures that can be taken to maximize jute production in India –**

Infrastructural measures:

- Government should promote good certified jute seeds.
- Maintaining proper electricity and water supply
- Proper modern machinery and practices should be used to make world class products.
- Market connectivity should be provided to reduce delay and increase access to the market.
- Use of IT to connect local producers to the global market

Institutional measures:

- Provision of low interest loans
- Proper advertising and marketing strategies. Promotion of Agro – textiles.
- Boost to SHGs and cooperative societies involved in jute production
- Farmers should be given other incentives likes crop insurance, health insurance etc.

**Some recent measures taken by the Government:**

- A minimum of 90% of food grains and a minimum of 20% of sugar are to be compulsorily packed in jute sacking.
- Whenever the market price of raw jute falls below a certain level, the Jute Corporation of India (JCI) procures raw jute at Minimum Support Price (MSP), fixed on the basis of recommendation of the commission for Agricultural Cost and Prices (CACP).
- Incentive Scheme for Acquisition of Plants and Machinery (ISAPM)
- Jute-ICARE (Jute: Improved Cultivation and Advanced Retting Exercise)
- The National Jute Board implements various schemes for market development, workers' welfare and promotion of diversification and exports.
- Government has issued a notification on 5th January, 2017 imposing Definitive Anti-Dumping Duty on jute goods originating from Bangladesh and Nepal.

<http://pib.nic.in/newsite/PrintRelease.aspx?relid=159841>

**Conclusion:**

You can conclude the answer by citing some concerns faced by the jute industry.

**Note:** You can write any other conclusion too.

**Q.14) Despite being the second largest fish producer in the world, India hasn't been able to extract the full potential of aquaculture industry. Examine the reasons. How can the fishing industry usher in the blue revolution? Suggest. (10 marks, 150 words)**

**Approach:**

- The question has got two direct parts. Both the parts should be given equal importance.
- Since the question is a 10 marker, the points should be crisp and direct and answer should be finished in 150 words.

**Body:**

India accounts for 5.43% of the global fish production and ranks only second to China in fish production.

With a coastline of 7500 km and diverse river system, there is a huge potential for both marine and inland fishery sector. However, this remains unharnessed largely due to the following reasons:

- Lack of robust value-chain and processing sector impedes its prospects for export and long-term usage
- Lack of quality and safety certification for absence of antibiotic and pesticide residues. This makes our fishery sector less lucrative for global exports.
- Lack of certification for environmentally and economically sustainable fishing practices
- Fisheries sector is largely fragmented due to several small-scale players operating in the market and there is no integrated approach
- Competition from the emerging South-east Asian markets for export in the US and Europe
- Lack of comprehensive strategy and research on identification of newer areas and ensuring the environmental sustainability of the older ones

Blue revolution aims at creating an enabling environment for integrated development of fishing industry and ensuring income security to fishermen in an environmentally sustainable manner

Thus the sector can be taken forward under the umbrella scheme of Blue Revolution by adopting following measures:

- The proper implementation of National Policy on Marine Fisheries 2017 which has adopted an integrated approach from area specific capture to trade
- Promoting fisheries research with regards to quality and environmental sustainability
- Integrating fishing industry development with Sagarmala, NRLM, RKVY schemes etc
- Promoting seaweed, oyster, ornamental and sewage fed fish culture
- Providing modern food processing facilities so that a perishable commodity like fish can be preserved after catch and is easily exported.
- Assigning seasonal areas for fishing, so that other regions can recuperate.

**Note:** You can conclude the answer by mentioning some steps taken by the government.

**Q.15) In the WTO era, Information Technology (IT) has become indispensable for the farm sector. Explain by taking suitable examples. (15 marks, 250 words)**

**Approach:**

- How farmer suffers because of information asymmetry
- Adaptability of farm sector in the era of liberalized trade

**Body:**

WTO has been a double edged sword for Indian farm sector. On one side it gave free access to the world markets while on the other side it left farmers to compete in the international market which is mostly commercial corporate led farming. The inability of the government to opt for quantitative barriers and tariffs makes it necessary for the farmers to upgrade to latest agricultural practices.

IT can also be used for agriculture to which Indian farmers didn't adapt. Some of the examples include

- Accesible market information for realising profit
- Tele-farming allows farmers to get state of the art technology
- Geo-tagging of agricultural land for crop management
- Diffusion of information regarding weather forecast and market pricing
- Online trading
- Price realisation through derivative market
- Precision farming with the help of nano bio sensors

**Government has come up with the following measures**

- e-NAM : A nation wide common market
- Soil health card scheme : Helps in Integrated pest and Integrated nutrient management
- Kisan call centres : helps in diffusing lab to land initiatives.

### **Conclusion**

After the JAM trinity and the improved connectivity the markets have become more accessible. But still there are many grey areas that need to be addressed. Agriculture is often given a step motherly treatment. Farming as a profession is looked down. Efforts have to be made to bring the skilled and educated into agriculture then only India will be able to cope up with future food security problems.

**Q.16) Livestock wealth is central to rural economy In India. Discuss the importance of livestock as a means of sustainable rural development. Also discuss the salient features of the National Livestock Mission. (15 marks, 250 words)**

### **Approach**

- Livestock plays an important role in Indian economy. Discuss why it is important for rural development. If you have merely listed, you will lose marks. Be careful with the directive “Discuss”.
- Second demand of the question is – discuss the features of NLM.

### Body

Livestock plays an important role in Indian economy. About 20.5 million people depend upon livestock for their livelihood. Livestock contributed 16% to the income of small farm households as against an average of 14% for all rural households. Livestock provides livelihood to two-third of rural community. It also provides employment to about 8.8 % of the population in India. India has vast livestock resources. Livestock sector contributes 4.11% GDP and 25.6% of total Agriculture GDP.

### Contribution of livestock to sustainable rural economy

Sustainable development is using resources in such a way that the needs of the future generations is not compromised.

- India has 70% of dry land where water intensive crops are unsustainable. The dry lands are suitable for fodder cultivation which put less strain and resources.
- Livestock is generally contributed by small and marginal farmers who are said to be the backbone of Indian agriculture. Women participation is also very high. They act as buffer during crop failure (also against vagaries of climate change, droughts and floods).
- Moreover with increase in disposable income the demand for protein based products has increased. These needs can be satisfied through livestock.
- This sector can easily decentralised providing nutritional security to the malnourished population. Hence it is decentralised the transportation costs will also reduce.

**Food:** The livestock provides food items such as Milk, Meat and Eggs for human consumption.

**Fibre and skins:** The livestock also contributes to the production of wool, hair, hides, and pelts. Leather is the most important product which has a very high export potential.

**Draft:** Bullocks are the back bone of Indian agriculture. Pack animals like camels, horses, donkeys, ponies, mules etc are being extensively used to transport goods in different parts of the country in addition to bullocks.

**Dung and other animal waste materials:** Dung and other animal wastes serve as very good farm yard manure reducing chemical fertilisers.

**Storage:** Livestock are considered as “moving banks” because of their potentiality to dispose off during emergencies.

**Weed control:** Livestock are also used as Biological control of brush, plants and weeds.

**Cultural:** Livestock offer security to the owners and also add to their self esteem especially when they are owning prized animals such as pedigreed bulls, dogs and high yielding cows/ buffaloes etc.

**Sports / recreation:** People also use the animals like cocks, rams, bulls etc for competition and sports. Despite ban on these animal competitions the cock fights, ram fights and bull fights (jalli kattu) are quite common during festive seasons.

**Companion animals:** When the nuclear families are increasing in number and the old parents are forced to lead solitary life the dogs, cats are providing the needed company to the latter thus making them lead a comfortable life.

### **National livestock mission**

The Mission is designed to cover all the activities required to ensure quantitative and qualitative improvement in livestock production systems and capacity building of all stakeholders. The Mission will cover everything germane to improvement of livestock productivity and support projects and initiatives required for that purpose subject. This Mission is formulated with the objective of sustainable development of livestock sector, focusing on improving availability of quality feed and fodder.

### **Important features (Write only 5-6 important features)**

- Sustainable growth and development of livestock sector, including poultry
- Increasing availability of fodder and feed to substantially reduce the demand –supply gap through measures which include more area coverage under quality fodder seeds, technology promotion, extension, post - harvest management and processing in consonance with diverse agro -climatic condition.
- Accelerating production of quality fodder and fodder seeds through effective seed production chain (Nucleus – Breeder –Foundation - Certified-Truthfully labelled, etc.) with active involvement of farmers and in collaboration with the dairy / farmers cooperatives, seed corporations, and private sector enterprises.

- 
- Establishing convergence and synergy among ongoing Plan programmes and stakeholders for sustainable livestock development.
  - Promoting applied research in prioritized areas of concern in animal nutrition and livestock production.
  - Capacity building of state functionaries and livestock owners through strengthened extension machinery to provide quality extension service to farmers.
  - Promoting skill based training and dissemination of technologies for reducing cost of production, and improving production of livestock sector
  - Promoting initiatives for conservation and genetic upgradation of indigenous breeds of livestock (except bovines which are being covered under another scheme of the Ministry) in collaboration with farmers / farmers' groups / cooperatives, etc.
  - Encouraging formation of groups of farmers and cooperatives / producers' companies of small and marginal farmers / livestock owners.
  - Promoting innovative pilot projects and mainstreaming of successful pilots relating to livestock sector.
  - Providing infrastructure and linkage for marketing, processing and value addition, as forward linkage for the farmer's enterprises.
  - Promoting risk management measures including livestock insurance for farmers.
  - Promoting activities to control and prevent animal diseases, environmental pollution, promoting efforts towards food safety and quality, and supply of quality hides and skins through timely recovery of carcasses.
  - Encouraging community participation on sustainable practices related to animal husbandry, involvement of community in breed conservation and creation of resource map for the states.

### **Conclusion**

There is a wide perception that the primary sector is often associated with underdevelopment (Rostov). But some of the developed countries have a healthy primary sector like Netherlands, New Zealand, and Australia etc. With a wide variety of livestock and abundant numbers this sector can be India's strength.

**Q.17) Dairy farming is a source of income and nutrition to a large number of Indian families. What are the typical features of the dairy sector in India? What are the problems being faced by the sector? Also, suggest a roadmap for improving the performance of the dairy sector. (10 marks, 150 words)**

**Approach:**

- Direct question. Every part of the question needs to be addressed.
- Give facts if known.

**Features:**

- India has world's highest livestock population, and first in the total buffalo population in the world with 105.3 million buffaloes.
- India has second largest poultry market in the world with production of 63 billion eggs and 649 million ton poultry meat.
- About 20.5 million people depend upon livestock for their livelihood and it contributes 16% to the income of small farm households as against an average of 14% for all rural households.
- Dairy farming provides livelihood to two-third of rural community. It also provides employment to about 8.8% of the population in India. India has vast livestock resources.
- Dairy farming sector contributes 4.11% GDP and 25.6% of total Agriculture GDP.

**Problems:**

- Shortage of feed/fodder
- There is an excessive number of unproductive animals which compete with productive dairy animals in the utilisation of available feeds and fodder.
- Breeding system
- Late maturity, in most of the Indian cattle breeds, is a common problem. The calving interval is on the increase resulting in a reduction in efficiency of animal performance.
- Education and Training
- A vigorous education and training programmes on good dairy practices could result in the production of safe dairy products, but to succeed they have to be participative in nature.
- Health
- Veterinary health care centres are located in far off places. The ratio between cattle population and veterinary institution is wider, resulting in inadequate health services to animals.
- Hygiene Conditions



- Many cattle owners do not provide proper shelter to their cattles leaving them exposed to extreme climatic conditions. Unsanitary conditions of cattle shed and milking yards, leads to mastitis conditions
- Marketing and Pricing
- Dairy farmers are not getting remunerative price for milk supply. There is also a poor perception of the farmers towards commercial dairy enterprise as an alternative to other occupation.

**Roadmap:**

- There is a need for adopting new technology to provide impetus to this sector. Scientific dairy farming is also helping develop a symbiotic relationship between the farmer and the industry.
- More intensive dairying activities can raise the purchasing power of the less privileged sections of society.
- The quality of milk and its handling throughout the supply chain needs to be improved. There is a need for intervention by the Government for providing financial assistance for improving quality of milk handled by non-organized sector/small-scale milk producers in rural areas scattered all over the country.
- Cost effective and nutritionally balanced feed for animals and reproductive efficiency of the herd with sound heifer management.

In near future is that the organized sector to private sector, like the cooperate sector, would also have a larger role in the industry.

Looking ahead, the diary industry has a very ambitious agenda, whose prime objectives are productivity enhancement, institutional and structural change, quality upgradation and making an impact on the global trade.

**Q.18) What are the demand drivers for the food processing industry in India? Also discuss the present set of challenges being faced by the industry. (10 marks, 150 words)**

**Approach:**

- Why India needs food processing industries?
- What challenges food processing industries are facing in India?

**Body:**

India Food Processing Industry is estimated at \$135 billion industry which is growing at about 8% annually. GDP by processing constitute about 10% that of agriculture. But given potential of India, this is an underachievement. India has about 26 types of different climatic conditions, 46 varieties of soils are there in India out of total 60 types of soils worldwide. 127 'agro climatic zones' have been identified in India. Also, Indian food is known worldwide for its unique taste and aroma.

### **WHY INDIA NEEDS FOOD PROCESSING?**

India is either 1st 2nd or 3rd in many of the agricultural products but the value addition is poor.

- Indian agriculture is infested with post-harvest wastage problem (fruits and vegetables it is about 30-40%. Overall, cost of wastage 1 lakh crore).
- Consequently farmer will able to get more value and consumer will get products cheaper.
- Consumption patterns in India are rapidly shifting from cereals to protein rich foods and horticulture.
- Also India has significant proportion of population which is undernutrition (1/3 of population), stunted and wasted.
- Indian economy is still agrarian (55% population is directly dependent). This will increase demand for farmers and hence more remunerative prices.
- FPI is perhaps best bet to seize opportunity of demographic dividend. It can give us a genre of progressive rural entrepreneurs.
- FPI can narrow gap between rural and urban India.
- Growing urban culture, nuclear families, working couples. This makes case for processed food compelling.
- FPI is employment intensive industry
- Also, strategic geographic location and proximity to food-importing nations (Middle East and Africa) makes India favorable for the export of processed foods.
- Last but not the least, world economies are integrating even rapidly year by year. So a country has no option but to remain competitive.

### **Challenges**

FICCI report of 2014 says of the country's total agriculture and food produce, currently only 3% is processed currently in comparison to 40% in countries such as Malaysia and Thailand. There are several challenges which span across the entire value chain and are as follows:

#### **1) Productivity Issues**

- A major area of concern is food production itself. Despite being an agrarian economy and one of the largest producers of vegetables, fruits, wheat etc., it is unfortunate that the productivity of crops is quite low relative to international standards.

## **2) Availability of Skilled Resources**

- Human resource development needs to cover the entire gamut from basic infrastructure, education, vocational and technical guidance to qualified professionals in the sector.

## **3) Supply Chain Deterrents**

- Long and fragmented supply chains leading to high wastage and high costs especially due to seasonality, perishability and variability of produce.

## **4) Deadlocks in Infrastructure**

- Indian export- related infrastructure for agro-produce is grossly inadequate, especially at sea ports and airports. More than 30 percent of the produce is lost due to poor post-harvesting facilities and lack of cold chain infrastructure.

## **5) Low Adherence to Quality Standards**

- Unavailability of basic standardization and certification infrastructure. Given the size of the industry, there is a huge gap in the availability of laboratories, trained manpower, and certification agencies. The recent Maggi controversy and the role of FSSAI was under severe scrutiny.

## **6) Low level of Linkages between Industries**

- Low level of interaction between industry and research institutes are one of the major problems. In order to improve farm productivity, continuous introduction and implementation of innovative technologies calls for existence of a strong R&D network. While investments are being made in this regard, the efforts have not been as rewarding.

## **Conclusion**

Given the changes in the Indian landscape, the packaged foods segment holds immense promise and a concerted move to develop India's Food Processing sector will be a force multiplier in creating large-scale employment, enhancing farm incomes and combating agro-wastages.

**Q.19) For tapping the true potential of the farm sector, there is a need to create modern infrastructure with efficient supply chain management from farm gate to retail outlet. Discuss. In this regard, examine the provisions of the Pradhan Mantri Kisan SAMPADA Yojana. (15 marks, 250 words)**

**Approach :**

- Explain the need of modern infrastructure.
- Give the provision of Sampada Yojana.

**Body:**

Though India leads the world in production of many crops , it still faces the issue of low levels of processing , income and food wastage. Creation of efficient supply chain management is important to solve these issues which is further dependent on modern infrastructure.

**The Need to create modern infrastructure :-**

- It will provide a big boost to the growth of food processing sector in the country.
- It will help in providing better prices to farmers and is a big step towards doubling of farmers' income.
- It will create huge employment opportunities especially in the rural areas.
- It will also help in reducing wastage of agricultural produce, increasing the processing level, availability of safe and convenient processed foods at affordable price to consumers and enhancing the export of the processed foods.
- It will Decrease Purchasing Cost and decrease Production Cost.
- It provides for Opportunity to Decrease Pollution and Opportunity to Decrease Energy Use due to more efficient utilization of products.

**PM Kisan SAMPADA Yojana**



It is a comprehensive package which will result in creation of modern infrastructure with efficient supply chain management from farm gate to retail outlet.

**The following schemes will be implemented under PM Kisan SAMPADA Yojana :**

#### **Mega Food Parks**

The Scheme of Mega Food Park aims at providing a mechanism to link agricultural production to the market by bringing together farmers, processors and retailers so as to ensure maximizing value addition, minimizing wastage, increasing farmers income and creating employment opportunities particularly in rural sector. The Mega Food Park Scheme is based on “Cluster” approach and envisages creation of state of art support infrastructure in a well-defined agri / horticultural zone for setting up of modern food processing units in the industrial plots provided in the park with well-established supply chain.

#### **[Integrated Cold Chain and Value Addition Infrastructure](#)**

It covers creation of infrastructure facility along the entire supply chain viz. pre-cooling, weighing, sorting, grading, waxing facilities at farm level, multi product/ multi temperature cold storage, CA storage, packing facility, IQF, blast freezing in the distribution hub and reefer vans, mobile cooling units for facilitating distribution of horticulture, organic produce, marine, dairy, meat and poultry etc. The scheme allows flexibility in project planning with special emphasis on creation of cold chain infrastructure at farm level.

#### **[Infrastructure for Agro-processing Clusters](#)**

The scheme aims at development of modern infrastructure and common facilities to encourage group of entrepreneurs to set up food processing units based on cluster approach by linking groups of producers/ farmers to the processors and markets through well-equipped supply chain with modern infrastructure.

### Creation of Backward and Forward Linkages

The objective of the scheme is to provide effective and seamless backward and forward integration for processed food industry by plugging the gaps in supply chain in terms of availability of raw material and linkages with the market. Under the scheme, financial assistance is provided for setting up of primary processing centers/ collection centers at farm gate and modern retail outlets at the front end along with connectivity through insulated/ refrigerated transport.

### **Expected Outcome :-**

PM Kisan SAMPADA Yojana is expected to leverage investment of Rs. 31,400 crore for handling of 334 lakh MT agro-produce valued at Rs. 1,04,125 crore, benefiting 20 lakh farmers and generating 5,30,500 direct/indirect employment in the country by the year 2019-20.

### **Q.20) In India, land reform measures were conceived boldly but were implemented badly. Substantiate. (15 marks, 250 words)**

#### **Approach:**

- Write the aims and important features of land reforms.
- Write about the implementation failure.

#### **The Important Aims of Land Reforms were.**

- To make redistribution of Land to make a socialistic pattern of society. Such an effort will reduce the inequalities in ownership of land.
- To ensure land ceiling and take away the surplus land to be distributed among the small and marginal farmers.
- To legitimize tenancy with the ceiling limit.
- To register all the tenancy with the village Panchayats.
- To establish relation between tenancy and ceiling.
- To remove rural poverty.

- Proliferating socialist development to lessen social inequality
- Empowerment of women in the traditionally male driven society.
- To increase productivity of agriculture.
- To see that everyone can have a right on a piece of land.
- Protection of tribal by not allowing outsiders to take their land.

### **Jurisdiction**

- 'Land' is a State subject under the Constitution and hence different States have evolved differently in the field of land management.
- The Union can play only a limited role to play in this regard. At most they can frame policy, release funds –but implementation rests in the hands of State Government.
- Consequently there are considerable variations in the results achieved by different states.
- Even in the same state- different regions show different rate of progress.
- UN report says: "In India there seems to be great inequality in different states regarding the land reforms....these land reforms are not implemented in the true spirit."

### **Outdated Land records**

- After independence, state government did not pay attention to land records.
- Gradually In most States, villages and field maps, records of rights and land measurement records have become obsolete.
- Tenancy reforms can only be implemented if there is proper written records of tenancies and land ownership. .
- Outdated land records resulted in land disputes, land grabbing, court cases, landowners evade ceilings.

### **Problem in North East**

- The system of land records and land administration are entirely different in the hilly and tribal tracts of north-eastern States.
- In some of these areas, there was no legislation regarding land and land related matters. Therefore, accurate land records do not exist..
- Jhuming or shifting cultivation is practiced. There is no record of the area or the boundaries of plots allotted to individuals.

### **Lack of budgetary Support**

- Cost of collecting land revenue was higher than the actual cash received under land revenue. Land revenue administration falls under "non-plan" expenditure and hence. doesn't get much budgetary allocation. As a result, administration suffered.
- The result was that the Land records were outdated and Poor people suffered.

### **Bureaucratic apathy**

- The Bureaucracy suffered from lack of adequate training and there was no co ordination between various departments and centre and state.

### **Unorganized Beneficiaries**

- The beneficiaries were largely unorganized (Except WB and Kerala). They were unable to bring required pressure on the government for speedy implementation of the land reforms.
- Therefore land reform was more of a rhetoric rather than real agenda of governments.

### **Powerless Panchyat**

- Panchayats did not had sufficient revenue sources of their own.
- Panchayats were too weak to do anything about land reforms.

### **Lack of Civil Society/NGO action**

- Various movements like Bhoodan , Gramdaan etc after independence did not continue and there was no push given by any other Civil Societies for land reforms.

