

GS TEST – 14 MODEL ANSWERS

1. While Indian economic growth in recent years is service-led growth and Chinese model is manufacturing led growth. Throw light on the implications of both models for long-term sustainable development. 12½

Indian Growth Model: Service led Growth

In India, growth is attributed to service sector, whereby both employment and wages have seen a rise. It forms the backbone of social and economic development of a region. It has emerged as the largest and fastest-growing sector, making the highest contributions GDP of the country. The era of economic liberalisation has ushered in a rapid change in the service industry. As a result, over the years, India is witnessing a transition from agriculture-based economy to a knowledge-based economy.

China Growth Model: Manufacturing led Growth

The path that China has taken during its period of explosive economic growth is high levels of investment, financed by high savings rates, and supported by incentives to promote industrial production and trade, along with the shift of workers from rural to urban-based activities.

Inefficiencies in Chinese Growth Model

However, growth rate of China has fallen significantly after the Global Financial Crisis, in part because of the inefficiencies built into its massive \$600 billion stimulus program. The current growth slowdown has given rise to a widely shared view that China needs to shift to a more consumption-driven growth model and reduce its dependence on investment

Problems related to Service Sector in India:

- The output of many service sectors is hard to measure (public education, for example).
- Growth pattern in the service sector has not been uniform across all services in India.
- Some services have grown fast in terms of their share in GDP and also in terms of their share in trade and FDI (e.g., software and telecommunications services). But there are some services, which have grown fast but have not been able to improve their share in international transactions (e.g., health and education) while there are some services that have in fact witnessed a negative growth and also a low share in international transactions (e.g., legal services).
- Though there exists an overall industrial policy and agricultural policy in India, there is no integrated service policy.
- Growth in service sector is not translating into an adequate number of jobs.

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Conclusion

Service sector is the major driving force of economic growth in India but its sustainability has been questioned by many skeptics. This even becomes valid since economic theory suggests that a decline in the share of agriculture sector and manufacturing sector is a phenomenon that is generally associated with the growth process of a high-income economy and not a developing country and if this happens in a developing economy, then the consequences are atrocious. Thus government should adopt appropriate strategies for consolidating, strengthening and further growth of the service sector. Service sector specific policies are necessary to achieve the goals of poverty reduction, employment generation, inclusive growth and balanced growth of the economy.

- 2. Privatisation of Air India is one the most significant structural reforms in Indian aviation sector. Examine the reasons for its privatization. Along with this, suggest more reform measures that could give a boost to the country's aviation sector.** **12½**

Introduction

The civil aviation is a potential sector in the country which can be a sunrise sector of growth. Our country has favorable conditions which are highly conducive for the sector's growth i.e. favorable demographics, a rising middle class population, high disposable incomes, and faster economic growth. Since 2001, domestic air passengers have increased 6 fold to 85.2 Million, while passengers travelling internationally have risen 4 fold to 49.8 Million in 2015.

Despite a strong home market for air travel, Indian (domestic) airlines have not captured the Indian market for international travel unlike many other countries.

Reform Measures To give a boost to the Country's Aviation Sector

The following solutions are proposed by the Economic Survey 2016-17 for enhancing the Indian air carriers' share in international traffic:

- There is a need for committed action plan on privatization/ disinvestment of the national carrier Air India to enhance its operational and management efficiency because it is a major carrier of international traffic to and from India, accounting for 11.4 per cent of the total international travel. The recent announcement of the Government towards privatization of Air India is a well thought out decision.
- There is need to reconsider the 0/20 rule so as to allow private airlines to fly abroad. In return, private airlines can be mandated to fly to under-served airports in Tier 2 and Tier 3 cities in order to have greater regional connectivity (UDAN is a good initiative in this direction).
- The Government may consider identifying major cities as aviation hubs because India is as advantageously place in terms of geographic location as Dubai or Singapore.

Other Measures:

- **Increasing Capacity:** Aircraft and airport capacities need to be increased.. Growth in the passenger and cargo traffic requires significant investments for construction of new airports, expansion and modernisation of existing

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airports, improvement in connecting infrastructure (road, metro, sea link, and so on) and better airspace management.

- **Modernization:** Airports need to be modernised and upgraded to increase passenger facilities and to speed up cargo clearance, strengthen security and safety measures for safe and reliable air services. An important initiative that needs to be pursued and implemented is separation of Air traffic control (ATC) from airport authority of India (AAI) in line with the best practices in the world
- **India as a Trans-shipment Cargo Hub:** Given its geographic location, India can aspire to become an international cargo hub. To begin with, India needs to facilitate trans-shipment of cargo to and from our neighbouring countries, many of whom do not have regular air services to key markets in Europe and America.
- **24×7 Customs Operation:** A review of the current customs clearance procedures is extremely important. There is also a serious need for Indian Customs to operate in a 24×7 environment
- **Safety:** With the advancement and growth in aviation activities in India, the challenges to keep the skies safe need to be met appropriately. As the number of operations increase, it is a challenging task to keep the rate of accident and incident in check. The implementation of Safety Programme by DGCA and safety management systems by all stake holders needs to be ensured.
- **Manpower Training:** There is acute shortage of trained pilots/commanders in India. Skilled and competent workforce is essential to create a safe and efficient aviation industry. A vibrant, world class education and training sector is therefore essential to meet the rising demand for skilled workforce at all levels.
- **Independent Regulatory Body:** Globally, Civil Aviation sector is regulated by independent regulators. Therefore, creation of a Civil Aviation Authority as a unified regulator covering both safety and economic aspects of airline industry is the need of the hour. Existing Directorate General of Civil Aviation could be subsumed in the proposed Civil Aviation Authority as an enforcement wing.

Privatisation of Air India

The Cabinet Committee on Economic Affairs (CCEA), on June 28, gave in-principle nod for the strategic disinvestment of Air India and its five subsidiaries. In its recommendations, the Niti Aayog had given the rationale for the disinvestment of Air India and attributed the main reason as “fragile finances” of the company.

The government’s efforts to turn around the finances of Air India have failed and Air India now faces several challenges:

- **Eroding Market Share:** Air India’s market share has eroded rapidly over the years due to competition from the private players - from 19.4% in 2013 to around 13.3% in May 2017.
- **Continuous Losses:** Air India has not registered profit since over a decade after the merger of the erstwhile Indian Airlines (domestic operations) with Air India (international operations) in 2017.
- **Mountain of Debts:** The primary reason for Air India’s disinvestment is the government’s ability to cope with the debt of Rs. 52000 Crore. Around, Rs. 22000 crore of the total debt accounts for aircraft acquisition loan and the

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rest is related to debt for meeting its daily and operational expenses. The government is of the view that Rs. 50000 crore could be invested in social welfare sectors instead of financing Air India's debt.

Conclusion

The Economic Survey 2016-17 highlights aspects which show that divestment of Air India is only one of the many problems that the aviation sector is trying to deal with and there are many reform measures needed for India to become a global leader in aviation sector.

- 3. Starvation in the midst of plenty reflects the sorry state of affairs associated with the issue of food security today. In the light of this statement, what role does buffer stock play in promoting food security? To what extent, the recommendations of Shanta Kumar Committee and reforms in PDS will ensure the efficiency of food management?** 12½

The Buffer norms are the minimum food grains the Centre should have in the Central pool at the beginning of each quarter to meet requirement of public distribution system and other welfare measures. Buffer stock constitutes an important parameter for ensuring food security in the country. It is well known that a modicum of self-sufficiency in food is desirable which immediately means that the state will have the responsibility of maintaining a certain amount of food stocks. Further, it is argued that in a big country like ours, it is politically risky to rely entirely on private traders and international trade to iron out excessive price fluctuation and international experiences in the past have shown that relying entirely on international market comes with its own strategic costs.

Maintaining buffer stocks helps in achieving multiple objectives i.e. they are required to feed TPDS and other welfare schemes; ensure food security during the periods when production is short of normal demand during bad agricultural years and stabilize prices during period of production shortfall through open market sales.

Recommendations of Shanta Kumar Committee

Government of India had constituted a committee under Shanta Kumar to suggest reforms for Food Corporation of India. The various domains under which suggestions have been given are discussed below:

Cash Transfer

- **Recommendation:**
 - It has been recommended for cities having 1 million or more population.
 - The government should give deficit states the option of either supplying grain or cash transfer.
 - The panel also suggested the government to gradually move to cash transfer to end the pilferage and black marketing of grains. The panel estimates if food subsidy is transferred in cash, it will save the exchequer around Rs 30,000 crore per annum in subsidies, while giving a better deal to consumers.
 - The benefit of procurement at MSP only reaches to 6% of the 90 million farmers. If farmers are given cash transfers, all of them can get it. The amount could be invested in irrigation, technological enhancement, market development etc.

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- Giving such subsidies will also allow government to decontrol urea which, in turn, will increase its production and also get farmers to use it more judiciously.
- The committee has also suggested that the fertilizer industry should be deregulated and fertilizer subsidy should be passed on directly to farmers.

Procurement Operations

- **Issue:** The benefits of procurement have not gone to larger number of farmers beyond a few states.
- **Recommendation:**
 - FCI should hand over procurement of wheat and rice to state governments in Punjab, Haryana, Andhra Pradesh, Chhattisgarh and Odisha. They have gained sufficient experience and have created reasonable infrastructure for procurement.
 - FCI should concentrate on procurement in the eastern belt i.e. Uttar Pradesh, Bihar, West Bengal and Assam, where farmers resort to distress sales due to poor state procurement. This is the region dominated by small holdings. This is the belt from where second green revolution is expected, and where FCI needs to be pro-active.

If this recommendation is accepted states like Punjab will lose a lot of revenue as they levy mandi taxes on FCI purchases.

Minimum Support Price

- **Issue:**
 - MSP is announced for 23 commodities. In reality, price support operates primarily for wheat and rice and that too in some states. This creates a highly skewed incentive structure in favour of wheat and rice. As a result of high MSPs in wheat and rice, farmers have got incentivised to grow just these crops, and this causes shortages and inflation in other crops like pulses, fruits and vegetables.
 - While the country is short of pulses and oilseeds, their prices often go below MSP without any effective price support.
- **Recommendation:**
 - **Pulses and oilseeds deserve priority.**
 - Also, FCI procures most of the marketable surplus in key states which drives out private trade. Consumer costs are driven up by high inefficiency costs – wheat MSP is Rs 1,400 per quintal but FCI's economic cost is Rs 2,200 per quintal.

Private Sector Engagement:

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- **Issue:** There is lack of sufficient storage capacity which leads to wastage. Buffer stocks are in excess of buffer stocking norms. This is costing the nation thousands of crores of rupees loss without any worthwhile purpose being served.
- **Recommendation:**
 - Grain storage needs to be outsourced to private and government agencies like state-owned Central Warehousing Corporation and State Warehousing Corporations and private organisations.
 - There is a need to encourage competition in this sector, so that the quality of storage improves.
 - FCI must focus on creating bulk grain handling go-downs and upgrade the grain supply chain.
 - Storage should be modernized – silos in place of stacking sacks in go downs, elimination of storage in the open .
 - Transport and handling also should be modernized- containers and machinery, instead of gunny bags and loaders.
 - Private investment through PPP mode should be encouraged in logistics and bulk handling of foodgrains could be done through grain trains.

There is criticism that this will encourage backdoor entry of big private logistics companies, at the expense of FCI. But it has been clarified that FCI's operations are not being privatized under the guise of this report, nor is it being divided.

Export:

- **Recommendation:**
 - The committee has suggested that the food ministry should be quick to export grains or sell them in the local market as soon as FCI procures more than the requirement.

However, it skips the issue of autonomy for FCI, even though it acknowledges that FCI does not operate on business principles. The report is also silent on the role of the *artiya* (the middlemen) in the whole procurement process.

Barring some minor shortcomings, the report suggests a comprehensive overhaul of FCI. With these major changes in the procurement, stocking, movement and distribution of grains, the FCI will transform itself into an agency for innovations in food management.

4. Urban Mass Transit Projects should not be merely seen as urban transport projects but more as urban transformation projects. In this context, analyze the salient features of New Metro Policy, 2017. 12½

The Union Cabinet, in August 2017 approved the New Metro Rail Policy focusing on compact urban development, cost reduction and multi-modal integration. The policy seeks to ensure accomplishment of increasing metro rail aspirations of a huge number of cities in a responsible manner. It treats the urban mass transit project as “urban transformation projects rather than merely treating them as “urban transportation projects”.

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Salient Features of Metro Policy 2017

The salient features of this policy are as follows:

- It opens a big window for private investments in metro operations by making PPP component mandatory for availing central assistance on metro projects. Thus, this policy clearly links the government assistance to capitalizing the private resources, expertise and entrepreneurship.
- The new policy seeks to ensure that the metro rail provides last mile connectivity in the cities. Towards this, a catchment area of 5 kilometres has been fixed for such projects on either side.
- To ensure that least cost mass transit mode is selected for public transport, the policy mandates Alternate Analysis, requiring evaluation of other modes of mass transit like BRTS (Bus Rapid Transit System), Light Rail Transit, Tramways, Metro Rail and Regional Rail in terms of demand, capacity, cost and ease of implementation.
- The new policy makes it mandatory to set up Urban Metropolitan Transport Authority (UMTA). This authority will prepare Comprehensive Mobility Plans for cities for ensuring complete multi-modal integration for optimal utilization of capacities.
- The policy provides for rigorous / third party assessment of metro rail proposals.
- Taking note of substantial social, economic and environmental gains of metro projects, the Policy stipulated a shift from the present 'Financial Internal Rate of Return of 8%' to 'Economic Internal Rate of Return of 14%' for approving metro projects. This is in line with global practices.
- Noting that urban mass transit projects should not merely be seen as urban transport projects but more as urban transformation projects, the new policy mandates Transit Oriented Development (TOD) to promote compact and dense urban development along metro corridors since TOD reduces travel distances besides enabling efficient land use in urban areas.
- States need to adopt innovative mechanisms like Value Capture Financing tools to mobilize resources for financing metro projects by capturing a share of increase in the asset values through 'Betterment Levy'. States would also be required to enable low cost debt capital through issuance of corporate bonds for metro projects.
- To ensure financial viability, the Metro Rail Policy requires the States to clearly indicate the measures to be taken for commercial/property development at stations and on other urban land and for other means of maximum non-fare revenue generation through advertisements, lease of space etc., backed by statutory support. States are also required to commit to accord all required permissions and approvals.
- The states are empowered to make rules and regulations and set up permanent Fare Fixation Authority for timely revision of fares.
- States can take up metro projects exercising any of the three options for availing central assistance. These include
 - PPP with central assistance under the Viability Gap Funding scheme of the Ministry of Finance

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- Grant by Government of India under which 10% of the project cost will be given as lump sum central assistance
- 50:50 Equity sharing model between central and state governments.
- Under all these options, private participation, however, is mandatory.
- The policy envisages private sector participation in O & M of metro services in different ways. These include:
 - Cost plus fee contract: Private operator is paid a monthly/annual payment for O&M of system. This can have a fixed and variable component depending on the quality of service. Operational and revenue risk is borne by the owner.
 - Gross Cost Contract: Private operator is paid a fixed sum for the duration of the contract. Operator to bear the O&M risk while the owner bears the revenue risk.
 - Net Cost Contract: Operator collects the complete revenue generated for the services provided. If revenue generation is below the O&M cost, the owner may agree to compensate.

5. In the background of conventional agriculture becoming environmentally unsustainable, critically examine the utility of large scale adoption of organic farming in India. 12½

The Green revolution technology, particularly in India, led to many fold increase in food grains production, but has made demands on water, fertilizer and farm power. The effect of intensive cropping has resulted in deteriorating soil tilth and decreased organic matter content high level of chemical inputs is increasing pollution hazard and result further degradation of soil health, the increased use of agro- chemical is polluting water and atmosphere and thus effect on crop production, and animal and reflect on human health.

The practice of organic farming, said to the best known alternative to the conventional method which suffered from the ill effects of chemical agriculture. Organic Farming is defined as the production system in which avoids or largely exclude the use of synthetically compounded fertilizers, pesticide, growth regulator and livestock feed additives. To the maximum extent feasible organic farming system rely upon crop rotations, crop residues, animal manures, legumes, green manure, off- farm organic wastes and aspects of biological pest control insets, pest weeds etc.

Organic agriculture aims at the human welfare without any harm to the environment which is the foundation of human life itself.

Benefits of Organic Farming

Organic agriculture offers a means to substitute costlier agricultural inputs (such as HYV seeds, chemical fertilisers, pesticides etc.) with locally produced organic inputs that are cheaper and thereby generate good returns on investment. Organic agriculture also generates incomes through international exports as the demand for organically grown crops is on a rise. Studies across countries have shown that organically grown food has more nutritional value than chemical farming thus providing us with healthy foods. Since organic farming requires more labour input than conventional farming, India will find organic farming an attractive proposition. Finally, the produce is pesticide-free and produced in an environmentally sustainable way.

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Problems and Constraints

The following are found to be the major problem areas for the growth of organic farming in the country:

Lack of Awareness

It is a fact that many farmers in the country have only vague ideas about organic farming and its advantages as against the conventional farming methods. Use of bio-fertilizers and bio pesticides requires awareness and willingness on the part of the farming community. Farmers lack knowledge of compost making using the modern techniques and also its application.

Output Marketing Problems

It is found that before the beginning of the cultivation of organic crops, their marketability and that too at a premium over the conventional produce has to be assured. Inability to obtain a premium price, at least during the period required to achieve the productivity levels of the conventional crop will be a setback.

Shortage of Bio-mass

Many experts and well informed farmers are not sure whether all the nutrients with the required quantities can be made available by the organic materials. Even if this problem can be surmounted, they are of the view that the available organic matter is not simply enough to meet the requirements.

Inadequate Supporting Infrastructure

In spite of the adoption of the National Programme for Organic Production during 2000, the state governments are yet to formulate policies and a credible mechanism to implement them.

Lack of Financial Support

The developing countries like India have to design a plethora of national and regional standards in attune with those of the developed countries. The adoption and maintenance of such a regulatory framework and its implementation will be costly.

Low Yields

In many cases the farmers experience some loss in yields on discarding synthetic inputs on conversion of their farming method from conventional to organic.

Conclusion

Nevertheless, organic farming helps in sustainable development of agriculture and India has a clear advantage in producing organic products for both domestic and international markets.

6. **Post-GST, multi-modal transport is the key to seamless cargo movement across the country. In this context, examine the need for integrated transport plan. Also, discuss the challenges associated with the implementation of such plan.**

12½

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Context

The Narendra Modi led government is working on a Rs 10 lakh-crore National Transport Master Plan that will provide seamless movement of freight and passengers across multiple modes of transport.

This is the first time that the country will have a National Transport Master Plan, which will be jointly developed by the ministries of road transport and highways, shipping, aviation and railways. The plan will include construction of multi-modal transport hubs that will have railway stations (metro) under one roof.

Clearing bumps in the road

- The Rs 170-crore terminal at Varanasi is likely to emerge as a major logistics gateway connecting north to the east and Northeast, going up to Bangladesh
- The construction of the Varanasi terminal will have waterway, rail and road connectivity options, as part of the government's Rs 5,369-crore Jal Marg Vikas Project
- Govt to develop 35 multi-modal logistics parks to serve as centres for freight aggregation and distribution, multi-modal transportation, storage, warehousing and value added services.

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The ongoing construction of the Varanasi terminal, which will have waterway, rail and road connectivity, is part of the government's Rs 5,369 crore Jal Marg Vikas Project (JMVP).

This includes setting up 35 multi-modal logistics parks at an investment of Rs50,000 crore. Sites for the proposed 35 logistics parks have been identified and they will be set up on railways, highways, inland waterways and airports transportation grid. Fifteen such logistics parks will be constructed in the next five years, and 20 more over the next 10 years. They will act as hubs for freight movement enabling freight aggregation and distribution with modern mechanized warehousing space.

Advantages of such Plans

It is an ambitious plan and a necessary one for multiple reasons.

- For one, efficient transportation and logistics are important for boosting India's competitiveness. They reduce transport time and costs, of course—but they also reduce cost of production by minimizing the need for large inventories. This means less capital required for warehouses, insurance and the like.
- Second, while the conventional view of demand in the logistics sector states that it is derived demand, growth in transport and logistics enterprises can create markets for other goods. (Eg: British set up Indian Railways)
- Third, efficient logistics networks can reduce divergence in regional growth. Fourth, as the last Economic Survey points out, inter-state trade flows in India stand at a healthy 54% of GDP. Reducing friction via improved logistics could boost this.

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- And lastly, while the demand for transport grew at around 10% annually in the 1990s, it has accelerated since. Failing to keep pace will hamstring everything from the manufacturing push and attempts to boost farmer earnings to the benefits of urban agglomeration economies.

Challenges for such Plans

- The main hurdle so far has been that India's logistics and transport sector has developed in silos. This has resulted in overly complex regulation and administrative procedures as well as missing modal links and an inefficient modal mix.
 - As of 2008, the mix was 50% of total freight flow via roads, 36% by rail, 7.5% by pipelines, 6% by coastal shipping, 0.2% by inland waterways and 0.01% by airways.
 - Transport by rail and inland waterways is far more cost- and time-efficient than transport by roads, for instance, and should account for high proportions of the freight flow.
- However, when it comes to road and rail freight, the key challenges faced are inadequate infrastructure, in terms of quality of roads and network connectivity and the check posts are a cause of delay. The issue of check posts has been addressed to a large extent by the roll-out of GST. The government claims that this has led to a reduction in transportation time. Municipal levies, however, lead to some amount of delay in transit.
- According to a World Bank report, India has one of the highest logistics cost among developing nations. Sharma feels that lack of complementary network development has been one of the major reasons for the lack of multi-modal transportation in India. This is compounded by poor infrastructure, lack of skill/professionalism and under utilization of technology in the sector.

7. Agricultural marketing in India is the weakest link in the agricultural economy. In this context, discuss the problems of agricultural marketing in India. Do you think that e-NAM is the panacea for all the deficiencies in agricultural markets? **12½**

Agriculture is a state subject and almost all state governments enacted APMC Acts in 1950's or so to bring transparency and end discretion of traders.

- Under the APMC acts, States are geographically divided into markets which are headed by market committees and any production in that area shall be brought to a market committee (Mandi) for sale.
- This is applicable to 'notified agricultural products' which differs from state to state and generally includes most of the important cereals, vegetables and other horticulture products. Notified products are meant to be brought to the market committee and auctioned in presence of the farmer.
- In this Market committee (popularly called Mandi) there are commissions agents (called arhatiyas) who hold license and are allotted a shop in the market. Farmer and buyer have discretion to go to any agent in this market, based on personal relations. Normally farmers chose agents from their own village and are influenced by age old relations of money lending. There are huge numbers of commission agents in a particular APMC dealing in same crop, which results in constant price discovery and adjustments for that particular crop.

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Agricultural marketing involves many operations and processes through which the food and raw materials move from the cultivated farm to the final consumer. Agriculture provides goods for consumption and exports and manufacturing sectors. The suitable marketing system can be instrumental to give proper reward or return to the efforts of the tiller of the soil. However, presently in Indian agricultural economy, agricultural marketing is the weakest link due to the following reasons:

- There is no organized and regulated marketing national system for marketing the agricultural produce. Farmers have to face many hardships and overcome several hurdles to get a fair and just price.
- Presence of multiple channels of procurement and distribution eat away the pockets of both farmers and consumers.
- At present there is no free flowing of agricultural produce across states. For example, different states have different tax structure, ranging from 5 percent to 14 percent, which they levy in APMC mandis. This leads to price variation and thus hampers trade across states.
- The exploitative nature of APMCs regulation, which forces the farmers to sell their produce at the sub-optimal price levels. The provision of APMCs empowers the state to impose the mandi fee on buyers even if the trade is done outside of market without utilizing any infrastructure of the committee.
- Other problems include- the inadequate storage facility of food grains, improper transportation, problems of packaging facility and cold storage facility etc.

E-NAM as the panacea

E-NAM aims to create a national agriculture market by linking the important mandis in selected states, to be extended to all India. It thus aims to replicate the UMP – Karnataka model to the entire country.

It is pertinent to mention that for integration with the e-platform, the states/union territories will need to undertake three reforms, namely: (i) A single licence to be valid across the state, (ii) Single point levy of market fee, and (iii) Provision for electronic auction as a mode for price discovery.

Integration of agri-markets across the country through the e-platform is seen as an important measure for overcoming challenges posed by the present agri-marketing system namely - fragmentation of State into multiple market areas each administered by separate APMC, multiple levy of mandi fees, requirement for multiple license for trading in different APMCs, licensing barriers leading to conditions of monopoly, poor quality of infrastructure and low use of technology, opaque process for price discovery, high level of market charges, movement controls, etc.

Benefits of E-NAM

- Eliminate or reduce the trade cartels as auction and selling would not be limited to the local market.
- Better price discovery, transparency and efficient system.
- Better price realisation for farmers will serve as an important incentive for raising productivity and production, and in turn lead to higher growth of output.

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- Some states like Punjab and Haryana desperately need diversification in crop pattern away from paddy-wheat rotation. However, this has not been happening due to unattractive market for alternative crops. e-NAM is expected to promote market-driven diversification and reduce dependence of farmers in these states on MSP and public procurement.

Though e-NAM will improve competitiveness in market through larger participation of buyers and more transparent system of bidding, it should not be considered a panacea for all deficiencies in agricultural markets.

The four important areas for reforms, which are not part of e-NAM, are as follows:

- Direct sale by farmers to buyers, processors, or, contract marketing without bringing produce to mandi
- Establishment of private markets with treatment at par with APMC. Even under e-NAM, market committee will continue to hold its monopoly power in terms of offering a platform for sale/purchase.
- Removal of legal barriers to entry of organised and modern capital and investments into agricultural marketing. This will require tweaking Essential Commodities Act to draw distinction between genuine service providers and black marketers/hoarders;
- Rationalisation of market fee, commission charges, cess and taxes and development charges. State after state has been raising taxes and development charges to mobilise more revenue from mandis, particularly in the cases where central agencies are procuring the produce.

Conclusion

The full benefit from linking agricultural markets in the country and putting them on electronic platform will come when a single trading licence is valid across the country and when a farmer gets the option to sell her/his produce in any market throughout the country.

- 8. Briefly highlight the parameters used by the government to determine the extent of poverty in India. Discuss the strategies adopted by India since Independence to deal with the poverty problem. 12½**

Parameters used by the government to determine the extent of Poverty in India

Poverty is a state of deprivation, in which some people are not able to meet their basic needs. For evaluating the effectiveness of poverty alleviation programs, we need to measure the extent of poverty, which is done using a poverty line. In India, Poverty line was determined by erstwhile Planning Commission based on consumption data provided by NSSO. However, what constitutes the representative basket of consumption is debatable and is decided differently by different committees.

The two most common parameters are income and energy requirement for meeting basic demands. Rangarajan Methodology used the following parameters:

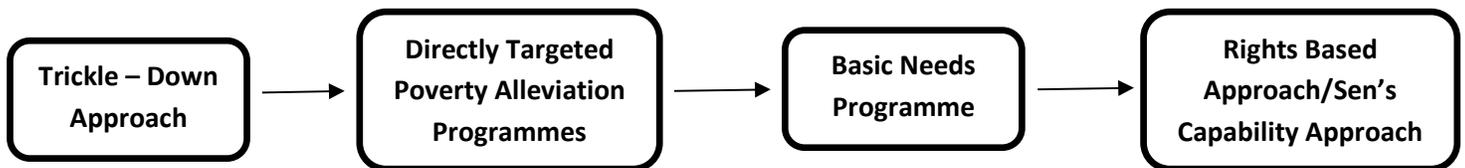
- 'Monthly expenditure of a Household of five', such as house rent, electricity etc.
- Certain normative levels of 'adequate nourishment' plus clothing, house rent, conveyance, education.

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- Behaviorally determined level of other non-food expenses.
- For the first time, apart from calorie, it also considered fats and proteins as part of normative nutrition.

Based on these, it fixed Rs. 972 in rural and Rs. 1407 in urban areas as poverty line. Accordingly, the all- India poverty ratio was 29.5% and 38.2%, in 2011-12 and 2009-2010, respectively. This was quite high than 21.9% and 29.8% as estimated by the Tendulkar Committee methodology for the corresponding periods. These contrasting estimates were due to different methodologies adopted.

Strategies adopted by India to deal with the Poverty problem



The government’s approach to poverty reduction was of three dimensions.

- The first one is **growth oriented approach**. It is based on the expectation that the effects of economic growth — rapid increase in gross domestic product and per capita income — would spread to all sections of society and will trickle down to the poor sections also. This was the major focus of planning in the 1950s and early 1960s.

It was felt that rapid industrial development and transformation of agriculture through green revolution in select regions would benefit the underdeveloped regions and the more backward sections of the community. The Green Revolution exacerbated the disparities regionally and between large and small farmers. There was unwillingness and inability to redistribute land. **Economists state that the benefits of economic growth have not trickled down to the poor.**

- While looking for alternatives to specifically address the poor, policy makers started thinking that incomes and employment for the poor could be raised through the creation of additional assets and by means of work generation. This could be achieved through **specific poverty alleviation programmes**. This second approach has been initiated from the Third Five Year Plan (1961-66) and progressively enlarged since then. One of the noted programmes initiated in the 1970s was Food for Work.

Most poverty alleviation programmes implemented are based on the perspective of the Five Year Plans. Expanding self-employment programmes and wage employment programmes are being considered as the major ways of addressing poverty. Examples of self-employment programmes are Rural Employment Generation Programme (REGP), Prime Minister’s Rozgar Yojana (PMRY) and Swarna Jayanti Shahari Rozgar Yojana (SJSRY).

The first programme aims at creating self-employment opportunities in urban areas. The Khadi and Village Industries Commission is implementing it. Under this programme, one can get financial assistance in the form of bank loans to set up small industries. The educated unemployed from low-income families in rural and urban areas can get financial help to set up any kind of enterprise that generates employment under PMRY. SJSRY

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mainly aims at creating employment opportunities—both self-employment and wage employment—in urban areas.

Earlier, under self-employment programmes, financial assistance was given to families or individuals. Since the 1990s, this approach has been changed. Now those who wish to benefit from these programmes are encouraged to form self-help groups. Initially they are encouraged to save some money and lend among themselves as small loans. Later, through banks, the government provides partial financial assistance to SHGs which then decide whom the loan is to be given to for self-employment activities. Swarnajayanti Gram Swarozgar Yojana (SGSY) is one such programme. This has now been restructured as National Rural Livelihoods Mission (NRLM). A similar programme called National Urban Livelihoods Mission has also been in place for urban poor.

The government has a variety of programmes to generate wage employment for the poor unskilled people living in rural areas. In August 2005, the Parliament passed a new Act to provide guaranteed wage employment to every rural household whose adult volunteer is to do unskilled manual work for a minimum of 100 days in a year. This Act is known as Mahatma Gandhi National Rural Employment Guarantee Act. Under this Act all those among the poor who are ready to work at the minimum wage can report for work in areas where this programme is implemented.

- **The third approach to addressing poverty is to provide minimum basic amenities to the people.** India was among the pioneers in the world to envisage that through public expenditure on social consumption needs - provision of food grains at subsidised rates, education, health, water supply and sanitation - people's living standard could be improved. Programmes under this approach are expected to supplement the consumption of the poor, create employment opportunities and bring about improvements in health and education.

One can trace this approach from the Fifth Five Year Plan, "even with expanded employment opportunities, the poor will not be able to buy for themselves all the essential goods and services. They have to be supplemented up to at least certain minimum standards by social consumption and investment in the form of essential food grains, education, health, nutrition, drinking water, housing, communications and electricity."

- 9. In spite of India insisting on negotiating services agreements in all ongoing bilateral trade agreements; it has so far desisted from joining a plurilateral Trade in Services Agreement (TISA). In this background, give reasons for India's opposition to this agreement.** 12½

Trade in Services Agreement [TISA] is a plurilateral services trade liberalization attempt among selected WTO member countries aiming to liberalize services trade beyond what WTO permits. It was launched in 2013 and is aimed to open up the markets of the participating countries by liberalizing trade rules in major service areas including ecommerce, financial services, maritime transport, licensing and movement of professions to do job in partner countries.

India considers services trade liberalization important because the it has advantage in services trade. India is one of the top ten service exporting countries in the world. Within WTO, India argued for more service trade liberalization including removal of visa restrictions by the developed countries on movement of natural persons. Hence, India has tremendous interest in any service trade negotiations including the TISA.

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However, India is opposed to some of the provisions of TISA under negotiation. India has disagreement with three contentious clauses—standstill, ratchet and MFN.

- The 'Standstill' instructs a member to retain current level of domestic liberalization in services and the member can't reverse in future.
- 'Ratchet' requires commitment for future policy changes by the member country.
- The MFN clause instructs that any future concession given to a trading partner under a bilateral treaty will automatically get extended to other members of TISA (including Pakistan).

These clauses are detrimental to the interest of the country as it doesn't give a member country to retrieve from a current liberalization position

Therefore, TISA proposal is unacceptable to India for the aforementioned reasons. It would also undermine the progress India achieved under Doha Development round of WTO, to adequately safeguard the interests of developing nations and LDC, if TISA comes into force.

Thus, along with BRICS and ASEAN members, India is also not participating in TISA discussions.

10. "Compared to animal husbandry's contribution to the Indian economy, the sector has received less resources and institutional support." Analyse the above statement in the light of challenges faced by livestock sector in India.

12½

The animal production system in India is predominantly part of a mixed crop-livestock farming system vital for the security and survival of large numbers of poor people. In such systems, livestock generate income; provide employment, draught power and manure. Also it is a major source of milk, meat, eggs, wool and hides. Thus, animal husbandry plays an important role in the rural economy.

India's livestock sector is one of the largest in the world. In 2010-11 livestock generated outputs worth Rs 2075 billion (at 2004-05 prices) which comprised 4% of the GDP and 26% of the agricultural GDP. The total output worth was higher than the value of food grains. Therefore, though animal husbandry has got special attention through various schemes and programmes of the GOI to remove the bottlenecks hindering this sector much still needs to be done.

There are number of socio-economic, environmental, technological and other challenges that need to be overcome through appropriate policies, technologies and strategies in order to harness the pro-poor potential of animal husbandry. Various sub sector specific challenges along with their solutions are as follows:-

Dairy Sector:

India continues to be the largest producer of milk in the world. Production is estimated to be around 121.8 million tonnes during 2010-11 as compared to 53.9 million tonnes in 1990-91. Per capita availability of milk at national level has increased from 176 grams per day in 1990-91 to 281 grams per day in 2010-11:

The challenges faced by the dairy sector are:

- Small herd size and poor productivity.

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- Inadequate budgetary allocation over the years.
- Lack of equity with crop production.
- Inadequate availability of credit.
- Poor access to organized markets deprives farmers of proper milk price.
- Shortage of manpower and funds.
- Limited availability of quality breeding bulls.
- Disease outbreaks: mortality & morbidity.
- Deficiency of vaccines and vaccination set-up.
- Induction of crossbred animals in areas poor in feed resources.
- Majority of grazing lands are either degraded or encroached.
- Diversion of feed & fodder ingredients for industrial use.

Way Forward

- Continuous support to the States is essential for further genetic up gradation programmes to meet the fast increasing demand for milk in the country.
- There is further need to consolidate and improve the breeding infrastructure created under
- NPCBB, scientific programmes like Embryo Transfer Technology (ETT), Multi Ovulation Embryo Transfer Technology (MOET)
- Incentivizing investment in this sector
- Increasing public investment.

Meat and Poultry Sector:

In terms of population, India ranks second in the world in goats and third in sheep. The growth in poultry production is mainly attributed to the efforts of the organized private sector, which controls over 80% of the total production in the country.

The challenges faced by the sector are:

- Maize availability and cost: maize is the single most important ingredient of poultry feed, it's availability at a reasonable cost is the major problem of poultry sector.
- Diseases: Pathogenic and emerging diseases namely AI often causes heavy losses both in domestic market and international trade.
- Lack of Marketing Intelligence: There is a dire need for realistic national marketing intelligence to bridge the gap between supply and demand of poultry & poultry products.
- Human Resource Development: To meet the growing demand of sustainable and safe production there is a huge demand for trained and skilled manpower in poultry sector.
- Low level of processing and value addition in animal products.

The Way Forward

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The following measures are suggested to strengthen the meat and poultry sector for accelerated and sustainable growth:

- Long-term sustainable production measures have to be looked into to increase the production & quality of maize.
- Active surveillance, monitoring and control in case of any outbreaks in rapid manner.
- Network for a realistic national and global poultry database and marketing intelligence may be developed. Sufficient trained manpower should be developed in the existing institutions.
- With growing urbanization and increasing quality consciousness, the market for scientifically produced meat products is expected to grow rapidly. The market is growing for ready-to-eat and semi-processed meat products because of a changing socio-economic scenario and an increase in exports to neighbouring countries, especially the Middle East.
- The mechanized slaughter houses produce huge quantities of offal and digests from the slaughtered animals which could be profitably utilized for production of value added products, like Meat-cum-Bone Meal (MBM), Tallow, Bone Chips, Pet Foods and methane as a source of energy for value addition in most of the modern plants.
- There is a need to support pig rearing in order to improve sow productivity, growth rate of piglets and feed conversion efficiency.
- It is important to encourage proper utilization of by-products of livestock slaughter for higher income of livestock owners. The environmental pollution and spread of livestock diseases has to be prevented.

Nutrition: Fodder and Feed

With only 2.29% of the land area of the world, India is maintaining about 10.71% of the world's livestock. The nutritive value of feed and fodder has a significant bearing on productivity of livestock. The gap between the demand and supply of fodder is fast increasing.

Challenges

The main challenges in providing adequate and quality fodder and feed include:

- While numbers of livestock are growing but the grazing lands are gradually diminishing. The area under fodder cultivation is also limited.
- A majority of the grazing lands have either been degraded or encroached upon restricting their availability for livestock grazing.
- Due to increasing pressure on land for growing food grains, oil seeds, and pulses, adequate attention has not been given to the production of fodder crops.

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- Diversified use of agriculture residues like paper industry, packaging, etc. widening the gap between the supply and demand for fodder.
- There is lack of authentic data on availability of fodder, crop residues, agro industrial byproducts and feed grains (coarse cereal grains). This is required to build an actual database, on feed and fodder, to be used for more effective and realistic planning of livestock sector development.
- A substantial amount of crop residues is burnt by the farmers after harvesting of main crop like wheat and paddy.
- In most of the states there are inadequate staffs to address the problems related to fodder.

The Way Forward:

The measures which can contribute to improved fodder and feed situation include the following:

- A reliable data-base is required for assisting in realistic planning.
- Supply of quality fodder and feed should be encouraged on a priority basis.
- The forest department can play a major role in augmenting fodder production in the country. The degraded forest areas, mostly under the Joint Forest Management Committees (JFMCs), can be used for assisting growth of indigenous fodder varieties of grasses, legumes, and trees under area-specific silvi-pastoral systems.
- There is a need for undertaking an effective Extension campaign in major states for efficient utilization of crop residues, growing fodder crops, Azolla production, etc.
- Production of seeds of high yielding fodder varieties needs to be increased in the organized/cooperative sector.
- Production of condensed fodder blocks needs to be encouraged by creating an assured market, coupled with providing a transport subsidy for supply to distant areas.

Fisheries Sector:

India is the second largest producer of fish in the world, contributing 5.54 percent of global production. Allocations made for the development of fisheries sector through the Centrally Sponsored Schemes and Central Sector Schemes are utilized for implementation of both development and welfare oriented schemes through the respective states and UTs.

In addition to the allocations made through CSS and CS, assistance is provided through other flagship programmes like Rashtriya Krishi Vikas Yojana (RKVY) and the recently launched National Mission for Protein Supplements (NMPS) as well as other programmes like Marine Fisheries Development Scheme, Inland Fishery Development Scheme, Fishermen Welfare Scheme.

Challenges

The main challenges facing the fisheries sector include:

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- Shortage of quality and healthy fish seeds and other critical inputs.
- Lack of resource-specific fishing vessels and reliable resource and updated data.
- Inadequate awareness about nutritional and economic benefits of fish.
- Inadequate extension staff for fisheries and training for fishers and fisheries personnel.
- Absence of standardization and branding of fish products.

The Way Forward

The following measures will help to further strengthen the fisheries sector:

- Schemes of integrated approach for enhancing inland fish production and productivity with forward and backward linkages right from production chain and input requirements like quality fish seeds and fish feeds and creation of required infrastructure for harvesting, hygienic handling, value addition and marketing of fish.
- Existing Fish Farmers Development Authority (FFDAs) would be revamped and cooperative sectors, SHGs and youths would be actively involved in intensive aquaculture activities.
- Large scale adoption of culture-based capture fisheries and cage culture in reservoirs and larger water bodies are to be taken up.
- Sustainable exploitation of marine fishery resources especially deep sea resources and enhancement of marine fish production through sea farming, Mari-culture, resource replenishment programme like setting up of artificial reefs.

11. Recently, government has decided to leapfrog from BS-IV to BS-VI emission norms directly by completely skipping BS-V norms. In this context, critically examine the challenges in switching over to BS VI by 2020. 12½

Considering the environmental impact, rising pollution levels and health hazards due to vehicular pollution, the Government took the view that the country should switch over directly from BS-IV to BS-VI fuel standards

Bharat Stage norms were introduced in India in 2000, based on the European emission norms. Each stage specifies a certain limit on the pollutants released, which is controlled by the type of fuel made by the oil companies and the up-gradations and modifications made by the auto firms to their vehicles to control the pollutants released from the vehicle.

Supreme Court also has asked the Union Government to implement BS-VI emission norms earlier than April 2021 deadline amid concerns on rising air pollution in the country.

Challenges in Switching to BS VI norms:

- There are two major challenges industries which would face

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- ✓ First are the oil refineries that will need a substantial investment to upgrade. These upgrades will allow the refineries to supply fuel types that can match the BS-VI standards. The shift of technology from BS-IV to BS-VI is likely to cost anything between Rs 50,000 crore to Rs 80,000 crore to petroleum companies. This would hit the margins of oil companies.
- ✓ Secondly, the automobile manufacturers would require a significant technological jump especially in diesel filter technology & in optimization of selective catalytic reduction technology.
- Bosch Ltd, the world's largest manufacturer of fuel injection systems and engine technologies, had warned the government that such a move could lead to safety and quality problems. It would take as much as four-and-a-half years of lead time for design, application and validation of new engine technologies to move from BS-IV to BS-V, and a similar time to graduate to BS-VI.
- The decision will make cars, sports utility vehicles (SUVs), trucks, buses and auto parts more expensive.

Conclusion

There are several challenges related to technology upgradation, availability of fund, rising cost of vehicles, availability of BS VI Fuel in shorter time frame yet this cost would be compensated by the reduction in diseases due to air pollution which has become a severe health hazard for the Indian cities. New norms would be a step in the direction of Right to clean environment, achieving INDC target, sustaining SDG goals & would reduce expenditure on polluted air borne diseases.

12. Crowd control during mass cultural events is a challenging and complex exercise. Suggest the mitigating strategies with special reference to NDMA guidelines for crowd control. 12½

In developed countries, most stampedes take place in stadia, venues of music concerts and night clubs, but in India and other developing countries, the majority of the crowd disasters happen at religious places.

Stampedes are caused by surge of individuals in a crowd, in response to a perceived danger or loss of physical space. It often disrupts the orderly movement of crowds resulting in irrational and dangerous movement for self-protection, leading to injuries and fatalities.

According to the National Crime Records Bureau figures, from 2000 to 2013, almost 2,000 people died in stampedes. A 2013 study published by International Journal of Disaster Risk Reduction (IJDRR) points out that religious gatherings and pilgrimages have been venues for 79% of the stampedes in India.

Challenges

- Most of the religious festivals are located in areas like banks of rivers, hilly terrains or mountain tops. These areas lack proper pathways, posing a geographical risk to the pilgrims
- Lack of a proper crowd management system leads to such disasters.
- Lack of physical infrastructure compounds the mob behaviour and increases the sense of threat
- Most of the sites quite old, do not meet the norms of increased population visiting such sites

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- No specific disaster management action plan in place
- Ignorance of "fire" as disaster in public safety norms
- Refusal to follow guidelines
- Lack of professional staff at such places to guide in case of emergency

Measures

1. Mapping of all the religious congregations and preparing a calendar of same.
2. Preparation of standard operating procedures taking into account local terrain and different types of calamities likely to occur.
3. Rough estimate of people likely to attend such events based on previous records, season, holidays etc.
4. Forging cooperation with the organising committees to take action against indiscipline, irrational behaviour of some devotees.
5. Age and gender sensitive services and options for exit in case of mishap should also take into account the needs of vulnerable and ready availability of medical services to all.
6. Regular drills with the help of NGOs, other civil society organisations to reduce the panic that ensues and rationalize behaviour to maximise safety.

NDMA guidelines on Crowd Management

- **Free movement:** The first step is to regulate traffic in areas surrounding the pandals and Dussehra grounds.
- **Monitoring:** CCTV cameras to monitor movement and police presence to reduce the risk of snatching and other petty crimes should also be on the organisers' agenda.
- **Medical emergencies** can occur in claustrophobic spaces. An ambulance and health care professionals on stand-by can save lives in exigencies.
- **For participants:**
 - ✓ Familiarising with exit routes, staying calm and following instructions will help prevent stampede-like situations.
 - ✓ In case a stampede breaks out, protect chest by placing your hands like a boxer and keep moving in the direction of the crowd.
 - ✓ Stay alert to open spaces and move sideways wherever the crowd gets thinner. Stay away from walls, barricades or bottlenecks such as doorways.

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✓ Stay on your feet and get up quickly if you fall. If you can't get up, use your arms to cover your head and curl up like a foetus so that your exposure area is reduced.

- **Fire related:** Unplanned and unauthorised electrical wiring at pandals, LPG cylinders at food stalls and crackers hidden in the Ravana effigies pose the danger of a fire breaking out.

Organisers should ensure authorised use of electricity, fire safety extinguishers and other arrangements meeting safety guidelines. A list of neighbourhood hospitals would come in handy.

13. With cities and towns expanding at the periphery, the land-hills of garbage move closer and so does the danger to our health. In this context, discuss the prospects and challenges of Waste to Energy Plants to clean up solid waste.

12½

As per the 2011 census, 377 million people living in 7,935 urban centres generate 1,70,000 tonnes of municipal solid waste daily. Urban local bodies spend about Rs 500 to Rs 1,500 per tonne on solid waste management. Out of this, about 60-70% is spent on the collection of waste and 20-30% on transportation but almost nothing on its treatment and disposal. The NITI Aayog said Waste to Energy is the best option to tackle the problem.

Keeping cities clean is essential for keeping their residents healthy. Our health depends not just on personal hygiene and nutrition, but critically also on how clean we keep our cities and their surroundings. However, rapidly rising prosperity has resulted in generation of vast volumes of solid waste in the cities. But, Cities have been “slow to develop effective ways” to dispose municipal waste. The mountains of waste, which can now be seen in nearly all cities, have become a serious public health threat.

The NITI Aayog has suggested setting up an authority which will take up installation of 'waste to energy' plants in public-private partnership (PPP) mode to clean up municipal solid waste.

Some of the strategic and financial benefits from waste-to-energy business are:

- **Profitability** - If the right technology is employed with optimal processes and all components of waste are used to derive value, waste to energy could be a profitable business. When government incentives are factored in, the attractiveness of the business increases further.
- **Government Incentives** - The government of India already provides significant incentives for waste to energy projects, in the form of capital subsidies and feed in tariffs. With concerns on climate change, waste management and sanitation on the increase, the government incentives for this sector is only set to increase in future.
- **Related Opportunities** - Success in municipal solid waste management could lead to opportunities in other waste such as sewage waste, industrial waste and hazardous waste. Depending on the technology/route used for energy recovery, eco-friendly and “green” co-products such as charcoal, compost, nutrient rich digestate (a fertilizer) or bio-oil can be obtained.
- **Emerging Opportunities** - With distributed waste management and waste to energy becoming important priorities, opportunities exist for companies to provide support services like turnkey solutions. In addition, waste

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to energy opportunities exist not just in India but all over the world. Thus, there could be significant international expansion possibilities for Indian companies, especially expansion into other Asian countries.

Challenges

- The level of financial support required to make Waste-To-Energy plants financially viable presents of problems as these plants involve significant capital investment and the cost of energy produced is higher than from the grid, unless there are government subsidies.
- Most of the proven and commercial technologies in respect of urban wastes are required to be imported
- In view of low level of compliance of MSW Rules 2000 by the Municipal Corporations/ Urban Local Bodies, segregated municipal solid waste is generally not available at the plant site, which may lead to non-availability of waste-to-energy plants.
- Lack of conducive policy guidelines from State Governments in respect of allotment of land, supply of garbage and power purchase / evacuation facilities.

Conclusion

The need of the hour is scientific, sustainable and environment friendly management of wastes. Enthusiasts sometimes speak of waste-to-energy as a solution to our energy problem which is not correct. However, if implemented to global emission standards, it could be a pathway to scientific and sustainable disposal of municipal solid waste, given the scarcity of urban land in the country, while also generating some much needed electricity.

14. Indian government announced Digi-Gaon initiative in 2017-18 budget. What are the important components of this initiative? How does it try to achieve the objective of 'inclusive growth'? **12½**

Digitization has been main focus area of Indian government with the aim to improve the delivery of services by increasing their reach. With BharatNet, providing backbone infrastructure to digitally connect villages, being rolled out government has launched the Digi-Gaon initiative in 2017-18 budget to transform the quality of life in rural areas.

Digi-Gaon initiative will be launched to provide tele-medicine, education and skills through digital technology.

As India is suffering from inequalities between urban and rural areas, especially in health and education, Digi-Gaon initiative will be able to achieve inclusive growth in following ways:

- Nearly 80% of India's poor live in rural areas and deprived of education, skill facilities to come out of vicious circle of poverty. Along with this the incidences of diseases and high cost of health check-ups at private hospitals make them vulnerable to falling in poverty trap. Through Digi-Gaon initiative government will be able to solve many of these problems.
- Marginalized sections of society like SCs, STs and women will be the main beneficiaries of this initiative. It will help them in throwing away the shackles of caste system, patriarchy and take part into mainstream.
- The gap between the rural-urban literacy rates, availability of health facilities will be reduced.

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- An important component of Digi-Gaon initiative is skill building. With decreasing farm holding and reduced income from farm sector, skill building will provide rural youth alternative livelihood opportunities.
- These new skills will be used in transforming the quality of life in rural areas.

All these will not only help in ensuring the objective of inclusive growth, but also reduce the migration from rural areas to urban areas. This will further help in propping up of slums in urban areas and reduce the stress on urban infrastructure. Therefore, if implemented in a proper way, DigiGaon initiative can become a transformational initiative for the rural areas.

15. What do you understand by the term 'Internet of Things (IoT)?' "Even as the internet is taking over our lives across multiple levels, the internet's basic functionality and the rights of users are under strain." Discuss. 12½

A global infrastructure for the information society, enabling advanced services by inter-connecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies. Internet of Things (IoT) is a concept and a paradigm that considers pervasive presence in the environment of a variety of things/objects that through wireless and wired connections and unique addressing schemes are able to interact with each other and cooperate with other things/objects to create new applications/services and reach common goals. In this context the research and development challenges to create a smart world are enormous. A world where the real, digital and the virtual are converging to create smart environments that make energy, transport, cities and many other areas more intelligent. The goal of the Internet of Things is to enable things to be connected anytime, anyplace, with anything and anyone ideally using any path/network and any service.

Everything will be connected with everything, everything will have an IP address. Everything can potentially be turned into a weapon in the cyber world. This brings the requirement for cyber security, cyber stability and cyber governance to a very different level.

The benefits of this Internet of Things are not strictly economic. The internet has also given billions of users around the world a tool for free expression, social and political engagement, and access to knowledge. The openness and global connectivity that drives digital innovation and the free flow of information is threatened by the growing interest in exerting control over the use of the internet or securing a greater market share in the digital economy. At the same time, just as in the off-line world, criminals and terrorists exploit the internet as an environment that can be used for unlawful ends.

Individual privacy and security increasingly can be threatened by the actions of malicious individuals and also by unthinking, opportunistic or unprincipled corporate and government activities. Public safety is challenged by criminal and terrorist exploitation of the internet. Financial losses from cybercrime are mounting. Terrorists use social media to recruit youth and propagate their messages...people are very concerned about online privacy and security. As more personal information is uploaded and shared online, people's digital security is becoming an increasingly important concern. Companies, which rely increasingly on IT infrastructure, are also increasingly affected by cyber attacks, which often result in class-action lawsuits, loss of business and other material and reputational costs.

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16. Recently, Government of India has undertaken the demonetization of high value notes to curb black money. To what extent demonetization has curbed black money in India? Discuss the other steps taken by India to curb the menace of black money. 12½

Introduction

On November 8, 2016, the government announced the demonetization of the two largest denomination notes, Rs 500 and Rs 1000 which made 86 percent of the cash in circulation was invalid.

The aim of the action was fourfold: To curb corruption; counterfeiting; the use of high denomination notes for terrorist activities; and especially the accumulation of “black money”, generated by income that has not been declared to the tax authorities.

To what extent demonetisation curbed black money in India?

Recent report by India’s central bank has estimated that 99 per cent of the high denomination banknotes cancelled last year were deposited or exchanged for new currency, dashing government hopes that its contentious demonetisation exercise would wipe out huge amounts of “black money”

At the time, government officials had suggested that as much as one-third of India’s outstanding currency would be purged from the economy — as the wealthy abandoned or destroyed it, rather than admit to their hoardings — reducing central bank liabilities and creating a government windfall.

But the Reserve Bank of India’s annual report on Wednesday suggested that most holders of the old currency managed to dispose of it, estimating that banned notes worth Rs15.28tn (\$239bn) were returned to the bank. That amounts to 99 per cent of the Rs15.44tn of the old high-value notes that were in circulation.

Recent steps taken to curb the menace of black money

Recent major steps in this regard include –

- Constitution of the Special Investigation Team (SIT) on Black Money under Chairmanship and Vice-Chairmanship of two former Judges of Hon’ble Supreme Court,
- Enactment of a comprehensive law – ‘The Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015’ to specifically deal with black money stashed away abroad,
- Constitution of Multi-Agency Group (MAG) consisting of officers of Central Board of Direct Taxes (CBDT), Reserve Bank of India (RBI), Enforcement Directorate (ED) and Financial Intelligence Unit (FIU) for investigation of recent revelations in Panama paper leaks,
- Proactively engaging with foreign governments with a view to facilitate and enhance the exchange of information under Double Taxation Avoidance Agreements (DTAAs)/Tax Information Exchange Agreements (TIEAs)/Multilateral Conventions,

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- Proactively furthering global efforts to combat tax evasion/black money, inter alia, by joining the Multilateral Competent Authority Agreement in respect of Automatic Exchange of Information (AEOI) and having information sharing arrangement with USA under its Foreign Account Tax Compliance Act (FATCA),
- Renegotiation of DTAA's with other countries to bring the Article on Exchange of Information to International Standards and expanding India's treaty network by signing new DTAA's and TIEAs with many jurisdictions to facilitate the exchange of information and to bring transparency,
- Enabling attachment and confiscation of property equivalent in value held within the country where the property/proceeds of crime is taken or held outside the country by amending the Prevention of Money-laundering Act, 2002 through the Finance Act, 2015,
- Enactment of the Benami Transactions (Prohibition) Amendment Act, 2016 to amend the Benami Transactions (Prohibition) Act, 1988 with a view to, inter alia, enable confiscation of Benami property and prosecution of benamidar and the beneficial owner,
- Initiation of the information technology based 'Project Insight' for strengthening the non-intrusive, information driven approach for improving tax compliance, and
- Launching of 'Operation Clean Money' on 31st January 2017 for collection, collation and analysis of information on cash transactions, extensive use of information technology and data analytics tools for identification of high risk cases, expeditious e-verification of suspect cases and enforcement actions in appropriate cases, which include searches, surveys, enquiries, assessment of income, levy of taxes, penalties, etc. and filing of prosecution complaints in criminal courts, wherever applicable.

17. Managing borders is more than just stopping infiltration of terrorists. What other security challenges, apart from terrorism, does India face in its border areas? 12½

India having 15,107 km of land border and a coast line of 7,517 km including island territories, faces a multitude of security challenges like border conflicts, inflow of counterfeit currencies, arms trade, Infiltration and ex-filtration of armed militants, nexus between narcotics and arms smugglers, illegal migrations, left-wing extremism, separatist movements aided and abetted by external powers, drug and human trafficking. Some of the specific problems associated with borders with each of our neighbouring countries are:

- Indo-Pakistan Border: Apart from infiltration of terrorist, there are problems of smuggling of arms, ammunition and contra band, transit of counterfeit currency and narcotics.
- Indo-Nepal Border: Some of the major issues are support to Maoists operating in India in form of money, arms and ammunition, transit of counterfeit currency and smuggling of goods.
- Indo-Bangladesh Border: One of the major issues is that of illegal migration into the country. Insurgent groups operating in North East also use this border for various purposes. The border is also used as a route for smuggling livestock, food items, medicines and drugs from India to Bangladesh

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- Indo-Bhutan Border: Some of the security challenges are militant groups from North East taking shelter in thick forests near the border and smuggling of goods.
- Indo-China Border: There are problems of flow of arms and ammunition to Maoists, transit of counterfeit currency, disputed status of border leading to incursions in each other's territories by each army and other support to some of the separatist movements in India.
- Indo-Myanmar Border: The most important security challenge is checking the illegal flow of drugs since its location near to the 'Golden Triangle'.

The Department of Border Management, Ministry of Home Affairs has been implementing a Border Area Development Programme (BADP) through the State Governments as a part of a comprehensive approach to Border Management with the aim to meet the special developmental needs of the people living in remote and inaccessible areas situated near the international border and to saturate the border areas with the entire essential infrastructure through convergence of Central/State/BADP/Local schemes and participatory approach and to promote a sense of security and well-being among the border population.

Thus, India needs to evolve a multi-pronged strategy suited to tackling the various security challenges faced by it at different borders.

18. What do you mean by Fake News? How is it increasingly becoming a threat to the internal security of a country?

Suggest some mechanisms to prevent fake news in India.

12½

Introduction

Fake news is a threat to democracy in a way more perverse than most people appreciate. In these times of easy access to the ability to crunch large amounts of data, unstructured and in real time, it is possible for political parties or, more realistically, specialist troops employed by them, to profile individual voters and flood them with news, fake and real, that would accentuate perceived favourable political propensities or neutralise perceived hostile inclinations.

How Bad is Fake News?

- People's faith in social, print and electronic media reduces which could affect the benefits of these Media.
- It can lead to violence between two or more communities thereby creating enmity and hatred between them.
- It can disturb the social fabric of the society and tensions among communities persists for long times.
- It reduces the tendencies of cooperation between different communities.
- Political parties try to gain political advantages by polarizing the voter's mind which further intensifies the tensions between different sections of society.
- Politics of development takes back seat and communal tendencies emerge in politics.
- In its purest form, fake news is completely made up, manipulated to resemble credible journalism and attract maximum attention and, with it, advertising revenue.

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- Political campaigning has progressed from mere appeals in the name of identity or loyalty or tall promises to something akin to psychological warfare. Parties that master the tools of such psych ops have a distinct edge over those stuck in the traditional mud. Fake news spreads on social media.

Recent Examples of Fake News posing threat to Internal Security

- Earlier this year a major news studio in the country doctored a video of a protest in JNU to raise doubts on the legitimacy of the educational institute. This video was further propagated by another mainstream news channel on primetime television without verification. This led to a national furore that culminated in a public thrashing of students inside court premises by lawyers and a gaping divide in public sentiment.
- Hoaxes of GPS chips in the Rs 2,000 note did the rounds after the prime minister's November 8 demonetisation speech. Spread by both media and Whats App messages (the latter being the source of numerous misleading stories in the country), it led to wide scale confusion among recipients of the new note.
- Fake photographs that have been used in facebook to inflame passions after the communal disturbances in Basirhat and Baduria in Bengal.
- The face-swapping technology, Face2Face, developed in Stanford University, makes it increasingly easy to generate realistic videos that will allow a user to impersonate anyone she wants with amazing accuracy
- The fake videos that are currently circulating in the Kashmir Valley (originating from both sides) showing gruesome attacks on the Army as well as inhuman repression of the civilians in order to rouse passion, may soon look like harmless pranks. With the arrival of the new and highly sophisticated fake videos, the situation can quickly go out of control.
- The recent Election in US this has gained momentum to counter each other candidate's arguments among public with social media.

Measures to tackle Fake News

- The government must take the initiative to make all sections of the population aware of the realities of this information war and evolve a consensus to fight this war. It must also take strict action
- News being spread using chatbots and other automated pieces of software should automatically be selected for special screening. Ordinary consumers of news can play a big role by, first, waking up to the reality that all they read on WhatsApp and Twitter is not the gospel truth, and then, by refusing to pass on what they cannot independently verify with other sources.
- Websites that mimic well-known, credible media outlets in their name should be exposed with the vigour with which jokes are shared on social media.
- An ombudsman deals with the credibility of news sources, it gains the privilege to ensure facts are reported
- Government should have independent agency to verify the data being circulated in social and other media. The agency should be tasked with presenting real facts and figures.

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- Government should have mechanism for immediately issuing of notice against sites/people/agencies involved in spreading fake news.
- There should be a provision of effective balances and check of filtering fake posts before it getting viral.
- Social media websites should be made accountable of such activities so that it becomes their responsibility to have better controlling restricting the spread of fake news.
- Government should take active measures for promoting awareness among people about fake news and their consequences.
- Government should enlist penal provisions to perpetrators of fake news if it causes violence or deaths.
- Government should make mandatory for Print and Electronic media to have internal mechanism for verifying incidents, facts and figures.
- Public should verify the accuracy and of reliability of any news or data either from government or any independent agency specifically involved in such task.
- Public should not blindly trust any sensitive news and should not forward it to others.
- Public should inform concerned department about any fake post as soon as they come across. They should act as active vigilant for maintaining peace and harmony in the society.
- NGO's and other civil society groups can play important role in spreading awareness about the ill effects of fake news.

Conclusion

A more proactive measure would be to prosecute those who incite hatred and violence by spreading fake news and fake images. Traditional media has a big stake in discrediting purveyors of material that is not editorially validated. Fakery can harm both democracy and the media business. Eternal vigilance against it is, indeed, the price of liberty.

19. Imposing a virtual curfew in conflict situations or otherwise not only goes against the fundamental principle of liberty and expression but also creates a trust deficit between the people and the government. Examine the statement in the context of India's internal security. 12½

Information and misinformation exist together in today's ever evolving internet. As technology integrates into society, the paradox of the internet as a democratising force and a conduit for fear mongering leads to questions of oversight and controls, or at least establishing the ability of the state to pre-emptively and reasonable regulate the internet.

When the crowds turned violent, government blocked public access to mobile Internet services as it is legally permitted under Section 144 of the Code of Criminal Procedure, which gives the state government broad powers to prevent unlawful assemblies of people.

Various issues related to Internet shutdown are:

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- Violates the Right to freedom and liberty of the Citizens protected under Article 19
- Disrupts the Normalcy in the society.
- Economic cost is very high as it affects the banks ,offices and loss to corporates.
- Promotes rumour mongering in the Area as proper news of the area is not available to the citizens.
- Against constitution as it's like giving punishment without crime and it effect the normal citizen,creates the environment of fear etc.
- Internet shutdowns can erode democratic institutions and values. For example, if citizens are using the internet to mobilize themselves, then shutting down the internet is not different from suppressing dissent.
- Lack of transparency as its totally executive decision and No law to govern it.

However, the advantages of Internet are many but they are posing threat to Internal Security in various forms like Cyber Terrorism, Fraud, crime, spreading violence, etc.

- According to the Cisco 2013 Annual Security Report, the highest concentration of online security threats are on mass audience sites, including social media.
- The rapid spread of false information through social media is among the emerging risks identified by the World Economic Forum in its Global Risks 2013 Report.

Different Internal Security threats due to Internet are:

- **Cyber Terrorism:** The biggest challenge for internal security of nation through social networking site is cyber terrorism. Social Media became a platform for coordination of plans of attack, communication with cells, or propaganda and information and spread of hate campaign or messages that can hurt the sentiments of people.
- **Fraud:** Networking sites also invite fraudsters to take excellent opportunity to become wealthy by applying deceiver schemes.
- **Criminal Activity and Money laundering:** Internet Media is a major resource for developing serious crime. As Internet is growing explosively, online criminals try to present fraudulent plans in many ways.
- **International users:** The other national and international users such as the political parties, NGO's, hackers pose a serious threat using the social media. For example, during the civil turmoil in the Arab Spring Uprising, the various governments were threatened through the social media.
- **Political turmoil:** Some countries in the world feel threatened by the fact that social media can bring the people together and thus, create a revolution. This in turn can cause political instability
- **Communal Violence and Fanning Tensions:** Importantly, social media also seems to be playing a significant role in polarising different communities in India and compounding India's Security challenges. The viral videos and false updates of communal clashes, riots and terrorists attack have created a massive impact in the life of public.

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Conclusion

Reasonable restrictions could be outlined similar to those provided under Article 19, tailored to the unique nature of the internet. Lastly, internet shut downs must be governed by defined statutes, enforcing accountability on part of the internet users and the state if the internet is misused.

20. Given that the diaspora is expanding and becoming more mobile and assertive, evacuation operations are likely to become more frequent, complex and distant. In this scenario, do you think there is a need for comprehensive policy on evacuation? 12½

The Indian Diaspora includes the people who migrated from territories that are currently within the borders of the Republic of India. An increasing number of states are making the safety and well-being of their expatriate populations a central concern of their foreign policies. Whether for their remittances, security profile, or political influence, migrants are now playing a greater role in a world of unprecedented cross-border mobility. This is particularly true in India's case.

India has an extensive experience conducting evacuation operations, but given the rising economic contributions and political influence of Indian citizens abroad and the increasing complexity of these operations, the incentives to ensure the success of future ones are now even greater. Recently held operations are Rahat (Yemen), SankatMochan (South Sudan), to name a few.

Need for Comprehensive Policy:

- Increasing political instability rattles the West Asian region which hosts more than seven million Indian and therefore the increasing size and complexity of the diaspora requires the government to expand capacity and improve procedures.
- Lack of formal doctrine or emergency plan, the success of India's missions has mostly been due to individual sacrifices of officials from its diplomatic corps, flagship carrier and armed forces
- US, UK and the NATO have institutionalized non- combatant evacuation operations (NEO) doctrine. Among the developing countries, Brazil too has institutionalised a standard operating procedure (SOP).

Conclusion

India has extensive experience in conducting evacuation operations, but to secure the lives and assets of Indians abroad, the government must avoid an ad hoc approach and seek to institutionalise best practices, bolster diplomatic and military capabilities, and improve coordination.