1. Raising resources, ensuring efficient inter-ministerial coordination and minimising bureaucratic delays are the most pressing challenges facing the infrastructure sector in India. Elucidate. What suggestions would you give to tackle these challenges?

Introduction

While India is the fourth largest economy in the world, a key factor obstructing its growth and development is the lack of world class infrastructure. Estimates suggest that this lack of adequate infrastructure reduces India's GDP growth by 1-2 per cent every year. Good social and physical infrastructure facilities are crucial for rapid economic growth, rapid human development, and poverty reduction.

Body

Most pressing challenges facing the infrastructure sector in India.

Raising Resources poses Challenge to Infrastructure Sector in India

Physical infrastructure

- It has a direct impact on the growth and overall development of an economy. The goals of inclusive growth and 9 per cent growth in GDP can be achieved only if India's infrastructure deficit is overcome. Infrastructure development will also help create a better investment climate in India. To develop infrastructure in the country, the government is expected to review issues of budgetary allocation, tariff policy, fiscal incentives, private sector participation, and public-private partnerships (PPPs).
- There are many issues that need to be addressed in different infrastructural fields. To begin with, the gap between electricity production and demand is affecting both manufacturing and overall growth. Another concern is the transport sector; while road transport is the backbone of the Indian transport infrastructure, it is inadequate in terms of quality, quantity, and connectivity. Furthermore, civil aviation and ports desperately need modernisation. It is expected that the public sector will continue to play an important role in building transport infrastructure. However, the resources needed are much larger than what the public sector can provide.

Social Infrastructure

- Education and health are the main constituents of social infrastructure. Many studies document the contribution of education and health to economic development. Therefore, it can be surmised that investment in human capital through education, training, health, and medical facilities yields additional output and economic returns.
- India has a vast population of young people. Even after 66 years of independence, a surprisingly large proportion of our youngsters are not getting sufficient education or vocational training. On the one hand, this keeps a large number of them in poverty and misery for lack of productive skills; on the

other hand, it reduces the rate of economic growth because of the lack of enough sufficiently skilled workers in many areas, which reduces our international competitiveness. Education sector characteristics measured by enrolment, literacy rate, pupil-teacher ratio, public spending, etc., to take stock of the current situation in India and compare it with international standards and achievements. First, we look at adult literacy rates. Even in 2011, India's adult literacy rate (only 63 per cent) was way behind that of China, East Asia, and BRCS countries (about 94 per cent) and developed countries (98 percent). India's literacy rate gap with China and East Asia has stayed nearly the same for the last 10 years.

- Despite some improvements over the last decade or so, India's healthcare infrastructure is woefully inadequate and has not kept pace with the country's requirements. While India has several centers of excellence in healthcare delivery, these facilities are limited in their ability to drive healthcare standards because of the poor condition of the infrastructure in the vast majority of the country. This is reflected in the numbers of physicians per 1,000 persons, which has hardly risen from 2,000 and remains rather low at only 0.65 compared to 1.8 in China, 2.2 in BRCS and 2.8 in developed countries

Lack of efficient inter-ministerial coordination impedes infrastructure Sector in India.

- The Land Ports Authority of India (LPAI), under the Home Ministry, completed the Indian side of Raxaul (Bihar)-Birgunj and Jogbani (Bihar)-Biratnagar ICPs more than a year ago, but the External Affairs Ministry-funded mirror facility on the Nepalese side is yet to be completed. And till the entire project is ready, the ICPs are of little use as a land port cannot operate in isolation.
- Proposed by the Atal Bihari Vajpayee government, the ICP projects became a non-starter from day one due to inter-ministerial issues.
- The creation of LPAI may have brought in some structure on the designing aspect, but the operational problems continued due to involvement of at least four ministries — Home, Commerce, Finance and Railways — and multiple agencies within the same ministry. For example, immigration authorities, though under the Home Ministry, have fewer meeting points with LPAI. A proposal for building a passenger terminal, an additional parking space and an accommodation of security forces at Petrapole have been supposedly making rounds at the Home Ministry for a year.

Bureaucratic delays is challenge for infrastructure sector in India

- Bureaucratic delays and cost overruns have significant and far-reaching implications. The short-term inconvenience and disruption of slow under-construction projects aside, it means that public goods take significantly longer to achieve the impact they were planned for.

- Example: In one instance, the original cost of a railway track conversion project on the Bankura-Damodar stretch in West Bengal has increased more than 20 times from 111.9 crore to 2,371.85 crore since 1998, when it was first approved because delayed regulatory approvals. Similarly, According to Ministry of Statistics and Programme Implementation data, 24 projects undertaken by state-run hydrocarbon explorer and producer Oil and Natural Gas Corp. Ltd (ONGC) have been delayed.

Suggestions to tackle these challenges

For Energy Sector: Oil, natural gas, electricity and coal may be brought under GST to enable input tax credit. Have the same GST rate for all forms of energy to enable a level playing field. All form of subsidies should be provided as functional subsidies to end-consumers to empower them to choose the energy form most suitable and economical to them.

Increase connectivity by expanding the road Network: Bharatmala Pariyojana PhaseI:complete 24,800-km by 2021-22.10. Special Accelerated Road Development Programme for the North-Eastern region (SARDP-NE), Phase 'A': improve about 4,099 km in the North-East. Chardham Mahamarg Vikas Pariyojna improves the implementation capacity of states'/ UTs' public work departments (PWDs) through institutional strengthening and training.

Broadband connectivity: A modified strategy for expediting the pace of implementation of the BharatNet project was approved on July 19, 2017. As part of the modified strategy, the remaining 1.50,000 GPs are to be connected in Phase-II through a state led model.Digital literacy needs special focus at the school/college levels. The National Digital Literacy Mission should focus on introducing digital literacy at the primary school level in all government schools for basic content and in higher classes and colleges for advanced content.

Education sector: Government spending on education as a whole should be increased to at least 6 per cent of GDP by 2022. At present, allocations to the education sector by the center and states remains close to 3 per cent of GDP, while according to the World Bank, the world average in this regard is 4.7 per cent of GDP. Ensure effective coordination of roles of different higher education regulators, such as the UGC, All India Council for Technical Education (AICTE) and National Council for Teacher Education (NCTE), and restructure or merge these where needed.

Health Sector: Public funding on health should be increased to at least 2.5 per cent of GDP as envisaged in the National Health Policy, 2017.Create an environment, through appropriate policy measures, that encourages healthy choices and behaviours. Institute a public health and management cadre in states.

Conclusion

In spite of some improvements in infrastructure in recent years, India still ranks 89 in basic infrastructure as per the Global Competition Report 2011-12. This indicates poor development compared to other countries of the world. The poor state of infrastructure, stretched to limits by the growing population and increasing regional and rural-urban disparities, implies that major improvement in physical and social infrastructure is absolutely essential to sustain further progress and high rate of economic growth.

2. What are the challenges in developing world class port infrastructure in India? What measures have been taken by the government to upgrade the ports? Discuss.

Introduction

India has an extensive 7,500 km coastline with 12 major ports and just under 200 minor ports, of which 139 are functioning. Primarily, the major ports deal with, by volume, 95% of India's total foreign trade. But, across the board, these ports are underperforming because of serious infrastructure and connectivity problems.

Body

According to the NITI AAYOG,to achieve the ambitious target of having a 5% share in world exports and climb up the ranks in ease of doing business, India needs to address its port ecosystem. Also Port infrastructure forms key part of the trade infrastructure.

In this regard, the challenges facing in development of a world class port infrastructure include the following:

- Issues with PPP Model- Most port PPPs impose strict limits on what private operators are allowed to do, usually in terms of the types of cargo they are allowed to handle.
- Limited Hinterland Linkages- Inefficiency due to poor hinterland connectivity through rail, road, highways, coastal shipping and inland waterways.
- Incoherent Policy Measures - Port Infrastructure has been a neglected space in terms of policy focus due to multiple factors.
- Sub-optimal Transport Modal Mix - Lack of requisite infrastructure for evacuation from major and non-major ports leads to sub-optimal transport modal mix.
- Lack of adequate berthing facility, number of berths, sufficient length for proper berthing of the vessels at the Non-Major Ports is another problem.

- Processes and operations across India's ports are not standardized or uniform, costs and time for key processes are unpredictable and there is an unacceptable level of variation across ports as well as within ports.
- Financial constriants - Years of underinvestment have left the port infrastructure in dismal condition especially with regards to the non-major ports.
- Deficient dredging capacity - Draft is also a major limitation in India as terminals and ports are unable to cater to vessels beyond Panamax (Draft over 13 meters) size that are increasingly dominating global trade.
- Land acquisition and environmental clearances are some specific challenges for port infrastructure.

Due to India's inadequate port infrastructure, many investors are wary of getting involved in business in the region and also hampers the overall economic prospects, to overcome which government has taken the following measures as well as to usher in the ideal of port led development :

- In 2016, India passed the Central Port Authority (CPA) Act. The act grants more autonomy to the major ports.
- The Revised Model Concession Agreement (MCA) was released in 2016, which includes incentives for the private sector to get involved with the ports through updated tariff guidelines and discounted revenue shares.
- The government provides a 10-year-tax holiday to companies that help maintain and operate ports. If these companies undertake a port development project, the government will help with up to 50% of the cost.
- Sagarmala Project: The programme aims to modernize India's ports so that port-led development can be augmented and coastlines can be developed to contribute in India's growth. Port Modernization & New Port Development, Port Connectivity Enhancement, Port-linked Industrialization and Coastal Community Development form the component of this Project.
- Project Unnati: It has been started by Government of India to identify the opportunity areas for improvement in the operations of major ports.
- Introduction of Port Enterprise Business System - A was tender issued by the Indian Ports Association (IPA) to maintain an Enterprise Business System (EBS) to modernise and automate port processes for five central government-owned ports.

Way Forward:

- Priority should be given on expanding capacity and improving operational efficiency.
- Environmental clearances, Tariff norms, land acquisition etc. need to be standardized and implemented for the port sector so as to boost foreign investments.
- The regulatory regime should be made less complex and less rigid.

Conclusion

India's cargo traffic handled by ports is expected to reach 1,695 million metric tonnes by 2021-22, according to a report of the National Transport Development Policy Committee and to capitalise on this potential, expedient development of port infrastructure becomes vital which will further help in realising the dream of $5 trillion economy by 2024.

3. Can privatisation of rail operations bring about positive transformations in the railways? Critically examine.

Introduction

Indian Railways has launched itself on the road to privatisation by flagging off the Tejas Express running between Lucknow and Delhi and announcing plans to privatise the running of as many as 150 passenger trains. The Bibek Debroy committee setup in 2014 favoured privatisation of rolling stock: Wagons and Coaches. It also recommended amending the Indian Railways Act to allow the private operators to levy tariff.

Body

Background:

The Indian Railways is among the world's 3rd largest rail networks. So far, the government maintains monopoly in rail operations and very little private participation can be seen in areas like wagon procurement and leasing, freight trains and container operations, terminals and warehousing facilities, catering services, and other rail infrastructure through schemes framed by the ministry.

Privatising even a part of a highly-integrated set-up as the railways, although beneficial, can be a complex regulatory process.

Brings positive transformations:

- Improved infrastructure: It is argued that private sector management will improve basic amenities including water supply, maintenance of washrooms and platforms.
- Quality of services: the increased competition will lead to overall betterment in the quality of services.
- Improved efficiency: a private firm aiming profit will automatically will bring in latest technology, cut costs and be more efficient.
- Lesser accidents: Better maintenance and adoption of latest technology like adoption of hofman bush coaches, automation of rail crossings etc., will make the train travelling safer.
- Pressure from shareholders will instigate the rail operations to operate efficiently and maintain quality services to remain competitive.

- It is expected that privatization would remove the railways from short-term political control.
- International examples: As Bibek Debroy committee noted, in experiences from multiple countries, including Japan, the United Kingdom, Germany, Sweden, Australia and USA - the entry of competitors lowered prices and led to better services.

However, privatization can have negative effect as well.

Possible negative transformations:

- Limited coverage: as private sectors are interested in profit, their participation will be limited to lucrative sectors and areas. This will bring regional inequality and difference in service delivery across different routes.
- Fare: privatization bringing quality services in rail operations will invariably to increased tariff thus affecting lower income groups. Passengers would lose the subsidy in tickets and in freight charges. This will defeat the entire purpose of the system which is meant to serve the entire population of the country irrespective of the level of income.
- Accountability: Often it is seen that private sector doesn't share their governance secrets with the government. In such a scenario, it is difficult to fix accountability if there is any discrepancy in compliance.
- Railway employees: the biggest fear is the layoff of the rail employees which at present stands more than 1 million. As railways trade unions noted, only the profiting units will be privatized eventually leading to the closure of the loss-making railway units. The same happened in telecom sector as well when it was privatized.
- Private monopoly: the scale of operating railways is huge and thus there is a concern of very little competitors. This will result in private monopoly.
- The short-term profit motive of private firms deters private sector to invest in long term plans. E.g. the UK is suffering from a lack of investment in new energy sources.
- International examples:
    - In UK, the government owned companies participating in privatization process has only increased the government control. The same is seen in India with IRCTC participating in the process which is a government subsidiary.
    - A report from guardian noted, after a decade of privatization of railways in UK, the public suffer from often late, expensive and frequently overcrowded train services.
    - In Japan, the government had to shoulder the debt of private sector to bail them out in order to ensure the seamless operations.

Conclusion

In order to sustain growth, modernization and efficiency, the Indian Railways must redefine its role and responsibility. It has to completely reposition its operating role from being a direct service provider to being a supervisor of services. However, railways have to remain affordable. The government can give subsidies, tax benefits to incentivize private sector to keep the tariffs low and has to regulate thoughtfully regulate by ensuring competition with multiple private players participation.

4. Examine the need to have a national logistic policy covering all modes of transport with linkages and complementarities between rail, road and sea.

Introduction

According to Council of logistics management: "Logistics is the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from point of origin to point of consumption for the purpose of conforming the customer requirement.

Body

An effective and efficient logistics ecosystem can be a key contributor to robust economic growth in the country, with the potential to facilitate domestic and foreign trade, promote global competitiveness, enhance incomes, drive the 'Make in India' initiative and reduce economic disparities across geographies.

Need of logistic policy in terms of transport

- Transportation seeks to move goods from points of production and sale to points of consumption in the quantities required at times needed and at a reasonable cost.
- Transportation is one of the most visible elements of logistics operations and essentially concerns the spatial dimension of the business firm. Good transportation has the effect of holding to a minimum of the time and cost involved in the spatial relationships of the firm and add place utilities to the goods handled and thus, increases their economic value.

Minister of Commerce and Industry has unveiled the draft National Logistics Policy and the proposed action plan for implementation of the policy prepared by the Department of Logistics. The objective of the draft policy 2018 is to create a national logistics e-marketplace as a one-stop marketplace for exporters and importers, set up a separate fund for start-ups in the logistics sector and to double employment in the sector.

- As per the Economic Survey 2017-18, the Indian logistics sector provides livelihood to more than 22 million people and improving the sector will facilitate 10 % decrease in indirect logistics cost leading to the growth of 5 to 8% in exports.

- Further, the Survey estimates that the worth of Indian logistics market would be around USD 215 billion in the next two years compared to about USD 160 billion currently.
- India's logistics sector is highly defragmented and the aim is to reduce the logistics cost from the present 14% of GDP to less than 10% by 2022.
- High logistics cost impacts competitiveness of domestic goods in the international markets. India ranks India, which was ranked 58th in the annual Global Competitiveness Index is among the worst-performing BRICS nations along with Brazil.
- Ranked 44 in the World Bank Logistics Performance Index 2018, logistics costs in India are 13-15 per cent of the product cost, while the global average is six per cent.
- 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.
- Efficient logistics networks can reduce divergence in regional growth.
- Transportation services form a third of the cost of a logistics chain. Improving transportation would require the coordinated development of railways, roads and waterways.
- Roads carry about 60 per cent of the freight cargo in India. As rail transportation is more energy efficient than road, movement of goods via the road-cum-rail mode could reduce logistics costs considerably.

Recent initiatives for capacity augmentation

- The Dedicated Freight Corridors (DFCs), which have been envisaged to augment rail freight transpporattation capacity, particularly on the Eastern and western Corridors
- The Bharatmala Pariyojana is unique and unprecedented in terms of its size and design, as is the idea of developing ports as engines of growth under Sagarmala (help connect places of production with markets more efficiently, help reduce logistics costs, create jobs and promote regionally balanced socioeconomic growth in the country).
- Constitution of National Council for Logistics, chaired by the Prime Minister.
- Creating the Center for Trade Facilitation and Logistics Excellence (CTFL) Setting up a big data enabled logistics data hub and analytics center
- Creating a single window logistics e-marketplace.
- Providing viability gap funding for select MMLP projects, first and last mile projects and projects for poorly-serviced remote areas.
- Federation of Indian Export Organisations 'Logix India' event organized to improve logistics cost effectiveness and operational efficiencies for India's Global Trade.

Conclusion

India must adopt a holistic approach in designing integrated transport networks. Hierarchical connectivity, intermodal access and fit-for-purpose network standard should be emphasised. Network expansions and capacity enhancement must be assessed for their impact on the existing network and within and across networks.

5. What do you understand by venture capital? How is it different from angel investing? Illustrate.

Introduction

Venture capital is a type of private equity, a form of financing that is provided by firms or funds to small, early-stage, emerging firms that are deemed to have high growth potential, or which have demonstrated high growth. Venture capital and angel investments are the most common alternative sources of funding, both angels and venture capitalist firms cater to innovative startup businesses, and both tend to prefer companies related to technology and science.

Body

How venture capital is different from angel investment

1. **What they are:**

- **Venture Capital Firm:** These are the mostly the Limited Liability Partnership firms/funds, which raises fund from different investors. As against Angel investment where the decision of investment rests with the individual, a Fund/ Portfolio Manager in Venture Capital firms is the one who hunts for promising deals to get the best returns for their investor's money. Example of VC/PE active in India are- Kalaari capital, Nexus Venture Partners, Accel Partners, Tiger Global Management, Helion Venture Partners etc.
- **Angel Investors:** Are the High Net-Worth Individuals (HNIs), who generally forms closed groups called angel network and collectively invests in a venture. Angel network helps them to make more informed investment and reduce the risk of an individual as pool of investors are investing small amount in multiple companies. They do it in exchange of equity in the startup. Examples of Angel/Angel Networks active in India are- Mumbai Angels, The Chennai Angels, Indian Angel Network, Hyderabad Angels, The Indus Entrepreneurs.

2. **Whose Money is invested?**

- **Venture Capital Firms:** This is an investment firm, which raises money from various HNIs/ investors and invest it on their behalf in various startups. VCs have fund/ portfolio managers to manage their investment portfolio. They have a dedicated and skilled team, which looks out for promising opportunities, and get the deal closed.
- **Angel Investors:** Angel investors, invests their own money in the ventures after doing enough due diligence on their part. They often forms groups and pool their money to invest together. But this requires the domain know-how and also investors have to invest their time to hunt the deals, meet with the

founders, documentation of investment, monitoring on the use of funds by the startup.

3. **Who Makes the Decision**

- **Venture Capital Firms:** As against angel investors in case of VCs the portfolio manager hunts for the most profitable deals for the investors who have contributed to the fund. On an average, a fund is raised for 10 years. So, fund manager is even more diligent than the angel investor in choosing the right deal.
- **Angel Investors:** Since the money involved in this case is their own, due diligence is made by the investors. Since angel investors invests in the very initial stages of the company, there are very few numbers available to convince the investors, most of the deals are made on logical hunches- like the scalability of the idea, Product Market Match, Founding Team. Read "What investors look for in a business before investing" for details.

4. **Stage of Investment**

- Startups are a risky asset, 90% of the companies, which are born dies. Only 1% gets funded and Out of 10 funded startups, 7 companies die. That means there are very high chances of your money being wasted. That means the initial stages are the most crucial ones and involves highest risk.

- **Majorly there are four stage of any startup**
  - Seed Stage
  - Early Stage
  - Growth Stage
  - Expansion Stage
- **Venture Capital Firms:** Venture Capitals generally invests in Growth stage (Series A) and forward, when the company has some proven numbers. As compared to angels they are less risk takers.
- **Angel Investors:** Angel investors are the high-risk takers. They can bet their money on the idea as well if they feel the potential in it. Now, since they are taking much risk than a VC (who invests in later stages) they expect greater chunk of your equity and high returns.

5. **Their Support System**

- **Venture Capital Firms:** Venture Capitals are more professional in their approach and guidance. With their alliance comes a huge support system of high profile contacts, experience etc.
- **Angel Investors:** Since the performance of the company entirely decides the fate of the investor's money, angels do guide the startups (sometimes felt a poked nose) in all the matters. A member from the angel investor group takes the seat in the board of members as well, till the Venture Capital Firm invests unless angel is still the significant contributor.

Conclusion

The aforementioned differences between angel investors and venture capitalists brings forth pros and cons—especially from the standpoint of entrepreneurs or startup business organizations. Both alternative source of funding remain advantageous because they are willing to finance high-risk ventures without the need for assets or any collateral assets that are usually required by banks. This is the most noteworthy advantage shared by both funding source.