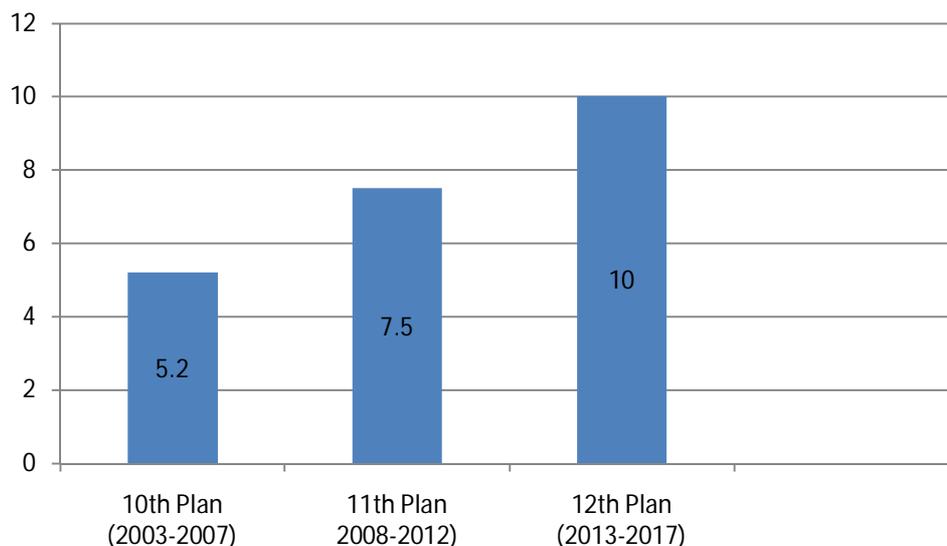


Infrastructure: Part II

Transport and communications

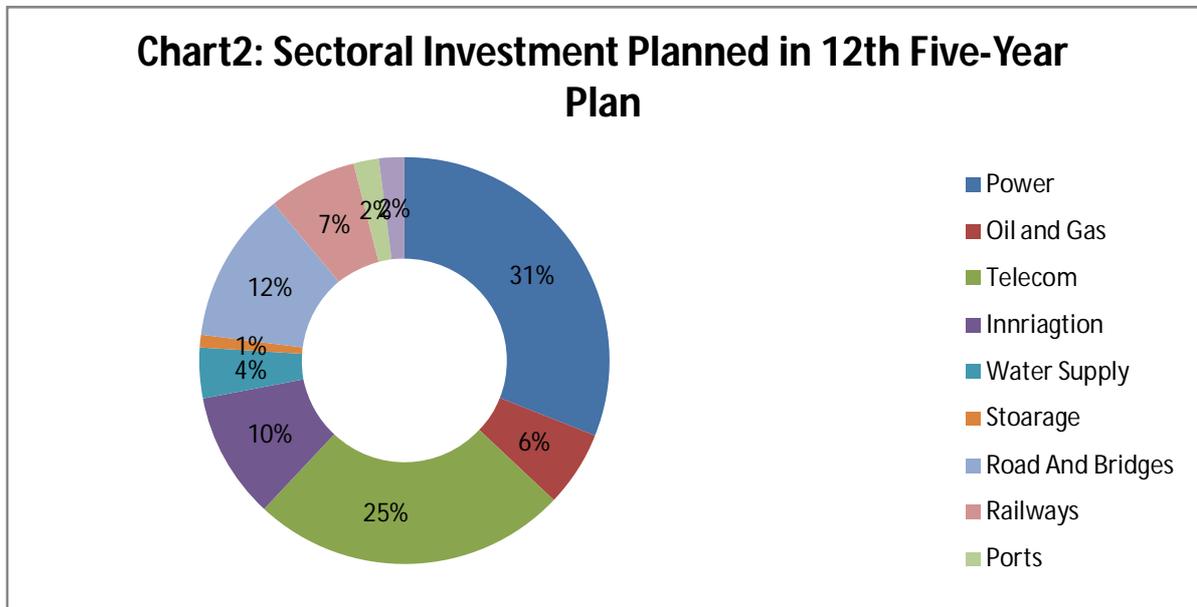
Infrastructure in India is widely recognized as a constraint to growth. The wheels of growth require well oiled infrastructure in every segment, be it airports or rural roads, a mega power station or a rural supply line. It is also a critical input for broad based and inclusive growth aimed at improving the quality of life, generating employment and reducing poverty across regions. Developed economies and China have been investing over 10 per cent of their GDP in infrastructure as compared to 4 or 5 per cent in India. It is estimated that the infrastructure sector will need investment of one trillion dollars in the Twelfth Plan (i.e. about Rs. 62 lakh crores); Only during XI and XII plan periods, India tried to spend above 9 per cent in infrastructure. In absolute terms, about Rs. 20, 60,193 crores (\$515 billion) during 11th Plan and Rs. 50,00,000 crores (\$833 billion) in XII Plan.

Chart1: Infrastructure Investment in India as a Share of GDP: during 10th, 11th and 12th Plan Periods.



The widening deficit of infrastructure is characterized by i) the demand has grown beyond the anticipated levels and ii) the creation of infrastructure during Plans fell short of targets. In view of the availability of limited public resources under Plan grants towards infrastructure, private investments in the form of Public Private Partnership (PPP) is unavoidable. While private investments in Ports, Air-Ports, Railways and Road net work are already put into operation, there is a need to step up investment particularly in Railways to

modernize, expand and to ensure safety. The share of private sector participation in infrastructure need to be increased from 40 per cent in 11th Plan to 60 per cent in the 12th Plan.



Major investments towards infrastructure in XII Plan are in Power (31%), Telecom sector (25%), and irrigation (10%),.

INFRASTRUCTURE INVESTMENTS REQUIREMENT IN INDIA

India is expected to grow at an average 9 percent per annum in next few years. Accompanying this growth will be an increase in demand for infrastructure services. The infrastructure investment has increased in the past few years, driven by government initiatives and private participation, but that need to be escalated in coming years. The Government of India expects that 22-25 percent of the investment (of US\$ 384 billion) required is to come from private sector (Government of India, 2007). According to the Committee on Infrastructure, headed by the Indian Prime Minister, these investments are to be achieved through a combination of public investment, public- private-partnerships (PPPs) and exclusive private investments, wherever feasible. To sum up, the Indian infrastructure space has gained much importance in the past few years, and provides immense opportunities for growth and development. Therefore, it is clear that there is substantial infrastructure needs in infrastructure sector in India, which, in other words, also offers large investment opportunities. Many of the new investments (such as gas pipelines) seem to be viable on commercial terms and should be suitable for partnership with private investors. For many other infrastructure investments also Public-Private-Partnership (PPP) is emerging as the preferred instrument, where the private sector gets its normal financial rates of return while the public sector partner provides concessional funding based on the long-term direct and indirect benefits to the economy.

Transport System:

Importance of Transport System: An efficient transport system is a prerequisite for sustained economic development. It is not only the key infrastructural input for the growth process but also plays a significant role in promoting national integration, which is particularly important in a large country like India. In a liberalized set-up, an efficient transport network becomes all the more important in order to increase productivity and enhancing the competitive efficiency of the economy in the world market. The transport system also plays an important role of promoting the development of the backward regions and integrating them with the mainstream economy by opening them to trade and investment.

Worldwide, transport growth has been consistently higher than the economic growth due to specialization, sourcing of material on a wider scale, the use of just-in-time strategies, increase and dispersal of retail and wholesale activities etc. the transport system in India has not been able to keep pace with these developments and considerable effort is required to correct the shortcomings.

Transport sector bears a close and complex relationship with all other sectors of the economy. While it tends to act as the prime mover of the development process, it must also respond to the development process, if the latter has to be smooth.

Economic Liberalization and Transport System:

The liberalization of the economy has brought home the urgency of recognizing that an efficient transportation system is necessary for increasing productivity and enabling the country to compete effectively in the world market. Adequacy and reliability of transport infrastructure and services are important factors, which contribute towards the ability of the country to compete in the field of international trade and attract foreign direct investment. The Government has a major role to play in this sphere. Even in a market economy, the framework that national governments provide for the transport sector largely determines the level of cost and transport operations. It is, therefore, necessary to create a policy environment that encourages competitive pricing and coordination between alternative modes in order to provide an integrated transport system that assures alternative modes in order to provide an integrated transport system that assures the mobility of goods and people at maximum efficiency and minimum cost.

In the recent years, economic liberalization has quickened the impulses of economic growth. A rapidly-growing middle class. International trade, large-scale mobility of working population to longer distances and growing demographic pressure have fuelled further demand for transport. The new economic policies have opened new resources as also increasing the scope of commercial orientation to transport operations. At the same time, this development may lead to greater concentration of industrial location around existing growth centres and encourage an untrammelled growth of certain modes of transport with regard to their social cost

Deficiencies and Bottlenecks:

India's transport system is far from adequate both in terms of spread and capacity and suffers from a large number of deficiencies and bottlenecks. The quality and productivity of the transport network and resources also needs improvement.

In spite of significant development of transport modes, transport capacity has tended to lag behind the requirement of economy leading to congestion, asset deterioration and high level of energy consumption, pollution and accidents. Rural areas have inadequate connectivity and there is continuous increase in the share of road traffic at the expense of rail. Though successive Five Year Plans took cognizance of these problems, there is inadequate investment in capacity building mainly because of resources problem facing the public sector that has been largely responsible for transport infrastructure development. The problem was exacerbated by increasing concentration of economic activity and human settlements in certain areas by relative under-pricing of hydrogen fuels and transport services. In spite of special attention being paid, particularly in the recent years, for development of transport infrastructure, some areas like North-East continue to be inadequately served and this has affected not only their economic development but even social and political integration with the rest of the country.

It is necessary to faster the development of the various transport modes in an integrated manner that will lead to realization of an efficient, sustainable, safe and regionally balanced transportation system, where each mode of transport operates in its field of economy and usefulness, with competitive and non-discriminatory prices that are adequate to support progressive development of transport infrastructures and services. This would also enable the competitive advantages and economic efficiencies to be properly reflected in the user costs.

Creation of transport infrastructure requires time. It is necessary to anticipate the demand on the transport system ahead of socio-economic changes. In view of the long gestation involved, transport planning has to be seen in perspective longer than the Five Plan periods. Often the capacities created during one Plan period are the results of the investments made in earlier Plans. It is, therefore, necessary to make investments keeping in view the longer time-frame perspective.

Indian Railways:

Railways are often referred to as the lifeline of the Indian economy because of its predominance in transportation of bulk freight and long distance passenger traffic. Railways network criss-cross the nation, binding it together by ferrying freight and passengers across the length and breadth of the country. As the Indian economy moves into a higher growth trajectory Indian Railways has also stepped up developments efforts and is preparing itself for an even bigger role in the future.

Railways is the principal mode of transpiration for carrying bulk freight and long distance passenger traffic. Given India's continental size, geography, resources endowment and diversity, the railways play a key role in not only meeting the transport needs of the country, but also in binding together dispersed areas, thus, promoting national integration. It also plays a key

role during war and emergencies when huge quantities of material and men are required to be moved across the country at short notice. (Below table)

Table: Indian Railways: Some Key Statistics

Route Kilometre	64,015
Employees (lakh)	13.86
Number of stations	7,030
Number of passenger trains run daily	10,673
Number of goods trains run daily	7,845
Diesel electric locomotives	3,586
Coaches	55,095
Wagons	2,11,763

as on March 31, 2009.

(Source: Government of India, Planning Commission, Annual Report to the People on Infrastructure, 2010).

Dedicated Freight Corridors (DFCs):

The rapid rise in international trade and domestic cargo has placed a great strain on the Delhi-Mumbai and Delhi-Kolkata rail tracks. The government has, therefore, decided to build dedicated freight corridors in the Western and Eastern high density routes. This will help to decongest the two routes for freight movement and will increase the economic potential of the hinterland areas which will benefit from the reduced cost of transport. It will also provide spin off benefits in terms of location of industrial clusters along the new corridors attracting potential investment in a number of states.

Roads and Road Transport

Importance of Roads and Road Transport:

Roads are the key to the development of an economy. A good road network constitutes the basic infrastructure that propels the development process through connectivity and opening up the backward regions to trade and investment. Roads also play a key role in inter-modal transport development, establishing links with airports, railway stations and ports. In addition, they an important role in promoting national integration, which is particularly important in a large country like India.

Road transport has close linkages with the economic development and social integration of the country. It is the prime motorized mode of transport linking the remote and hilly areas with rest of the economy. The easy accessibility, flexibility of operation, door-to-door service and reliability have earned road transport an increasingly higher share of both passenger and freight traffic vis-à-vis other transport modes. Substantial investment being made in the improvement of highways further boost the demand for road transport services

A good road network is a critical infrastructure requirement for rapid growth. It provides connectivity to remote areas, provides accessibility to markets, schools, hospitals, opens up backward regions to trade and investment. Roads also play an important role in inter-modal transport development, establishing links with airports, railways stations and ports.

Over the years, roads have grown in prominence as a mechanism for moving goods and people in the country. This is partly reflected in greater innate flexibility of road transportation. However, this development, is giving tough competition to the Indian railways.

Deficiencies of Road Network:

Since Independence in 1947, there has been a tremendous increase in the volume of road traffic, both passenger and freight. However, the main road network comprising of national and state highways has not matched this traffic growth. Much of the expansion of the road network has been through building the rural roads to provide connectivity to rural masses. The main roads have also not kept pace with the traffic demand in terms of their quality.

Despite their importance to the national economy, the road network in India is grossly inadequate in various respects. The existing network is inadequate in various respects. The existing network is inadequate and is unable to handle high traffic density at many places and has poor riding quality. The main reason for these shortcomings is the inadequacy of funds for maintenance and improving the quality of the road network has been accorded a very high priority in development planning in the country.

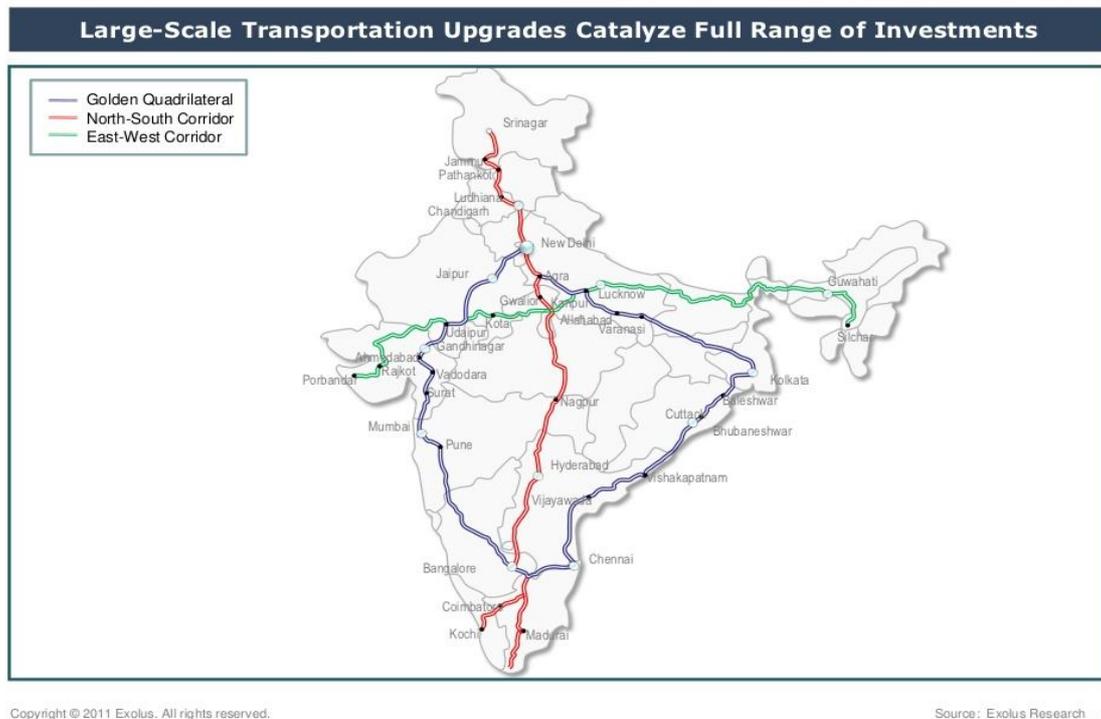
To bridge the resource gap and to instill competitive efficiency, efforts are being made to associate the private sector with road projects. However, the initial responses has not been very encouraging and it is felt that more innovating methods are needed to ensure greater participation of the private sector. Simultaneously, it is also necessary to priorities road projects according to resources availability so that resources are not spread thinly among large number of projects leading to unwarranted delays.

Inadequate networks have led to higher transportation costs which have also severely eroded international competitiveness of the Indian economy. Commercial vehicles are able to run only 200-250 kilometers per day in developed countries. The problem is further compounded by congested sections, existence of railways level crossings, octroi posts and other tax barriers, all of which lead to the bad condition of roads, there are security, safety and pollution problems. The deficiencies in the road network have contributed to safety hazards with about 60,000 human lives lost every year. The fatality rate is about 25 times more than that in the US. The inadequate road system is also responsible for increases in pollution levels.

A number of villages are yet to be connected by all-weather roads. Another major problem is the slow movement of traffic on Indian roads. This is not only on account of poor conditions of the roads, but also due to numerous check-posts for the collection of octroi.

National Highways Development Project (NHDP):

Infrastructure Trend: Can New Infrastructure Catalyze R&D & Manufacturing?



NHDP – the largest highways project ever undertaken by the country – was initiated in 2005 in a phased manner with the National Highways Authority of India (NHAI) as its implementing agency. Beginning with Phase I and II, the programme was expanded to seven phases.

NHDP Phase I and II envisaged 4/6 laning of about 14,000 kilometers of National Highways, at an estimated cost of about Rs.65,000 crore at 2004 prices. These two phases comprised the Golden Quadrilateral (GQ), North-South and East-West Corridors (NSEW), port connectivity and other projects. The GQ consists of 5,846 kilometers and connects four major cities, viz. Delhi, Mumbai, Chennai and Kolkata. The NSEW corridors of 7,142 kilometers connects Srinagar in the North to Kanyakumari in the South (including a spur from Salem to Kochi) and Silchar in the East to Porbandar in the West. The NHDP also includes the Port Connectivity 12 major ports in the country. Other projects involving a length of 965 km. are included in NHDP Phase-I and II.

These highways, which will give sustained speeds of 80 kmph, will transform the movement of goods and people in the country. The successful completion of NHDP, with projects completed on time and on budget, and the successful maintenance of the new roads, are key areas for focus.

The massive 10 – year programme (2005-15) is being implemented in a phased manner with an investment of Rs.2,35,690 crore. It includes the following.

1. Completion of the works under NHDP Phase I and II.
2. Up gradation of 12,109 kilometers of national highways on build, operate and transfer (BOT) basis in Phase III.
3. Widening of 20,000 kilometers of National Highways to two lanes with paved shoulders in NHDP Phase IV.
4. Six-laning of 6,500 kilometers length of selected National Highways in Phase V.
5. Construction of 700 kilometers of ring roads in major towns and bypasses and construction of other standalone structures such as flyovers, elevated roads, tunnels, underpasses, grade separated interchanges etc. on national highways in NHDP Phase VII.

National highways stretches that are not covered by NHDP are being developed through other programmes of the Ministry of Road Transport and Highways.

In order to cater to the needs of remote, isolated and backward areas, two programmes, viz. Special Accelerated Road Development Programme in North – East (SARDP-NE) and development of roads in Left Wing Extremism Affected Areas have been launched.

Shipping and Ports

Importance of Maritime Activities:

Although endowed with a strategic location in the Indian Ocean and an extensive coastline, India has not emerged as a forerunner in maritime activities. This has been due to several reasons including her conscious policy of self-reliance through import substitution and lack of adequate thrust on export promotion. However, in the post-1991 era, India has started to reach out and partake in the windfall that globalization has bought in its wake. The recent accelerated growth in Indian economy and trade underscores the increasing critically of the shipping sector for India, as the bulk of the country's export-import trade takes place through the maritime route. The up gradation and expansions of ports is vital to strengthen India's position in world trade and to handle growing volume of international trade.

A national shipping fleet commensurate with India's overseas cargo needs would help in reducing the freight costs of Indian cargo. Tran chart and right of first refusal policy also help to discourage undue freight increases. A thriving shipping sector encourages the growth of associated industry and service providers required for servicing this industry. Most importantly, national tonnage is decisive in maintaining the supply line of essential cargo during international emergencies, as was also demonstrated during the Iraq war, when every drop of crude imports from the Middle East came on Indian Ships.

Civil Aviation

Importance of Civil Aviation:

Air transport worldwide is the preferred mode of transport especially for long distance travel, business travel, accessing difficult terrains and for transporting high value and perishable

commodities mainly on account of the speed of travel and saving of time. With the opening up of domestic skies to private carriers, air services have become affordable and are now effectively competing with other modes of transport.

The main advantage of civil aviation vis-à-vis railways and road transport is the speed of travel and consequent saving of time. A part of this gain is, however, nullified for short-haul flights due to time taken in reporting, security checks, flying, luggage clearance etc. air travel, nevertheless, retain a substantial edge over other modes of transport for long distance travel. It is particularly useful for business travel, international tourism and for transporting high value and perishable commodities. Air transport also provides easy accessibility to remote regions, which has implications for national integration and security. The advantage, however, has to be weighed against high cost of air travel and cost to the economy because of its high fuel intensity.

The civil aviation sector plays an important role in India's economy. It provides fast and reliable mode of transport across the country and is particularly important for many areas/places still not adequately connected by rail or road. With increasing globalization, this sector will play a more significant role in intergrading the Indian economy with the rest of the world.

It is now increasingly recognized that aviation, far from being a mere mode of transpiration for a small elite group, makes an important contribution to the national economy and its is crucial for sustainable development of trade and tourism. The civil aviation sector has made significant strides in coping with the growth of international and domestic traffic. This sector provides three categories of services, viz. operational, infrastructure and regulatory-cum-development.

Airports Economic Regulatory Authority (AERA):

The Airports Economic Regulatory Authority of India Act, 2008 has been enacted to establish Airports Economic Regulatory Authority (AERA) to regulate tariff and other charges for the aeronautical services rendered at major airports and to monitor performance standards of such airports. Following its establishment, the Authority has issued a White Paper in December 2009, listing out major issues impacting its regulatory philosophy, objectives, principles, systems and procedures, the stakeholders were also made part of the consultation process and comments/submissions were received from the stake holders on the White Paper. Besides , the Authority also considered the statutory procedures, contractual requirements, international practices etc. based on the inputs received from the stakeholders and other sources, AERA has prepared a "Constitutional Paper" listing out the major issues, the Authority's proposed position/approach and the rationale thereof.

GAGAN – The Indian Satellite Based Augmentation System (SBAS) for Air Navigation Services (ANS) :

GAGAN, the Indian SBAS (Satellite Based Augmentation System) is a project jointly undertaken by the Airport Authority of India and ISRO to achieve smooth transition to satellite based navigation and seamless air traffic management across continents. GAGAN is designed to provide additional accuracy, availability, and integrity necessary to enable user to rely on GPS for all phases of flight, from en route through approach, for all qualified airports within the GAGAN service volume. GAGAN will provide the capability for increased accuracy in position reporting thereby making possible high-quality Air Traffic Management (ATM). GAGAN will provide benefits beyond aviation to all modes of transportation, including maritime, highways, railways and public services such as defense services, security agencies, and disaster recovery management by aiding in search and rescue to locate the disaster zone accurately, telecom industry and personal users of position location applications.

After USA, Japan and Europe, India has taken up the challenge of establishing the regional SBAS that will redefine the navigation in India and in adjacent regions. The footprint of GAGAN will cover huge area beyond Indian Territory, from Africa to Australia and can support seamless navigation across the globe. The system is also interoperable with other such systems of WAAS of USA, ENGOSS of Europe and MSAT of Japan

The lead taken by the Ministry of Civil Aviation in implementing GAGAN and possible certification by 2014 will propel India as the only fourth country to have this facility in the world

(Source: Twelfth Five Year Plan 2012-17)

Importance of Telecommunications:

The telecommunications sector has undergone a total transformation throughout the world over last two decades. Technological advances have revolutionised the quality and range of services available. Moreover, developments in the sphere of information technology, satellite-based television broadcasting, new forms of communication such as data communication through e-mail and associated services through the internet, are transforming the way people communicate and conduct business.

Clearly, a country's ability to benefit from this revolution depends heavily on the modernity of its telecommunication network. Countries that can acquire and access information on demand and then integrate them usefully into their industrial structure through a modern telecommunications network are most likely to experience high rates of growth, large-scale use of information and telecommunications technologies directly influences productivity, cost effectiveness and competitiveness in industries with the high levels of product differentiation and low levels of unit prices. In these industries, prompt availability of information about demand trends or price movements can boost competitive advantage. International competitiveness of the textile, garment, toy and consumer to be electronics industries in Taiwan and the Philippines have been found to be effective due to advanced telecommunications services that

allow tight links between commercial distribution in American and European markets and local production.

An advanced telecommunications system is equally important for service industries like banking, trading, retailing, transportation, and maintenance and insurance where information and real-time communication are vital to the production process. A reduction in the costs of these services will indirectly enhance international competitiveness within the entire economic system, since lower marketing costs mean lower costs for manufacturing firms exposed to international trade. The extraordinary efficiency of financial markets of Hong Kong and Singapore is based on the extensive use of such advanced telecommunications services.

Thus, improved communication is vital for productivity in all spheres of activity: agriculture, industry, trade and commerce. In addition, with the increasing movement of people within and outside the country, easy communication is essential for enhancing human welfare so that families, friends and acquaintances can overcome the barriers of distance. For a developing economy like India, it is thus important that policies and programmes be initiated, and resources committed to bring about rapid growth in the sector.

Telecommunications Regulatory Authority of India (TRAI):

TRAI performs the regulatory functions of telecom sector. It has taken various measures in recent years with a view to obtain a sound framework for competition between multiple technologies and vendors

Priorities for Indian Infrastructure:

1. **New Roads:** The country is constructing 20,000 KMs of new and upgraded roads over the next few years. The six-laning of National High way Projects of Golden Quadrilateral, once completed will boost the country's economy. Some of the significant deficiencies that affected PPP Projects of NHAI include over engineering, delays in land acquisition etc.

2. **Industrial Corridor:** Government have taken up ambitious industrial corridor along with the East-West and North-South National High Ways. Mumbai-Delhi Industrial Corridor with aid from Japanese companies and Chennai-Bangalore Industrial Corridor have been taken up during the last two years. Creation of new townships along with the industrial corridors to absorb the migrants to industrial corridors in the coming years is a welcome feature.

3. **Freight Corridor for Railways:** Construction of exclusive freight corridor along with the already doubled Railway Line along with the Highways. Industrial Corridors along with new townships and the exclusive freight corridor will enhance the Indian Infrastructure in the coming decade if properly implemented. However neglect of Railway Infrastructure so far, requires stepping up of PPP in Railways infrastructure.

4. **Airports:** Air transport has undergone a significant transformation over the last five years. Air traffic was projected at 259 million passengers for the Tenth Plan (2002-07). However, it turned out to be 24 per cent higher, at 321 million. The opening of the skies to competition brought in new airline, better services, and lower fares in the backdrop of a robust growth of the economy. This has, indeed, been a success story that has demonstrated the role

of competition in acerbating investment and improving air services. However, public investment in airport infrastructure was only Rs. 38 billion against a target of Rs 67 billion (at 2006-07 prices) for the Tenth Plan. Thus, traffic increased by 24 per cent as compared to the anticipated level while investment fell short by 43 per cent of the investment target.

5. Ports: Congestion at Ports increased substantially during 10th Plan period since demand escalated and capacity addition fell short of the target. The average turnaround time and average pre-berthing time at major ports have worsened during 11th Plan period. During twelfth Plan, to meet the overall projected traffic of 1758.26 million tonnes by 2016-17, the total capacity of the port sector is envisaged to be 2289.04 million tonnes. The Plan will need to ensure adequate investments in the Ports sector to meet the growing capacity needs of international trade, improve efficiency by reducing dwell time and introducing institutional reforms proposed by B.K. Chaturvedi. Committee.

GOVERNMENT POLICY ON INFRASTRUCTURE DEVELOPMENT: PUBLIC – PRIVATE PARTNERSHIP

Government is actively pursuing PPPs to bridge the infrastructure deficit in the country. Several initiatives have been taken during the last three years to promote PPPs in sectors like power, ports, highways, airports, tourism and urban infrastructure. Under the overall guidance of the Committee of Infrastructure headed by the Prime Minister, the PPP programme has been finalized and the implementation of the various schemes is being closely monitored by the constituent Ministries/Departments under this programme.

Indian experience shows that competition and PPPs can help in improving infrastructure. The opening of the telecoms sector is a case in point. Opening up the sector has led to massive investments and expansion in supply coupled with improvement in quality. The target of 15 percent tele-density set for the year 2010 was realized in 2007. Further, the cost of service today is lower than that in any other country in the world. Similarly, competition in the aviation sector has resulted in the creation of new capacities and much greater choice for travelers. The annual growth in air traffic has been in excess of 20 percent and fares have dropped significantly. Even in the road sector, PPPs have demonstrated their efficacy wherever they have been used such as on the Jaipur-Kishengarh highway.

THE ROLE OF FDI IN INFRASTRUCTURE

The economic model followed by India after independence **Volume : 2 | Issue : 3 | March 2013 ISSN - 2250-1991** 240 X PARIPEX - INDIAN JOURNAL OF RESEARCH relied on import substitution and selective foreign capital inflow, both through portfolio investment and the Foreign Direct Investment (FDI) route. This changed radically with the liberalization measures post-1990. Both portfolio and Foreign Direct Investment were not only allowed but also actively encouraged. The Foreign Investment Promotion Board (FIPB) was created to approve FDI proposals speedily and in most sectors, particularly infrastructure.

The Reserve Bank of India gives automatic approvals for investments. During the decade of the nineties, the 'ceilings' on FDI in different sectors were progressively raised. From 2001, 100 per cent foreign investments were allowed in several industrial sectors. Currently, 100 per cent Foreign Direct Investment is allowed in almost all the infrastructure sectors. The

role of Foreign Direct Investment in an economy goes beyond simply easing financial constraints. FDI inflows are associated with multiple benefits such as technology transfer, market access and organizational skills. Consequently, there is an increasing and intense competition between countries to maximize the quantity of FDI inflows. Any successful policy for attracting FDI has to keep this competitive scenario in mind.

The Benefits of FDI Inflows can be broadly identified as:

Bridging the financial gap between the quantum of funds needed to sustain a level of growth and the domestic availability of funds. Technology transfer coupled with knowledge diffusion that leads to improvement in productivity It can thus fasten the rate of technological progress through a 'contagion' effect that permeates domestic firm.

FDI Inflows in India - Sectoral Analysis of Top 10 Sectors Sector-wise FDI Inflows in India from April 2010-Dec 2010

Sector-wise FDI Inflows (Rupees in Crores) Modes of Foreign Direct Investment in India

FDI can enter India through two possible channels:

- The automatic route under which companies receiving Foreign Direct Investment need to inform the Reserve Bank of India within 30 days of receipt of funds and issuance of shares to the foreign investor
- For sectors that are not covered under the automatic route, prior approval is needed from the Foreign Investment Promotion Board (FIPB)

Other determinants of FDI in Infrastructure

While a liberal 'entry' policy can go a long way in encouraging foreign investments in infrastructure, the willingness to invest in infrastructure projects has been restrained by a number of constraints across a number of economies. Thus, any successful strategy of attracting Foreign Direct Investment into these sectors will have to deal with these issues directly.

These are:

- **Subsidized prices:** In most developing countries, infrastructure services are priced below the cost of supply. Subsidies may be hidden as increasing arrears to the banking system or outstanding payments to State agencies (like State Electricity Boards). This undermines the financial viability of projects.

- **Mixed signals from different constituencies:** Many diverse groups with varying levels of influence on Government policy have a stake in the policy that affects private infrastructure operations. Consumers benefitting from subsidized prices may resent price increases associated with privatization. Managers and employees of public utilities are understandably concerned about their jobs. This often influences policy related to private infrastructure and affects the investment environment.

FDI Norms in Infrastructure Sectors

Automatic clearance for foreign investment (not requiring the approval of the FIPB) was first introduced for infrastructure sectors like power and roads

- **Loss of authority:** Governments are often reluctant to abdicate control over key sectors of the economy particularly where foreign ownership is involved. Most Governments do not have a strong record of regulating private industries because the public sector has been so dominant. This often results in rules prohibiting private entry into certain sectors, imposing limits on foreign ownership.
- Misunderstanding regarding what private involvement can offer and what investors require: Although private sector involvement does offer extra financing and the willingness to manage some risks (construction and operation risks), they are unwilling to bear risks that they cannot control (policy or regulatory risk).

GOVERNMENT POLICY FOR INVITING PRIVATE AND FOREIGN INVESTMENT

To encourage foreign funds flow into the infrastructure sector, the Financing Ministry has allowed Foreign Institutional Investors (FIIs) also to invest in unlisted companies. This was aimed at helping infrastructure companies as they would not be in a position to list their shares in the initial phase. FIIs now deploy 100 per cent of their funds in corporate debt. However, the Ministry has not dispensed with the 20 percent withholding tax on such investment as per the suggestions of the IIR report. Speaking at the World Infrastructure Forum, John Taylor, Director, Infrastructure, Energy and Financial Sector Department, ADB, emphasized that the “counter guarantee” scheme was designed to cover specific risks including “discriminatory government action of various kinds, non-delivery of inputs or non-payment for output by State-owned entities, availability of essential public services, changes in the agreed regulatory framework or tax regime, provision of essential complementary infrastructure, compensation or delays caused by government action or political uncertainty, transfer risks, foreign currency availability and convertibility.” In a bid to make the core sector attractive for FDI, the Cabinet Committee on Foreign Investment (CCFI) has modified the 49 percent cap on foreign equity in the infrastructure sector to render fund mobilization easier. This major policy decision which will indirectly raise the foreign equity investment in infrastructure sector to well over 51 per cent if a domestic partner fails to meet his commitment from internal sources, including borrowing, should help the large industrial houses. The new mechanism is designed to overcome the constraints for foreign equity cap in the infrastructure sector. Under the norms, companies operating in the sector can bring in equity through the mechanism of an investing company for the purpose of making investment in a licensee company and the service sector where there is a prescribed foreign equity cap.

CONCLUSION:

Provision of quality and efficient infrastructure services is essential to realize the full potential of the emerging Indian economy. Indian government’s first priority is therefore rising to the challenge of maintaining and managing high growth through investment in infrastructure sector, among others. Sustain 9 percent growth; the Government of India has estimated that an investment of over US\$ 515 billion during the 11th Five Year Plan (2007-2012) is required. Therefore, there is substantial infrastructure needs in infrastructure sector in India, which, in other words, also offers large investment opportunities. Public-Private–Partnership (PPP) is emerging as the preferred instrument, where the private sector gets its normal financial rates of return while the public sector partner provides concessional funding based on the long-term

direct and indirect benefits to the economy. New instruments such as Viability Gap Funding (VGF) through a special purpose vehicle (SPV) set up recently by the Government of India to fund mega infrastructure projects may be relevant for other Asian countries as well. The cross-border infrastructure component is an important determinant of regional integration. If countries are not inter-linked each other through improved transportation network, regional integration process will not move ahead at a desired pace. In India, development of cross-border infrastructure, especially transportation linkages and energy pipelines with neighboring countries is underway and expected to contribute to the regional integration in Asia by reducing transportation costs and facilitating intra-regional trade and services. Nevertheless, there are many challenges. It is important for India to enhance its overland connectivity with East Asia in order to effectively facilitate the Asian regional integration.

India's rising growth trajectory requires rapidly expanding infrastructure facilities to support it. The Government recognizes the fact that domestic resources alone may not be adequate to sustain the required expansion in infrastructure. Thus, it has followed a strategy to create incentives for Foreign Direct Investment. India, today, has an extremely liberal regime for FDI in terms of entry norms. International experience shows that there can potentially be a number of other barriers to the willingness to invest in infrastructure projects.

The Government has taken systematic initiatives to address these problems largely through comprehensive reforms in sectors like power and telecommunications. The combination of domestic private foreign investment and multilateral investments is likely to propel India's economic growth momentum in future.

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Questions:

1. Discuss the role of FDI in Indian Infrastructure sector-wise?
2. There is greater focus on infrastructure development during XII Plan with Public Private Partnership(PPP). How far Government succeeded in implementing Public Private Partnership Projects to improve the infrastructure?
3. "Slow down in the pace of infrastructure development in India during the last Plan periods resulted in the reduction of GDP growth rate". Critically examine the above statement with facts and figures.

Suggested reading:

1. Twelfth Five Year Plan: volume (economic Sectors) Planning Commission of India.
2. Economic Survey 2012-13, GOI Publication.
3. Infrastructure 2013: Ernest & Young.
4. Sixty Five Years of Indian Economy (2013): Chandra Sekhar Prasad, Himanshu Shekar.
5. Role of FDI in infrastructure Development of India: Ananth kumar, Tyagi, Achol Ravi.J and H.M. Joshi (A Research Paper Published in March 2013.)
6. Infrastructure statistics 2013 (CSO).

Annexure 1

Table: Equity FDI Inflows to India					
(Percent)					
Sectors	2006-07	2007-08	2008-09	2009-10	2010-11
Sectoral shares (Percent)					
Manufactures	17.6	19.2	21.0	22.9	32.1
Services	56.9	41.2	45.1	32.8	30.1
Construction, Real estate and mining	15.5	22.4	18.6	26.6	17.6
Others	9.9	17.2	15.2	17.7	20.1
Total	100.0	100.0	100.0	100.0	100.0
Equity Inflows (US\$ billion)					
Manufactures	1.6	3.7	4.8	5.1	4.8
Services	5.3	8.0	10.2	7.4	4.5
Construction, Real estate and mining	1.4	4.3	4.2	6.0	2.6
Others	0.9	3.3	3.4	4.0	3.0
Total Equity FDI	9.3	19.4			

(Reserve Bank Of India)

Annexure II

Foreign Direct Investment Flows to India: Country-wise and Industry-wise					
(US \$ million)					
Source/Industry	2008-09	2009-10	2010-11	2011-12 P	2012-13 P
1	2	3	4	5	6
Total FDI	22,697	22,461	14,939	23,473	18,286
Country-wise Inflows					
Mauritius	10,165	9,801	5,616	8,142	8,059
Singapore	3,360	2,218	1,540	3,306	1,605
U.S.A	1,236	2,212	1,071	994	478
Cyprus	1,211	1,623	571	1568	415
Japan	266	971	1,256	2,089	1,340
Netherlands	682	804	1,417	1,289	1,700
United Kingdom	690	643	538	2760	1,022
Germany	611	602	163	368	467
UAE	234	373	188	346	173
France	437	283	486	589	547
Switzerland	135	96	133	211	268
Hong Kong SAR	155	137	209	262	66
Spain	363	125	183	251	348
South Korea	95	159	136	226	224
Luxembourg	23	40	248	89	34
Others	3,034	2,374	1,184	983	1,540

Annexure III					
Sector-wise Inflows				(US \$ Million)	
Manufacture	4,777	5,143	4,793	9,337	6528
Construction	2,237	3,516	1,599	2,634	1319
Financial Services	4,430	2,206	1,353	2,603	2760
Real Estate Activities	1,886	2,191	444	340	197
Electricity and other Energy Generation, Distribution & Transmission	669	1,877	1,338	1,395	1653
Communication Services	2,067	1,852	1,228	1,458	92
Business Services	643	1,554	569	1590	643
Miscellaneous Services	1,458	888	509	801	552
Computer Services	1,647	866	843	736	247
Restaurants & Hotels	343	671	218	870	3129
Retail & Wholesale Trade	294	536	391	567	551
Mining	105	268	592	204	69
Transport	401	220	344	410	213
Trading	400	198	156	6	140
Education, Research & Development	243	91	56	103	150
Others	1,097	384	506	419	43
P : Provisional. Note : Includes FDI through SIA/FIPB and RBI routes only.					

(Reserve Bank Of India)

Annexure IV

The list of infrastructure sectors:

(Identified Infrastructure sectors by the Ministry of Economic Affairs in consultation with other regulatory bodies.)

S. No.	Category/sector	Infrastructure sub-sectors
1.	Transport	<ul style="list-style-type: none"> • Roads and bridges • Ports • Inland waterways • Airports • Railway Track, tunnels. Viaducts, bridges • Urban Public Transport(except rolling stock in case of urban road transport)
2.	Energy	<ul style="list-style-type: none"> • Electricity Generation • Electricity Transmission • Electricity Distribution • 'Oil pipelines • Oil/Gas/Liquefied natural Gas (LNG) storage facility • Gas pipeline.
3.	Water & Sanitation	<ul style="list-style-type: none"> • Solid Waste Management • Water supply pipelines • Water treatment plants • Sewage collection, treatment and disposal system • Irrigation (dam, channels, embankments etc) • Storm Water Drainage System
4.	Communication	<ul style="list-style-type: none"> • Telecommunication (Fixed network) • Telecommunication towers
5.	Social and Commercial Infrastructure	<ul style="list-style-type: none"> • Education Institutional (capital stock) • Hospital (capital stock)' • Three-star or higher category classified hotels located outside cities with population of more than 1 million. • Common infrastructure for industrial parks, SEZ, tourism facilities and agriculture markets. • Fertilizer (capital investment) • Post harvest storage infrastructure for agriculture and horticulture produce including cold storage. • Terminals markets • Soil-testing laboratories • Cold chain

