Chapter I

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THE COUNTRY AND ITS RESOURCES

India is the second largest country in the world in terms of population and the seventh largest in terms of area. With the exception of China, India has the largest consumer market in the world. India is the largest democracy in the world in terms of population. It has a parliamentary system of Government with center and state legislatures. The central government has jurisdiction over defense, communication, currency and banking, railroads and air traffic, international trade and foreign affairs. However, recently there is privatization of public sectors undertakings, air transport, banking, communication, oil exploration and electric power. The state governments have the primary responsibility for matters like education, health, local administration, agriculture etc.

India is rich in natural resources, having most of the raw materials needed for industry. Coal reserves are estimated at 1.25 billion tones and iron ore deposits are amongst the world's largest. India also has large deposits of high grade manganese ore lime stone and dolomite, all of which are essential for India's ever expanding steel industry. India's known reserves of petroleum are estimated at 470 million tones. Yet oil is not India's sole source of energy.

India continues to achieve remarkable progress in educating its population creating the third largest pool of scientific and technical personnel in the world. There is an abundance of both skilled and unskilled labor available at comparatively low wages, which is a vital factor for the growth and expansion of industry in the country.
Infrastructurally, India is in competition with the developed world. India's network of roads and railway system are amongst the largest in the world. In addition there are nine (9) international airports and 85 domestic terminals in the country. Air India, the official carrier provides service to over 50 countries. There are a number of private air taxis operators, providing air transport services to various destinations in India. In the direction of greater freedom, monopoly of Indian Airlines as the sole inland operator has been curtailed by repealing the Air Corporation Act, 1953. A number of private air taxi operators have acquired the status of private airlines.

India's commercial international banking facility is highly sophisticated. Aggregate deposits exceed Rs. 508 billion. Nearly all scheduled commercial banks are authorized by the Reserve Bank of India to undertake foreign exchange transaction.

India's well developed communication system includes international telephone service, teleprinters, telex, fax etc. The communication network has been assigned a high priority in India's development program.

These factors i.e., cheap labor, infrastructure facilities including communication, technical expertise, markets and new liberal policies of the government encouraging investment which are essential for the growth and development of industry provide excellent business opportunities to foreign investors, both in terms of investments and returns.

In addition, the fact that the official language of the government and business in English, is also considered a positive factor by foreign investors.
India's economy is in a process of fast development. It is now ranked as the tenth largest industrial nation in the world. India has a mixed economy in which both the state and the private sector have specific roles to play. India's five year plan has been formulated to set an order of priorities among public and private entities. The Eight five year plan for 1992 – 97 had envisaged rapid industrial development with an emphasis on technological dynamism and international competitiveness in selected sectors (e.g. steel, electronics, machine, and building). The emphasis is more on strategic and non-discretionary instruments of regulation.

Historically, the Indian economy was characterized as agricultural with few organized industries. India is now a leading industrial nation. Relying on its own resources it has recorded phenomenal industrial process and is now engaged in aiding the industrially less developed countries. Large investments continue to be made, enabling India to obtain technology and know how necessary in becoming a leading industrial power.

At the time of independence in 1947, India was importing even its basic requirements, including food. Today India produces a large variety of products varying from consumer goods to sophisticated electronic and electrical equipment, industrial machinery, machine tools, strips, aircrafts etc. India's achievements in the field of nuclear energy and space have won international recognition. India has set up joint ventures in a number of countries and
undertaken successfully several projects and contracts in Third World Markets independently or in cooperation with developed economies. Emerging Indian consultancy firms offer a complete range of services. With the radical improvement in the industrial climate, there exist even better prospects for industrial expansion.

**MEANING OF INFRASTRUCTURE;**

Infrastructure is a frequently used word, but there is no consensus in economic literature on its precise meaning. The term 'infrastructure' and 'social overhead capital' are often used interchangeably. In the international encyclopedia of social sciences (IESS), the SOC in 'narrow sense' refers to transportation, communication and power facilities. These are broadly the activities focused on by WDR. On the other hand IESS encompasses facilities such as education, health, maintenance of law and order, research etc, in the broad sense of SOC. These are the items generally included in the social sector in planning literature now a days. (Economic Survey)

Lewis. W. A. (1955)^2 includes public utilities, ports, water supplies and electricity in the definition of infrastructure.

Hirschman, A. O. (1959)^3 lists facilities for law and order, education, public health, transportation, communications, power, water supply, irrigation and drainage. Higgins, B (1959)^4 includes transports, public utilities, school and hospitals. The 1994 World Development Report(5) also recognize infrastructure as an umbrella for many activities referred to as SOC . According to it , the
Infrastructure includes services from (i) Public utilities—power, telecommunication, piped water supply, sanitation and sewage, solid waste collection and disposal, and piped gas (ii) Public works—roads and major dam, and canals works for irrigation and drainage (iii) Other transport sectors—urban and interurban railways, urban transport, ports and waterways, and airport.

Infrastructure is a necessary although not sufficient pre-condition for growth. Adequate quantity and reliable supply of infrastructure are the key factors which determine the competitiveness of industries and standard of living of the people. The availability of infrastructure may have a direct influence on the economy. For e.g., linking of a village by road and transport with a nearby urban center may lead to increased employment to the rural people in the nearby urban center, increased wage at the village level due to non-availability of labor and enables the rural producer to transport his product to urban center where he can get a higher price.

**TYPES OF INFRASTRUCTURE:**

The availability of adequate infrastructure is taken as the fundamental ingredient of development strategy. The availability of adequate transport facility, power, communication etc, is taken as essential precondition by any entrepreneur deciding on an investment project in any region. Similarly, the availability of skilled manpower and decent living condition is also important considerations in such location decisions. The concept of infrastructure has itself gone through changes over time. These changes reflect the deepening of the concept of
development and the process of economic development. There are three important aspects of the concept of infrastructure.

1. **Physical Infrastructure:** - Physical infrastructure refers to a set of facilities without which an integrated, independent modern economy could not function. It is composed of transport, power, telecommunication, and irrigation, where transport again can be divided into four major sub-sectors like railways, roads, waterways and aviation. Physical infrastructural facilities directly help in the production process.

2. **Social Infrastructure:** - The importance of human capital in the growth process is equally considerable as physical infrastructure. Human capital affects growth both through its changes on innovations and technological changes as well as increases in labor productivity. Social infrastructure is generally composed of health and educational indicators. This is a direct representation of the standard of living of the population which contributes to the income generating capability of the person concerned. Investments in the areas of health, education, water supply, housing etc. are included in it.

3. **Institutional Or Financial Infrastructure:** - This highlights the importance of institutions of governance and regulations as well as of agencies which facilitate the flow of information and investible resources. The importance of administrative systems, legal mechanisms, and public safety has long been recognized as important preconditions to growth and development. Banks and financial institutions mobilize capital help in
reducing risk and can assist information flows regarding a number of economic actions.

Thus, users demand infrastructure services not only for direct consumption but also for raising their productivity. It generates such economic activities that serve both as input and output to the rest of the economy. The very nature of infrastructure is such that it cannot be imported in any complete product form. It creates service for the smooth functioning of the production process, starting from the firm to the aggregate national economic activity.

INFRASTRUCTURE DEVELOPMENT REQUIRED FOR ECONOMIC GROWTH

For any economy to grow rapidly, development of infrastructure is very essential. It is a necessary condition for achieving sustained economic growth over a longer period of time. The World Bank, selected infrastructure as the focal theme for the World Development Report in 1994 and examined the link between infrastructure and development. Huge researches in recent years have been devoted to link aggregate infrastructural spending and growth of GDP (Uchimura and Gao, 1993). Many of these studies have concluded that the role of infrastructure in growth is substantial, significant and frequently greater than that of investment in other forms of capital. Many other studies in the United States suggest that the impact of infrastructure investment on economic growth represents up to 60 percent rate of return. The nature and rate of growth of infrastructure determine the possibility of development of a country, diversification of production, expansion of trade, control of population growth, alleviation of poverty and
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protection as well as improvement of conditions of environment. Creation and application of appropriate arrangements of facilities of infrastructure are needed for economic development and social upliftment.

URBAN AREAS AND INFRASTRUCTURE DEVELOPMENT:-

A large section of urban planners and policy makers believe that there are no serious urban problems in the country. On the other hand there exist a variety of solutions. All that is needed to restructure the system of governance is in a manner that these solutions can be implemented. Rapid population growth and low investment in urban development have created a serious deficiency in the availability of infrastructure and basic amenities in the towns and cities of the country. The rate of capital formation for this purpose has been extremely low during eighties.

The metropolitan and other large cities are expected to make capital investments, besides covering the operational costs for various infrastructural services. Most of the development projects are to be undertaken through institutional finance rather than budgetary support. Budgetary resources for meeting the growing demands of urban infrastructure are inadequate. Urban infrastructure is a state subject; however the Central Government provides policy guidelines for housing programs for target groups and supplements State Government efforts by assisting them in mobilizing institutional finance. A part from budgetary support extended by Central and State Governments, the major agencies involved in financing urban infrastructure are HUDCO, LIC and
infrastructure leasing and Financial Services Ltd. (II-$FS). HUDCO sanctioned Rs. 1678.67 crore for urban infrastructure schemes (as on October 31, 1999).

Recently, HUDCO has taken a number of new initiatives for provision of urban infrastructure. It has promoted projects that are innovative in content and pioneering in nature that could be extensively replicated in other urban areas. HUDCO's recent major initiative has been to create a synergy between technology, finance and subsidy provided by various ministries, soft loans provided by financial institutions and technology promoters on a common platform through measures like single window clearance, joint appraisal and monitoring of projects.

RURAL AREAS AND INFRASTRUCTURE DEVELOPMENT:-

The major items of infrastructure as identified in the planning process include irrigations, power, transport, communication, education, health etc. Within these major heads, there are sub-items of rural infrastructure, which have direct bearing on agriculture development. For e.g. it is not only the availability of total power in the states, but equally important is its access to the villages and then to the agriculture. Similarly, source of irrigation is equally important as the irrigation itself. The major sub-items of infrastructure include –

(i) Proportion of villages electrified
(ii) Percentage of power used in agriculture.
(iii) Percentage of irrigated area.
(iv) Intensity of tube wells.
(v) Density of rural roads.
(vi) Intensity of transport vehicles.
(vii) Fertilizer sale depot.
(viii) Rural credit as reflected by intensity of rural commercial banks.
(ix) Rural health as reflected by intensity of beds in rural hospitals.
(x) Rural infant mortality rate.
(xi) Intensity of wholesale markets.
(xii) Storage facilities
(xiii) Intensity of agricultural extension workers.
(xiv) Agricultural research/scientist.

If agricultural growth is to be stepped up, there is a need to raise investments in agriculture, especially in power, surface irrigation and rural roads, all of which are generally in the public sector domain and in the states sector. However public sector investments in Indian agriculture have been declining in real terms since 1980 – 81. Private sector investment in agriculture has been increasing, partly in response to improving terms of trade, but even this has slowed down in recent years. Parikh, K. S. (1997) noted that in India states are in serious financial crises and there is urgent need to undertake major investments in social sectors and rural infrastructure but the states ability to undertake such investments have stagnated or declined. Private investment is not a substitute for public investment in all areas. Additional public investment in critical areas of agricultural and rural infrastructure is crucial and private investment would go up further once investment in such rural infrastructure picks up.
Thus, economic development and social upliftment are said to be ideal if there occurs simultaneously regional balance, sectoral balance and equitable distribution of income and wealth. Since nearly 80 percent population of India live in villages, there should be assignment of priority on creation and maintenance of infrastructure in villages. This will help complete transformation and development of rural society and economy. It will largely solve the problems and poverty unemployment and inadequate realization of minimum needs.

GOVERNMENT POLICY ON INFRASTRUCTURE DEVELOPMENT:-
After the new economic policy both foreign and private sectors are fully in the operation in the Indian economy. The matter is that infrastructure is still the responsibility of the govt. sector. The shortage of the infrastructure and lower rate of investment and underproduction of goods and services relating to infrastructure has become the main cause of concern for the economic planners, thinkers and as well as economic administrators. In a developing country like India, Infrastructural facilities are generally weak and inadequate. Many people, especially the rural poor, and areas do not have access to even minimal infrastructure services. If the nation aspires to attain maturity in economic growth, it must give a big push to the upliftment of the network of physical infrastructure like energy, transport etc. It is also observed that the economy could not grow and the needs of the people couldn’t be met without more capacity in power, oil, telecom, railways, roads and ports. In view of the large financial requirements, the government acknowledges that the state and public investment have a
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leading role to play in the development of infrastructure. The government of India
appointed an expert group under the chairmanship of Rakesh Mohan to consider
issues relating to commercialization of infrastructure projects which submitted its
report in June 1996. The group has defined a role for private public participation
in the required infrastructure and recommended that the government could adopt
the venture capital route where the government and initially be the major share
holder and upon completion and attaining viability of projects, it could disinvest
and invest elsewhere. As a follow-up of the report, the infrastructure
Development Finance Company (IDFC) has been set up to promote infrastructure
investment with the central government and the Reserve Bank of India as chief
contributors to its share capital (RBI 1996 – 97). The national Agenda for
government, 1998 has also indicated infrastructural development as a thrust area
particularly energy and power sectors for recommencing public expenditure in
this sector, which would increase access to long term funds in the national and
international markets, remove administrative bottlenecks and reserve the
slowdown in this critical area of national economy. The adequacy of
infrastructure in any sector is in terms of level of production and diversifying the
sector. The experience across the world has shown the increase in stock of
infrastructure is associated with the increase in output across the countries. As
countries develop, infrastructure must adopt to support the changing patterns of
demand as the share of power, roads, telecommunication in the total stock of
infrastructure increases relative to the basic services such as irrigation etc.
India has a large and fairly well developed infrastructure framework extending to all parts of the country. However certain areas like power, telecommunication, transport etc. further expansion and modernization. And, the public sector alone can no longer fully finance the requirements. The 1998 – 99 Budget announced by the NDA government has given a major thrust to infrastructure development, particularly in energy and power, transport and communications, by stepping up public expenditure in these sectors. This increased government spending on infrastructure is expected to boost India’s sluggish economy. The lack of a clear policy framework for private sector participation has hampered the badly-needed infrastructure development particularly in telecommunication, power, roads and ports. The public sector, which led the investment in infrastructure development until recently, has reduced its investments considerably, primarily due to its poor fiscal position.

IDFC:-
The established in 1997, is a specialized financial institution, set up to provide credit enhancement to infrastructure projects, and to extend long term loans and guarantees that existing institutions may not be able to provide. IDFC provides loans and guarantees worth dollars 17 million to five projects. The Asian Development Bank and the International Finance Corporation are shareholders for infrastructure projects have been developed by the IDFC and the Power Finance Corporation (PFC). At the state level, the PFC is primarily focused on public sector projects, while the IDFC concentrates on the private sector. In the
recent budget, the government proposed giving IDFC incentives and benefits available to other public financial institutions.

**AIRPORTS:-**

India currently has 5 international and 88 domestic airports. The annual growth rate in airline passenger traffic for the period 1997 – 2000 is expected to be about 7 percent for international travelers and 10 percent domestic, reaching a total of around 60 million passengers per year by the turn of the century. Along with this, air cargoes are expected to grow at least 12 percent annually to close to 506 million tons by 2000.

The air corporation Act, 1953, repealed on March 1, 1994 ended the monopoly of Indian Airlines and Air India over scheduled Air Transport Services. Private operators who were operating as air taxis, have been granted the scheduled airlines status. In addition, 21 air taxi operators have been given the permit for charter / non scheduled air transport services.

India’s airports are in urgent need of modernization in equipment and services, terminal, technologies and transport facilities. Specific investment opportunities include:

- Expansion of import and export wings at international airports.
- Building of new, integrated cargo and air freight terminals.
- Building of common user domestic terminals at all international airports.
- Introduction alleviating transfer vehicles with stacker systems.
Introduction of electronic data interchange at all airports to enable handing of international cargo.

PORTS:

India has 11 major ports in the country apart from 139 minor working ports along the coast line of 5550 km. India’s 11 major ports, which account for over 90 percent of the country’s port traffic, handled a record 251.44 million tons of cargo during IFY 1997 – 98, an increase of 10 percent over IFY 1996- 97, port traffic has been growing by 9 to 10 percent annually, and expected to reach 424 million tons by 2002. To decongest the ports a plan, with an outlay of Rs. 17000 cr., has been drawn in the 9th plan. It also aims to increase the major ports capacity to 424 million tons per annum from the existing 215.3 million tons.

To meet the huge gap between demand and availability of port capacity, private and foreign investment in ports is being encouraged by the government which issued guidelines liberalizing the sector in October 1996. As part of its port revival plan, the government has decided to lease out port assets to private companies at attractive terms to generate more revenue. Ministry of surface transport is also planning to incorporate the 11 major ports, and thus announced a port investment plan of dollars 7.6 billion for 21 projects in those major ports. Ports capacity is to be increased from the current level of 215 million tons to 850 million tons by 2012.

The guidelines approval for foreign investment has been liberalized to allow:
→ Automatic approval for foreign equity participation up to 74 percent in construction of ports and harbors.

→ Automatic approval for foreign equity participation up to 51 percent for support services such as operation and maintenance of piers, loading and discharging of vessels.

POWER:
The power sector is high on India’s priority as it offers tremendous potential for investing companies based on the share size of the market and the returns available on investment capital. Since independence in 1947, the power generating capacity in India has increased over 59 fold, from 1362 mega watts (mw) to 8100 mw in 1995. Presently thermal plants account for 74 percent of total power generation, hydro electric plants for 24 percent and nuclear plants generate the remaining 2 percent. Currently approx. 85 percent of India’s 560,000 villages have electricity and there is a nationwide network for the transfer and distribution of power to all parts of the country.

The central government has identified a number of new initiatives to give a new thrust to the power sector. The government has agreed to set up a Power Trading Corporation, which would be centralized agency to trade in power. The proposed corporation could purchase power from large projects and trade in it at the interstate level.

In view of the paucity of resources and the need to bridge the gap between the rapidly growing demand and supply. The government has undertaken a policy to
encourage greater investment by private enterprises in this sector. Incentives include:

→ Generation and distribution of power projects of any type and size are allowed.

→ Foreign equity participation can be as high as 100 percent.

→ Return on equity of up to 16 percent is assured at 68.5 percent PLF for thermal power plants (with possibility of earning higher return for higher PLF). Similar incentives are provided for hydro electric power projects.

→ A renewable license period of 30yrs has been set.

→ Import duty at the confessional rate of 20 percent has been set for import of equipments.

→ The government allows a 5 year tax holiday for power generating projects with an additional 5 years in which a deduction of 30 percent of taxable profit is allowed.

RAILWAYS:

Indian railway is the second largest system in the world under a single management, with an extension network of 62,725 km, 21.5 percent of which is electrified. Indian railway operates an extensive network. It ranks 2nd in the world (After China) in terms of freight intensity, track to land ratio, wagons, to track, ratios, passengers and cargo. Freight traffic carried in IFY 1997 – 98 was 430 million tons, up 5.5 percent over the previous years. The target of IFY 1998 – 99 was 450 million tons and an annual growth rate of 7.4 percent had been
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Projected for the next five years. Indian Railway has launched a program to reduce terminal delays and turn around time of its ruling stock. The program aims at increasing freight carrying capacity by 50 percent through continual usage of wagons. Indian railway is also soliciting private sector participation in freight movement through a Build-Own-Operator-Transfer (BOOT) scheme and a Own-Your-Wagon-Scheme (OYWS).

Thrust areas identified for improvements and expansion includes:

- Replacement and renewal of over-aged assets.
- Augmentation of terminal and rolling stock capacities.
- Gauge conversion and electrification.
- Introduction of new routes and long distance special parcel services.

ROADS:

India’s road networking covers 2.9 million km, the third largest in the world, with only 34,298 km of national Highways suitable for speedy transportation. Though it constitutes less than 2 percent of the total road network, it carries more than 40 percent of the traffic. According to government estimates, by the year 2000 road traffic will account for 87 percent and 65 percent of passenger and goods traffic, respectively, compared with 80 percent and 60 percent at present. About 20 percent of the NH need widening from single to double lanes, and about 70 percent of two lane roads have to be strengthened. Selected corridors on NH need conversion into Expressway.
The government is looking for both private investment and foreign to build national highways and their maintenance. The NHAI (National Highway Authority of India) received a budgetary allocation of $56 million in the Indian financial year 1997–98. Private parties investing funds in identified projects will be permitted to recover their investment by way of collection of tolls for specified periods. At the end of the agreed period, the facilities will revert to the government provisions relating to foreign investment in the road sector have also been considerably liberalized and include:

→ Automatic approval for foreign equity participation up to 74 percent in the construction of roads and bridges.

→ Automatic approval for foreign equity participation up to 51 percent in land transport support services such as operation of highway bridges, toll roads and vehicles.

→ Land required for construction and operation of facilities will be made available by the government free from encumbrances.

→ Five year tax holiday with subsequent deductions of 30 percent for the next five year.

Duty free imports of road building machinery are now permitted in order to attract more private investment. Banks and FIs have cleared a draft model concession agreement for road projects, which incorporates project, specific traffic guarantees. It also envisages safeguards for both investors and the NHAI. The government has decided to offer sovereign guarantees on all new multilateral
loans in the road sector which are routed through NHAI, which will aid in NHAI in securing additional funding.

**SHIPPING:**
Overseas shipping has an extremely important role to play in India's international trade. The country has the largest merchant shipping fleet among developing countries and ranks 15th in the world in shipping tonnage. The fleet strength at the end of December, 1996 was 484 vessels of 7.05 Gross Registered Tonnage.

A new shipping policy was initiated in 1990–91 to promote the development of Indian Shipping. Since then several policy reforms have been made in conformity with the liberalization of the economy, including: automatic approval for the acquisition of ships, permission to retain sale proceeds for reinvestment, relaxation of Cabot age Laws for container ships and lash barges, and decontrol of freight and passenger fares to promote coastal shipping.

Several incentives for investors introduced are easing of controls on the acquisition and sale of vessels, foreign investment is permitted, and facilities at part with 100 percent export oriented units (Eons) are available for the ship repair industry.

**TELECOMMUNICATION:**
India operates one of the largest telecom networks in Asia, comprising over 21,328 telephone exchanges with a capacity of over 15 million lines and 12 million working connections. The network has been growing at annual rate of
21.6 percent and is expected to expand to over 24 million lines by the turn of the century. However, there is scope for much improvement as even today three of every four villages have no telephone service, and only 5 percent of India's villages have long distance service.

The entire telecom equipment manufacturing industry has been de-licensed and de-reserved, with the deregulation of the economy in July 1991. The National Telecom Policy of 1994 opened up the area of basic telephone services to private sector participation. The tremendous response of global telecom giants, in joint ventures with Indian companies, resulted in perhaps the most competitive bidding for telecom services witnessed anywhere in the world. In August 1995, the Lok Sabha passed a bill amending the Indian Telegraph Act 1885, paving the way for setting up a Telecom Regulatory Authority of India (TRAI). The TRAI has well defined functions, responsibilities and power to function as the Watchdog of the telecom sector. The terms of reference inter alia include standard setting, price regulation, ensuring technical compatibility among different service providers, facilitating revenue sharing arrangement between the DOT and private operators and fixation of access charges.

Specific government reforms include:

$\rightarrow$ Value added Services (VAS), including cellular mobile telephones, radio paging, electronic mail, voice mail / audited services, videotext services, data services, video-conference and credit card authorization services, was opened for private sector participation in 1992.
Maximum foreign equity of 49 percent has been permitted in the case of a basic services cellular mobile, radio paging, VSAT and other wireless services.

51 percent foreign equity is allowable in other value added services, including e-mail, voice mail, on-line information, database retrieval and data processing, enhanced / value added facsimile services.

STATEMENT OF THE PROBLEM:-

There is a crisis of infrastructure in our country. There is a need to search "economics of infrastructure in India". We adopted an economic path in which without infrastructure rapid and higher economic development is next to impossible. Economics of infrastructure should be treated as a separate and modern branch of economics. The economics of infrastructure deals with a school of thoughts namely economic and social infrastructure. Infrastructure deals with economic, social, and human development. As Indian circumstances, problems and prospects are quite different compared to other countries of the world, we need to study economics of infrastructure in Indian context. There are problems of finance, profitability, administrative hurdles, mismanagement, misdirected planning and implementation etc. there is a need to find out best alternative solution.
SCOPE OF THE STUDY:-

To produce efficiently, to export competitively and to use resources effectively, it is essential to improve the infrastructure. Many countries of the world have already introduced a major infrastructure sector reform programs in the form of privatization, competition and deregulation.

Infrastructure is still the responsibility of government sector. The shortage of the infrastructure and lower rate of investment and underproduction of goods and services relating to infrastructure has become the main cause of concern for the economic planners, thinkers and as well as economic administrators. There is need to change in whole strategy, direction and nature of economic development. We should put more stress on social, human and natural infrastructure development. We should think over infrastructure less or less-infrastructure oriented development strategy through decent realized industrial development by tiny, cottage, rural and agro based industries.

OBJECTIVES:-

In the light of survey of literature, the following are formulated as the objectives of the present study:

1. The principle objective of the study is to investigate the nature of infrastructure facilities available in the states of India in an intemporal framework.
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(2) To produce efficiently, to export competitively and to use resources effectively, find the methods / measures for the improvement of infrastructure.

(3) To find out infrastructural development and economic growth of major states in India.

(4) To study the investment patterns of infrastructure sector during pre and post reform period and to analyze the impact of new economic policy on the contribution of this sector in the growth and development process of GDP of the country.

(5) To analyze the impact of effective infrastructure sector on the development of India’s economy.

(6) To analyze the causes of poor performance of this sector in the country and to study about the new opportunities and initiatives.

(7) To enlist the major policy reforms taken in infrastructure sector after the initiation of economic liberalization.

METHODOLOGY USED IN THE STUDY:-

In order to achieve above mentioned objectives, a simple and basic statistical tools like Mean, Standard Deviation, (S. D.), Coefficient of variation (C.V.) and Correlation Coefficient (r) are carried out primarily with the help of secondary data available from the different issues of economic survey, central budget and state finances.
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The performance of various states of India is being presented with the help of compound growth rates of NSDP, PCNSDP, expenditure on energy, and expenditure on transport & communication, in different periods.

The performance of Gross Domestic Product and Gross Domestic Investment of the different sectors of India can be understood with the help of compound growth rates of GDP and GDI in different periods.

PERIOD OF THE STUDY:-

To analyze the expenditure patterns of different states of India, a period of 1996-97 to 2007-08, is considered. Due to the non-availability of data of few the years; only the period of ten years is taken in the study. To analyze the investment pattern of infrastructure sector, a period of 25 years, i.e. 1980-81 to 1990-91 as pre-reforms period and 1990-91 to 2005-06 as post-reforms period, is considered.

SOURCES OF DATA:-

The present study mainly relies on secondary data obtained from the publication of the Directorate of Planning and statistics, government of different states, the Annual Report of the lead Banks of different states and various reports of CMIE (Center for Monitoring Indian Economy) published time to time. The information presented in CMIE is sourced from official publication issued by various ministries, which covers the entire network.
For collecting the investment records the main consistent source is National Accounts Statistics (NAS) brought out by the Central Statistical Organization (CSO).

LIMITATIONS:-
The data available for the study are subject to few limitations which are as follows -

- Lack of the uniformity of the measuring units of the data available.
- Lack of the relevant data regarding outcomes of the sector as percentage of GDP.
- Lack of the data on constant prices.
- Non availability of data, especially of few states, for e.g. Assam, Bihar, Karnataka, Meghalaya, regarding expenditure on energy sector.

PLAN OF THE STUDY:-
The whole study has been divided into six chapters-

Chapter I provides a general introduction about the study.
Chapter II reviews the related literature.
Chapter III analyses the investment behavior on infrastructure sector in pre and post reforms period.
Chapter IV attempts to study the infrastructure development of Major States of India.
Chapter V is devoted to the study of infrastructure financing & insurance and the major players in this field in India.

Chapter VI Summary of findings with the concluding remarks is presented.
REFERENCES:-