CHAPTER - 2
THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE

Infrastructures are basic essential services that should be put in place to enable development to occur. Socio-economic development can be facilitated and accelerated by the presence of social and economic infrastructures. In the absence of these facilities and services, development will be very difficult and in fact can be likened to a very scarce commodity that can only be secured at a very high price and cost. The provision and development of infrastructures has been the subject of much theoretical analysis and empirical studies. In this study, following theoretical approaches have been analyzed.

Theoretical Framework: Strategies of Development:

Doctrine of Unbalanced Growth:

According to the theory of Unbalanced Growth by Albert O. Hirschman, no Low Development Country has sufficient endowment of resources as to enable it invest simultaneously in all sectors of the economy in order to achieve balanced growth. Balanced growth is a doctrine previously advanced by Rosenstein Rodan in his 1943 article on “Problems of Industrialization of Eastern and South-Eastern Europe” and developed by Ragnar Nurkse in his important study of Problems of Capital Formation in Underdeveloped Countries.
Developing Rostow’s leading sector thesis, Hirschman maintains that “investments in strategically selected industries or sectors of the economy will lead to new investment opportunities and so pave the way to further economic development”.

Hirschman identified convergent and divergent series of investments. Convergent series of investments are those projects that appropriate more external economies than they create while divergent series create more external economies than they appropriate. Jhinghan says that development policy should aim at the prevention of convergent series of investments and the promotion of divergent series. Thus, for development to take place, a deliberate strategy of unbalancing the economy should be adopted. “This is possible by investing either in social overhead capital or in directly productive activities. Investment in social overhead capital is advocated not because of its direct effect on final output, but because it permits and in fact invites directly productive activities to come in… Some social overhead capital investment is required as a prerequisite of directly productive activities investment”.

In India, Russia and Nigeria, to mention a few countries, this growth strategy of massive investments in such social overhead capitals as power, irrigation, transport, communications, energy, education and health has been pursued.
The Wage-Goods Strategy:

The wage-goods strategy of development was formulated by C.N. Vakil and P.R. Brahmanand in a book titled Planning for An Expanding Economy in 1956. Their strategy is an “extension of the Nurkesian thesis of concealed saving-potential in rural disguised unemployed” in Low Development Countries.

Vakil and Brahmanand felt that an effective use could be made of the ‘saving potential’ by employing the disguised unemployed at the project sites by supplying them with wage-goods defined as “consumption necessities required for subsistence and performance of work”.

Capital goods required for the production of these wage-goods should be accorded priority in production and the supply of wage-goods plus capital goods needed for their production must grow at a considerably higher rate than the growth rate of population to absorb the disguised unemployed”.

The implementation of this strategy embraces starting economic overheads in rural areas, investing in them, providing wage-goods to workers and mobilization of savings. Even though this strategy was formulated for India, it is an attempt to build an analytical scheme for solving the triple problems of unemployment, poverty and inequality. It is akin to the concepts of Community Development and Integrated Rural Development.
In this view, this strategy can be generalized as: Development requires the mobilization of surplus labour to generate both urban and rural capital in the form of social infrastructure.

**Vent for Surplus Theory:**

This model was developed by Hla Myint. Since countries generally operate inside their production possibilities curve, they are producing at less than full capacity. Thus, under capacity utilization of resources, especially labour is a major characteristic of countries, especially Low Development Countries.

The logic is that the unemployed resources can be mobilized to produce goods and services, both public and private, to push the economy closer to, or on its production-possibility frontier. In this way, growth can be promoted through a more efficient utilization of societal resources.

Within the context of this study, the vent for surplus is in the form of mobilization of surplus labour, the open and the disguisedly unemployed; to expand the stock of economic and social infrastructures in the less developed economies, especially. Civic works by the military can also be viewed from this perspective.

**Privatization and Commercialization Theory:**

Privatization and commercialization strategy is a latter-day form of the classical laissez – faire policy or strategy of development. The concept embraces
deregulation of the economy so as to encourage private initiative and boost productivity and efficiency.

The key elements are the “disengagement of government from the ownership of hither to state-owned enterprises (SOEs) and the concomitant sale of such to private entrepreneurs”. The organized private sector becomes the driving force or the engine of development and growth while the government’s role is reduced to that of a catalyst responsible for the creation of an enabling environment for the growth of the economy.

From a global perspective, this is a strategy of development through a more efficient pattern of resource allocation by a free interplay of market forces. Deregulation encourages competition and in this way, a greater quantum of economic and social overhead capital or infrastructures will be built up in a more efficient and competitive market environment.

This is the strategy of the new millennium as governments try to shed their economically inefficient and unproductive overloads to generate more revenue from the sale of the state-owned enterprises. This, expectedly, would enable the governments, especially LDC governments, to reduce their public expenditures, generate more revenue and balance their budgets, at least. The disposal of the economic infrastructures and parastatals would enable these governments to focus more attention to and fund more adequately the social parastatals and infrastructures that create substantial external economies through the provision of public goods such as health, education, sanitation, portable water, etc.
The Role of Social Infrastructure:

Social infrastructure has enormous externalities. Education and health are social goods in which social marginal productivity (SMP) exceeds private marginal productivity (PMP). Therefore, private investment capital in such social infrastructure is likely to fall far short of what is needed. In that case, it is imperative for the state to provide the finance and other complementary resources for the take-off of such social infrastructural projects. The state does not necessarily have to operate or manage a social infrastructure, but it is necessary for the state to provide guidelines for and monitor its operation.

Education is a very important source of economic growth as the Denison study shows. Even though education may be a social investment, it is also an economic investment since it enhances the stock of human capital. Denison’s conclusions on the economic contribution of education may be summarized in his own words: From 1929 to 1957 the amount of education the average worker had received was increasing almost 2 percent a year, and this was raising the average quality of labour by 0.97 percent a year, and contributing 0.67 percentage point to the growth rate of real national income. Thus, it was the source of 23 percent of the growth of total real national income and 42 percent of the growth of real national income per person employed.

Despite the controversies surrounding the contribution of human resource development to economic growth, it is clear that “programs of human resource
development must be designed to provide the knowledge, the skills, and the incentives required by a productive economy”.

“Human resource development may be a more realistic and reliable indicator of modernization or development than any other single measure. It is one of the necessary conditions for all kinds of growth – social, political, cultural or economic”. Thus, economic development is not possible without education and investment in human capital which is highly productive.

Jhinghan quotes Galbraith as concluding that “something is both a consumer service and a source of productive capital for the society does not detract at all from its importance as an investment. Rather it enhances that importance”.

Therefore says Jhinghan, “it devolves on the state to initiate a long-term programme of educational expansion and reform on a broad front stretching from a literacy drive to the university level, so that in all branches of national life education becomes the focal point of a country’s development”.

The deregulation of the educational sector to allow for private sector participation is a trend in the Low Development Countries. It has long been so in the developed economies of Europe and North America. It has the potential of augmenting the number of educational institutions thus enhancing the capacity of the system to meet the adequacy and accessibility requirements of the society. However, affordability of privately – provided education is elusive to the vast majority of citizens and, as such, public education at all levels is an imperative need.
While public education cannot be free if it is to be qualitative, reasonable user-charges can be imposed in public educational institutions with governments at all levels, local, state and federal standing ready to award full or partial scholarships to the needy.

The role of education as a social infrastructure and as a stimulant of growth and development can be enhanced only if it is qualitatively provided. Qualitative education is a major determinant of the stock of human capital. A less developing economy needs professionals in all sectors to accelerate the growth and development of such sectors. In fact, UNESCO recommends a minimum of fifteen percent of national expenditures on education. Some advanced countries spend more than 5% of their GDPs on education and yet, education still remains in the front burner of national debate on their development priorities.

Health, like education, is a very important argument in the socio-economic production function. A popular adage says that a sound mind usually resides in a healthy body. Health is one of the major determinants of labour productivity and efficiency. Again, since health as a social good provides externalities, large-scale health facilities can only be provided with public resources.

Public health deals with the environment in which economic activities take place. If that environment were conducive, it would be permissive of accelerated growth and development. “Public health measures include the improvement of environmental sanitation both in rural and urban areas, removal of stagnant and polluted water, slum clearance, better housing, clean water supply, better sewage
facilities, control of communicable diseases, provision of medical and health services especially in maternal and child welfare, health education, family planning and above all, for the training of health and medical personnel”.

The Human Development Index (HDI) of the United Nations Development Programme (UNDP) was devised in the early 1990s to measure the level of human deprivation and development. The HDI ranges between 0 and 1. An HDI of less than 0.5 implies a low level of human development while 0.5 < HDI < 0.8 implies medium level of development. An HDI > 0.8 implies a high level of development.

The HDI is an average or aggregative index concealing a great deal of regional, gender, ethnic and social disparities. This means that human conditions in some regions of the country are worse than that painted above. This requires a lot of policy focus and attention and an application of a significant and rising proportion of the country’s national expenditures to the formation of social infrastructural capital.

**Empirical Studies:**

The role of social infrastructure is a very wide and controversial issue that has been the subject of numerous empirical studies. In this study, a limited one confined to an overview of relevant empirical work contained in Aigbokhan.10

**Basic Infrastructural Studies:**

Aigbokhan submits that studies have found that as an economy grows, its infrastructural capacity grows. That is, infrastructure capacity grows step by step with economic output”.
Aigbokhan, in his own study on “Infrastructure, Private Investment and Economic Growth”, adopted an extended Cobb-Douglas production function and regressed output on each of six infrastructural components, introducing each of them at a time. These 7 infrastructural components are transport and communications, agriculture and water resources, electricity generation, electricity consumption, education and health care. His regression results, using OLS method with annual data covering the period 1980 – 97, show that the model has a good fit with adjusted R2 of 0.98 – 0.99, and that the six infrastructural components are all positively correlated with GDP, with varying levels of significance. The author also found that “human capital components of infrastructure appear to have impact on growth. Expenditure on healthcare and education record statistically insignificant impact on growth”. He avers “the fact that the variables have positive correlation is however encouraging as it suggests that if efficiently applied, public spending on the services is capable of impacting positively and strongly on growth. The least significant of the variables is agriculture and water resources.”

The author concludes that “to promote investment- led growth, the type enunciated in government budget statements, there would have to be adequate funding of infrastructure both to create new capacities as well as maintain existing capacities”.

Social Infrastructure plays a crucial role in the development of nations, whether developed or still developing. They provide the basic foundation on which the superstructure of development and growth can be erected. Obviously if the
foundation is weak and fragile, it is doubtful that any superstructure can be built on it. Such will be a pipe dream.

However, if the foundation is very strong, any structure built on it, simple or super, is likely to provide continuous and stable services for the foreseeable future. Once the economic and social infrastructural foundation is strong, development is not only easily attainable but it is also continuous, stable, quantitative and qualitative. In Rostowian language, a take-off into self-sustaining growth is not only possible but it is also sure and cumulative.

**Infrastructure and Economic Development:**

Infrastructure acts as wheels of economic activity and it is the main criterion to economic development. To Ragner Nurkse, Albert Hirschman and Myrdal, infrastructure is the main vehicle for economic development. These linkages lead to growth and hence greater positive linkage means more development. In general the development economist Paul Rosention Rodan analyses infrastructure as Umbrella term for many activities referred to as social over head capital, though Hansen divides public infrastructure as Economic overhead capital and Social overhead capital. Economic overhead capital is oriented primarily towards the direct support of productive activities or movement of economic goods. Social services aimed at enhancement of human capital are termed as social overhead capital. As Armstrong and Jim Tailor has pointed out that utilization of social overhead capital results in reduction of regional disparities. Economic Development and infrastructure shows a
direct and positive relationships which well acknowledged by the World Development Report 1994.15

Infrastructure represents the wheels of economic activity and itself a component of the capital stock of a society. As such increase in it adds to the stock and, thus, promotes development. In this context, both the economic overhead capital and social overhead capital constitute the basic facilities for overall development of an economy.

A relationship between infrastructure development and economic development of a country has long been recognized. Infrastructure development may affect production and consumption directly and create many positive and negative externalities. Moreover it involves large flows of expenditure which have a direct impact on the budget and the balance of payments.

Infrastructure has strong forward and backward linkages within the economy. It affects economic development process both at production and consumption levels. In the case of production, it contributes to economic growth in various ways such as by reducing input costs, by increasing the productivity of other factors like capital and labour, by providing more job opportunities and by attracting foreign and local investment. At the consumption level, it contributes to the quality of life of households through providing clean water, sanitation, electricity, transport and communication facilities which increase the real income level of households on the one hand and to help to reduce environmental pollution on the other.
There is a positive relationship between infrastructure investment and economic development. This relationship suggests that infrastructure has a high potential pay off in terms of economic growth. The importance of infrastructure has been generally taken as self-evident. It has been repeatedly emphasized that provision of adequate quality infrastructure is a pre-requisite for accelerated economic development.

The functions of infrastructure is to release latent productivity in the factors of production singly and in coordination and bring about not only an increase in the output of individual factors and units of production but also a mutually additive effect through coordination in inputs, outputs, and space and time and thus maximize the overall rate of economic growth.

The role of infrastructure some times varies with the stages of economic growth. The link between infrastructure and economic development become more prominent when public investment on infrastructure construction and maintenance become a valuable policy tool to provide economic stimulus during recessions. It can also be an instrument for employment and intensive economic growth, if non-negotiative quality and cost effectiveness are maintained with labour base approaches to infrastructure development. Wisely deployed investments helps in overcoming fiscal constraints and cut back in infrastructure developed. Further, the least cost approach to improve the supply of infrastructure should be followed by inter regional integration of infrastructure networks, so that efficient policies can be well drafted.
The effectiveness of infrastructure investment i.e. whether it provides the kind of services valued by user varies according to its quality, quantity, and reliability, supplying to the demanded mask is essential along with efficiency, it is one of the ingredients to realize the potential returns. As the World Development Report 1994, states that the demand for infrastructure services is itself sensitive to economic growth, which is notoriously difficult to predict.

Although educational attainment and health status of the people of a nation constitute the basic ingredients of human capital formation, these two do not fully capture the human capital process. One need not forget the fact that of all the factors of production, only human beings have the latent qualities that flower to full potential under the favorable environment and so deficiency in investment in these two basic ingredients results in low productivity and ultimately less economic growth. Modern economic growth has been inspired by a rapid and persistent upgradation of technology and scientific knowledge for which human capital formation through enhancing educational and health status is most desirable and unavoidable.

In this context, there is no denying the fact that education is an instrument of economic development. Although some people believe that the function of education is cultivation of the mind and the spirit of curiosity, contemplation and reasoning and not to fulfill economic purposes and justification, the world today acknowledges the capacity of education to redicate poverty and increase income.

Education besides bringing about number of changes in attitude to work, family size, traditions, etc, also affects the process of capital formation through its
effect on consumption preferences and expenditure on social ceremonies, etc. Economic development makes tremendous demands on educational facilities at every level and unless these are adequately development, the process of growth may be slowed down. Modern industry requires trained personnel who can handle complicated modern technology. Not only the top personnel, but the masses of workers employed in the industry have also to be properly educated and trained in these complicated processes. The production of professional and highly skilled manpower is contingent on a system of wide spread education and training that serves as a means of selecting those best fitted for more different tasks of modern technology.

The shortage of skilled personnel serves as a serious impediment to growth. The use of physical capital will be limited if technical, professional and administrative skills are not available in sufficient number. Horvat\textsuperscript{16} has expressed that the experience of planning seems to suggest that knowledge is the most important scarce resource in underdeveloped countries with otherwise favorable climate.

The health is essential to socioeconomic development has gained increasing recognition. The link between health and development has been clearly established, the one being the starting point for the other and vice versa. Since health is an integral part of development, all sectors of society have an effect on health.

One of the basic objectives of the national and international initiatives in health sector is the conviction based on the experience of several decades that good
health of a population promotes economic and social development. Better health of labour force would reduce significantly the production losses attributable to labour sickness. It provides resources for investment in other development programmes which, otherwise, would have been spent on treating the sickness.

According to Lewis the expenditure on health is productive in three ways: first, it increases the number of man hours of work that can be performed; secondly, it improves the quality of work; and thirdly, by clearing uninhabitable areas, it makes possible the use of natural resources which would not otherwise by utilized. The general weak health, under nutrition and wide spread prevalence of debilitating diseases like malaria, bilharzias etc. sap the energy of the people in the under developed countries and reduce their work efficiency. The control of these diseases and improvement in the general health of the people will improve their productivity. Reduction in death rates, specially in the younger age groups, also raises the productive life span of workers and prevents the loss of expenditure on their education etc. which high death rates entail.

Human capital formation is not contained to the process of education, training and skill formation but includes improvement in health facilities and services leading to an improvement in the life expectancy, strength and stamina, vigour and vitality of the people.

In the final analysis so far, we have focused on relationship of the infrastructure and economic development. So that we simply reach the conclusion that infrastructure is an enormously important for economic development and it
works directly and indirectly on a number of determinants of economic development.

**Review of Literature:**

Review of literature represents the major portion of exploratory studies. This aspect is also important even for other kinds of research. Generally, researchers have a tendency to report as many studies as possible conducted in the respective areas of interest and abruptly state their problem. So far various studies have been undertaken on the infrastructure of different countries, regions and districts. These studies have highlighted different aspects of development of infrastructure like on education and health in particular, at country or state or district levels. Below presents a brief review of such recent studies.

Literature about the role of infrastructure and its essence in the development of an economy was presented by development economist like Albert Hirschman, Hoffman, Lewis, Nurkse and Rostow, who have expressed their ideas about the role of infrastructure. In their opinion infrastructure is a pre-condition for economic development in general. The regional growth theories, interrelated theories on locational aspect of development in one or the other way centers round the infrastructure development of those areas.

**Tilak** (1978), in his paper entitled “Poverty, Inequality and Education” has attempted to show that education reduces poverty, improves income distribution and reduces inequality.
Chakravarthy Committee’s (1981) work in connection with the identification of backward region is a relative study of infrastructure backwardness. It has viewed the problem of backwardness as multidimensional and suggested the criteria to know the backward regions. The objective was providing appropriate approach towards the formulation of a plan for each backward area.

Chakravarthi, B. (1986), this study mainly focused on universalisation of elementary education and the constraints on it in the form of child labour. Low literacy rates and retention rates are treated as constraints on the universalisation of primary education. The study covers two villages from Patapatnam taluk of Srikakulam district and slum areas in visakhapatnam district. The study findings indicate that the constraints to universalisation of elementary education cannot be attributed to a single factor; through the most critical factor is poverty. The study opines that the most of the agricultural labour households press their children in to various categories of economic activity. Further, the study observed that withdrawal of mid-day meal programme, which acted as a major incentive for increasing enrolment from among the poverty stricken households, is very unfortunate.

Joshi (1990), provides a comprehensive account of the development of infrastructure in India. He shows that interstate disparities in level of development did not decline between 1960-61 and 1985-86. Joshi finds a clear and strong association between the level of infrastructure and the level of development.

Ahluwalia, I.J. (1991) has cited infrastructure as an important factor in explaining the variations in Indian manufacturing. According to her, public
investment in India has not only been a major instrument for generating demand for capital goods but its crucial importance arises from the fact that it has exclusive responsibility for the development of infrastructure.

Anant\textsuperscript{24} (1994) has constructed indices of infrastructure availability for twenty-five Indian states for the year 1985-90. They consider twenty-four infrastructure variables classified into eight sectors namely, agriculture, banking, electricity, communications, transport, education, health and civil-administration. The first five sectors constitute economic infrastructure and the next two constitute social infrastructure, which have been aggregated using principal component analysis. The indices show that interstate variability in social infrastructure exceeds that in economic infrastructure.

Pattnaik\textsuperscript{25} (1994), in his paper entitled “Coordinating Health care and Primary Education” expressed that there is a functional relationship between health personnel and primary school teachers working in villages. The primary teachers can provide an important supplementary role to the health personnel for effective implementation of health and family welfare programmes at the village level.

Gowda, Srinivas and Mamatha\textsuperscript{26} (1997), their paper entitled “The concepts of infrastructure for growth”, have highlighted the role and prospects of Indians infrastructure development, they stresses that the pay of from better infrastructure brings a strong positive relationship between GDP and infrastructure stock per-capita.
Datt and Ravallion\textsuperscript{27} (1998), in their study shows that states with better initial endowments of physical and human infrastructure (towards the early 1960s) achieved higher rates of agricultural output growth than poorly endowed states; higher initial irrigation, higher initial literacy and lower initial infant mortality, all contributed to higher long term growth rate. The study concludes that improved rural infrastructure and technology have all contributed to agricultural growth, but their impacts have varied by settings. Government spending on education has the second largest impact on rural poverty and productivity growth.

Mitra\textsuperscript{28} (1998) has used annual data for the period 1976-1992 for seventeen industries in fifteen Indian states. Their estimates are based on a conditional convergence equation in which the long run equilibrium productivity level of each state is supposed to depend on the level of infrastructure that this state possesses. Using long-run elasticities, they conclude that social infrastructure measured by education and health shows greatest impact on total factor productivity in Indian manufacturing.

Joshi, B.M.\textsuperscript{29} (1999), Author highly focused on study of the plan outlays for infrastructure at the All-India and the state level. The growth of infrastructure in the country has been traced meticulously over the planning period. Inter-state disparities in development have been examined and correlated with disparities in the infrastructural facilities.

The author then examined in detail the growth and regional imbalances in infrastructure in the state of U.P. A distinctive feature of the study is the presentation
of the composite indices of economic development and infrastructure at the districts level and the examination of the relationship between the two. Lastly, the author emphasized the various issues in infrastructure planning, identifies the various deficiencies in this respect and presents a policy framework for infrastructure development.

Roy, Kamaiah and Rao\textsuperscript{30} (2000), made an attempt to show that, for 15 large states over the period 1992-93 to 1997-98 to estimate the average level of expenditure on primary, secondary and higher education. The author find out that this study is consistent with the hypothesis that, rich states expenditure more and poor states expenditure less as far social sector are concerned. So there is a need for suitable changes in the existing fiscal equalization mechanism to offset the revenue and cost disabilities of poorer states.

Mahadevia, Darshine\textsuperscript{31} (2000), study present while Gujarat has registered a significant improvement in key health statistics, the health situation in the state shows some paradoxes. A comprehensive analysis of the health status over the years, public health expenditure, the growth of health facilities in urban and rural areas and in the private and public sectors indicates that rather than technical inputs, it is the development model adopted that impinges on health status. The study discussed that it is high time that health is viewed in relation to the overall growth process of Gujarat to make health for all a reality in the near future. It would require change in the socio- cultural, economic and political structure and a system that considers prevention as important as cure. A development path is required that
equate us and respects the basic rights of all including of the minorities and other weaker sections. For that to happen, the economy should be free of debt and should not pursue an unsustainable development path. And above all, there has to be the political will to pursue a development path that is human – centers and not economic growth centred alone.

McDougall, Lori\(^{32}\) (2000), his study focused on gender differences in literacy attainment in Uttar Pradesh, 1951-91. This paper reveals significant regional variations in female achievement and the gender gap. There is a strong correlation between regions with narrowing gender gaps and those with rising female literacy attainment. This suggests that increased attention to female education is an effective means of improving educational equality. Meanwhile, a closer look at UP’s fastest improving region- the northern hills- shows that female attainment is influenced less by population density or household income than by civic engagement and political conscientisation.

Deganokar, Chaya\(^{33}\) (2001), observed that as well the districts in the Hyderabad – Karnataka region experienced a higher growth rate of population than at the state level during 1981-91. Although, the decline in crude birth rate and death rate are the testimony for the favorable impact of family welfare programmes in the region, both birth and death rates in the region are still higher than at the state level. Further, they concluded that illiteracy and ignorance backed by religious beliefs and superstitions in the area have prevented large section of the population to be mobile
and to develop the scientific temperament in their life. Greater attention is needed for the overall development of some of the talukas in different districts.

Ushadevi\textsuperscript{34} (2001) conducted a study on “Poverty Database in Education; strategies for monitoring poverty reduction; the study observed the light of consistent and strong relationships between poverty and education, this paper looks at the database in education to find out to what extent it reflects the poverty of school children. An exercise at reducing poverty should begin with monitoring, collecting and consolidating poverty data among school children, which could serve as an initial step in addressing overarching issues related to poverty at macro levels.

Kaual, Rekha\textsuperscript{35} (2001), in her study observed that education is strongly associated with the socio-economic conditions of families. As such in order to identify the major reasons for poor access to and retention in primary education are to examined in relation to caste, class and gender. The author studied education levels in different backward districts in Karnataka state by collecting data from the district education offices covering rural. Urban and slum location and 110 form private schools were interviewed in order to study the problems of enrolment and dropout among children. The study observed that poverty and other economic compulsions were the main reasons for dropouts among children in rural Karnataka.

The High Power Committee for Redressal of Regional Imbalance in Karnataka under the chairmanship of Dr. D.M. Nanjundappa\textsuperscript{36} (2002), has examined the infrastructure development in Karnataka, has submitted the final report in 2002. The committee constructed a composite index call Comprehensive
Composite Development Index (CCDI) comprising 35 indicators pertaining to five sectors, to measure the development levels of all the 175 taluks in the state. The regional disparities and backwardness was identified.

Singh, Shailendra and Kala Seetharam Sridhar\(^{37}\) (2002), their paper entitled “Government and Private Schools Trends in Enrolment and Retention”, this paper examines disparities across government and private schools in two cities of Uttar Pradesh- Firozabad and Deoria. The study considered varied parameters – enrolment rates, retention rates, gender differentials – in an attempt to estimate out-of-school children in these districts. While the proportion of students in private schools has been consistently rising, the study found that government schools still score over private ones in several aspects, for instance attendance rates and issues of gender sensitivity.

Barar\(^{38}\) (2002), pointed out that Punjab has been experiencing multiple imbalances between the social sector and economic growth. In comparison with low per capita income in the state kerala, Punjab is far behind the former in fulfilling the vital needs of the society. So, the policy makers must realize that only by upgrading the quality of human resources through improved education and health.

Bagchi and Sarkar\(^{39}\) (2003), made an attempt to show that inter district disparity in health and education in west Bengal. For the study purpose they have taken six indicators each indicator from education and health sectors. This study finds out that there are sharp disparities both among the districts as well as among
three designated regions of the state. Policies prescriptions have been made in the paper for the reduction of inter district disparity in social development.

Khan, N.A. \(^{40}\) (2004), this study conducted on a relationship between infrastructure development and economic development of a country. Infrastructure development may affect production and consumption directly and create many positive and negative externalities. Moreover it involves long flows of expenditure, which have a direct impact on the budget and the balance of payments. Therefore, it is essential to look at the relationship between infrastructure and of the economic development process. Further, study presents the impact of infrastructure on economic growth and quality of life. Infrastructure has strong forwarded and backward linkages within the economy. It affects economic development process both at production and consumption level. In the case of production, it contributes to economic growth in various ways such as by reducing input costs, by increasing the productivity of other factors like capital and labour, by providing more job opportunities and by attracting foreign and local investment; at the consumption level, it contributes to the quality of life of households through providing clean water, sanitation, electricity, transport and communication facilities which increase the real income level of households on the one hand and to help to reduce environmental pollution on the other.

Madhushrivastav's \(^{41}\) (2005) study highlights that, the enrolment in primary schools increased rapidly during the period 1950-51. The study results shows that 19.2 million children were going to primary schools which include 13.8 million boys
and 5.4 million girls, it shows that the fast growth of primary education facilities enhanced enrolment in primary schools to 110.9 million in 1998-99 including 62.7 million boys and 48.2 million girls. Further, study observed that the enrolment rates have been using upward for all levels of education. It is interesting to note that the total enrolment in pre-primary rise from 179 thousand in 1961 to 2704 thousand in 2000. Similarly, it has been rising for primary, middle and higher secondary levels. The degree levels have no exception. It is evident from the study that the enrolment rate has been raising over time of this male student was 60.6 percent and female was 24.8 percent.

Nayyar, Deepak\textsuperscript{42} (2006), a well known economist while discussing the 50-years achievements of post Independent India considers non-transformation of economic development into people’s life – their health and literacy – the most important failure of India.

Nadal, R.S and Malik D.P.\textsuperscript{43} (2008), their study emphasize on An Analysis of Education Status in Haryana. The main objective of this paper was to evaluate the education status in Haryana. The findings of the study are; the number of girl students in comparison to boys in schools has decreased. A large number of girl students dropout from schools at the primary level while reaching from primary to secondary level, The literacy rate in state is much low in comparison to other poor states of the country.

The study identified the gender gap in education is much found in rural areas rather than in urban areas. Further, study observed that even the expenditure
incurred on education was found decreasing. The study suggested that, to remove illiteracy in the stage. And also the study stress the government should provide free education and free books etc. to the poor students and should also be expenditure increased on education.

**Satyanarayana**44 *(2010)* in his paper “Quality in Education is the key towards Development: Issues and Challenges” discussed the quality aspect of education. Increase in absolute number of institutions and students there, certainly a parameter to judge the growth of the education system. The paper suggests some key for enhancement of quality in education. Quality and excellence should be an agenda for the further development of education.

**Samra, Alka**45 *(2010)* in her paper ‘The Role of Education in Economic Development- An Inter-state Analysis’, identified regional disparities in education and development. For better understanding of inter-relationship between the two she developed the Education Development index with the help of adult literacy rate, enrolment ratio, number of primary schools per thousand populations, percentage of habitations having educational amenities and teacher-pupil ratio. Simultaneously she also developed by using per capita gross domestic product at constant price, per capita consumption expenditure for 30 days, percentage of people above poverty line and employment rate. Correlation coefficient between education development index and economic development index is 0.167 which shows a weak relationship.

**Chopra, Vipla and Bharti Kapur**46 *(2011)*, in their study an attempt has been made to examine the public health spending in India. The combined revenue
and capital expenditure of centre, states and union territories has been analyzed over a period of time. The study also seeks to examine the inter-state differences in public health expenditure. The study observed that expenditure incurred on health was found decreasing.

So far not much has been studied on social infrastructure in particular education and health in the study area. Hence, this study is an additional contribution to the field of social infrastructure.
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