CHAPTER 1

INTRODUCTION AND RESEARCH DESIGN

1.1 Introduction

Education is one of the major components of Human Development process. It paves the course for building human capital and foundation for knowledge of any country. In other words, it can be said that a country’s growth will be largely dependent upon its human capital and knowledge base. Many prominent economists have stressed on the importance of education. For instance Robert Lucas, an American economist quotes that “Investment on education leads to production of human capital which is crucial determinant in the growth process”. Theodore Schultz, one of the Noble Prize winner in Economics regards that investing in education will help in building up the human capital formation and formally organized education at the elementary, secondary and higher levels as one of the ways of developing human resources. Likewise the growth of the Karnataka state is also largely dependent upon its human capital and knowledge potential of its society. It has given special attention towards education, which has now been part and parcel of economic planning. Investing on education development signifies the economic growth of a state. Right to Education has been recognized as one of the Fundamental Human Rights and only through universalization of primary education, it can be ensured. According to the International Covenant on Economic, Social and Cultural Rights, the right to education includes the right to free, compulsory primary education for all, an obligation to develop secondary education accessible to all in particular by the progressive introduction of free secondary education, as well as an obligation to develop equitable access to higher education in particular by the progressive introduction of free higher education. The right to education also includes a responsibility to provide basic education for individuals who have not completed primary education. In addition to this, it also encompasses the obligation to wipe out discrimination at all levels of the educational system, to set minimum standards and to improve quality.

A new approach called as “Inclusive Growth” has now been emerging in policy making process. The concept is not new because since times back the policies that have aimed at upliftment of the marginalized sections have not resulted in making
those marginalized sections better off, and therefore much prominence is now being
gathered on the growth process to make it inclusive. Further the recent Five-Year
Plans encompasses the objective of achieving faster and inclusive growth. It perceives
that in the past few years, the disparities are wide spread across the states, regions
within the states and across different sections of the community. All the sections of
the people and all parts of the country are not benefitted in an equitable manner
through the gains of rapid growth. A detailed conceptual understanding of the term
“Inclusive Growth” has been provided in the later sections of this chapter.

1.2 Research Problem

Karnataka state has been a pioneer in implementing several possible initiatives
in the field of education, but despite of this, it continues to remain at median level
when compared with the other states in the country. Though the state is striving
towards achieving universal literacy at a faster pace, but still 25% of its population is
still illiterate (Census of India 2011). Many efforts have been made with respect to
female education, despite of this female enrolment and literacy rate continue to
remain lower than those of males. Further to tell is that the gender gap in literacy rate
is also widening in the state. Similarly when compared to social classes, the scheduled
caste, scheduled tribes have remained lower with regard to their educational progress.
In 2001, 47% of the SCs and 52% of STs were illiterate. Further in 2011, 35% of the
SCs and 38% of the STs are illiterate. This stands out to be one of the major challenge
in the context of inclusive growth. Dropout is still an issue in the elementary stage, as
it is an indicator of the inefficiency of the elementary school system in that it points
towards the levels of wastage of human resources (Rao D.J 2009).

KSQAO is providing satisfactory quality education to all children in schools,
the assessment of learning outcomes in schools by KSQAO reveals that though the
average rate of education has been increased but the state has not achieved the target
of enhancing quality in schools in backward districts. As per ASER 2008, about 40%
of children in classes 3-5 in Karnataka cannot read standard-I text books signifying
poor quality of outcome in schools. In district of North Karnataka, this percentage is
seen to the extent of more than 50%. This is a cause of concern. It has also been
looked upon that the benefits of educational programmes have been shared unduly by
the advantaged and the disadvantaged sections of population. The former have
benefited at large, and thus enhancing their advantaged position. In a state like
Karnataka, the progress of educational development will have to be analyzed with the objective of achieving inclusive growth so that the disadvantaged sections in the state get their appropriate benefits in order to overcome the constraints imposed on them. The objective of achieving inclusive growth in the education sector will be the biggest challenge for the state like Karnataka, which has remained at a median level when compared to other states of India.

1.3 Conceptual Framework

Inclusive growth is largely defined as a broad-based growth covering not only the major areas of the state but also should cover villages and smaller towns. It should enlarge beyond the people living below the poverty line, benefitting the widest number of people with special concern to the marginalized or disadvantageous sections of the society. It increases the involvement of people from all the sections of the population into the growth process of a country. Further it demands that all social groups should have equivalent right to use to the services provided by the State and equal opportunities for increasing economic and social mobility. It is also necessary to ensure that there is no discrimination against any section of our society. Indira Hirway defines Inclusive Growth as the “Growth process that reduces poverty faster, that is broad-based and labour intensive, reduces inequalities across regions and across different socioeconomic groups, opens up opportunities for the excluded and marginalized not only as beneficiaries but also as partners in the growth process.” According to Oxford Dictionary, “Inclusive growth is a growth that does not exclude any section of society.” It is similar to development strategies such as “growth with justice”, “growth with equity”, “growth with distribution”, “growth with human face”, “pro-poor growth” etc.

The role of education in ensuring inclusive growth is very critical. As mentioned in Economic Survey of India, 2006-07, “the inclusive nature of the growth itself will be conditioned by the progress that is made in the areas of education. Hence education needs special attention as an instrument of achieving as well as constituent of inclusive growth.” Education is one of the constituent of capability dimension of inclusive growth in order to ensure equal access to economic opportunities (Ali 2007). Prime Minister Manmohan Singh has included social sector development as one among the key elements of the inclusive growth strategy. The four A’s framework
developed by the former UN Special Rapporteur on Right to Education by name Katarina Tomasevski is used in the study by linking it with the attributes of inclusive growth strategy as developed by Ifzal Ali¹ in his article “Inequality and imperative for Inclusive Growth in Asia”. The chart below depicts the conceptual framework of the study.

The education development relies on four factors in the context of inclusive growth. They are as follows:-

a) **Availability**: This factor is the first pillar of Inclusive Growth which largely speaks about the access in terms of creating opportunities. Government should create basic infrastructure facilities across the schools and institutions so that the individual can utilize the opportunities provided. It has laid down certain norms and standards for the recognition of schools such as ideal Pupil Teacher Ratio. Further establishment of additional upper-primary schools and appointment of qualified teachers are also dealt in this factor.

¹ Ifzal Ali is the Chief Economist of the Asian Development Bank.
b) **Accessibility:-** After the government provides the means to utilize the opportunities, it should also ensure equal access to these opportunities regardless of the gender, race, religion and socio-economic status they belong. Therefore ensuring equal access to the created opportunities forms the second pillar of Inclusive Growth. Efforts should be made to ensure the inclusion of marginalized groups and there should be no denial of services to any of the student. This helps in building a healthy atmosphere. The Right to Education also has an obligation to wipe out discrimination at all levels of education. Further it should be made affordable to all the sections of people. This in turn will help them to utilize the available opportunities and helps in building up their capabilities.

c) **Acceptability:-** The next important factor in this arena is Acceptability. People who are responsible for delivering education should have proper and right attitude towards enhancing the participation of all students irrespective of the community, caste, creed, color, race etc. Jha and Jingran in this regard points out that “The incorporation of the educationally deprived and marginalised children into education still remains a problem due to the lack of right attitude among the educational providers.” It speaks out that the quality of education that is imparted should be free from any kind of discrimination, relevant and culturally appropriate. The teaching methods should not impound on any specific ideologies rather should be objective and unbiased.

d) **Adaptability:-** This aspect speaks about the demand side of education. It expects that the one who gets education should consider education as an economic good leading to income-generating capacity. It should also focus on the various government programmes and policies and stresses that these programmes and policies should be flexible and adjustable in nature depending upon the societal changes and the needs of the community.

Once the Government ensures the effective implementation of these four factors, the available opportunities will be effectively utilized. The skills of the individuals will be developed. Thus it guarantees the building and enhancing up of capabilities of individuals. They seize the job opportunities and employment ventures which the growth process will provide and ultimately they secure their livelihoods.
The entire growth process will be made inclusive due to effective implementation of Four A’s factors.

1.4 Review of literature

This section has reviewed the earlier research studies which has a bearing on the present research effort. It is rightly said that "A familiarity with the literature in any problem area helps the students to discover what is already known, what others have attempted to find out, what methods of attack have been promising and what problems remain to be solved." With regard to education development, many studies across countries and states have been undertaken and examined. All these studies showed lot of differentiation in terms of variables and indicators used for analyzing educational development, the methodologies & time period which they pursued and the results generated from these studies were also quite alike in its form. The following section provides a detailed review of literature pertaining to the study "Educational Development in Karnataka – its challenges for Inclusive Growth".

1.4.1 Educational Disparities

In the context of fostering inclusive growth, disparities in education sector across regions, gender and social groups needs to be addressed with priority concern. This section provides a detailed review of literature in this regard.

a) Studies across India

Panchamukhi (1983), Tilak (1981) and Jain (1981) have found out some interesting means and methods for measuring regional disparities in educational development. They suggested that "Regional disparities in education need to be properly measured so that policies are effectively directed towards overcoming them. It is not proper to consider only one or two aspects of educational development in order to understand the status of a region so far as educational progress is concerned. Though the Finance Commission and the Planning Commission have methods of measuring educational development in region, there is scope to undertake rigorous methodological studies in this field."
Chaudhary and Nair (1981) assessed the function of education in addressing the regional disparities in India through construction of Educational Development Index. They found out that there was a positive relationship between education and economic development and concluded that as a social indicator, education could play an important role in eliminating regional disparities.

Sabnis and Mahurkar, 1985 examined the relationship between education and social status of Scheduled Castes in Maharashtra. They tried to find out whether social status of Scheduled Caste men and women has progressed as a result of graduation and whether their attitude towards themselves had changed. The study found that the respondents were keen on filling of reservation backlog immediately and that a change should take place in the attitude of both upper castes and the scheduled castes themselves. Improvement in economic conditions helped them to raise their social status.

Rajaih (1987) deliberated the progress of primary education in Andhra Pradesh with respect to enrolment, school efficiency, input-output ratio, representation of women, SC and ST as students and quality of teachers. Later focus was also laid on analyzing the wastage in primary education in Andhra Pradesh and outcome of primary education in relation to other developmental sectors. The dropout rates of girls were found higher than that of boys. The wastage was highest among children of ST communities. The main factor responsible was poverty of the tribal people.

Reddy and Reddy (1992) focused their attention on inequality in utilization of and participation in education in rural areas of Andhra Pradesh. More specifically, differences in gross enrolment ratios between different socioeconomic groups and sex were examined. It was found that though sex discrimination existed irrespective of economic positions, was more prevalent in poor families. The results also showed more disparities in higher education as compared to primary and secondary education. The study finally, concluded that inequality in education was not an educational problem alone. It is prevalent across the entire social, economic and political fabric of a nation.
**Action Aid (2000)** conducted studies in 347 villages in 10 Indian states. It revealed that discrimination in labour markets operated through exclusion in hiring and lower wages. Out of the villages surveyed, in about 36% of the villages, scheduled castes (SCs) were denied casual employment in agriculture. In about 25% of villages, SCs were paid less than the prevailing market wage rate, or wages paid to non-SC workers. It recommended that there is need to focus on educational attainment of these discriminated classes in the wake of inclusive growth so that the social inclusion of these left out classes is concentrated in the labour markets.

**McDougall (2000)** presented the trends in gender gaps in literacy rate in Uttar Pradesh. Correlation technique has been employed to understand the relationship between female literacy rate and gender gap in literacy rate. It revealed that there is strong positive correlation between higher female literacy rate and lower gender gap in literacy rate. Further it was also found that female literacy is subjected to deep regional and sub-regional variations and therefore there is a need to bring a shift in recent educational policies towards decentralized education programmes.

**Wankhede (2001)** has examined the educational inequalities of Scheduled Caste groups in Maharashtra. Further he has made analysis pertaining to magnitude of Scheduled caste people along with their sub castes in Maharashtra across primary, secondary and higher education using the Census data. He advocated that the sub caste groups of Scheduled Caste in Maharashtra that show poor response in education needs to be given greater attention in form of incentives and facilities with an individual caste based approach.

**Biswajit (2003)** underlined the socio-economic status of Muslims and found out that Muslim community placed a low value on education. Consequently, the dropout rate was also high among Muslims. Significantly, less than 2% of the Muslims surveyed attended Madrasas or religious institutions. Also, for both Hindus and Muslims, financial constraints tried to outweigh parental opposition as the chief obstacle to the school environment and attendance. 17% of Muslim women enrolled completed eight years of schooling and fewer than 2% completed higher secondary education, which is below the national average.
Kaushik and Kami (2003) analysed the progress of education in Himachal Pradesh. They compared the progress in literacy rates of Himachal Pradesh with other states over the period from 1961 to 2001 and found out that in the second half of 19th century, an integrated educational policy was implemented in the state that consisted of high level of per capita expenditure on education, expansion of government educational institutions and provision of financial incentives to students from the deprived sections of the society. They concluded by stating that “The share of uneducated unemployment in the total unemployment had increased which was observed to be indicative of the low and declining employability of the uneducated labor power in the state.”

Ghosh (2003) has analysed the achievements in female literacy rates across the states of India and has also linked with the social development indicators such as infant mortality rate, life expectancy and human development index. It revealed that states with higher level of social development had led to lesser gender disparity and vice versa. It suggested a need to change attitudes and values in favor of gender equality. Further gender equality in education and health is not only a means to achieve social development but is an end itself.

Vaid (2004) brought into light the various causes for the inequality in educational transitions from socially deprived origins across states of India with the help of ordinary least square regression method. It revealed partial and least effect for caste, where as class found out to be strong determinant for the relative chance for a child to continue his education. Parental literacy, state and religion had strong interactions with gender.

Panda and Reddy (2007) have evaluated the trends of secondary education in India in line with gender, region and social groups. It found that with the increasing completion and transition from elementary education, the dropout phenomenon may likely to become more severe at secondary education unless corrective steps are taken. The success of efforts in universalizing secondary education critically depends on removing bottlenecks like improving the efficiency of elementary education, recruiting teachers in adequate numbers and training them appropriately, curricular diversification and up gradation, quality assurance and sustaining and utilizing higher
allocations and evolving transparent regulatory framework for private sector participation.

**Desai and Veena (2008)** offered an interesting picture on the educational stratification that existed between religious and social classes of the society in India. It also examined the changes in educational attainment between various social groups for a period of nearly 20 years to see whether educational inequalities have declined over time. The results indicated that there was a declining gap between dalits, adivasis, and others in the odds of completing primary school. It was missing in case of Muslims, a minority group that does not benefit from affirmative action. Further, no evidence was found with regard to upper-income groups benefiting disproportionately from the affirmative action programmes at the expense of their lower-income counterparts.

**Sedwal and Sangeeta (2008)** offered a holistic approach with regard to socially marginalized groups which come under the purview for affirmative action within the Constitution of India in the context of progress made in providing access to elementary education. It also highlighted the persistence of social inequity in elementary education in the country and various strategies pursued for bridging the gaps. It proposes research in the aspect of deeper systemic issues that are not tackled by the policy reforms such as home and school factors that underlie the continuing poor performance of Scheduled Caste and Scheduled Tribe students.

**Karlijigimath (2009)** has examined the educational inequalities of social groups in India by analyzing its determinants. The analysis revealed that the educational status in respect of SCs/STs is significantly lower as compared to others and reduction of poverty depends on accessibility of qualitative education. It suggested that good facilities such as fees concession, scholarships, hostel facilities, free medical services etc., should be provided to SCs/STs, thereby accelerating their socio-wellbeing in the era of globalization.

**Bhalla (2011)** contemplated education as an instrument of inclusive growth in the context of India. It found that educational inequalities in terms of gini indices have reduced over the years across regions and gender. Educational expansion was higher among the dis-privileged communities. It suggested that in order to make growth process inclusive, the education across all the sections of the population needs to be
expanded equally and the process of making them to enter into the labour force should be accelerated.

Biswal (2011) highlights the increasing regional, gender and social disparities in secondary education in India. It found that large regional variations in physical access to secondary and higher secondary schooling provisions exist. Because still in some nine states and UTs more than 40% of habitations have physical access at a distance of less than 5 kilometres; and in 20 states and UTs, nearly the same proportion of habitations have access beyond 8 kilometres. Only Tamil Nadu and Kerala had relatively higher level of participation in secondary education with a GER of more than 75%. Further wide gap existed in the participation of boys and girls in secondary education. Relative to other social categories, the participation rate of SCs and STs in secondary and higher secondary education continues to be low. It concluded by saying that, “Even after visible progress in secondary education, regional, gender and social disparities in access and participation continue to be a major concern.”

Raju and Avtar (2011) have used the composite index given by Narian et.al in order to measure the educational development in India in the field of elementary education. Inter-state evaluation of educational development across primary and upper primary has been done separately on the basis of various HDI Indicators. The finding of the study implies that the states that lag behind in primary level should completely overhaul their elementary education system with concreted efforts. It has advocated the weak performing states to formulate appropriate policies in order to overcome equity gaps, low access and low quality inputs. This study serves as a baseline for SSA interventions.

Ghosh (2011) analyses the regional disparities in education, health and human development in India. With regard to education, he has calculated disparity ratios across region, correlation co-efficient technique across the selected states to analyse the regional disparities in literacy rates across states of India. It concludes that there has been a significant improvement in education with respect to inter-state, rural-urban and gender disparities, the inequalities have been persisting, and the quantitative expansion and quality of education achieved have been unsatisfactory.
Mundra (2012) examines interrelationship among women development in terms of economic status of women, caste and level of education and finally view the inclusive growth in India. It highlights the relationship between education level and economic status of women only in high caste group and focuses if education has a central role in relation to achieving inclusive growth for the women in Indian society. It ends with a concluding remark stating that “there needs to be a fundamental rethinking on the provisioning of education in India.”

Sreerammurthy et.al (2012) has presented the historic profile of higher education in India and has examined the growth of higher education in India since independence with an approach towards inclusive growth. It has suggested sustained efforts towards increasing Gross enrolment ratio among the disadvantaged groups notably the muslims and scheduled tribes with provision of additional benefits and facilities. Further issues related to quality and excellence in higher education sector should be addressed with adequate regulatory mechanisms.

Gupta et.al (2012) presented the development scenario of the higher education in India by identifying the key challenges such as demand-supply gap, quality of education, faculty shortage, research & development in the India’s higher education sector. It also has recommended some of the key initiatives by the Government such as establishment of National Council of Higher Educational Research, increase in number of IITs, IIMs, NITs coupled with increase in the number of seats in such existing institutions, collaboration of foreign universities with the Indian institutions etc.

Kaushal and Patra (assessed on 9th Sept 2013 in DISE website) on one hand have tried to focus on the development of DISE in India and its implications on elementary education and on the other hand have assessed the progress of elementary education in Bihar, comparing it with the Kerala state in terms of different educational indicators as outlined in the DISE Reports. The article in its concluding remarks points out that, “In Bihar, infrastructure facilities, technology based learning opportunities and provision of electricity across elementary schools needs to be strengthened and suitable measures needs to be adopted at grass root levels.
b) Studies across Karnataka

Bhatta (1988) has analysed the performance of secondary schooling across rural areas with special emphasis on educational disparities of SCs and STs. He has perused analytical techniques such as percentages, measures of central tendency and dispersion, analysis of variance, index of relative incidence etc. It is observed that there is a significant relationship between literacy levels of districts and Relative Incidence in secondary schooling. In fact all districts with high Relative Incidence have high literacy rates, while all districts with low Relative Incidence have low literacy rates. In all the later districts the proportion of SC/ST population is also quite high. Further, a positive but not significant relationship has been observed between decreasing levels of population of SC/ST and increasing Relative Incidence in the districts. Wastages among SC/ST students was found higher than that among non-SC/STs. It suggested that the intervention programmes have to be diagnostic and curative rather than penal and mechanical. Attention should also be given to districts and regions which are lagging behind in achievement and equalization of educational opportunities.

GOK (1999) attempted to analyze the trends in literacy rates across districts of Karnataka with regard to gender. They have suggested an agenda for future action in education in the state by stating that “Total literacy campaigns throughout the state should be completed and grama panchayats should be activised to take up well thought out post literacy and continuing education programmes.”

Kaul (2001) has analyzed the accessibility issue in primary education across the selected backward and advanced districts of Karnataka. The results revealed that the denial of education was linked to socio-economic condition of the families. Economic compulsions, social and cultural barriers, caste and gender factors were the reasons for non-enrolment and drop-out. Access to primary education and its quality, retention and drop-out were ruled by prevailing caste, class and gender divides in the region. It suggested implementation of integrated government supported development projects which reduce widespread inequalities, alleviate poverty and provide adequate support system.
Nanjundappa (2002) has analysed the literacy status of Karnataka across districts and taluks. It has provided the relative positions of taluks by assigning ranks based upon their relative values across the various criteria of development among four divisions of the state. Further similar analysis has been made in context of gender gaps in literacy rate. Glaring and wide spread disparities have been found in literacy rates across districts and taluks of the state.

Panchmukhi (2005) has examined the trends and variations in literacy rates in Karnataka. Co-efficient of variation has been employed in order to estimate the variations across gender and social groups. It has suggested strong policy initiatives and proper boost to adult literacy programmes in order to fulfill the goals of Tenth Plan and Millennium Development Goals.

Yadav (2005) has examined the comprehensive status of Scheduled Castes and Scheduled Tribes in Karnataka. With regard to educational status of these social groups, it was found that there was perceptible gap between the State’s literacy rate and the literacy rate of these groups. Their drop-out rates in primary schools are quite higher. The pass percentage of SC students is lower than that of STs and others in the SSLC examinations. If SC and ST girls are enabled to remain in school, then their performance will be exemplary. Unfortunately, despite having the capacity to benefit from education, they are not in a position to truly enlarge their choices.

Azim (2005) has examined the level of literacy and disparities in its growth across gender and districts of Karnataka. It revealed that districts of Hyderabad-Karnataka region were the worst performers in this regard and therefore planners must plan programmes of action to improve educational conditions in North Karnataka in general and Gulbarga in particular. Priority should be shifted from investment and income criteria to education and health in the development strategy.

Rao D.J (2008) has provided a comprehensive study and review on the progress of education in Karnataka across elementary, secondary, technical, higher, teacher, vocational and adult education. It has analysed the various trends in educational indicators across these levels of education. It revealed that Karnataka’s literacy rate had been consistently higher than the all-India literacy rate across all the census years. More than 63% of the SCs and 58% of STs were found illiterate.
Female literacy (56.90%) continued to be far lower than male literacy (76.10%). Dropout was still an issue in the elementary stage, as it is an indicator of the inefficiency of the elementary school system, pointing towards the levels of wastage of human resources. Further poor student attendance was found to be a major problem, especially in the lower primary classes in Northern Karnataka.

**Premakumara and Riyaz (2010)** made an effort to analyse regional disparities in education development of Karnataka as a backdrop to the policy of inclusive growth. They have analysed secondary data with the help of comparative dimension of analysis and dummy variable econometric model. The study concludes that in backward areas, there exists low literacy rate accompanied by high dropout rate. Though the enrolment in these areas has increased due to various government programmes, but still high drop out rate prevails. The study advocates that programmes which increases the literacy rate and reduces the drop-out rate should be implemented by the government.

**Lingaraju (2012)** has critically examined the disparities in literacy across the districts of Karnataka and also done critical evaluation on the impact of educational programmes in the state. It rules out the possibility of concluding that a uniform policy and strategy could be evolved that will work out towards achieving universal literacy. Committed and thoughtful efforts needs to be put in popularizing primary education, otherwise universal literacy will remain a unfulfilled dream.

**Pote and Bagalkoti (2012)** have analysed the Dalits educational status across the selected backward educational districts namely Gulbarga and Kolar in Karnataka in terms of availability and accessibility of their education. It found that more than 90% of dalits are educated in government schools, where there is lack of basic infrastructure. The incidence of drop-outs across both SC/ST was high in urban areas of Gulbarga district and in Kolar district; the drop-out was high across SC of urban areas. Various reasons for drop-outs were also ascertained in the study. Finally it proposed proper monetary incentives to the parents who are forced to compel their students for discontinuing their studies, due to poverty.
Shinde (2012) has analysed the educational scenario of Scheduled Tribes in Karnataka. It has attempted to identify some of the core factors that setback the educational development of Scheduled tribes in the state. It suggested promotional measures to be implemented by the State Government for enhancing the literacy rates and educational status of Scheduled Tribes in Karnataka.

Rao and Swamy (2012) have made a critical study on secondary and pre-university sectors in Karnataka from various perspectives in the context of Universalisation of secondary education addressing disparities across regions, gender and social groups. It has found that the most significant feature of the state’s secondary education scenario is the presence of a large private sector. Spread of secondary schools and PU colleges is quite uneven across the state. Student absenteeism was more in North Karnataka than in South Karnataka due to a host of factors, like lack of basic infrastructure facilities and toilets, absence of laboratory, library and other facilities, inadequate teaching faculty, total apathy of heads of institutions and supervisory staff, etc. Availability of PU colleges in rural areas of the educationally backward districts was limited. It advocated that there is need for streamlining the data on infrastructure so that needy institutions are given priority.

Suresha and Mylarappa (2013) have studied the trends in literacy rates in Karnataka across regions and gender. They have calculated the co-efficient of correlation between population below poverty line and female literacy rates in rural areas and indicated that both are closely linked. Literacy levels in the north eastern districts are considerably below the state and national averages. They suggested that the hiatus in national spending and targeting of low performing areas and groups must give way to renewed focus on adult education.

### 1.4.2 Educational Development and Public Expenditure

Studies made by Schultz, Harbison, Denison, Kendrick, Abramovitz, Becker, Bowman and Kuznets and a host of other economists reveal that one of the important factors responsible for the rapid growth of the economy has been the relatively increasing outlays on education. They tell us that a dollar invested on education brings a greater increase in national income than a dollar spent on dams, roads or other tangible capital goods. Below are the various studies that have analysed public expenditure incurred on different levels of education.
a) Studies across India

Vaizey (1966) employed various criteria to find out the impact of public expenditure on education namely, expenditure on education as a percentage of total public expenditure, expenditure on education in relation to other outlays and expenditures, percentage of Gross National Product provided by different countries to education and expenditure among various levels.

Padmanabhan (1986) studied regional disparities in educational financing, by analyzing educational expenditure incurred by different states of India. He argued that disparities in educational financing would deprive opportunities for the disadvantaged sections of population and thereby hamper the well known social objectives of the state.

Rajaih (1987) pondered the investment in primary education of Andhra Pradesh in terms of public expenditure, average per pupil expenditure, aggregate outlay on education (plan and non-plan), annual compound growth rates etc.

Upendranath (1992) examined the growth of educational expenditure in Andhra Pradesh in India. He observed that the pattern of educational expenditure in the state had been similar to those followed in many states and all India patterns, with higher education taking precedence over primary education. Andhra Pradesh stood below all India average in terms of budget allocations and sectoral distribution of funds on different sectors within education. Further, he observed that the expenditure on different sectors within education had not seen any perceptible shift. The share of primary education in total had improved slightly from 43.94 percent in 1977-78 to 47.19 percent in 1987-88. Andhra Pradesh spent comparatively less amount on education among the southern states and also the share of higher education in total educational expenditure was lower in the state than the other states.

Roy, Kamaiah and Rao (2000), utilizing the pooled data for 15 large Indian states over the period 1992-93 to 1997-98, employed panel data models to estimate the normative (average) levels of expenditure on primary, secondary and higher education. The findings of that study were consistent with generally maintained hypothesis that rich states spent more and poor states spent less as far as social sectors were concerned.
Agarwal (2006) has analysed the public financing from centre and the state on higher education in India. It has included trends in funding of loans. It has found that in several cases, the public funds are not optimally utilized and the mechanism promotes inefficiencies. It suggested that demand driven, efficient and targeted funding of students from poor background by initiating a social equity fund should be taken up. A suitably designed affirmative policy should be put in place.

Chakrabarti and Joglekar (2006) utilizing state level data, empirically examined government financing of education in India over a span of 1980-81 to 1999-2000 across the 15 major states of the country with the help of macro-level indicators. Their main focus had been on analyzing if there existed a structural break in the pattern of expenditure in pre and post economic reforms. Income with elasticity less than one was found to significantly enhance educational expenditure at aggregate elementary, secondary and higher level. Moreover, contrary to general perception, education expenditure at all levels had been significantly lower after liberalization vis-a-vis pre-economic reform era. This was particularly detrimental for the vulnerable sections of the population i.e. for females and backward social groups. The study concluded that even after controlling for the economic reform process, privatization exerted a negative significant impact on expenditure on higher education.

Prakash (2007) examined the trends in the expansion of higher education and also analyzed variations in participation across states, gender and social groups. He also discussed the trends in the financing of higher education and the required resources to meet the target of allocating 6 percent of the GDP to education. The study came to the conclusion that without appropriate policy interventions in school education, it would be of slightest use. Quantitative expansion and Qualitative improvement of higher education should command highest priority in the policy discourse.

Reddy (2007) examined the trends in public financing of secondary education with the help of a few selected indicators like growth rate, public expenditure on education and secondary education expenditure as a proportion to Gross National Product and the budget provisions since 1990s. The results of the study clearly established the inadequacy of resources for secondary education, even if its importance grew. It observed that the entire education sector suffered from paucity of
resources and the priority given to it in public allocation was also declining. The growth rate of public expenditure on secondary education since 1990s was found to be much lower than the same observed during the 1980s, with the exception of the second half of the 1990s. The per-student expenditure on secondary education in real terms was found to have remained constant since 1990s. This suggested that limited expansion had taken place with poor or even deteriorated infrastructural facilities during that time.

De and Tanuka (2008) examined the level and composition of public expenditure on education in India. The mechanism of resource sharing, allocation and utilization in aggregate as well as separately for Union and States is also studied. The findings reveal that since 1990s, the expenditure in real terms has stood idle. The share of public expenditure on education stood less than 4 per cent. Centrally sponsored schemes, which are partly funded by external aid, have been a critical part of centre-to-state transfers. Expenditure trends in selected states are also studied to explore the possible impact of expenditure on education outcomes. It indicates that for the less developed states recent changes in education expenditure have improved access, but retention and learning achievements remain very low. It concluded by recommending that unless the problems of poverty and unemployment are addressed simultaneously with education, the Universalisation of Elementary Education will remain a distant dream. It is only when food security and unemployment-related issues have been much reduced in intensity, and some urgent social issues are addressed that all children will be able effectively to gain access to, and benefit from education.

Anbalagan (2011) has made an effort to examine the variations in the trend of public expenditure on education in the post-liberalization period in India and has analysed state-wise various effects of education on macro-economic aspects. It found that investment in education had greater impact on GDP in the post-liberalization era than in the pre-liberalization era in India. States with low performance in education were socially and economically backward. There were widespread disparities among the Indian states due to variations in the size of investment in education.
b) Studies across Karnataka

Vyasulu and Indira (2001) have reviewed the educational finances in Karnataka with special reference to district wise allocation and expenditure incurred on primary and secondary education in the state. It has found major fluctuations over the years and across the districts and feels that such volatility in allocation and expenditure is undesirable. Further it has found many lacunae in the way the data is maintained. Dis-aggregated data across taluks is also needed to complete the education expenditure analysis. Local NGOs and Panchayat should come forward to work. It stresses on the need for checking the integrity of the budget process by examining the co-relation between the allocation and expenditure at disaggregated levels.

World Bank (2002) identified the possible areas for public expenditure reforms for improving the efficiency and equity in public spending on education in Karnataka. It also assessed the financial resource requirements for addressing the priority issues in elementary education. It revealed that public spending on elementary education in real terms has increased and across higher education, it has declined. The inter-district variation in per-pupil expenditures has increased over the decade as pupil-teacher ratios have fallen more rapidly in the advanced districts than in the backward districts. It recommended that in order to achieve the goals for elementary and secondary education, considerably enhanced financial allocations will be required. The state government should adopt fiscally sustainable strategies in school education without compromising on quality and equity. If they become successful, then the financing requirements for an expanded school education system of higher quality could be met mainly from its own resources and from additional private sector mobilization.

Jayadev and Ramesh (2011) have evaluated the financial resources of the universities of Karnataka State and have suggested measures for improving the overall financial management. Further it has made analytical review of the revenue and capital expenditure incurred by these universities, plan and non-plan break-up of expenditure, cost and fee structure and the ways of generating revenue. It suggested the budget allocation process should streamline the process of sanctioning non-plan grant on a quarterly basis; excess of the funds should be student centric, one-time
grant for meeting the requirements of capital expenditure etc. It also advocated that the state government should allocate 20 per cent of its education budget to universities as against the current practice of 12 % in order to meet the challenges of higher education being access, quality and inclusiveness.

Gayithri (2012) has reviewed the public expenditure incurred by the State Government across economic and social services in Karnataka. With regard to education, it was found that Expenditure on education constituted the largest share in the social and community services expenditure and Primary education got the highest priority in the total compared to other components of education sector. Further Capital expenditure has increased in a significant manner from 2005-06 possibly due to the additional support available under Sarva Shiksha Abhyan. It also found the lack of availability of district wise centralized expenditure data, which posed a serious constraint in any expenditure planning exercise and therefore advocated that this is an important data gap that needs immediate attention of the policy makers.

Rao and Swamy (2012) have made a critical study on secondary and pre-university sectors in Karnataka from various perspectives in the context of Universalisation of secondary education. With regard to expenditure on secondary and pre-university education, it was found that the state needs to curtail its spending on private aided institutions, as they do not make much of an impact on universalization of secondary education, because of their presence only in urban and semi-urban areas, where other government and private unaided institutions also exist. A major portion of this outlay is spent on salaries. A majority of the government secondary schools and PU colleges continue to languish without minimum basic infrastructure and other facilities. There is need for increasing allocations to secondary education sector, curtail grants to private institutions, and allocate at least 20% for developing infrastructure and provide for other non-salary expenditure.

Bakshi and Jha (2012) found that allocations to the education sector by the Government of Karnataka (GoK) since 1999-2000 have witnessed a rising trend in real terms. Though Education being a human intensive sector, it had a high wage component within the recurring expenditure (around 70-75 percent) incurred by the state government on education. This rises a debate on whether the total allocation itself is small, making the wage bill look high, or whether the government has spent
more on salaries, and less on quality interventions. The study advocates that Karnataka like any other state has huge responsibilities to fulfill in providing quality elementary education. For this, it needs to expand the financial outlays and must also ensure that the expenditure is done efficiently. It has to think of ways of establishing the linkages of outlays to outcomes. The whole challenge is to make education inclusive. Out of School children from minorities groups, children with special needs, all need to be targeted to be brought in the schooling system and must continue till grade VIII, after which they should transit to secondary schooling system.

1.4.3 Educational Policies and Programmes

This section provides the detailed account of review with regard to studies on various educational policies and programmes. In the present context, it is therefore needed that the various educational policies and programmes implemented by the Central and State Government should evolve an inclusive growth approach towards its formulation and implementation.

a) Studies across India

Chanana (1993) focused on growth of higher education within the framework of preferential treatment and supportive measures for the benefit of different social groups, namely, the Scheduled Castes, the Scheduled Tribes, minorities and women. It also reviews the educational policy discourse which assigns several functions to higher education. Some of these are: equity for the Scheduled Castes and Tribes; mainstreaming for the minorities, and equality for women. It revealed that the educational policy failed to integrate these functions which remain sectoral aims even at the conceptual level. Lastly, the educational policies and programmes are unable to encompass the complex social reality within a single framework and are therefore unable to bridge the gap between policy and practice.

Agarwal (2006) has evaluated the regulatory policies and arrangements across higher education in India with special stress on accountability factor. It has also reviewed the judicial interventions from time to time for redressing the policy discrepancies. It has found that the regulatory bodies have miserably failed to maintain the standards of higher education and have paved way for private players. It has proposed that a system to curb deceptive practices and misrepresentation of facts
should be put in place. Disclosure standards for higher education institutions including transparency in accounting and 'students right to know' need to be introduced.

Tilak (2007a) critically looked at the approach to the development of education outlined in the Approach to the Eleventh Five-Year Plan and highlighted the weaknesses and the continuation of the big policy vacuum. Tilak found the approach paper full of contradictions, lack of vision for development of education and absence of a critical outlook of the strategies required. It did not focus adequately on the glaring and widening inequalities in education, social, economic, gender, and regional, and to propose clear strategies of developing an equitable system of education. According to Tilak, equity was not the main concern of the approach paper, it was quality that occupied the attention of the Planning Commission and the commission assumed that quality would automatically promote equity.

Tilak (2007b), critically examined the recommendations on higher education in India submitted by the National Knowledge Commission to the Prime Minister. According to Tilak, the report did not seem to have been based on any in-depth analysis of the higher education system in India. Secondly, the commission seemed to be strongly favouring privatization of higher education, the growth of private and foreign universities and correspondingly and more importantly a drastically reduced role of the state. Tilak lamented that basically, the knowledge commission did not recognize the importance of public education and the significant role that the state played in the development of higher education for it to contribute to national development in most civilized parts of the world.

Gupta (2009) explores different strategies and approaches in order to realize right to education in India. It has reviewed the conditions that enable the realization of rights. It has highlighted that even in places of success in the realization of education like Kerala, there are negative gaps and certain groups have been excluded from having education that is entitled as a right. An analysis of different aspects of the India's RTE legislation is done in this paper. At last it has stressed on the role of national and state governments of India to rely on SSA in translating the current RTE bill into practice.
**Fennell (2010)** evaluated the UPA Government’s role with regard to provisioning of educational sector in India. It reviewed the persistence of educational exclusion in the context of inclusive development, thereby focusing on public spending and some specific educational programmes introduced by UPA. It found that ensuring social transformation through improving educational access and exclusion of marginal groups in education stands as a major obstacle in achieving the objective of inclusive development.

**Chanana (2011)** has interrogated the process of policy formulation by reviewing the XII Plan documents. It has attempted to resolve the complexities of rhetoric approach towards exclusion and inclusion of women in higher education through critical analysis of the XII Plan documents that cover women in higher education. Further it has commented upon the myopic decisions which rarely touch the problem of exclusiveness. It suggests that the educational policies should be informed and underpinned by the gender issues of exclusion and hopes that the exercise of the XII Plan will shift from the rhetoric discourse and will be a improvement in terms of conceptualization and delivery outcomes.

**Abdulraheem (2011) and Lal (assessed on 9th Sept 2013 in DISE website)** have assessed the inclusive growth strategies for the economically and socially disadvantageous groups of India through the education parameter. They have suggested that in order to achieve inclusive growth, the Centrally Sponsored Schemes for elementary education has to be streamlined and rationalized, through a Zero-based budgeting exercise. Positive participation and involvement from community elders and systematic, accountable and transparent approach without piecemeal inputs can help to meet the challenges of universal access to quality education and betterment of our downtrodden still existing in our society.”

**Biswal (2011)** identified key challenges relating to implementation of major reform programmes including Rashtriya Madhyamik Shiksha Abhiyan (RMSA). It found that the education reform programmes in the country assigned too much importance to resource allocation as compared to the resource utilization aspects. Further the criteria for resource allocation often hasn’t taken into account the priory areas of development and the capacity of individual states to absorb the allocated resources. It suggests that budgetary allocations need to be increased to make more
inclusive quality secondary education a reality. Designing of appropriate monitoring and feedback systems that celebrates failures along with successes of the reform interventions is a development challenge in secondary education sub-sector in India.

**Ernst and Young (2012a)** has analysed the various challenges before 12th Five Year Plan that plague the higher education sector in India. Further it has proposed several initiatives around six focus areas namely Expansion, Equity, Excellence, Governance, Funding, Implementation and monitoring. It suggested that more transparency and inclusiveness in India's higher education system can be attained provided the Government is able to create an enabling regulatory environment and put in place robust implementation, monitoring and quality assurance mechanisms in the sector.

**Ernst and Young (2012b)** has examined the implementation of Right to education act in imparting elementary education in India and also stressed the role of private sector in this regard. Further it has analysed the Four A’s Framework (Availability, Accessibility, Acceptability and Adaptability) and has highlighted the challenges faced in universalizing elementary education in India. It has further suggested the responsibilities of the State along with private participation in bringing out the effective implementation of RTE Act.

**Pant (2012)** has evaluated the Sarva Shiksha Abhiyan scheme as a novel model for inducing inclusive growth across the states of India. It has covered the parameters such as universal access, number of elementary schools, enrolment by disadvantaged sections of population, retention and drop-outs. It has suggested the supplementary role by the private players for making the programme successful in those states where it has failed to deliver quality outcomes.

**Tilak (2012)** has critically reviewed the higher education policy in India in the transition stage. It has briefly analyzed the trends of allocation made for higher education sector over the plan period and has critically looked upon the state interventions and major goals of the government in the higher education. It states that the approach paper of twelfth plan does not spell out what the government wants to do to improve the public education system, but what it intends to do to facilitate the growth of the private sector. It concludes by saying that "Many of the recent
initiatives in policy reforms mark a transition in the history of higher education in independent India – from a system embedded in welfare statism to a system partially based on quasi-market principles and finally to a system based on a neo-liberal market philosophy."

b) Studies across Karnataka

Sekhar et.al., (2009) carried an assessment study on the initiatives of Sarva Shiksha Abhiyan with special concerns to quality and equity in Karnataka. It found out that Northern districts are poor in terms of availability of drinking water and toilet facilities. Distribution of text books, uniforms and mid day meals are found to be efficient, where as incentives like free notebooks and schoolbags targeted towards the backward sections of the society has not reached all the beneficiaries. Financial constraints within the family seem to be the important reason for children dropping out of school. Household work and sibling care also acted as reasons for dropping out of girls from the school. It advocated that utilization of grants need to be channeled in the proper direction. Lack of facilities and inadequacy of teachers in schools seems to be the main problems which need immediate attention. Detailed Studies on drop-outs in some of the backward districts like Gulbarga and Raichur need to be undertaken on a priority basis.

Rao and Swamy (2012) have provided a critical assessment of the educational policies and programmes that cater to the needs of the secondary and pre-university education. It found that there was a significant transition loss in enrolment between classes 7 an 8, which neither SSA nor RMSA were able to address. Funds released under RMSA formed a miniscule percentage (less than 0.6%, 2010-11) of the states’ secondary education budget. Hence, it is doubtful whether the program will make any credible impact on the state’s secondary education sector. Sanction of institutions is still being done indiscriminately which has resulted in a large number of unviable institutions. These are a definite drain on the state’s resources and call for immediate remedial action. The state policy should emphasize more on development of infrastructure, professional management of human resources and skill development among students.
Rani (2013) reviews the progress and financing of elementary education with special focus on the programme Sarva Shiksha Abhiyan (SSA) in Karnataka, an educationally and economically improving state in India. It attempts to understand the process and timing of the fund flow pattern from the Centre and Government of Karnataka to the state implementing societies to district level; and to know the fund utilization and the progress of elementary education under SSA over a period of time and across districts. The paper identifies the pattern and timing of fund flow as one of the bottlenecks in proper utilisation of the funds. Though the improved utilisation rates reported under the SSA programme has resulted in better performance in terms of process indicators such as declining dropout rates and improved transition rates yet there is a long walk to progress in terms of the outcome indicators viz., learning outcomes.

Niranjanaradhya and Jha (2013) have carried a qualitative case study in Gram Panchayat of Ramnagar district in Karnataka to evaluate the effectiveness of Right to Education in Act in the panchayat. It found that most of the stipulations of RTE act are being not fulfilled in the panchayat. Most of the schools do not have boundary wall, playground, proper drinking water facilities, proper buildings etc. Further food is also unhygienic. Even though the act stipulates free and compulsory education as a fundamental right, the parents of this panchayats needs to pay an average of Rs.300 monthly for schooling requirements. It advocated massive awareness programmes for the primary stakeholders, regular and proper inspection of the schools and lastly Children’s Vigilance Committee should be constituted in the panchayats for effective implementation of RTE Act.

1.5 Research Gaps and Issues

Based on the perusal of these literature reviews, it is found that most of studies across Karnataka have been confined to any one level of education and not included all the levels of education in their analysis. All of these studies more or less focused much on economic development and economic growth and lacked their approach towards the concept of inclusive growth. It has not focused on approach towards the strategy of inclusiveness and broad based participation from all the sections of the people. Most of the studies across Karnataka have analysed regional and gender disparities in the education sector, but there is dearth of studies with regard to
disparities across social groups at secondary and higher education. More studies of this kind would bring out the urgent need for paying more attention to the neglected sections of the community. With regard to education expenditure is concerned, there are very least significant studies that have focused on analyzing disparities in district wise expenditure incurred on education. Gayithri (2011) found that the lack of availability of district wise centralized expenditure data posed a serious constraint in any expenditure planning exercise and therefore advocated that this is an important data gap that needs immediate attention of the policy makers. Furthermore, there are scanty studies that have analysed the progress of secondary and higher education in the state. Therefore the following study intends to analyze education development at elementary, secondary and higher education with special focus on providing districtwise picture of each indicator wherever possible.

As per the Economic Survey of Karnataka 2010-11— "In order to attain total literacy and to address the issues of educational disparities across different categories, the state has set the agenda of universalizing elementary education with a clear focus on access, enrolment and infrastructure in the initial phase and retention, quality and learning attainments in subsequent period". Equivalent access to skill development is vital for all social groups particularly women and disadvantaged section of society. It helps them in securing upright employment and to come out of poverty. Removing barriers to access and addressing the specific needs of socially and economically backward classes are key elements in achieving inclusive growth. Studies are also required on capabilities of women by providing education, so that they get the opportunity of getting employed and be self sustainable in terms of inclusive growth. Education needs to be interpreted in a broad sense, to cover skill-generating activities and training, in addition to the usual literacy programmes and formal and non-formal educational activities. No doubt, this research study will focus on reviewing the current progress and development of education in Karnataka and to identify challenges in education for inclusive growth. Further, it will also focus on the following questions. They are:-

1) What are the current challenges across different levels of education?
2) Has the regional and gender disparities in terms of literacy rates across districts in the state have reduced over time or not?
3) Whether the educational disparities between the social groups and across districts have reduced over time?
4) If there is a reduction in educational differences between the social groups, is it steady across different educational levels or is it unduly concentrated at certain educational stages?

5) How far the educational policies and reforms in Karnataka have been effective in achieving the objective of inclusive growth?

1.6 Need and Significance of the Study

The recent five year plans i.e., 11th and 12th have aimed at the objective of fostering inclusive growth in the country. Mr. Jeffrey, Chairman and CEO of Manpower Planning, USA argues that “The best way to achieve Inclusive Growth is through developing people’s education and skills.” Prof. Janadhyta Tilak has also stressed the importance of education in the context of inclusive growth. The Approach Paper of 12th Five Year Plan quotes that, “Education is the single most important instrument for social and economic transformation. A well-educated population, adequately equipped with knowledge and skill is not only essential to support economic growth, but is also a pre-condition for growth to be inclusive, since it is the educated and skilled person who can stand to benefit most from the employment opportunities which growth will provide.”

It is a universal fact that Educational development has become a vital component for achieving inclusive growth in any state. Education is one of the areas benchmarked by inclusive growth for achieving monitorable targets. It is considered one of the basic necessity of life next to food, clothing and shelter. It is also been made a fundamental human right with the introduction of Right to Education Bill. Further in the present context, there is no denying the fact that, disparities continue to exist not only between states, but as well as within the districts of the states and the disparities varies among regions, gender and social groups. It has become necessary to study inclusive growth in education sector at rural-urban levels, across male and female segments and across social groups such with a special attention to redressal of educational disparities. Therefore the progress of education development in the state has to be viewed from the perspective of redressing the disparities and imbalances in the educational indicators. Karnataka state in particular has remained partially successful in improving the educational standards and not all religious, socio-economic groups and geographical regions have been able to be benefitted in a equitable manner through the gains of economic growth. Since the onset of recent
surveys, it is therefore needed to undertake a study which tracks the progress of education in terms of inclusive growth of the state on the lines of gender, region, social groups such as SCs, STs and minorities. In view of this, the research study titled “Educational Development in Karnataka – It’s Challenges for Inclusive Growth” needs to be carried out which has got more relevance in the current scenario so as to benefit the research community and also to enable policy-makers to formulate educational policies and implications to the state.

1.7 Objectives of the Study

The study proposes to examine and analyse the development of education in Karnataka and also to identify the challenges for inclusive growth in the state. Based upon the research gaps identified through the review of literature, the following objectives pertaining to the study have been outlined. They are as follows:

1) To analyze the trends in educational indicators with regard to gender, place and social groups in Karnataka. With regard to above objective, the following variables are taken into analysis. They are:

<table>
<thead>
<tr>
<th>General Education</th>
<th>Elementary Education</th>
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<tbody>
<tr>
<td>Literacy Rate of State - rural, urban, gender and SC&amp;ST</td>
<td>Worker's Participation Rates by elementary level</td>
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<tr>
<td>District wise Literacy Rate - rural, urban gender and SC&amp;ST</td>
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<tr>
<td>District wise literacy rate of SC&amp;ST across gender.</td>
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<tr>
<td>Worker's Participation Rates by literates and illiterates</td>
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<tr>
<td>Number of Elementary schools across rural and urban</td>
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<tr>
<td>Elementary schools across districts per 100 sq.km and per lakh population</td>
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<tr>
<td>Enrolment across Gender and Social groups (SC/ST/OBC)</td>
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<tr>
<td>District-wise enrolment across gender and social groups (SC&amp;ST)</td>
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<tr>
<td>Gross Enrolment Ratio (GER) across gender and social groups (SC&amp;ST)</td>
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<tr>
<td>GER of Elementary Education based on Census</td>
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<tr>
<td>Gross and Net Enrolment Ratio across primary and upper-primary</td>
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<tr>
<td>District-wise Gross Enrolment Ratio across primary and upper-primary</td>
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<tr>
<td>Drop-Out Rate and Retention Rate across gender and social groups (SC&amp;ST)</td>
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<td>Transition Rate across gender</td>
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<tr>
<td>Pupil-Teacher Ratio and Infrastructural facilities across state and across districts</td>
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<tr>
<td>Gender wise Passing Percentages across primary and upper-primary</td>
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<tr>
<td>Educational Development Index for Elementary Education</td>
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<tr>
<td>Worker's Participation Rates by elementary level</td>
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</table>
2) To examine the pattern of expenditure incurred on different levels of education in Karnataka in context of inclusive growth. With regard to above objective, the following variables are taken into analysis. They are:-

<table>
<thead>
<tr>
<th>General Education</th>
<th>Allocated Budget and Total Expenditure on Education</th>
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<tbody>
<tr>
<td></td>
<td>Share of Education Expenditure to the total expenditure of State, to the allocated budget, to the social service expenditure and to the GSDP</td>
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<tr>
<td></td>
<td>Real Education Expenditure</td>
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<td></td>
<td>Nominal and Real Per-capita Education Expenditure</td>
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<td></td>
<td>Gender Budgeting on Education</td>
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<tr>
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<td>Scheduled Caste Sub Plan and Tribal Sub Plan for Education</td>
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<th>Elementary Education</th>
<th>Allocated Budget and Total Expenditure on Elementary Education</th>
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<td></td>
<td>Elementary Education Expenditure in Real terms</td>
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<td></td>
<td>Share of Elementary Education Expenditure to the total Education Expenditure of State, to the allocated budget on Elementary Education, to the social service expenditure and to the GSDP</td>
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<td>Nominal and Real Per-capita Expenditure on Elementary Education</td>
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<th>Secondary Education</th>
<th>Allocated Budget and Total Expenditure on Secondary Education</th>
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<td></td>
<td>Secondary Education Expenditure in Real terms</td>
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<td>Share of Secondary Education Expenditure to the total Education Expenditure of State, to the allocated budget on Secondary Education, to the social service expenditure and to the GSDP</td>
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<td>Nominal and Real Per-capita Expenditure on Secondary Education</td>
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<th>Higher Education</th>
<th>Allocated Budget and Total Expenditure on Higher Education</th>
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<td></td>
<td>Higher Education Expenditure in Real terms</td>
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<td></td>
<td>Share of Higher Education Expenditure to the total Education Expenditure of State, to the allocated budget on Higher Education, to the social service expenditure and to the GSDP</td>
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<td></td>
<td>Nominal and Real Per-capita Expenditure on Higher Education</td>
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3) To identify and comment upon the government’s schemes and programmes in the Karnataka’s education system with special focus on inclusive growth. With regard to above objective, the following framework has been identified to be commented upon.

<table>
<thead>
<tr>
<th>Elementary Education</th>
<th>Mid-Day Meal Scheme (MDM)</th>
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<tr>
<td></td>
<td>Sarva Shiksha Abhiyan (SSA) and its sub-programmes NPEGEL and KBGV</td>
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<td></td>
<td>Incentives of Central and State Government</td>
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<tr>
<td>Secondary Education</td>
<td>Rashtriya Madhyamik Shiksha Abhiyan (RMSA)</td>
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<td></td>
<td>Incentives of Central and State Government</td>
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<tr>
<td>Higher Education</td>
<td>Rashtriya Uchchatar Shiksha Abhiyan (RUSA)</td>
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<tr>
<td></td>
<td>Incentives of Central and State Government</td>
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</tbody>
</table>

4) To identify the challenges across different levels of education for achieving inclusive growth in Karnataka

1.8 Hypotheses of the Study

The present study has attempted to test the following hypothetical statements. They are:-

1) The regional and gender disparity in literacy rates among districts of Karnataka has widened over the years.
2) There is strong positive association between Gender Parity Index of Gross Enrolment Rate and Retention Rate of females, whereas there is negative association between Gender Parity Index of Gross Enrolment Rate and Dropout rate of females at both elementary and secondary level.
3) There is significant relationship between Pupil Teacher Ratio with drop-out rate and total enrolment at elementary level of education in Karnataka.
4) The growth in educational expenditure and per-capita educational expenditure of the state in real terms have almost reduced to half in comparison to the growth in educational expenditure and per-capita educational expenditure of the state in nominal terms at each level of education.
1.9 Data Base of the Study

The study is entirely based on Secondary data and information. Annual reports of Education Departments; Karnataka Budget Documents- “Volume 3 Detailed list of Expenditure” of various years, Census Documents of GOI, Reports of NUEPA such as “State Report Cards”, “District Report Cards” and “Flash Statistics”; Reports of Ministry of Human Resource Development such as “Selected Educational Statistics”, “Statistics of School Education”, “Results of High School and Higher Secondary Examinations” and “Statistics on Higher and Technical Education in India” are used. Apart from that, data is also collected from publications of Directorate of Economics and Statistics namely “Statistical Abstract of Karnataka” & “Karnataka at a Glance” of respective years; Reports of ASER; Publications of NCERT and Economic Survey of the State of various years.

1.10 Analytical and Statistical Tools

The information collected from various sources will be tabulated and presented in the form of tables and charts. The statistical and analytical methods employed in the study are Averages, Indices, Percentages, Annual growth rates, Average Annual Growth Rates, Compound Annual Growth Rates, Range, Coefficient of variation and Correlation Co-efficient.

a) **Averages:** It is calculated by obtaining the sum of the observations and dividing it by the number of observations.

b) **Percentages:** It is used here in the context of arriving at share of literacy rates, enrolment across gender and social groups, share of education expenditure etc. For example, in case of arriving the share of literacy rates across gender, it is arrived by dividing the male/female literate population of age group 7 years and above with that of total population of age group 7 years and above.

c) **Compound Annual Growth Rate (CAGR):** It is used to estimate the growth of a particular variable over a period of time. The formula for calculating the CAGR is as follows

\[
\text{CAGR} = \left( \frac{\text{Ending Value}}{\text{Beginning Value}} \right)^{\frac{1}{\text{# of years}}} - 1
\]
d) Gender Parity Index (GPI): It is used in the context of analyzing literacy rates, Gross Enrolment Ratios, Worker’s and Non-worker’s Participation Rates. It is arrived by dividing the female value to the male value. The value of GPI usually lies between 0 to 1. The value closer to 1 indicates that there is lesser gender disparity. This helps in understanding the position of females compared to male counterparts.

e) Regional Parity Index (RPI): It is used in the context of analyzing literacy rates across rural and urban. It is calculated by dividing the rural literacy rate with that of urban literacy rate. Here also the value of RPI lies between 0 to 1.

f) Correlation: The coefficient of correlation is a statistical device which helps us in analyzing the co-variation of two or more variables. When the relationship is of quantitative nature, the appropriate statistical tool for discovering and measuring the relationship and expressing is Correlation. The statistical formula is as follows

\[ r = \frac{N \sum XY - \sum X \sum Y}{\sqrt{(N \sum X^2 - (\sum X)^2)(N \sum Y^2 - (\sum Y)^2)}} \]

(g) Co-efficient of Variation (CV): It is a statistical measure used to identify the disparities and variations across the regions. In statistical parlance, it is calculated by dividing the Standard Deviation (SD) of the observation to that of Mean of the observation (M) multiplied by 100.

h) Infrastructure Index: It is an analytical method wherein simple index calculation is made across districts. There are around eight basic infrastructural facilities. All these are positive indicators. Therefore at first level, the formula being \((\text{Actual Value} - \text{Minimum Value}) / (\text{Maximum Value} - \text{Minimum Value})\) is used. At the second level, the average of all the index values of eight basic infrastructural facilities is derived which is termed as the Infrastructure Index.
The educational development in Karnataka is analysed with the help of percentages, averages, growth rates, range and coefficient of variation. Further growth rates and percentages is used to understand the pattern of expenditure on different levels of education. The hypotheses of the study are being tested using Co-efficient of Variation and Correlation co-efficient and growth rates.

1.11 Area and Period of the Study

This research study will be concentrating on different levels of education in Karnataka. An attempt is made to understand the trend of literacy rates across the districts of Karnataka. With regard to literacy rates, decadal census conducted by Government of India covering 1991, 2001 and 2011 census will be used. With regard to educational indicators across different levels of education, the study will capture the trend across Karnataka as a whole covering the period from 2000 onwards to the latest available. Across districts, the data will be analyzed at two periods of time.

1.12 Limitations of the study

The study found the following limitations. They are:-

1) With regard to education expenditure, the study concentrates only on the State level public expenditure incurred at different levels of education. Further there is lack of availability of break-up of total expenditure of education across the districts of the state over the years. Hence this posed a constraint in analyzing the education expenditure from the context of inclusive growth.

2) There is lack of availability of data with regard to district-wise Gross Enrolment Ratio at secondary and higher levels of education. Therefore the study couldn’t analyze the district-wise gross participation at secondary and higher education.

3) It could not also analyse the participation of minorities and Other Backward Classes across secondary and higher education due to non-availability of data.
4) The study also couldn’t analyze the output efficiency of higher education, because the data regarding the passing percentages at General Degree and Professional colleges were not available.

1.13 Structure of the Study

The present study titled “Educational Development in Karnataka – It’s Challenges for Inclusive Growth” is divided into six chapters.

Chapter 1 Introduction and Research Design: It deals with the introductory part and Research Design of the study. It includes the need and significance of the study, statement of the problem, detailed theme based literature review, research gap and issues, Conceptual and variable framework, Objectives, Hypotheses, Database, Tools and techniques, scope, coverage, limitations and Chapterization of the study.

Chapter 2 General Education Profile of the State: This chapter has given a profile of Karnataka with regard to education. It has provided the trends in literacy rate with regard to regions, gender and social groups. Further it has also focused on analyzing the total education outlay and expenditure incurred in the state.

Chapter 3 Elementary Education and Inclusive Growth: This chapter has looked upon the progress of elementary education with an inclusive growth approach. Further it has commented upon the various Government schemes and programmes in the state with regard to development of elementary education and has also identified the challenges in elementary education for achieving inclusive growth in the state.

Chapter 4 Secondary Education and Inclusive Growth: This chapter has looked upon the progress of secondary education with an inclusive growth approach. Further it has commented upon the various Government schemes and programmes in the state with regard to development of secondary education and has also identified the challenges in secondary education for achieving inclusive growth in the state.
Chapter 5 Higher Education and Inclusive Growth: This chapter has looked upon the progress of higher education with an inclusive growth approach. Further it has commented upon the various Government schemes and programmes in the state with regard to development of higher education and has also identified the challenges in higher education for achieving inclusive growth in the state.

Chapter 6 Findings, Suggestions and Conclusion: This chapter ends up the study. It has listed out the major findings, suggestions and provided conclusion that will be useful for the research community and also to the policy makers.