



Development of social infrastructure of primary school in Karnataka: An over view

Dr. Avinash T

Regional Office, Department of Collegiate Education, Shivamogga, Karnataka, India

Abstract

The term social infrastructure is used to include those facilities which tend to improve the quality of human life. It has acquired a very important role in Indian economy because it performs the task of development of human resources through education, health, training, skill generation, research and development to enhance efficiency of the production mechanism to ensure an orderly pace of social and economic development. Social infrastructure promoted human capital formation. Economists like Bodin and William Petty attempted to measure the value of human capital and showed that returns to investment in human capital are very high.

Keywords: social development, education, human development index, facilities at school

1. Introduction

Education has a significant role to play in the developing of countries. On one hand, it fulfills its function in providing qualitative and quantitative labor required in the development process, while on the other hand, with its production and dissemination of knowledge function, it encourages countries to follow and develop modern manufacturing technologies and to transfer them to the production process. The increase in labor productivity as the level of education increases affects the competitiveness of countries positively and facilitates openness. Differences in education level are one of the main reasons of economic performance differences between developed and developing countries.

As one of the most important components of human capital, improvements in educational status are the source of significant increases in individual earnings with the contributions to business life such as increasing productivity, and thus the wages and employment opportunities of the individuals, whereas the risk of unemployment is decreased. With these aspects, increasing the level of education stands out as an effective political instrument in the struggle against unemployment and poverty especially in developing countries. The fact that education has important effects on economic growth and human development today is accepted beyond argument. The studies to display the effect of education and education expenditures on growth are highly important in Economics theory. There is a wide range of literature on this issue (Merican, 2013).

Right from the beginning of the civilization, efforts have been made promote and advance development which, broadly speaking refers to the planned and directed change for prosperity and well-being of the people living in the society. In fact, the prime role of the state is to ensure a minimum desirable standard of living for its entire population, from time to time.

After attaining independence, efforts to develop social sector were also taken up and given equal weight age just like the economic sector. But on the social sector front, the progress

achieved was relatively slow and its impact a mixed one.

The term social infrastructure is used to include those facilities which tend to improve the quality of human life. It has acquired a very important role in Indian economy because it performs the task of development of human resources through education, health, training, skill generation, research and development to enhance efficiency of the production mechanism to ensure an orderly pace of social and economic development.

Social infrastructure promoted human capital formation. Economists like Bodin and William Petty attempted to measure the value of human capital and showed that returns to investment in human capital are very high.

Prof. Schultz argued that the expenditure on education, health, contributes to increase in labor productivity by raising the quality of population and these yield a flow of returns in future.

The issue of development of the social sector has acquired increased importance in recent times. In this context, social sector development is the primary responsibility of the government particularly in the context of the ongoing economic reforms. In this article an attempt has been made to trace the developments in the social infrastructure in Karnataka.

2. Objective of the study

1. To Study the Growth of Primary Schools in Karnataka.
2. To analysis the district wise educational Infrastructure Index in Karnataka.
3. To study the district wise different facilities at schools in Karnataka.
4. To study the Student Teacher Ratio at primary school in Karnataka.

3. Methodology and Data source

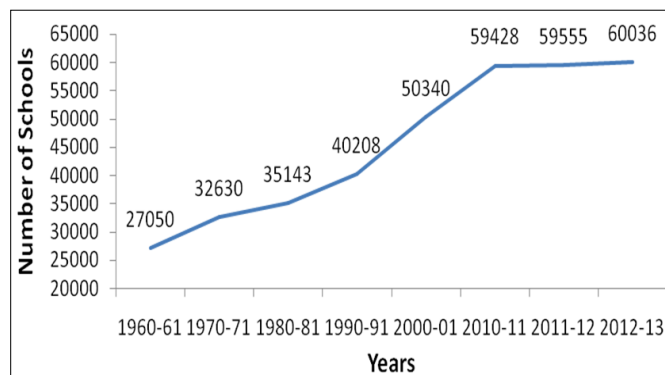
The study is based on secondary sources of data. The required data has been obtained from following sources: Indian Public Finance Statistics, RBI Bulletin, Budgetary Documents, SSA

Annual Reports of Karnataka, Human Development Report (UNDP), National Human Development Report (2002), CSO, and Economic Survey.

3.1 Growth of primary schools in Karnataka

Table 1 shows year wise decadal compound annual growth rate of primary school in Karnataka from 1960-61 to 2012-13. It is found that growth rate of primary schools grown at the rate of 1.88 per cent per annum from 1960-61 to 1970-71. The growth rate was very low (0.74 per cent, per annum) in the second decade, which was from 1970-71 to 1980-81. The second decade has the lowest growth rate among the selected decades. Further, in third decade, which was from 1990-91 to 2000-01, had the highest compound annual growth rate of 2.25 per cent among the selected decades. Compound annual growth rate from 1960-61 to 2012-13 (total of 52 years) was 1.53 per cent per annum. Totally, the number of primary schools increased significantly from 27050 in 1960-61 to

60036 in 2012-13 (Figure 1 and Table 1).



Source: Computed from the data available from SSA Annual Report.

Fig 1: Growth of Primary Schools in Karnataka from 1960-61 to 2012-13

Table 1: Decade-wise Compound Annual Growth Rate (CAGR) of Primary Schools in Karnataka, from 1960-61 to 2012-13

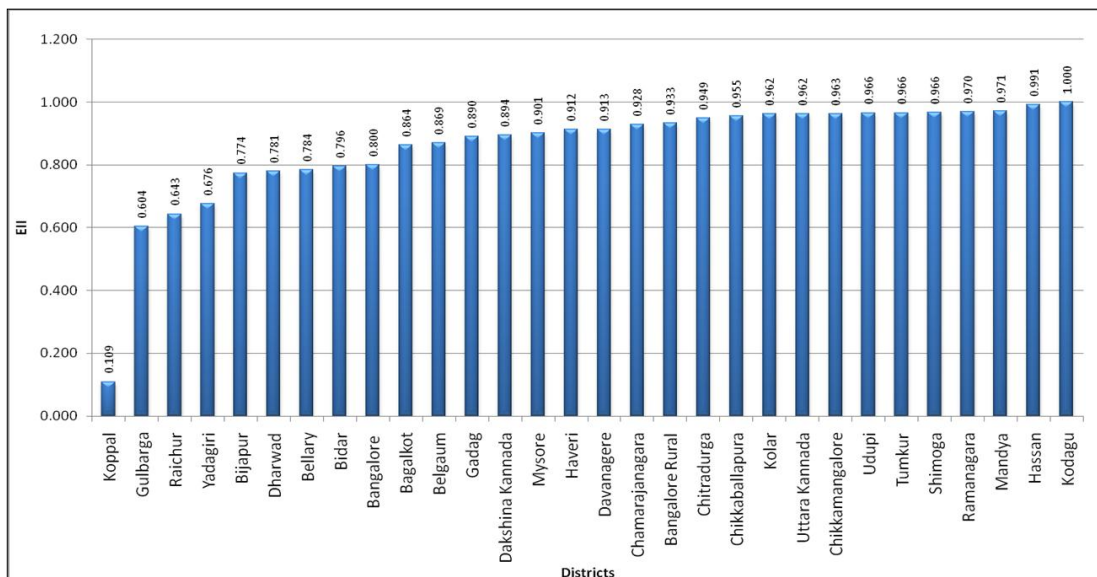
Period	CAGR
1960-61 to 1970-71 (10 years)	1.88
1970-71 to 1980-81 (10 years)	0.74
1980-81 to 1990-91 (10 years)	1.35
1990-91 to 2000-01 (10 years)	2.25
2000-01 to 2010-11 (10 years)	1.66
1960-61 to 2012-13 (52 years)	1.53

Source: Computed from the data available from SSA Annual Report

3.2 District wise educational infrastructure index in Karnataka

Construction of educational infrastructure index is being done by DISE every year. It gives us very meaningful analysis on infrastructure, accessibility and status. In this section infrastructure index of educational development index has been taken for the year 2012-13 for all the 30 districts, which has been presented in Figure 2. It is found that Kodagu is in the top position in educational infrastructure index with the value of 1.

Contrary to this Koppal with the index value of 0.109 has been found in the last position. The top five districts in infrastructure index are from south Karnataka region only, and they are Kodagu, Hassan, Mandya, Ramanagara and Shivamogga. Out of these five districts, except Ramanagara remaining all four districts are from Mysuru division. The bottom five districts, except Bijapur, remaining four districts namely Koppal, Gulbarga, Yadgiri and Raichur are from Hyderabad Karnataka, which means they are from Gulbarga division.



Source: Education in Karnataka, 2013-14. An Analytical Report, SSA, GoK, Dept. of Public Instruction.

Fig 2: District wise Education Infrastructure Index of EDI in Karnataka, 2012-13

It is clear from the figure that north Karnataka region is underdeveloped in infrastructure index in general and Hyderabad Karnataka in particular. Educational status of Hyderabad Karnataka region is lower. In such circumstances infrastructure facility should be improved for development of educational level in the region very urgently.

Table 2: Inter-district Disparity in Education Infrastructure Index of EDI in Karnataka, 2012-13

Divisions/ Regions	CV (%)
Belgaum	7.86
Gulbarga	42.07
Bengaluru	5.75
Mysuru	4.16
North	29.34
South	4.98
State	20.56

Source: Computed from data available from Education in Karnataka, 2013-14. An Analytical Report, SSA, GoK, Dept. of Public Instruction.

In Table 2 inter-district disparity in education infrastructure index of EDI in Karnataka for the year 2012-13 has been presented. It is found that south Karnataka (CV-4.98%) has very lower inter district disparity than north Karnataka (CV-29.34%). Among the divisions Mysuru (CV-4.16%), Bengaluru (CV-5.76%) and Belgaum (CV-7.86%) divisions have more or less similar inter-district disparity, whereas, Gulbarga (CV-42.07%) has very high inter-district disparity. Gulbarga division is not only lower in infrastructure facilities but also huge regional imbalances within it, which has been taken care at present.

3.3 Different Facilities at schools

In the ancient India days, schools (Gurukuls) had been considered like temples. Now also in villages schools are called as Shaligudi (especially in north Karnataka). Further,

teachers (Guru) are considered not only as God but also more than God, which is evident from one saying in Kannada "...*Hari muniyalu Hara kayvanu, Hara Muniyalu Guru Kayvanu, Guru Muniyalu Harnu Kaypan Harinu Kaypan.....*" which means Guru will protect you, when god is angry on you, but when Guru is angry on you, no God in this world will protect you. Hence, teachers and schools have been given more importance in India till days also. Hence, schools should be provided with basic facilities like toilets for girls and boys, electricity, play ground, ramps, laninary, compound and drinking water etc.

In case of toilet facility, the state has more or less 100 per cent toilets for girls and boys separately for the year 2012-13, except one or two exception (Chikkamagaluru, Tumkur and Chikkaballapura above 99%). Among the 30 districts of the state, electricity is found in all the schools of 22 districts. In Koppal only 96.4 per cent of schools have electricity facility. With respect to play grounds, 56 per cent of schools in the state have this facility. Between north and south, north Karnataka has 61 per cent of schools with play grounds, whereas, in south only 52.2 per cent of schools have this facility. Among the divisions the schools found in Belgaum with 66.9 per cent and Mysuru with 57.2 per cent divisions have higher share of schools with play grounds as compared to Gulbarga with 54.9 per cent and in with Bengaluru 48.4 per cent. None of the districts has 100 per cent of schools with play grounds in the district.

Compound wall is another facility for primary schools, around 75 per cent of primary schools in the state have compound walls. South is in the better-off condition in this facility with 80 per cent of schools, while north has only 68.6 per cent of schools. Among the divisions Mysuru and Bengaluru have more percentage of schools with compound walls than Belgaum and Gulbarga divisions. All most all schools of the state have drinking water facility within the school premises (Table 3).

Table 3: Division and District-wise Infrastructure Facilities in Primary Schools in Karnataka, 2012-13

Districts	Boys Toilet	Girls Toilet	Electri-city	Play Ground	Ramps	Laniary	Compound Wall	Drinking Water
Bagalkot	100	100	100	65	95.9	99.8	82.7	100
Belgaum	100	100	100	65	100	99.9	73.2	100
Bijapur	100	100	100	73	100	99.7	50.6	100
Dharwad	100	100	100	65	98.8	100	74.0	100
Gadag	100	100	100	74	99.4	99.8	90.3	100
Haveri	100	100	100	59	91.3	100	77.6	100
Uttara Kannada	100	100	100	69	89.9	99.8	76.1	99.9
Bellary	100	100	100	50	87.2	100	70.5	100
Bidar	100	100	100	70	99.9	100	62.0	100
Gulbarga	100	100	100	51	100.0	100	64.0	100
Koppal	100	100	96.4	61	85.5	97.4	79.6	100
Raichur	100	100	100	52	70.4	95.9	64.5	100
Yadagiri	100	100	100	47	100	100	50.9	100
Bengaluru Rural	100	100	99.2	41	69.4	99.4	83.2	100
Bengaluru Urban	100	100	100	56	60.7	100	84.4	100
Chikkaballapura	100	100	100	44	49.6	99.9	69.5	100
Chitradurga	99.9	100	100	54	99.7	100	71.8	100
Davanagere	100	100	100	54	90.1	99.9	84.5	100
Kolar	100	100	99.9	53	90.3	100	73.0	100
Ramanagara	100	100	100	40	58.6	100	71.3	100
Shivamogga	100	100	99.4	58	63.3	99.8	90.0	99.8

Tumkur	99.9	99.9	100	38	56.8	99.9	77.0	100
Chamarajanagara	100	100	95.0	42	65.9	99.6	77.2	100
Chikkamagaluru	99.4	99.7	99.7	67	48.6	99.6	81.5	99.9
D Kannada	100	100	100	89	100	100	90.3	100
Hassan	100	100	100	50	57.5	100	78.2	100
Kodagu	100	100	99.3	81	100	100	92.0	100
Mandya	100	100	100	49	91.0	99.9	87.4	100
Mysuru	100	100	98.6	46	81.1	100	91.5	100
Udupi	100	100	97.5	74	99.8	100	55.8	100
North	100	100	99.8	61.0	93.6	99.4	68.6	100
South	99.9	100	99.5	52.2	73.2	99.9	80.0	100
Belgaum Div	100	100	100.0	66.9	96.7	99.9	71.8	100
Gulbarga Div	100	100	99.6	54.9	90.3	98.9	65.3	100
Bengaluru Div	100	100	99.8	48.4	71.8	99.9	77.8	100
Mysuru Div	99.9	100	99.2	57.2	75.2	99.9	83.0	100
State	100	100	99.6	56.0	81.5	99.7	75.4	100

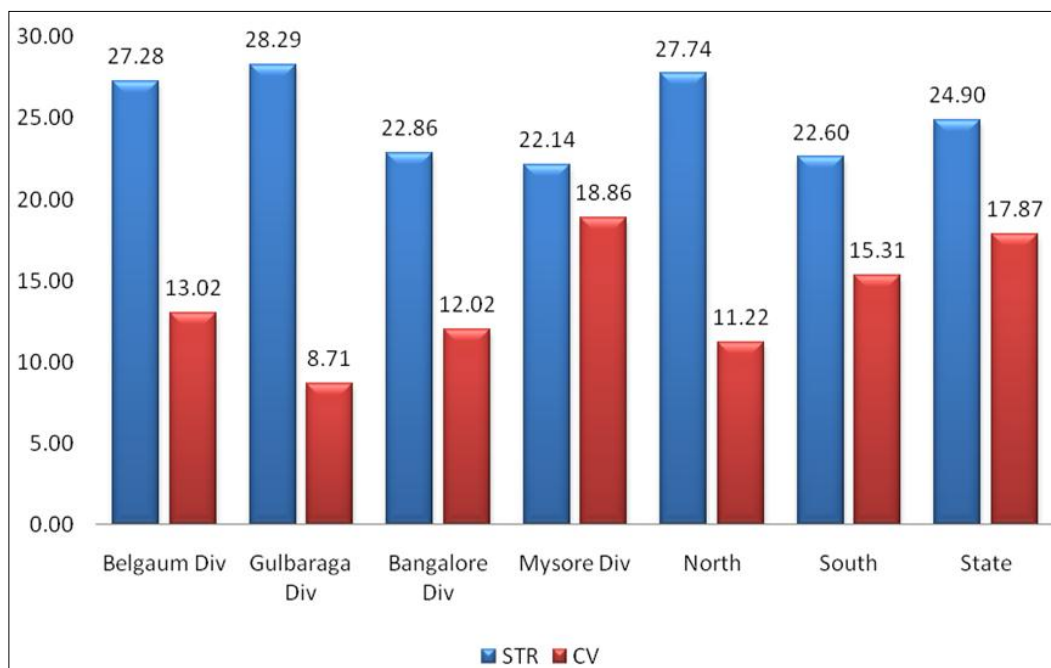
Source: Computed from the data available from SSA Annual Report and Karnataka at a Glance.

3.4 Student Teacher Ratio

Student teacher ratio (STR) plays a significant role in teaching as well as in the learning process. Good and adequate number of teachers is necessary for the development of school learning especially at the primary level. Table 4 and figure 3

reveals the information on student teacher ratio in Karnataka.

It is found that, per teacher around 25 students are there in primary schools. For north Karnataka STR is 1:27.74, while in south it is 1:22.60. It means number of teachers in northern part of the state is lower than that of southern part of the state.



Source: Computed from the data available from SSA Annual Report and Karnataka at a Glance.

Fig 3: Region and Division-wise Student Teacher Ratio (STR) and Inter-District Disparity in STR (CV)

Among the divisions, as it is observed the most of the indicators in this study, Mysuru and Bengaluru are in the good position with 22.14 and 22.86 students per teacher respectively. Belgaum and Gulbarga divisions are in the lower position with 27.28 and 28.29 students per teacher respectively. At the same time inter-district disparity is more in south Karnataka (CV-15.31%) than in north Karnataka (CV-22.60%). Among the divisions, Mysuru division has the highest inter-district disparity followed by Belgaum division, Bengaluru division and Gulbarga division. It is clear from the

analysis that number of teachers is high in south Karnataka but it is not distributed equally among the district.

Among the districts, Chikkamagaluru, Hassan, Bengaluru Rural and Uttar Kannada are in the top position. Out of them, except Uttar Kannada, remaining all districts are from southern part of the state. Out of 5 bottom districts, (namely, Yagiri, Bagalkot, Dakshina Kannada, Bijapur and Dharwad) except Dakshina Kannada, remaining all districts are from northern part of the state.

Table 4: Student Teacher Ratio in Primary Schools, 2012-13

District	Number of Total Enrolment	No. of Primary School Teacher			Students per Teacher	Rank
		Male	Female	Total		
Bagalkote	277070	5237	4108	9345	29.65	29
Belgaum	623341	11278	10936	22214	28.06	22
Bijapur	369480	7197	5337	12534	29.48	27
Dharwad	241179	2999	5433	8432	28.60	26
Gadag	140807	2737	2498	5235	26.90	20
Haveri	201813	4165	3717	7882	25.60	17
Uttara Kannada	160597	2859	5332	8191	19.61	5
Bellary	335725	5749	6137	11886	28.25	24
Bidar	307373	5436	5355	10791	28.48	25
Gulbarga	418007	6668	8187	14855	28.14	23
Koppal	203138	4049	3281	7330	27.71	21
Raichur	282715	5378	5433	10811	26.15	19
Yadagiri	177937	3097	2211	5308	33.52	30
Bengaluru R	977360	6500	30891	37391	26.14	18
Bengaluru U	103715	2320	3416	5736	18.08	3
Chickballapur	143895	3488	3555	7043	20.43	7
Chitradurga	196409	4487	4441	8928	22.00	11
Davangere	245794	5082	5020	10102	24.33	15
Kolar	177184	3374	5251	8625	20.54	8
Ramnagara	107033	2333	3260	5593	19.14	4
Shivamogga	200921	3746	5119	8865	22.66	12
Tumkur	280981	6305	7869	14174	19.82	6
Chamarajanagar	102831	2130	2271	4401	23.37	13
Chikkamagaluru	117433	3317	3746	7063	16.63	1
D. Kannada	234418	1671	6275	7946	29.50	28
Hassan	177167	4699	5496	10195	17.38	2
Kodagu	62875	653	2356	3009	20.90	9
Mandya	176816	3836	4568	8404	21.04	10
Mysuru	330685	5105	8778	13883	23.82	14
Udupi	115341	1623	2980	4603	25.06	16
Belgaum Div	2014287	36472	37361	73833	27.28	
Gulbaraga Div	1724895	30377	30604	60981	28.29	
Bengaluru Div	2433292	37635	68822	106457	22.86	
Mysuru Div	1317566	23034	36470	59504	22.14	
North	3739182	66849	67965	134814	27.74	
South	3750858	60669	105292	165961	22.60	
State	7490040	127518	173257	300775	24.90	

Source: District at Glance, GOK.

Table 5: Division-wise Districts, which have Highest and the Lowest Student Teacher Ratio in Primary Schools, 2012-13

Divisions	Highest	Lowest
Belgaum	Uttara Kannada	Bagalkote
Gulbarga	Raichur	Yadagiri
Bengaluru	Ramnagara	Davangere
Mysuru	Dakshina Kannada	Chikkamagaluru

Information related to Division wise districts, which have highest and the lowest Student Teacher Ratio in Primary Schools in the 2012-13 has been depicted for further analysis in Table 5.

4. Conclusion

Number of primary schools in Karnataka has increased significantly from 27050 in 1960-61 to 60036 in 2012-13 with the compound annual growth rate of 1.53 per cent. In Karnataka around 98 schools are found for per lakh population. There is no significant difference with respect to

northern and southern regions are concerned. North Karnataka has 98.3 schools, and south Karnataka has 98.2 schools per lakh population. Mysuru division is in the better-off position with 104.1 primary schools per lakh population. Surprisingly, Gulbarga division is in the second position with 99.2 primary schools per lakh population. Third and fourth positions are occupied by Belgaum (97.7 schools) and Bengaluru (94.9 schools) divisions respectively during the same period.

Hassan, Chikkamagaluru and Tumkur have more number of primary schools per lakh population. Districts like Udupi, D. Kannada, Dharwad and Gadag have less number of schools per lakh population.

Among the top five districts, in infrastructure index are from south Karnataka region only, and they are Kodagu, Hassan, Mandya, Ramanagara and Shivamogga. Out of these five districts, except Ramanagara remaining all four districts are from Mysuru division. Among the bottom five districts except Bijapur remaining four districts viz., Koppal, Gulbarga, Yadgiri and Raichur are from Hyderabad Karnataka.

In most of the education infrastructure facilities, North Karnataka region is found as backward in general and Hyderabad Karnataka region in particular. Hence, to improve the education level of the region education infrastructure facilities should be improved in all the divisions. More importance should be given to the rural area of backward regions so that overall improvement can be achieved in the state.

5. References

1. Various SSA Annual Reports.
2. Education in Karnataka, GOK, Dept of Public Instruction.
3. District at Glance, GOK.
4. Adi Muktha S. Public Expenditure on Social Sector in India, Indian Journal of Regional Science. 2004, 36(2).
5. Becker G. Investment in Human Capital, A Theoretical Analysis. Journal of Political Economy LXX (Supplement). 1962.
6. Becker GS. Human Capital - A Theoretical and Empirical Analysis : With Special Reference to Education, National Bureau of Economic Research, New York. 1964.
7. Colclough C. Primary Schooling and Economic Development Review of Evidence, World Bank Staff Working Paper 399, World Bank, Washington D.C. 1980.
8. Hanson John W, Brembeck Cole S (eds.). Education and the Development of Nations, Engle Press, East Lansing, Mich. 1965.
9. Joshi Seema. Impact of Economic Reforms on Social Sector Expenditure in India, Economic and Political Weekly. 2006.
10. Kaur K, Bawa RS. Expenditure on Social Sector Incidence of Poverty in India an Inter-state Analysis, Indian Journal of Regional Sciences. 2000; 42(2).
11. Kumar Pankaj, Shirma PN. Progress of Human Development in India Issues Relating to Education and Health, Indian Economic Association, 89 Annual Conference. 2006.
12. Rajkumar AS, Swaroop V. Public Spending and Outcomes: Does Governance Matter?, Journal of Development Economics. 2008, 86(1).
13. Ram Rati. Role of Education in Production: A Slightly New Approach, Quarterly Journal of Economics. 1980, 95(2).
14. Schultz TW. Education and Economic Growth, In: Social Forces Influencing American Education (Richey, H.G. ed.), Chicago. 1961.
15. Sengupta Keya. Public Expenditure on Education and Economic Reform, In: Social Sector Development in India (Sen Raj Kumar ed.), Deep & Deep Publications Pvt. Ltd., New Delhi. 2005.