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DISTRICTS WISE ANALYSIS OF HUMAN CAPITAL FORMATION IN KARNATAKA WITH RESPECT TO HEALTH INDICATORS

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Abstract:

The present paper examines districts wise analysis of human capital formation in karnataka. If a healthy person could provide uninterrupted labour supply for a longer period of time, then health is also a significant factor for economic growth. In order to study the performance of human development in Karnataka, the Health sector is considered. The study is based on secondary data sources like Karnataka at a Glance, Human Development Report, Karnataka (2005); The Karnataka State Integrated Health Policy, Department of Health and Family Welfare (GoK), The study area is karnataka state. The study is based on new growth theories such as endogenous growth theory. The disparities in health indicators across the districts in Karnataka. The disparity constructed across the broad divisions of Karnataka e. g the South Karnataka and North Karnataka. The disparity has declined significantly in majority of indicators both in North and South Karnataka such as pregnant women receiving full ANC, Institutional Deliveries and Percentage of Children Fully Immunized. Similarly, the disparity has risen in some indicator such as percentage of children fully immunized and average population served by PHCs, especially in North Karnataka and as well as in overall Karnataka.

Key Words: Human Capital Formation, Health, ANC (Antenatal care), Institutional Deliveries, Children Fully Immunized & PHCs (Primary Health Centers).

1. Introduction:

The present paper examines districts wise analysis of human capital formation in karnataka, here Health sector is consider, classified karnataka state districts like north karnataka and south karnataka. The term human capital arrangement infers the advancement of capacities and aptitudes among the number of citizens in the nation. To change the obligation of the tremendous size of populace into resources selection of different method for human capital development is particularly fundamental. As indicated by T.W. Schultz, there are five methods for creating human resource:

(i) Health offices and administrations, comprehensively considered to incorporate all consumption that influence the future, quality and stamina, and the force and imperativeness of the general population; (ii) In at work preparing, including help sort apprenticeships composed by firms; (iii) Formally sorted out training at the basic, supplementary and more elevated amounts; (iv) Study programs for grown-ups that are not sorted out by firms, incorporating expansion programs eminently in farming; (v) Migration of people and families to acclimate to changing openings for work.

2. Theoretical Framework:

2.1 The Endogenous Growth Theory:

The endogenous growth theory was developed as a reaction to omissions and deficiencies in the Solow-Swan neoclassical growth model. It is a new theory which explains the long-run growth rate of an economy on the basis of endogenous factors as against exogenous factors of the neoclassical growth theory. The Solow-Swan neoclassical growth model explains the long-run growth rate of output based on two exogenous variables: the rate of population growth and the rate of technological progress and that is independent of the saving rate. As the long-run growth rate depended on exogenous factors, the neoclassical theory had few policy implications. As pointed out by Romer (1990) "In models with exogenous technical change and exogenous population growth, it never really mattered what the government did."The new growth theory does not simply criticise the neoclassical growth theory. Rather, it extends the latter by introducing endogenous technical progress in growth models. The endogenous growth models have been developed by Arrow, Romer and Lucas, among other economists. We briefly study their main features, criticisms and policy implications. The endogenous growth models emphasise technical progress resulting from the rate of investment, the size of the capital stock, and the stock of human capital.

2.2 Policy Implications of Endogenous Growth Theory:

- ✓ This theory suggests that convergence of growth rates per capita of developing and developed countries can no longer be expected to occur. The increasing returns to both physical and human capitals imply that the rate of return to investment will not fall in developed countries relative to developing countries.

In fact, the rate of return to capital in developed countries is likely to be higher than that in developing countries. Therefore, capital need not flow from the developed to the developing countries and the reverse may happen.

- ✓ Another implication is that the measured contribution of both physical and human capitals to growth may be larger than suggested by the Solow residual model. Investment on education or research and development of a firm has not only a positive effect on the firm itself but also spillover effects on other firms and hence on the economy. This suggests that the residual attributed to technical change in the Solow growth accounting may be much smaller.

3. Review of Literature:

Schultz (1999) overviewed the basic in order and analytical methodologies which are most essential required tools to evaluate the productive returns to investments in public health were only opening to be assembled. There were strong indications that health limitations were a pricey burden on the productive potential of adults in Africa and it was explained in earlier experiential study of Schultz and Tansel in 1993. A third or more of the gains in labour productivity achieved in the last two hundred years in Western Europe were correlated to improvements in health, nutrition, and resulting gains in adult height. Scattered surveys indicated that advancements in sustenance were reflected in gains in adult height in Africa as they were in the previous period in Europe, and certainly life expectancy has risen more rapidly in Africa than it has in developed countries. But these recent health gains in low income countries were strongly related to increases in female education, per capita income, and in Africa with urbanization.

Buiter (1995) considered the effects of fiscal and financial policy on economic growth in open and closed economies, when human capital formation by young households were controlled by the illiquidity of human wealth. Both endogenous and exogenous growth versions of the basic growth and growth model were analysed. The study found that intergenerational redistribution policies which discouraged physical capital formation but encouraged human capital formation. in spite of common technologies and perfect international mobility of financial capital, the non-traded-ness of human capital and the illiquidity of human wealth make for constant differences in productivity growth rates in the endogenous growth version of the model or in their levels in the exogenous growth version. The study also considered the productivity growth (or level) property of public spending on education and of the distortionary taxation of financial asset income.

Galore (2011) examined the relationship between income sharing and economic development due to capital formation in the past century in advanced economies. Theory and subsequent empirical proof have demonstrated that income distribution has a significant impact on human capital formation and the development progression. In early stages of industrialization, as physical capital accumulation was a prime engine of growth, inequality improved the process of development by channeling resources towards individuals whose marginal tendency to save is higher. In later stages of development, however, as human capital has become a main mechanism of growth, equality, in the presence of credit constraints, has stimulated human capital formation and growth.

4. Objectives of the Study:

- ✓ To examine the district wise human capital formation in Karnataka with special reference to Health sector.
- ✓ To offer policy suggestions for the improvement of health infrastructure in Karnataka.

5. Methodology:

The study is based on secondary data sources, at present there are 30 districts in the state of karnataka. Since Chikkaballapur district was a part of Kolar district, Ramanagara district was a part of Bangaluru district and Yadgiri district was a part of Gulbarga district, the study contents statistics about only 27 districts of karnataka. On health data has been collected from Karnataka at a Glance, Human Development Report, Karnataka (2005); The Karnataka State Integrated Health Policy, Department of Health and Family Welfare (GoK), 2014 from the Performance of Districts, Taluks and Urban Local Bodies in Karnataka, 2014-A Snapshot document and for same indicators updated for 2001. In this study districts have been classified in to south and north Karnataka, On the basis of average values for the comparative purpose and assigned ranks for the districts. To make the study more effective, methods like, percentage and Coefficient of Variation (CV) have been used. The study area is karnataka state. The study is based on new growth theories such as endogenous growth theory.

6. Results and Discussion:

Health Status in Karnataka:

6.1 Pregnant Women Receiving Antenatal Care in Karnataka:

Table 6.1 indicates the percentage of pregnant women visiting antenatal care centers across the districts in Karnataka. Pregnant women have been provided with full ANC has increased drastically from 29.9 per cent in 2001 to 91.8 per cent in 2011 in Karnataka. It has also increased both in South Karnataka and North Karnataka. The increase was high in the North Karnataka that is at 65.5 per cent than in the South Karnataka at 59.3 percent.

Across the districts, the percentage of pregnant women receiving antenatal care was higher in Bengaluru Urban district with 55.7 per cent whereas lower was found in Davanagere district that is about 11.2 per cent in 2001. In the year 2011, there are three districts such as Chamarajanagar district in South Karnataka, Gadag in Bombay Karnataka and Raichur district in Hyderabad Karnataka have achieved 100 per cent in providing full antenatal care, whereas lower was found in the Vijayapura district that is 68.4 per cent. The disparity in the pregnant women receiving full antenatal care has declined drastically from 40 per cent to 9.4 per cent during 2001 and 2011.

Table 6.1: Percentage of Pregnant women receiving Full ANC in Karnataka

Districts	2001	2011	Difference Percent 2011-2001
South Karnataka	**34.9**	**94.2**	59.3
Bengaluru Urban	49.6	99.2	49.6
Bengaluru Rural	55.7	92.8	37.1
Chamarajanagar	36.5	100	63.5
Chikkamagaluru	40.9	99.3	58.4
Chitradurga	28.6	95.8	67.2
Dakshina Kannada	24.5	85.1	60.6
Davanagere	11.2	90.0	78.8
Hassan	27.2	93.0	65.8
Kodagu	35.7	88.5	52.8
Kolar	37.7	97.7	60.0
Mandya	35.1	94.5	59.4
Mysuru	15.1	97.2	82.1
Shivamogga	34.6	97.2	62.6
Tumakuru	41.8	98.7	56.9
Udupi	49.5	83.9	34.4
North Karnataka	**23.2**	**88.7**	65.5
Bagalkot	14.4	84.0	69.6
Belagavi	26.6	95.6	69.0
Ballari	19.1	79.7	60.58
Bidar	19.1	93.8	74.7
Vijayapura	16.2	68.4	52.2
Dharwad	28.0	74.4	46.4
Gadag	18.1	100	81.9
Kalaburgi	14.6	79.4	64.8
Haveri	36.6	100	63.4
Koppal	24.7	91.3	66.6
Raichur	25.5	100	74.5
Uttara Kannada	35.3	98.2	62.9
State	**29.9**	**91.8**	61.9
CV	**40.0**	**9.4**	

Sources: District Household Survey of Karnataka; Human Development: Performance of Districts, Taluks and Urban Local Bodies in Karnataka, 2014-A Snapshot report.

6.2 Institutional Deliveries Karnataka:

In the recent years the percentage of institutional deliveries has picked up significantly. Institutional deliveries or facility based births are often promoted for reduction in maternal and neo-natal mortality. Institutional deliveries also have beneficial impact on improvement of child health and reduction in malnutrition. As seen from the data provided in Table 6.2, the percentage of institutional delivers increased from 58 per cent to 97.3 per cent during 2001 and 2011, indicating an increase by closer to 39.3 per cent. It is found that institutional deliveries are more in South Karnataka as against to North Karnataka, the increase was much faster in North Karnataka at 51.6 per cent than in the South Karnataka at 27.1 per cent.

The highest institutional deliveries are seen in the Udupi district with 94.1 per cent. But the lowest was found in the two districts e.g. Koppal and Raichur districts that is about 20.6 per cent in 2001. Especially in the year 2011, in Bengaluru Urban district 100 per cent institutional deliveries are seen, whereas least institutional deliveries have been found in Raichur district with 91 per cent but the increase was very faster in this district compared to all districts. The disparity in the institutional deliveries has reduced significantly from 34 per cent in 2001 to 2.9 per cent in 2011 in Karnataka.

Table 6.2: Share of Institutional Deliveries in Karnataka

Districts	2001	2011	Difference Percent 2011-2001
South Karnataka	**70.9**	**98.0**	**27.1**

Bengaluru Urban	92.4	100	7.6
Bengaluru Rural	69.4	96.9	27.5
Chamarajanagar	71.5	98.6	27.1
Chikkamagaluru	70.0	96.6	26.6
Chitradurga	53.6	95.3	41.7
Dakshina Kannada	93.9	99.9	6.0
Davanagere	55.5	93.0	37.5
Hassan	65.9	99.0	33.1
Kodagu	75.8	99.3	23.5
Kolar	53.2	97.8	44.6
Mandya	70.2	99.7	29.5
Mysuru	64.9	99.2	34.3
Shivamogga	69.2	99.8	30.6
Tumakuru	63.9	99.3	35.4
Udupi	94.1	99.6	5.5
North Karnataka	**44.4**	**96.0**	**51.6**
Bagalkot	48.6	98.0	49.4
Belagavi	61.3	98.0	36.7
Ballari	25.4	95.5	70.1
Bidar	45.6	98.0	52.4
Vijayapura	57.2	91.2	34.0
Dharwad	60.1	99.1	39
Gadag	44.5	97.3	52.8
Kalaburgi	31.1	98.5	67.4
Haveri	43.0	97.0	54
Koppal	20.6	90.7	70.1
Raichur	20.6	91.0	70.4
Uttara Kannada	74.6	97.8	23.2
State	**58.0**	**97.3**	**39.3**
CV	**34.0**	**2.9**	

Sources: Karnataka Human Development Report 2005; Human Development: Performance of Districts, Taluks and Urban Local Bodies in Karnataka, 2014-A Snapshot report.

6.3 Average Population Served by Sub-Centers in Karnataka:

The average population served by a Sub centre increased from 4285 to 4629 during the same period, which is quite nearer to the norm (one Sub-centre for every 5000 population). The sub-centers were higher in North Karnataka than that of South Karnataka. Sub-centers were marked highest in North Karnataka districts as against of South Karnataka districts. Chitradurga district was having highest no. of sub-centers that is about 9422. Whereas, the lowest sub-centers were in Dakshina Kannada that is 2562 in 2001. And in 2011, Bagalkot district was having highest number of 7932 sub-centers, but the lowest was in Kodagu district that is 2416. The growths of sub-centers are more in the Kalaburgi district. The disparity across the districts has increased marginally from 34.2 per cent in 2001 to 35.4 in 2011 in Karnataka (Table 6.3).

Table 6.3: Average Population served by Sub-centers in Karnataka

Districts	2001	Rank	2011	Rank	Difference Percent 2011-2001
South Karnataka	**4206**		**3793**		-413
Bengaluru Urban	5551	4	4222	12	-1329
Bengaluru Rural	5154	6	3629	19	-1525
Chamarajanagar	4046	16	3317	23	-729
Chikkamagaluru	2741	26	2544	26	-197
Chitradurga	9422	1	4920	9	-4502
Dakshina Kannada	2562	27	4670	10	2108
Davanagere	3828	19	5966	7	2138
Hassan	3060	22	3597	20	537
Kodagu	2903	24	2416	27	-487
Kolar	5095	7	3813	16	-1282
Mandya	3939	17	3679	18	-260
Mysuru	3399	21	3429	22	30
Shivamogga	2820	25	3215	24	395
Tumakuru	4970	11	3954	15	-1016

Udupi	3595	20	3528	21	-67
North Karnataka	**5004**		**5674**		670.7
Bagalkot	7288	2	7932	1	644
Belagavi	5354	5	7750	3	2396
Ballari	5001	9	4153	13	-848
Bidar	5011	8	6331	6	1320
Vijayapura	4782	13	5603	8	821
Dharwad	4151	15	4288	11	137
Gadag	4997	10	3745	17	-1252
Kalaburgi	4450	14	7920	2	3470
Haveri	3852	18	4046	14	194
Koppal	4844	12	6615	5	1771
Raichur	7261	3	6753	4	-508
Uttara Kannada	3056	23	2960	25	-96
State	**4285**		**4629**		344
CV	**34.2**		**35.4**		

Sources: Karnataka Human Development Report 2005; Human Development: Performance of Districts, Taluks and Urban Local Bodies in Karnataka, 2014-A Snapshot report.

6.4 Average Population Served by PHCs in Karnataka:

Usually one Primary Health Center is established for every 30,000 population in plain and for every 20,000 Population in Hilly and Tribal areas. PHC is the first contact point between village community & the Medical Officers. The activities of PHC involve curative, preventive, primitive & family welfare services.

Table 6.4 indicates the average number of population served by PHCs in Karnataka. It has increased significantly in Karnataka from 20,632 in 2001 to 22,930 in 2011- 12.This implies that the total number of PHCs increased significantly. The PHCs in North Karnataka were much higher than that of South Karnataka, the increase of PHCs are more in North Karnataka that is almost 4160 as compared to the South Karnataka at 413 which is very less. Bidar district is having more PHCs while very less has been seen in Udupi district in 2001 in Karnataka. As for as the year 2011 is concerned, the more number of PHCs are located in Bengaluru Urban whereas less were seen in Chikkamagaluru, which indicates that the backward regions have taken more concern in allocation in terms of establishing new PHCs. More number of PHCs are in Bengaluru Urban district with highest value of 35066. The disparity in average population served by PHCs across the districts in Karnataka has increased significantly from 17.3 to 47.9 during 2001 and 2011.

Table 6.4: Average Population served by PHCs in Karnataka

Districts	2001	Rank	2014	Rank	Difference Percent 2011-2001
South Karnataka	**19020**		**19433**		413
Bengaluru Urban	25069	4	60135	1	35066
Bengaluru Rural	20193	17	15700	20	-4493
Chamarajanagar	15719	25	13642	23	-2077
Chikkamagaluru	17657	21	10432	27	-7225
Chitradurga	21819	11	21717	12	-102
Dakshina Kannada	17976	19	29058	7	11082
Davanagere	17828	20	19069	13	1241
Hassan	17280	22	11897	26	-5383
Kodagu	16317	24	15784	19	-533
Kolar	23299	8	17904	16	-5395
Mandya	20288	16	12583	25	-7705
Mysuru	16928	23	13717	22	-3211
Shivamogga	19135	18	18286	15	-849
Tumakuru	21418	15	14545	21	-6873
Udupi	14379	27	17032	18	2653
North Karnataka	**23140**		**27300**		4159.6
Bagalkot	25508	3	41349	2	15841
Belagavi	23717	7	33192	3	9475
Ballari	24005	6	27861	9	3856
Bidar	27559	1	31675	5	4116
Vijayapura	21705	13	27922	8	6217
Dharwad	24908	5	26583	11	1675
Gadag	21712	12	17571	17	-4141

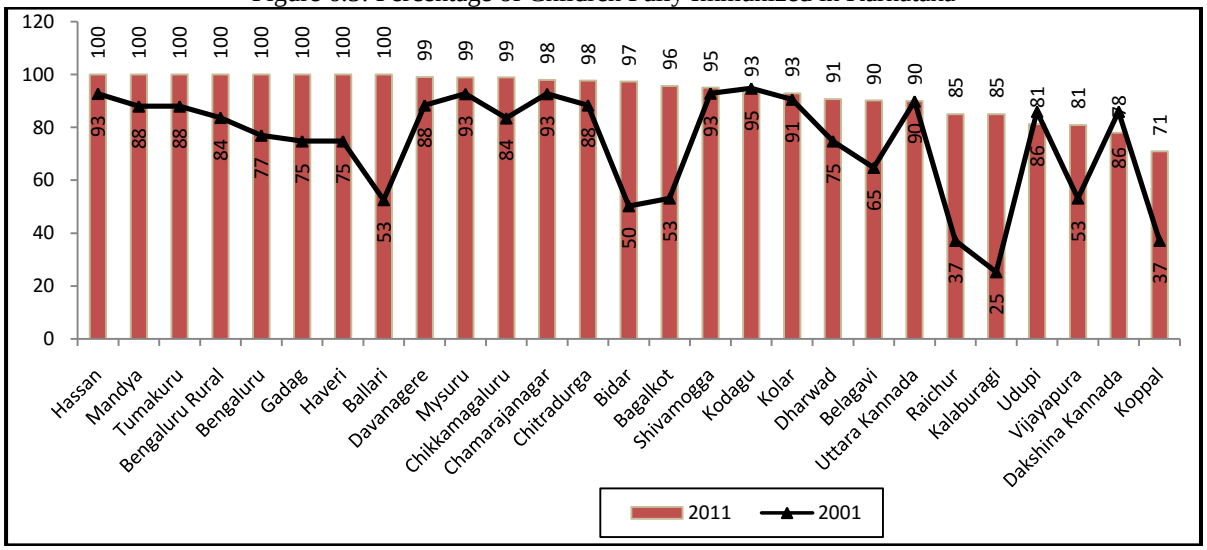
Kalaburgi	21493	14	31683	4	10190
Haveri	22802	9	18540	14	-4262
Koppal	22677	10	27563	10	4886
Raichur	26019	2	30606	6	4587
Uttara Kannada	15576	26	13054	24	-2522
State	**20632**		**22930**		2298
CV	**17.3**		**47.9**		

Sources: Karnataka Human Development Report 2005; Human Development: Performance of Districts, Taluks and Urban Local Bodies in Karnataka, 2014-A Snapshot report.

6.5 Percentage of Children Fully Immunized in Karnataka:

It can be noted that all households have immunized their children with major vaccinations. The percentage of children fully immunized has increased from 75 per cent in 2001 to 94 per cent in 2011 in Karnataka. Percentage of immunization has increased significantly in both North and South Karnataka. In the year 2001, the percentage of immunization was higher in Kodagu district at 94.8 per cent while it was lower in Koppal and Raichur districts estimated at 37.2 per cent. In the year 2011, Benagaluru Urban, Bengaluru Rural, Hassan, Mandya, Tumkuru, Ballari, Gadag, Haveri districts have achieved 100 per cent immunization. The disparity has declined from the 27.2 per cent to 8.7 per cent during 2001 and 2011 in Karnataka (Figure 6.5).

Figure 6.5: Percentage of Children Fully Immunized in Karnataka



Sources: Department of Health and Family Welfare (GoK)**;** and Human Development: Performance of Districts, Taluks and Urban Local Bodies in Karnataka, 2014-A Snapshot report

6.6 Co-efficient of Variation of Health Indicators across Broad Divisions in Karnataka:

The disparities in health indicators across the districts in Karnataka are commonly noticed. The disparity is constructed across the broad divisions of Karnataka e. g the South Karnataka and North Karnataka. The disparity has declined significantly in majority of indicators both in North and South Karnataka such as pregnant women receiving full ANC, Institutional Deliveries and Percentage of Children Fully Immunized. Similarly, the disparity has risen in some indicator such as percentage of children fully immunized and average population served by PHCs, especially in North Karnataka and as well as in overall Karnataka.

Table 6.6: Co-efficient of Variation of Health indicators across Broad Divisions of Karnataka

Division	Pregnant women receiving full ANC		Institutional Deliveries		Average Population served by Sub-centers		Average Population served by PHCs		Percentage of Children Fully Immunized	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
South Karnataka	35.23	5.53	18.92	2.05	41.35	23.65	15.58	62.51	5.33	7.23
North Karnataka	31.34	13.50	40.83	3.56	26.63	34.00	14.25	30.66	35.64	10.65
Karnataka State	39.95	27.20	39.02	26.73	40.88	43.55	30.72	52.36	37.35	26.49

Sources: Department of Health and Family Welfare (GoK); and Human Development: Performance of Districts, Taluks and Urban Local Bodies in Karnataka, 2014-A Snapshot report.

7. Suggestions:

- ✓ Compared to the health expenditure at the national level the state level expenditure has declined over the years. The health expenditure in the state needs to be increased since better health conditions of the people will raise their physical productivity.

- ✓ Since only the affluent class people can afford to pay the heavy charges imposed by the private hospitals and health clinics, more number of such institutions should be set up by the government with better medical amenities.

8. Conclusion:

The pregnant women who have been provided with full ANC has increased drastically in Karnataka. The increase was high in the North Karnataka than in the South Karnataka. The percentage of institutional delivers increased during the same period in Karnataka. It is found that institutional deliveries are more in South Karnataka as against to North Karnataka, the increase is much faster in North Karnataka than in the South Karnataka. Especially in the year 2011, in Bengaluru Urban district 100 per cent institutional deliveries are seen whereas least institutional deliveries are found in Raichur district.

The sub-centers were more in North Karnataka than that of South Karnataka. The primary health centers have increased significantly in Karnataka during the periods. This implies that the total number of PHCs increased significantly. The PHCs in North Karnataka are much higher than that of South Karnataka,. The percentage of children fully immunized has increased significantly in Karnataka. Percentage of immunization has increased significantly in both North and South Karnataka. The co-efficient of variation in health has declined significantly in majority of indicators both in North and South Karnataka such as pregnant women receiving full ANC, Institutional Deliveries and Percentage of Children Fully Immunized. Similarly, the disparity has risen in some indicator such as percentage of children fully immunized and average population served by PHCs, especially in North Karnataka and as well as in overall Karnataka.

9. References:

1. Awan, A.G, (2012), "Capital: Driving Force of Economic Growth in Selected Emerging Economies" Global Disclosure of Economic and Business, Vol 01, No.1.
2. Biradar R.R. (2004), "Human Capital Base of Labour Force Among Social Group in India: Emerging Issues and Challenges", The Indian Journal of Labour Economics, Volume.No.47, Issue No.4, Pp.731-748.
3. Buiter, Willem H. and Kenneth M. Kletzer, (1995), "Capital Mobility, Fiscal Policy, and Growth under Self-Financing of Human Capital Formation," The Canadian Journal of Economics / Revue canadienned'Economique, Vol. 28, Special Issue: Essays in International Economics in Honour of Douglas Purvis (Nov., 1995), pp. S163-S194.
4. Cervellati, Matteo and Uwe Sunde, (2005), "Human Capital Formation, Life Expectancy, and the Process of Development," The American Economic Review, Vol. 95, No. 5 (Dec., 2005), pp. 1653-1672.
5. Chani Muhammad Irfan., MahboobUl Hassan., and Muhammad Shahid,(2012),"Human Capital Formation and Economic Development in Pakistan: An Empirical Analysis", MPRA Paper No. 38925, posted 21. May 2012 17:19 UTC. Online at https://mpra.ub.uni-muenchen.de/38925/.
6. Government of Karnataka (GoK), (2005), Karnataka Human Development Report 2005, Planning Commission, Government of Karnataka, Bengaluru.
7. Government of Karnataka (GoK), (2015), Human Development: Performance of Districts, Taluks and Urban Local Bodies in Karnataka, 2014-A Snapshot, Human Development Division, Planning, Programme Monitoring and Statistics Department, Government of Karnataka.
8. Schultz, T. Paul, (1976), "The Formation of Human Capital and the Economic Development of Africa: Returns to Health and Schooling investments," African Development Bank, Economic Research Papers No. 37.