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Trends in human capital and economic growth in Uttarakhand

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Abstract
Human capital is the stock of habits, knowledge, social and personality attributes embodied in the ability to perform labour so as to produce economic value. Human capital is unique and differs from any other capital. It is needed by economy to achieve goals, develop and remain innovative. Government can invest in human capital, for example, through education and training, enabling improved levels of quality and production.
The term human capital formation refers to the process of acquiring and increasing the number of persons who have the skills, education and experience which are critical for the economic and political development of the country. Human capital is the associated with investment in the man and his development as a creation and production resource. The study of human capital formation is vital from the point of view of economic welfare, it is particularly important because human beings are not only instrument of production but also ends in themselves. Human capital refers to the stock of skill and expertise of a nation at a point of time. The present study is focused on the trends in human capital formation and economic growth. The data for the study taken from various secondary sources. The results shows that there is improvement in human capital formation in Uttarakhand over the years.

Keywords: human capital, economy, economic growth, migration

Introduction

Human capital theory is closely associated with the study of human resource management, as found in the practice of business administration and macroeconomics. The original idea of human capital can be traced back at least to Adam Smith in the 18th century. As an economic concept human capital is at least two centuries old, but its incorporation into the mainstream of economic analysis and research is a new and lively development of the past six decades. The need for this development became apparent in the 1950's, when the application of empirical economic research to the concerns about economic growth and about income distribution revealed major defects not only in our understanding of each but also in our way of thinking about these matters.
The modern theory of human capital was popularized by Gary Becker an economist and Nobel Laureate from the University of Chicgo, Jacob Mincer, and Schultz. As a result of his conceptualization and modeling work using Human Capital as a key factor, the 2018 Nobel Prize for economics was jointly awarded to Paul Romer, who founded the modern innovation-driven approach to understanding income growth.
Individuals differ in both inherited and acquired abilities, but only the latter clearly differ among countries and time periods. Human capital analysis deals with acquired capacities which are developed through formal and informal education at school and at home, and through training, experience, and mobility in the labor market.
Human resources are considered an important contributor in the economic development of any region, in recent years human resource development has had the attentive of policy makers in every part of the globe and now it is by and large accepted that without human resources development economic development of any region cannot take place in a proper way.
Human capital affects economic growth and economic growth and can help to develop an economy by expanding the knowledge and skills of its people. The concept of human capital is the realization that not everyone has the same skill sets or knowledge. Also, the quality of work can be improved by investing in people's education. Human capital is important because it is perceived to increase productivity and thus profitability. According to human capital theory, an adequate investment in people will result in a growing economy. For example, India offers their people a free college education out of a realization that a more highly educated people tends to earn more and spend more, thus stimulating the economy.
In general, a boost in human capital leads to increased yield, which leads to increased income and GDP of the economy. Human capital and economic growth have a strong correlation. Human capital affects economic growth and can help to develop an economy by expanding the knowledge and skills of its people.
The government plays a key role to expanding the skill sets and education levels of a country's population. The government is actively involved in improving human capital by offering higher education to people at no cost. Investing in workers has had a track record of creating better employment conditions in economies throughout the world. If employment is improving, consumer spending rises, leading to increased revenue for companies and additional business investment. As a result, employment is a key indicator or metric for determining how GDP growth may

perform. Human capital also affects the standard of living, higher the human capital higher will be the living standard and vice versa.

Literature Review

Kraay (2018) has produced the Human Capital Index (HCI), a new measure of the flow rate of human capital investment across countries. The HCI incorporates data on school attendance rates, test scores, and health (combining adult health, as measured by survival rates, with child stunting and mortality).

Dutta *et al* (2013) cite Easterlin (1981) to proclaim that the presence of sufficient human capital in the host country may lead to minimization of transaction costs as multinationals need not spend too much on training the personnel.

Adelle (2011), in a comparable study demonstrated that even though life expectancy and GDP per capita have various variables that give cause to them, healthy people are equally indispensable. A greater percentage of public expenditure on health care out of total expenditure in a country appears to be more effective in attaining higher GDP per capita and longer life expectancy which improve human development through a healthier and further productive labour force.

Mansur *et al*. (2009) found that education provides better work opportunities and thus increases the level of income of an individual. Education is perceived to be an important factor in human capital formation.

Siddiqui (2009) concluded that if we wanted to precede human development we should adopt growth oriented policies for capabilities development.

Chadha (2004) opined that human capital most ostensibly in the form of education would be an inescapable input for ensuring comparative levels of productivity in various sectors and for accelerating the overall face of economic growth of Indian economy. The first must aim at improving the quality of would be workers. The second needs to focus on training/ retraining of the existing workforce, the third builds a case for enhanced focus on manufacturing.

The objectives of this study therefore are

- To study the trends of human capital formation in Uttarakhand
- To examine the economic growth and human capital formation

Research Methodology

This paper is the outcome of a secondary data on waste generation and waste management with special reference to Indian context. To complete this, annual reports, various books, journals and periodicals have been consulted, several reports on this particular area have been considered, and internet searching has been done.

Results and Discussion

A mere flash of vision on the data of primary school enrolment rates as a percentage of gross reveals a rising but fluctuating trend right from the beginning 2005-06 till the end of the period 2015-16 under study. If we look at the trend of Primary gross enrolment rate during the 2005-06 then we can see that it is rising, though with fluctuating annual percentage changes.

In 2005-06, the Primary gross enrolment rate showed the figure of 97 percent which decreased in 2006-07 to 90.24 percent and in 2007-08 then it came to the level of 107.48 percent and shows an rise of 17.24 percentage points from previous year. It became maximum in 2010-11. In 2010-11 PGER reached to 110.19 percent from 106.18 percent in the previous time.

Then it fell to 105.23 percent and 102.99 percent in the consecutive years of 2011-12 and 2012-13. But in 2013-14 it again fall to 100.60 percent and then again decreased to 100.54 percent in 2014-15 it again fall to the figure of 99.2 percent in 2014-15. During the Period 2005-06 to 2010-11 the PGER grew by13.19 percentage points and from the period 2010-11 to 2015-16 the PGER falls by 10.99 percentage points.

Table 1: Primary, Secondary and Tertiary Gross Enrolment Ratio

Year	PGER	SGER	TGER
2005-06	97.00	67.02	8.5
2006-07	90.24	70.25	9.6
2007-08	107.48	73.58	10.3
2008-09	109.37	82.92	10.7
2009-10	106.18	85.95	12.1
2010-11	110.19	91.59	12.4
2011-12	105.23	77.98	13.6
2012-13	102.99	82.27	15.1
2013-14	100.6	85.36	16.3
2014-15	100.54	80.77	17.4
2015-16	99.2	83.75	17.7

Source: http://niti.gov.in/content/primary

The minimum percentage was 90.24 percent in 2006-07 and maximum was 110.19 percent in 2010-11. The total increase in PGER was 2.2 percentage points from 2005-06 to 2015-16.

The PGER plays a vital role in the formation of human capital in Uttarakhand, which in turn boost the economic growth of the economy.

The secondary gross enrolment rate as shown in Table 1 was at the level of 67.02 percent in 2005-06 and shows an increasing trend up to 2010-11 and then shows a fluctuating trend during the study period. During 2005-06 to 2010-11 it showed a clear picture of continuous increase and it registered an increase of 36.66 percent touching the maximum at 91.59 percent and minimum at 67.02 percent.

The study period of 2005-06 to 2010-11 began with SGER of 67.02 percent. Thereafter it showed a continuous rise till the year of 2010-11 when it reached at the level of 91.59 percent. The following year 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 witnessed an increase of 4.81 percent points, 4.74 percent points, 12.69 percent points, 3.65 percent points and 6.56 percent points over the previous year respectively. The entire period from 2005-06 to 2010-11 shows an increasing trend in SGER in the state of a Uttarakhand.

During 2011-16, SGER touched the figure of 77.98 percent in 2011-12 thus showing a decrease of 14.85 percent points from the past figure. Then it further increased in the consecutive year but then in 2014-15 it fell down to 80.77 percent. Then it again rose for one year and it came to the level of 83.75 percent in 2015-16.

In the entire period under consideration, the SGER grew from 67.02 percent to 83.75 percent thereby recording an increase of 15.75 percent points. Whereas the minimum and maximum of SGER were 67.02 percent in 2005-06 and 91.59 in 2010-11.

If we look at the trend of TGER in the whole study period of 2005-06 to 2015-16 then a clear continuously rising TGER is witnessed. The TGER was 8.5 percent in 2005-06 and it increased to 17.7 percent in 2015-16. The TGER shows an increasing trend during the study period. The TGER stood at 9.6 percent, 10.3 percent, 10.7 percent, 12.1 percent and 12.4 percent in 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11 respectively. There was an increase of nearly 4 percentage points in TGER from 2005-06 to 2010-11.

TGER rose to 13.6 percent in 2011-12 from the past figure, thus recorded an increase of 1.2 percent points. It showed an increasing trend and it was maximum in the year of 2015-16 with the figure of 17.7 percent. The TGER increased by 9.2 percentage points from the initial year of study period to final year of study period.

The table 2 shows the growth rate of different educational institutions in Uttarakhand, which was the main source of formation of human capital. The primary educational institutions shows positive growth rate in all the years considered for the study period except 2011-12 and 2013-14 which shows negative growth rate over previous year.

The growth rate of primary education institution shows a 0 percent growth rate in the year 2008-09 over the previous year. The primary schools growth rate was increased by 6.03 percent points from 2005-06 to 2015-16. The growth rate in primary schools vary from -2 percent to 4 percent during the study period.

Table 2: Growth Rate of Educational Institutions in Uttarakhand

Year	Growth Rate of Primary Education Institutions	Growth Rate of Secondary Education Institutions	Growth Rate of Higher Education Institutions
2005-06	1.16	9.52	6.52
2006-07	1.51	16.75	10.20
2007-08	1.97	2.87	10.18
2008-09	0	-0.08	1.68
2009-10	1.87	4.85	1.65
2010-11	0.65	12.34	0.81
2011-12	-2.02	11.67	3.22
2012-13	3.35	5.30	0
2013-14	-2.76	1.05	7.03
2014-15	0.06	5.28	0
2015-16	0.20	1.80	1.46

Source: Statistical Diaries of Uttarakhand, Various Issues

The secondary educational institutions also shows positive growth rate in all the years considered for the study period except 2008-09 which shows negative growth rate of -0.08 percent over previous year. The growth rate of secondary education institution shows a 15.75 percent growth rate in the year 2006-07 over the previous year, which was the highest value increase during the study period over the previous year. The secondary schools growth rate was increased by 95.51 percent points from 2005-06 to 2015-16. The growth rate in secondary schools vary from -0.08 percent to 15.75 percent during the study period.

The higher educational institutions shows positive growth rate in all the years considered for the study period except 2012-13 and 2014-15 which shows 0 growth rate over previous year. The growth rate of higher educational institutions was stood at 6.52 percent from previous year. The growth rate increases to 10.20 percent in 2006-07 from 2005-06, which remains higher during the study period. The growth rate of higher educational institutions can impact the growth rate of human capital in economy. These are the major indicators for the growth of human development and economic growth. The higher the number of educational institutions then there is higher concentration of formation of human capital.

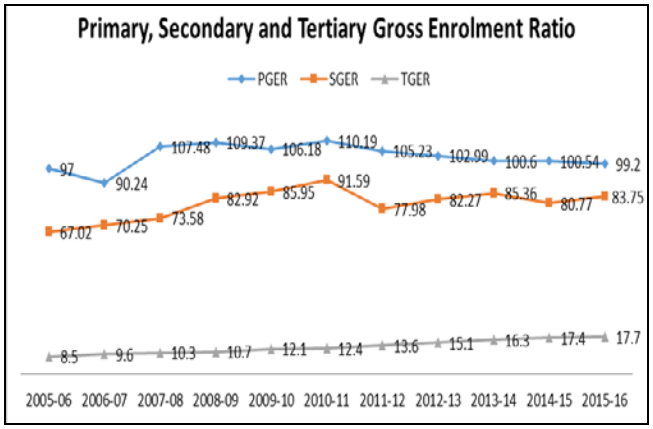

Fig 1: Trends in Primary, Secondary and Tertiary Gross Enrolment Ratio

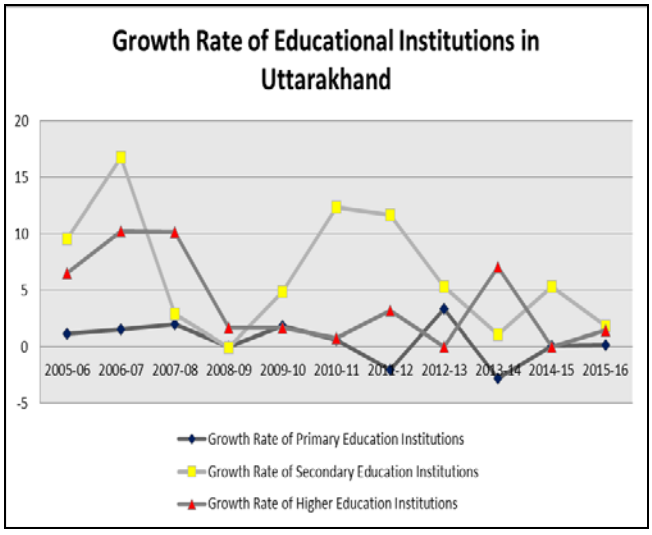

Fig: 2 Trends Growth Rate of Educational Institutions in Uttarakhand

Table 3: Literacy Rate in Uttarakhand

Year	Literacy Rate (%)
1951	18.93
1961	18.05
1971	33.26
1981	46.06
1991	57.75
2001	71.62
2011	79.63

Source: Handbook on Indian States, RBI, 2017-18

The ALR remained at 18.93 percent in 1951 which decreased to 18.05 percent in 1961. Thereafter it increased smoothly at a high pace and touched the maximum figure of 79.63 percent in 2011 with an increase of 60.70 percent points from 1951 to 2011.

At the time of Independence the literacy rate of the state was very low. Census 1961 put the literacy rate of the State at 18.05 percent which increased to 33.26 percent during 1971 census.

In 1981, the literacy rate was recorded at 46.06 percent and the projection for 1991 was made at 57.75 percent as no census was carried out during latter period.
During the decade 2001- 2011, literacy rate increased from 71.62 percent to 79.63 percent in the State as against 64.84 % to 74.04 % at the national level.
Despite number of limiting factors like less infrastructure availability, rural urban gaps and low density of population the literacy growth rate at state level remained above the literacy growth rate at national level, the State has been able to make a remarkable progress in the field of education as is evident from the above figures.
Gender differential in literacy rate exists both in rural and urban areas, but it is high in rural areas. This can be attributed to a number of factors like Social dogmas, engagement of girl child in agricultural and other domestic activities etc.
The literacy rate is one of the major variables for the human capital formation in the economy and this variable shows a steady improvement over the years in Uttarakhand.

Table 4: Public expenditure on Education as a percentage of Total Expenditure and as percentage of SGDP

Year	PEE as a percentage of Total Expenditure	PEE as a percentage of SGDP
2007-08	21.44	6.14
2008-09	14.11	4.56
2009-10	25.71	4.23
2010-11	23.92	3.11
2011-12	21.45	2.54
2012-13	22.40	2.90
2013-14	24.20	2.92
2014-15	19.94	3.43
2015-16	20.12	3.39
2016-17	20.57	3.21
2017-18	20.53	3.53

Source: Calculated from handbook of statistics on Indian states (2017- 18), RBI

By looking at the figures of public expenditure on education as a percentage of SGDP during 2007-08 to 2017-18 we observe a slow but steady decrease in the education expenditure up to 2012-13 from the beginning of study period. As it decreased from 6.14 percent in 2007-08 to 4.56 percent in 2008-09 and in 2009-10 it stood at the level of 4.23 percent. Thereafter in the 2010-11 it came down to the level of 3.11 percent. This means that public expenditure on education was not given much attention and it further deteriorated.
During 2011-12 the PEE as a percentage of SGDP was very low and remains at 2.54 percent as government was not in a condition to spend more on public education. In the year of 2012-13 it was 2.9 percent which is 14.17 percent more than the previous year's figure of 2.54 percent. The figure increased to 2.92 percent, 3.43 percent and 3.39 percent during 2013-14, 2014-15, and 2015-16 respectively.
The PEE as a percentage of SGDP in the period of 2016-17 dropped to 3.21 percent from previous value of 3.39 percent which was 5.30 percent less than the previous figure. Thereafter it increased for next two consecutive years.
In 2017-18 it grew and stood at 3.53 percent from the previous value. The maximum figure of PEE as a percentage of SGDP in the study period was 6.14 percent in 2007-08 and the minimum figure was 2.54 percent in 2011-12.The period of 2012 -13 to 2015-16 showed a clear upward trend of PEE as a percentage of SGDP.

As far as the expenditure on education as a percentage share of total or aggregate expenditure of the state is concerned it shows fluctuating trend in most of the years. By looking at the figures of public expenditure on education as a percentage of total or aggregate expenditure during 2007-08 to 2017-18 we observe a fluctuating trend from the beginning of study period.
As it decreased from 21.44 percent in 2007-08 to 14.11 percent in 2008-09 and in 2009-10 it stood at the level of 25.71 percent and shows an increase of nearly 10 percentage points from the previous year. Thereafter in the 2010-11 it came down to the level of 23.92 percent.
During 2011-12 the PEE as a percentage of aggregate expenditure was remains at 21.45 percent as government was not focusing to spend more on public education. In the year of 2012-13 it was 22.40 percent which is nearly 1.5 percent more than the previous year's figure of 21.45 percent. The figure increased to 24.20 percent in 2013-14 and then decreased to 19.94 percent in 2014-15. It then increased to 20.12 percent in 2015-16 and 20.57 percent during 2016-17. It stood at 20.53 percent in 2017-18.
The maximum value of expenditure on education as the percentage of total expenditure was 25.71 percent in 2009-10 and the minimum value was 14.11 percent in 2008-09. The period of 20008 -09 to 2010-11 and 2011-12 to 2013-14 showed a clear upward trend of PEE as a percentage of total expenditure.
The below diagram shows the trend in public expenditure on education as a percentage of total expenditurein the state of Uttarakhand. The trend shows the fluctuations during the study period. It shows ups and downs during the study period.

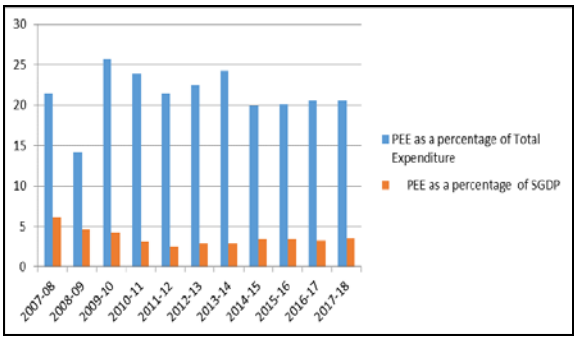

Fig 3: Public expenditure on Education as a percentage of Total Expenditure and as percentage of SGDP

Table 5: Per Capita Net State Domestic Product at Factor Cost (Current Prices)

Year	Per Capita NSDP	
	Uttarakhand	India
2002-03	16530	17101
2003-04	17542	18301
2004-05	24726	24143
2005-06	27781	26015
2006-07	30644	28067
2007-08	35544	30332
2008-09	38621	31754
2009-10	44554	33901
2010-11	48525	36202
2011-12	100305	63462
2012-13	106318	65538
2013-14	112803	68572
2014-15	118788	72805
2015-16	126952	77826
2016-17	132464	82229
2017-18	139435	86668

Source: Central Statistics Office (CSO), Various Issues

The per capita income in Uttarakhand, which was almost equal to the national average in the beginning of the study Period, is now nearly double of the National Average. The table 4.9 shows the gap in the per capita income of the State and that of the country has been increasing, due to high economic growth in Uttarakhand. The per capita NSDP of Uttarakhand was Rs. 13516 in 1999-00 and it rises to Rs. 30644 in 2006-07 and again increased to Rs. 139435 in 2015-16. The per capita NSDP of India was Rs. 15881 in 1999-00 and it rises to Rs. 86668 in 2015-16.

The per capita income in Uttarakhand increases nearly 9 times from 2000-01 to 2016-17. There was a gap of Rs. 44231 in NSDP between Uttarakhand and India in 2013-14, which increased to Rs. 46983 and Rs. 49126 in 2014-15 and 2015-16 respectively. This trend shows the acceleration in per capita income in Uttarakhand.

The per capita income is very high as compared to national average and with other states. The gap in NSDP again increased to Rs. 50235 and Rs. 52467 in 2016-17 and 2017-18 respectively. The per capita NSDP of Uttarakhand state increased nearly by 10 percent annually from 1999-00 to 2009-10 and then increased by 6 percent annually.

The per capita NSDP of India increased nearly by 3 percent annually during study period. The per capita income is Uttarakhand ranks 6th in India among different states. The government of Uttarakhand has framed numerous policies to attract investment into the state, which increases the per capita income as GSDP increases over the years.

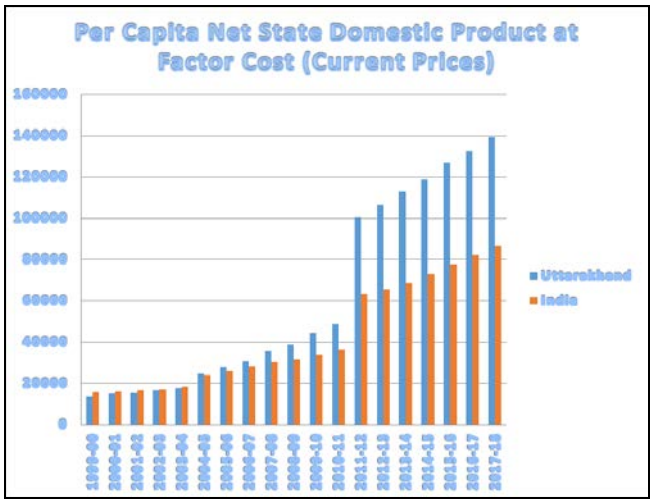

Fig 4: Per Capita Net State Domestic Product at Factor Cost (Current Prices)

The quality of education is estimated by two important proxy variables. They are pupil teacher ratio and the availability of the institutions. Both these variables are important for the quality of the education. Increase in the institutional availability will provide the easy access to education and more availability of teachers to given density of students represented the quality of education parameter as well.

The pupil teacher ratio in primary was highest in 2008-09 accounting for 27 and lowest being 15 in 2015-16. In upper primary it goes never beyond 30 and in secondary the ratio was 17 being the highest during most of the years. In all schools the highest ratio was in 2007-08 accounted for 23 as represented in table 4.10. In this scenario the quality of education is bound to be restricted to low level in the state measured through the proxy variable of pupil teacher's ratio. In all schools the highest ratio was in 2008-09 accounted for 25 as represented in table 4.10.

Table 6: Pupil Teacher Ratio

Year	Primary	Upper Primary	Secondary	All Schools
2005-06	24	17	15	18
2006-07	23	19	15	19
2007-08	25	25	16	22
2008-09	27	26	17	25
2009-10	18	30	14	20
2010-11	24	27	13	21
2011-12	23	28	12	21
2012-13	16	24	11	17
2013-14	18	18	10	15
2014-15	17	16	11	14
2015-16	15	13	10	12

Source: Statistical Diaries of Uttarakhand, Various Issues

In 2017, India had about 32 pupils per teacher in primary education institutions across the country. This ratio was much lower for tertiary education students at about 24 students for each teacher. The student-teacher ratio has been found to be one of the strongest indicators of student success and engagement. Logically, it's little wonder why. The fewer students each teacher works with, the more closely they're able to adapt their teaching to the specific learning styles.

The more individual attention a student receives, then, the more his learning improves and the higher his chances for academic success become. In order to achieve lower student-teacher ratios, many schools have begun to hire additional support staff, not just additional teachers.

In order to produce income and consume, individuals have to acquire human capital which is supplied to the labor market. Every generation has to build up the stock of human capital from zero, since the peculiar characteristic of human capital is that it is embodied in people. The birth rate plays a vital role in the formation of human capital in the state of Uttarakhand. The highest value of birth rate was 20.1 in 2007-08 and the lowest value of birth rate was 15.9 in 2017-18 as shown in below table 5. The birth rate shows the declining trend during the years taken for study period.

The death rate is also a main indicator for human development and also for the formation of human capital in the state of Uttarakhand. The death rate shows the availability of health infrastructure in the state and access of health facilities. The death rate in the state shows a declining trend from 2007-08 to 2013-14 and then it shows the fluctuations. The maximum value of death rate was 6.7 in 2015-16 and the minimum was 5.9 in 2016-17.

Table 7: Death Rate in Uttarakhand

Year	Birth Rate	Death Rate	TFR	IMR
2007-08	20.1	6.4	2.2	44
2008-09	19.7	6.4	2.2	41
2009-10	19.3	6.3	2.1	38
2010-11	18.9	6.2	2.1	36
2011-12	18.5	6.1	2.0	34
2012-13	18.2	6.1	1.9	32
2013-14	18.2	6.0	2.0	33
2014-15	17.2	6.4	2.9	34
2015-16	16.6	6.7	1.9	38
2016-17	16.4	5.9	2.1	37
2017-18	15.9	6.2	2.2	36

Source: Handbook of statistics on Indian states (2017- 18), RBI

Due to focused attention of the State Government on addressing the unmet needs for contraception, reduction in the child mortality, greater male involvement in family planning measures and delaying age at marriage, the TFR has come down below replacement level for the first in the State and stood at 2.2 in 2007-08.

The TFR shows a decreasing trend during the study period up to 2012-13 and then shows a fluctuation in TFR. The value of TFR ranges from 1.9 to 2.2 during the study year. It stood at 2.2 in 2007-08, 2008-09 and 2017-18. It stood at 2.1 in the following years 2009-10, 2010-11 and 2016-17 and it stood at 2.0 in 2011-12, 2013-14 and 2014-15. In 2012-13 and 2015-16 the value of TFR was 1.9 which was the lowest in the study period as in table 4.13.

Infant mortality rate is actually taken as the indicator of quality index in the modern economy; low mortality is policy goal of the economy a low mortality accompanied with trained skills represented the human capital in good condition. Infant mortality is also taken as the indicator of health output in any economy.

As far as the infant mortality total rural is concerned it was 44 in 2007-08 and decreased to 41 in 2008-09. Infant mortality in 2009-10 stood at 38 in 2010-11 it stood at 36 and in 2012-13, it stood at 32. The total rural infant mortality was highest in the year 2007-08 accounted for 44 and lowest was 32 in 2012-13 as shown in table 4.14. As far as the infant mortality by sex is concerned in the rural areas it was 45.2 for male in the year 2007-08 and reached to 40 in 2013-14.

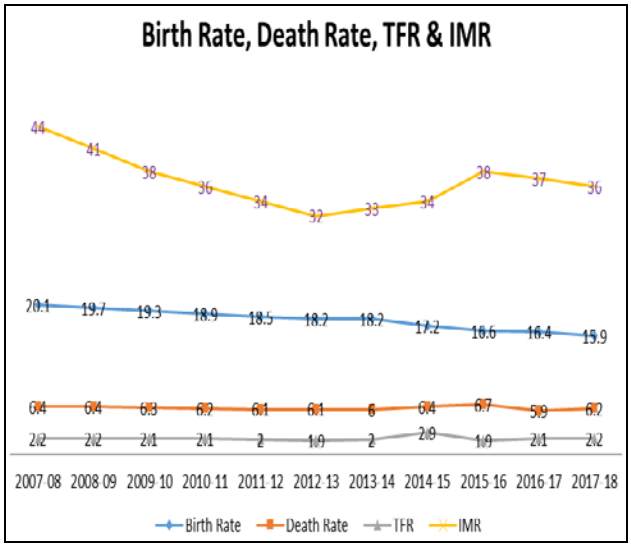

Fig 5: Trends in Birth Rate, Death Rate, TFR and IMR Ratio in Uttarakhand

Table 8: Health Institutions in Uttarakhand

Year	Distt. Hospitals	Distt. Woman Hospitals	PHC	CHC
2007-08	12	6	235	50
2008-09	12	6	239	55
2009-10	12	7	250	55
2010-11	12	7	252	55
2011-12	12	7	253	58
2012-13	13	7	254	59
2013-14	13	6	256	59
2014-15	13	7	258	59
2015-16	13	7	259	74
2016-17	13	8	260	85

Source: Statistical Diaries of Uttarakhand, Various Issues

Table 9: Public expenditure on Health as a percentage of SGDP

Year	PEH as a percentage of SGDP
2007-08	1.03
2008-09	1.09
2009-10	1.00
2010-11	0.96
2011-12	1.06
2012-13	1.15
2013-14	1.16
2014-15	1.18
2015-16	1.29
2016-17	1.41

Source: Calculated from handbook of statistics on Indian states (2017- 18), RBI

By looking at the figures of public expenditure on health as a percentage of SGDP during 2007-08 we observe that the expenditure percentage was 1.03% and in 2008-09 it was 1.09%. There was a increase of 5.82 percentage points from 2007-08 to 2008-09. Thereafter the expenditure decreased to 1.00% in 2009-10, it shows a decline of 8.25 percentage points then previous value. It stood at 0.96% in 2010-11 and again shows decline in public health expenditure as the percentage of SGDP. The data on public expenditure on health shows the fluctuating trend during the study period as shown in table 4.16. Onwards 2010-11 the expenditure on health as the percentage of SGDP shows an increasing trend. The expenditure was 0.96, 1.06, 1.15, 1.16, 1.18 and 1.29 in 2010-11, 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16 respectively as shown in the table. The expenditure on health stood at 1.41 and 1.43 in 2016-17 and 2017-18 respectively.

The expenditure on health increases the life expectancy of the people, which in turn gives better health access and longlivity. The expenditure on health impact the human capital formation in the state and it also shows positive impact on the living standard of the people.

As per the availability of health infrastructure Uttarakhand state is one of the best state in India. Presently there are 13 districts hospitals in the state of Uttarakhand, i.e. every district has their own district hospital. Health infrastructure is another source of human capital formation in the state. The data revels that there is steady growth in the health infrastructure in Uttarakhand. Health expenditure directly increases the supply of healthy labour force and is, thus a source of human capital formation. A healthy person can be more productive then an unhealthy person. The more and more expenditure on health can increase efficiency, efficacy and productivity of the nation's workforce.

Migration in Uttarakhand is a common phenomenon, particularly in the hills districts. Migration out-flows in the state can be conceptualized using the underdevelopment theory framework and the structuralist postulation that analyze the social relations that influence decisions to migrate. Both these theoretical strands on migration are closely related to each other and are helpful in explaining the causes of out-migration from this region. In the past, the primary reason for long term male out migration was for jobs and earning a living, with strong linkages to one's home, often called the "money order economy". With development taking root in the hill regions, long-term migration has become permanent out-migration leading to many villages transforming into ghost villages in these areas. Migration not just for employment, but also for better

educational opportunities has led to lose or no linkages with the places of origin.

At the individual level, that close to a tenth (7.7 percent) of the population in the state was migrants (short and long term) with rural migrants recording a much higher proportion (9.1 percent) as compared to urban migrants (3.0 percent) as shown in Table 4.17. The hills districts had close to a tenth of the population (9.6 percent) as migrants while in the plains, its share was a miniscule 1.3 percent of the population. Second, the highest proportion of migrants were from the rural areas of the hills, followed by the urban areas of the hills (4.1 percent) and this is an important finding of the Survey.

Conclusion

The trends of human capital formation in Uttarakhand show a positive trend during the study period. All the indicators show improvement during the study period. This shows a positive impact on the economic growth of the state of Uttarakhand.

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