Chapter 6

Major Conclusions and Policy Implications

6.1 Introduction

The purpose of this chapter is to review the findings related to the previous chapters. The role of human capital formation in economic development has been highlighted in the study. The trend of development of education in Punjab over the period 1981-2001 has been studied in detail at disaggregated level i.e. district level. Various determinant indicators have been used for this purpose. Important ones among them are literacy rates, child enrolment ratios; education indexes, teacher-pupil ratio and percentage of students at different stages of schooling have been given. For vocational education and training, the number of Industrial Training Institutes and their actual intake capacity have been taken into consideration. This chapter has been divided into four sections and subsequent sub-sections. First section of the chapter seeks to give an introduction. Major conclusions of the study are given in second section. Third section of the chapter puts a light on the human capital base ad emerging employment structure of the state. Finally, fifth section attempts to give policy implications.

6.2 Major Conclusions of the Study

The analysis started with a premise that education plays a positive role in human capital formation. Since education is an essential component of society to be manifested in several observable behaviors, developed through training in different fields of life for better living in the society. In this sense, education is the means
and an index of human capital formation, as has been seen in the present study. The study tends to examine the following hypotheses:

1. Human development leads to human capital formation.
2. Education has a key role in human capital formation.
3. Over the period of time 1981-2001, there has been development of education in Punjab leading to human capital formation.
4. Over the period of time, the state has witnessed structural shifts in its employment structure. The share of agricultural sector has declined in favor of secondary and tertiary sectors.
5. District-wise variations are present in literacy rates, teacher-pupil ratio and in other important indicators of education.
6. District with high literacy rates are accompanied by low percentage of workers engaged in agriculture and higher percentage of workers in industry and service sectors and vice-versa.

The determinant factors are exactly the same for both human capital and human development i.e. education, health and income. Therefore, it is in this sense, the first hypothesis of the study holds good that human capital is created in the course of human development. Human development Index (HDI) has been broken into three component indexes i.e. Education Index (EI), Health Index (HI) and Income Index (YI). The test of correlation is applied on these variables at different disaggregated units for all the 17 districts of Punjab. The contribution of education to human capital formation remains the most important one which is
corroborated by the highest correlation co-efficient between Education Index (EI) and Human Development Index (HDI) at district level.

6.2.1 Role of Education in Human Capital Formation

For examining the role of education in human capital formation, education index has been used which has been constructed using literacy rates and child enrolment.

Literacy is the most basic and fundamental criterion. Literacy levels are available for each district from the census of India, 2001. Literacy rate for the population was calculated as percentage share of all literates in a district over the population of people above 6 years in the district.

The second component of education index is the combined school level enrolment. Enrolment rates have been derived from the data on enrolled children from the Directorate of Public Instruction (DPI Schools) and estimated number of children in school going ages from population projections and age group based on Census of India 1991 and 2001. Besides this, health index and income index have also been taken into account. The results of correlation tests are evidence that the second hypothesis also holds good that education has a key role in human capital formation.

6.2.2 Human Development vs. Economic Development in Punjab

Actually, the state has sustained noticeable economic prosperity and distanced itself from the number of states in the country. The imbalance between social sector progress and economic growth has been the matter of great concern in the future development of the state keeping in view the liberalization, privatization
and globalization of the national economy. The ever increasing knowledge intensity of the production process requires very high level of human resources to compete in the national and international market.

Education and health are the key inputs in the development and upgradation of human resources. In this context, it becomes quite important to analyze the social sector progress of Punjab for it, one has to examine the human capital base of the workforce of Punjab. Human Development Index (HDI) has been used to measure social progress over the period 1981-01.

In the construction of human development Indices, the per capita income level has been assigned one third weight. The state derives its high score on HDI only because of this comparative advantage of high per capita income. But in HDI construction, the income distribution is not taken care of. Among the pockets of economic prosperity, deprivation still exists in the state. No doubt, the state has progressed in the field of education. But the individual resource choice basically stems from personal disposable income level. Income levels are further determined by employment opportunities. Now, it is beyond doubt that employment progress has been lagging the educational progress.

Our analysis clearly establishes that on social sector front, the record of the state is quite dismal keeping in view its high income level. This indicates the human capital base of the manpower possessed by the state. This poor performance on the educational front has been the consequence of long period neglect of education in the development planning of the state. The major concern is that still some sections of the society don't have access to education. This
clearly brings out the fact that the state has never accorded the place of priority to this area and actually always treated it as a residual category in terms of public spending and policy formation. The lack of administrative and political will, faulty perspective of the elite, structure and organization of the education system has jeopardized the whole environment of their operational effectiveness. The influential sections of the society have withdrawn themselves from the Government operated education institutions. As a result, they have no interest in improving their functioning. In fact, with the upcoming of new economic policy, the state has started withdrawing itself from the social sector also. The public sector education institutions are in the situation of severe resources crunch. The situation demands very active involvement of the state in the social sector particularly by bridging the gaps in education system and increasing the budgets to this sector with radical overhauling of the public policy and with the participation of the public.

The state must cut down its ever increasing and already higher level of non-developmental expenditure in order to strengthen the social sector infrastructure by making huge investments in the educational sector. The policy makers must realize that only by upgrading the quality of human resources through the medium of education, the state can maintain its place in the present century i.e. the century of knowledge.

A significant move towards universalizing education in India was the formation of National Policy on Education (1986). The policy sought to provide education for all and focused primarily on providing marginalized groups greater access to education. There are also many provisions in Indian constitution that makes it obligatory for both state and central government to enforce various laws to universalize primary education and to make arrangements for education of poor and disadvantaged sections of the society. Government of Punjab has also committed itself to the contentions of Constitutional provisions. Therefore, it is all the more interesting to bring out the educational developments in Punjab over the period of time 1981-2001.

Despite Punjab being economically progressive, it is yet short to be termed as educationally progressive. Although Punjab has traveled a long distance in literacy rates from 34.12 percent literacy rate in 1971 to 69.95 percent literacy rate in 2001. It has an all-India rank of 10 on the literacy scale among Indian states in 2001. If we also consider the Union Territories (UTs), Punjab slips down six places further. Nevertheless, the state has made some achievements in the field of education. Key indicators taken for the purpose are literacy rates, enrolment rates and drop-out rates. In this section, we will try to highlight the achievements in these indicators through an analysis which has been carried out in the previous chapters of this study on the basis of secondary data available in various Census reports.
Out of total population of 24,289,296 in the state (Census of India, 2001), 14,853,810 are literate. The Census results show a literacy rate of 69.95 percent in 2001 which is slightly higher than the national average of 65.38 percent. However, in spite of a relatively high rate of literacy, there are 63.8 lakh illiterates in the state. Among the Indian states and UTs, Punjab ranks 16th in terms of literacy. Kerala has the highest literacy rate of 90.92 percent, while Bihar has the lowest literacy rate of 47.53 percent. Punjab has shown an impressive growth in the number of literates in the last decade. During the period 1991-2001, the percentage increase in the number of literates in the state has gone up by 49.55 percentage points. However, the same for India has gone up by 56.81 points. Literacy rates for Punjab, disaggregated at the district level throw up an interesting picture. In the year 2001, Hoshiarpur district has the highest literacy figures while Mansa has the lowest. It may be pointed out here that not only are Mansa’s literacy levels (52.50%) are much lower as compared to the all-India figure of 65.38 percent. It is even lower than the state of Uttar Pradesh, which had a literacy rate of 57.40 percent and ranks 31st amongst all Indian states and UTs.

For bringing out regional variations in educational achievements in Punjab, Punjab has been divided into three cultural regions- Majha, Malwa and Doaba. Educational disparities among these regions are glaring. While educational levels on a comparative basis are high for the Doaba region, they are moderate for the Majha region and the lowest for Malwa region. This applies to both male and female literacy rates. In the Majha region, while the figures for the district Amritsar are slightly less than those of state of Punjab. For the district of
Gurdaspur, the same are higher. So, overall the region is close to the state average. However, most of the districts in the Malwa region lag behind the state average. Except for Rupnagar, Ludhiana and Fateh Garh Sahib, all other districts are far below the state average. Thus, there are clear divides on the literacy rates. The most contrasting figures are for rural female literacy rates. In the whole of rural Doaba, female literacy is less than 70 percent; while the corresponding figures for the Malwa region, is less than 54 percent. These regional differences could be due to the overwhelming existence of larger land holdings in the Malwa region, with agriculture being the primary occupation requiring little emphasis on education. Thus, women’s education is even further neglected, a tendency compounded by the fact that communities in the Malwa tend to be male-dominated, patriarchal and feudal.

In the Doaba region, education assumes greater importance because there is a high incidence of out-migration. There are instances of women’s education being advocated for matrimonial purposes. Moreover, the educational facilities started earlier in this area. The per square availability of primary schools is the highest in Hoshiarpur district. The high literacy rate in the Doaba region is also the outcome of the culture and nature of work of the people in this area. The economy of this region is largely dependent upon the service sector rather than primary sector. Employment in service sector demands a fairly well educated and trained person that has led to spread of education in this region.

Any analysis of literacy in Punjab remains incomplete without a study of rural-urban divide. An analysis of rural-urban literacy rates shows that
Hoshiarpur tops again with 80.09 percent and 86.66 percent in the rural and urban literacy rates respectively. Mansa is the least literate with only 47.56 percent percent rural literacy and 71.23 percent urban literacy. Urban literacy rates are higher than rural literacy rates for all 17 districts of Punjab. However, except for the first five districts i.e. Hoshiarpur, Rup Nagar, Jalandhar, Nawanshehar and Ludhiana, there is a very clear rural-urban divide. Incidentally, these five districts ranked the first five in the overall literacy rates in 1991 as well as in 2001. Again the last were the same in both 1n 1991 and 2001, implying that the pattern has not changed drastically.

Women’s education, as an effective tool for empowerment has been advocated for decades. Earlier, the emphasis was on education was designed to create better informed wives and mothers. However, in context of human development, the definition of women’s education was given a revolutionary meaning and education for women was advocated in order to enable them to have increased choices, take their own decisions and make improvements in their lives. In Punjab, during the period 1991-2001, there has been an increase in female literacy rates. While for males there has been an increase of just 10 percentage points. For females, it is over 13 percentage points. A district wise analysis shows that Hoshiarpur is at the top in female literacy rate and Mansa is at the bottom. However, the differences between male and female literacy rates do not correlate very well with overall literacy rates. For instance, in district like Nawanshehar, which stands fourth in the overall literacy rate, there is a glaring difference in male-female literacy rate. In fact, Nawanshehar would be at 14th place if the
districts are ranked by the male-female literacy differential. Another point to be noticed is that male-female differentials have been declining over decades. For example, in 1971, male-female literacy differential was 17.58 percent, it fell to 16.88 percent in 1981 and further to 15.25 percent in 1991 and in 2001, it was 12.08 percent. Punjab, with a male-female differential of 12.08 in 2001 compares well with other states like Haryana and Himachal Pradesh, which have male-female differential of 22.94 percent and 17.94 percent respectively.

Enrolments and dropout rates are important indicators in order to elaborate the patterns of development of education in Punjab. These figures are influenced and biased by the immediate socio-economic realities of the potential learner and interpretations should take these realities into account. Surprisingly, female enrolments are higher for the state as a whole than male enrolments in 1999. For many districts, female enrolments are higher than the male enrolments. But dropout rates are also higher for males. Also, the dropout rate decreases from the primary to secondary level. The dropout rate falls more steeply for females than for males from the primary to the secondary level. And at the secondary level, the dropout rate increased from 48.54 percent in 1993-94 to 54.01 percent in 1994-95, but thereafter, consistently declined till 1999 and reached 35.54 percent but recently it has risen to 40 percent in 2000-01. It is also noteworthy here that most of the government schools do not record a dropout rate up to primary level. It means the name of the student is never struck off even if he/she never comes to school.
Before analyzing the sex-wise percentages in different classes in districts of Punjab, two things are absolutely evident. First, the percentage of girls is lower than that of boys at primary stage in all the 17 districts of Punjab. Second, in none of the districts, the percentage of girls’ enrolment is 50 percent or more. It means in none of the 17 districts, girls’ enrolment is at par with boys even at the primary stage of education. The percentage of boys is lowest in Gurdaspur (52.0%) while it is the highest in Bathinda (55.5%). Bathinda district is characterized by the highest disparity in percentage of girls and boys.

In middle stage of education, again the percentage of girls is consistently lower than that of boys in all districts of state. The percentage of girls is the lowest in Mansa i.e. 37.8 percent only and the highest in Nawanshehar i.e. 49.5 percent.

In 9th and 10th classes, some improvements have been observed. Six districts of state i.e. Mansa (57.7%), Rupnagar(52.6%), Nawanshehar (52.2%), Kapurthala (51.8%), Hoshiarpur (51.2%) and Muktsar (50.0), percentage of girls is higher than that of boys.

This trend is not observed in 11th and 12th classes because again girls lag behind than boys in all 17 districts of Punjab. The percentage of girls is the lowest in Mansa (38.1%), Bathinda (39.0), Sangrur (39.2%) and Amritsar (40.0). Generally, we talk of female empowerment and social change but these figures bring all disgrace to the efforts being made in this direction. People are still in dark regarding education of girls. They have not become aware about the value of education for girls.
Similarly the status of vocational education is also far from satisfactory in the state. Although since 1971 the number of ITIs has increased but their actual intake capacity is falling i.e. the enrolment of students in it is has shown a declining trend. This may be attributable to the obsolete teaching facilities, inadequate infrastructural facilities and outdated curriculum in these institutions.

**6.3 Human Capital Base of Punjab’s Main Workers and Emerging Employment Structure**

Education is a core sector for achieving the objective of employment, human resource development and bringing about much needed social change leading to overall progress through efficient utilization use of resources. An appropriate education system cultivates knowledge, skills, positive attitude and sense of responsibility. All these factors bring immense opportunities of a gainful employment. It is therefore asserted that education is highly reflective of human capital, therefore education is taken as a proxy for human capital. Quality of workforce is determined by the level of education. By using education alone as a proxy for human capital, we are consciously keeping aside definitional complexities and methodological niceties in the measurement of human capital. Besides, the current scenario of employment structure of Punjab has been analyzed. Human capital is already surging ahead to replace physical capital as the sole mover of the growth process. In the age of knowledge revolution, a worker's intellectual capabilities are no less important than the quality of the machines installed, quality of raw materials used or any combination of the two. International competition has brought many changes in the country inside as well
that is why competition is no less sharp at national level i.e. between the states of India. Out of Indian states, Punjab is one of the most prosperous states but its prosperity is mainly due to its rich agricultural base which has been shattered after the globalization. Workers in agriculture are illiterate and unskilled. In the present study, the human capital base of its main workers with reference to educational levels reveals that one-third of its total main workers are completely illiterate. Both NSSO and census data corroborate this fact. Out of two-thirds literate workforce, the other one-third is educated up to only secondary level. This shows the peacock’s feet aspect of Punjab’s workforce. Undoubtedly, over the period of time, some progress has been made. But comparing by what many other developed states i.e. Kerala have achieved and what Punjab has achieved in terms of quality of workforce, the gaps are really astounding.

There are a large number of constraints in the development of human capital base in Punjab. There is a dearth of infrastructure and quality of manpower. Due to wide spread poverty and inequality, majority of students fail to take even basic education. Whenever there is a resource crunch, the government decides to cut down its expenditure, the axe readily falls on social services, more particularly on education. After analyzing the human capital base of the main workers of the state, it becomes all the more interesting to examine how these main workers are absorbed in state economy. Agriculture continues to be the largest employer of the main workers of Punjab. However, the share of agriculture in terms of employment has fallen from 58.02 percent in 1981 to 39.4 percent in 2001 and this fall is shared by the Industrial and tertiary sectors. This is because
of the reason that the developmental activities undertaken in expanding small scale industries, agro-based industries, road carpeting and other construction activities during this decade appear to have influenced this shift from agriculture sector to non-agriculture sectors. But the share of industry in employment generation is only \( \ldots \) while the according to norm for a state to be declared industrially advanced, its 20 percent proportion workers must be engaged in industrial sectors. The only healthy indicator is that the share of tertiary sector in employment is rising. It is a welcome change.

Literacy rates and employment structure of a state are directly related to each other. Because education is to prepare the students not only to face the challenges of life but also to make them employable in the economy. It is in this sense, we can say that employment structure of an economy is a reflection of its education system.

It is a matter of general agreement that as an economy develops, the share of primary sector in employment structure falls while that of secondary and tertiary sectors rise. In this light, a comparison has been made among the employment structures of Punjab, Kerala i.e. the most literate state of India and that of Bihar i.e. the least literate state of India. On comparison, we came to conclusion that In rural Kerala, while only 43.3 percent workers are engaged in primary sector in 2004-05 (NSSO 61st round) which has come down from 63.8 percent in 1983 (NSSO 38th round). In rural Bihar, 78 percent workers are still trapped in agriculture in 2004-05 while in 1983 about 84.4 percent workers were employed in primary sector. In rural Punjab, in 1983, about 82.0 percent workers
were employed in agriculture which has come down to 67.0 percent workers still find their livelihood in agriculture in 2004-05. However, the proportion of workers engaged in agriculture is continuously falling but still this proportion is much higher than that of Kerala i.e. 43.3 percent. In urban Kerala, the proportion of workers employed in agriculture is higher than that of Punjab. It is because of existence of agro-processing industries in Kerala. Educated youth in Punjab hesitate to work in fields. They are interested only in white-collar jobs. For all time periods, rural secondary sector in Kerala is higher than that of rural Punjab. While trend has reversed for urban Punjab, where proportion of workers in secondary and tertiary sectors is higher than that of urban Kerala. If we extend this comparison to Bihar, we observe that secondary sector feature less important in both rural and urban Bihar for all time periods than tertiary sector. Bihar is comparatively less developed state of India. Even the enrolment rates in primary education declined by 2 percent during 1993-94 to 2000. Poverty of masses, poor quality of education and low level of employment are the interrelated issues which show the negative growth rates in Bihar. They are directly or indirectly responsible for poor performance of Bihar in employment.

Same trend has been observed on district level in Punjab. The districts with high literacy rates like Hoshiarpur (81.40%), Jalandhar (77.91%), Rupnagar (78.49%), Nawanshehar (76.87%), Ludhiana (76.54%) and Fatehgarh sahib (74.10%) are characterized by lower percentage of workers engaged in agriculture sector and higher percentage of workers engaged in ‘other workers’ which mainly involve service sector. While the districts having lower literacy rates i.e. Bathinda
(61.51%), Mansa (52.50%) and Muktsar (58.67%) have high proportion of workers employed in agriculture and lower proportion of workers engaged in service sector.

6.4 Policy Implications

The chapters in this study have discussed various indicators of education in Punjab, role of education in human capital formation, human capital base of Punjab’s main workers and the employment structure of the state showing a contemporary picture over the period 1981-2001. To identify the concerns in education and skill formation is an inseparable part of our study. It is not sufficient simply to identify deficiencies in education and skill formation system. It is equally important to create a framework that makes sure that recommended development measures are sustainable. Keeping this in view, the major policy implications are being given below:

1. Although private sector has established itself in the education sector but still the state government is the largest role player in providing education. Public schools are associated with the poor quality of education and teaching facilities. Government has to take up the responsibility to upgrade the existing system of education in public schools.

2. Dropout rates are quite high in the state. As 20 percent of children dropout at the primary level, 37 percent at middle level, 40 percent at secondary level and 78 percent at 10+2 level. It is a shocking fact that out of 100 children enrolled in class 1 only 22 reach senior secondary level. The government has to ensure that the schooling facilities are up to mark in rural areas and that too, for those who are unable to take education due to weak economic conditions.
2. Budgetary allocations must be enhanced in order to overcome the problem of paucity of funds.

3. The situation of vocational education in the state is also a cause of concern. Teachers should be trained and curriculum should be up to date.

4. Infrastructural facilities in these institutes should be in tune with changing demands of industries.

5. Some kind of interaction should be between it is and industries. It is imperative in order to give a practical touch to the curriculum. Because students after completing their diploma/degree from these institutions, when go in search for a job, they find no relevance of the training and skills that they had acquired from these institutions.

6. The teacher-pupil ratio is high. Due to this, the quality of teaching suffers undoubtedly. The ideal teacher-pupil ratio is 30-40 students per teacher. The recruitment of new teachers and the training of the existing ones is the need of the hour.

7. Massive manpower planning through planned educational restructuring, industrial planning and planning of crop diversification has to be taken up simultaneously.

8. A massive programme of human capital formation through education and training for educated and less skilled workers is required. The government should give some incentives to private sector for investment in this area.

9. The state government should also work out a policy that ensures greater co-ordination between education at school levels and college levels. Education
must be job-oriented, geared towards finding employment opportunities and encouraging students towards self-employment.

10. More emphasis now should be given on qualitative improvement of vocational education also. The technical institutions need heavy investment for their establishment and maintenance. The concerted effort on the part of state government is required to develop physical facilities and to have quality faculty in theses institutions so as that the students can achieve desired level of competency. To compete in the global market and also with other developed states in the country side, the state is in great need of competent technocrats, not simply students having degree or diploma.

11. It is also important to consider the placement of the students. The qualified and deserving candidates should be placed in their proper place. For this, they should be provided practical knowledge. Any amount of theoretical knowledge imparted with practical training limited to ITI workshop would not adequately equip the trainees with the practical knowledge and skills sought by the industries of present time. This must be supplemented by demonstration visits to establishments adopting modern technologies, with facilities for interaction between teaching faculty and industrial experts at different levels.

12. Even though the foundation for training has been laid, the system is very rigid and lacks flexibility to adapt to fast changing technologies. Various agencies associated with vocational training operate in watertight compartments. They are neither integrated nor coordinated and often
consider training as an end itself rather than as a means to sustained employment and enhanced productivity. This is amply evidenced by the fact that the gap between the training and the skill requirements of the industry is still very wide. Training and skill development through vocational training has not been uniformly relevant to user industries.

13. The courses and skills offered in ITIs are one which are obsolete or less in demand. Curriculum modifications, therefore, is an added urgency.

14. The involvement in the industry in the training of students is very essential. Because it will bring practical approach to the curriculum.

15. The existing training institutions like it is have, no doubt, been meeting significant part of the requirements of the skilled manpower of the organized industry. It, however, seems to be necessary that the process of restructuring and reorientation of their courses are made more expeditious with a view to quickly responding to labour market.

16. Needless to say, the need for today is establishing a sound labour market information system that would enable identification of marketable skills on the basis of changing labour market needs due to technological and other innovations and assess their demand in the short or medium-term.

17. There is a need to establish effective vocational guidance and career counseling services to divert the students from general to vocational streams of education with a view to enhance their employability.

18. Emphasis now should be given on shift from specialization in a single skill to multiple skills as per the changing needs of the labour market.
Most of the relevant issues have been highlighted in this study relating to education and employment but it is the political will and whole-hearted participation of the government itself that can do the needful. The administrative set-up will have to make it sure that the policies and plans in papers are translated into a reality. These policies and programmes must be implemented at the earliest and with a view to bring positive and timely results. Only then Punjab can once again leap forward to a golden future.