

# CHAPTER 1

## INTRODUCTION

This chapter is an introductory chapter. This chapter presents a theoretical framework of importance of education for human capital formation and economic development. It outlines the impact of higher education on raising the productivity, efficiency and overall development of a nation. Also, return from investing in higher education is discussed in subsequent sections of the chapter. The growth pattern of higher education in India as compared to other countries is also discussed. The inter-state comparison of higher education highlighting the relative position of Bihar is outlined in the next section. Finally, the rationale for the present study, organization and justification of the present study is presented in the last section of the chapter.

### **1.1 Education, Human Capital and Economic Development**

In the global knowledge economy, people's skills, learning, talents and attributes – their human capital – become a key to both their ability to earn a living and a wider economic growth. Education systems can do much to help people realize their potential (OECD, 2010). The role of education in facilitating social and economic progress has long been recognized. Human resource development has profoundly influenced the course of human civilization. In fact, it is the base of comprehensive development in any society, because there is no real development without developing its human resources. Theories proposed by economist world over has emphasized on the role of human capital for the development of a nation. Adam Smith in

his celebrated book, *Wealth of Nations*, had stressed on the importance of skill and education for economic development. He compared skills and competencies acquired by an individual with an expensive machinery. Marshall regarded education as a national investment and the most valuable capital. However, these preliminary thoughts on importance of education for human capital formation were overlooked for many years and much importance was given to physical capital stock of a country. Exogenous growth model considered physical capital accumulation as the most robust source of economic growth. But, growth theories in recent years stressed upon human capital and proposed education as one of the primary components of human capital. Economic development of a nation largely depends on both its physical as well as human capital. Human capital is defined as the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being (OECD, 2010). Beginning with Lewis (1962) the importance of education for economic development has been recognized by many other scholars. The endogenous growth model developed by Arrow (1962), Romar (1986) and Lucas (1988) emphasized the importance of human capital as an endogenous factor of production to explain economic growth. Romar takes investment in research or technology as endogenous factor for achieving long run growth. Similarly, Lucas assumes that investment on education leads to the production of human capital, which is a crucial determinant in growth process. It is investment in human capital rather than physical capital that have spillover effects which increase the level of technology. These growth models advocated that countries with greater stock of human capital and more investment on research and development will grow at a faster rate.

The theoretical framework proposing to adopt education as an important determinant for development is popularly known as human capital theory. Human capital theory emphasizes the role of education in increasing the productivity and efficiency of labour contributing to overall welfare of a nation and its people. The human capital theories proposed by Schultz (1961), Becker (1964), Mincer (1974), Psacharopoulos (1984), assumed that formal education is highly instrumental and even necessary to improve the production capacity of a population. They argued that an educated population is a productive population. Schultz pointed out that investment by individuals in acquiring knowledge and skills yields real improvements in personal well-being. The improved quality of human capital due to improvement in level of education, standard of health can be linked to real economic growth.

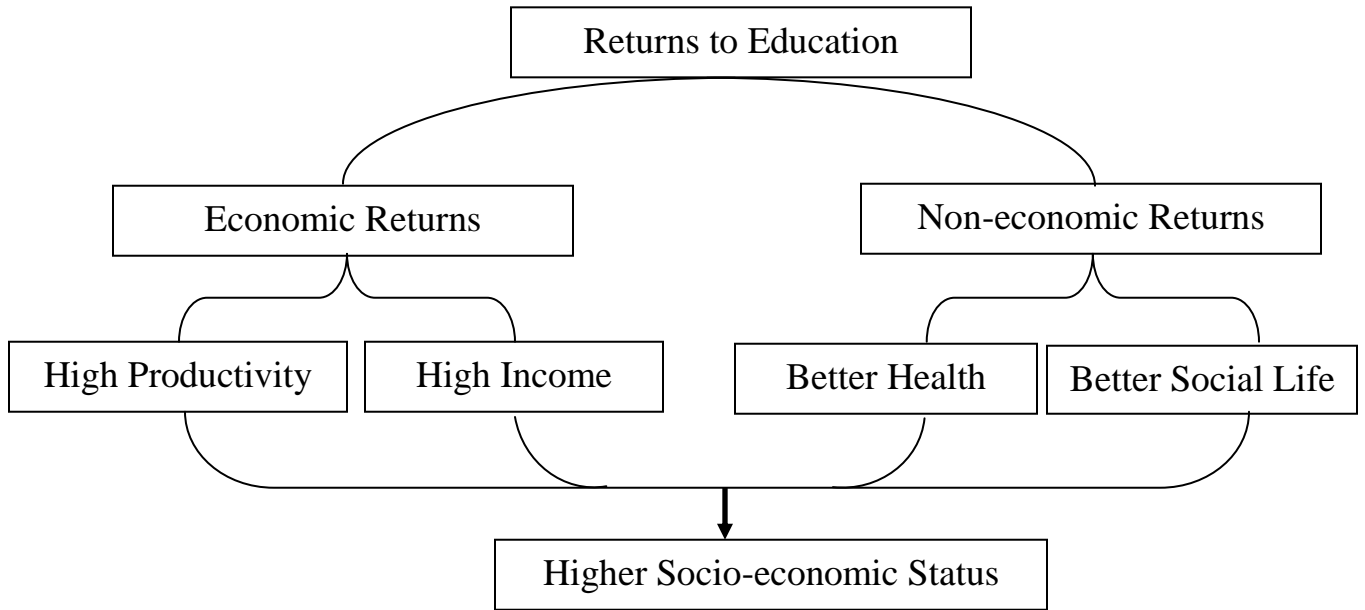
## **1.2 Returns to Education**

Education is an integral component of human development. Education improves functional and analytical ability and thereby opens up opportunities for individuals and also groups to achieve greater access to labour markets and livelihoods. Gary Becker (2010) in his book Human Capital suggests that education or training raise the productivity of workers. Education as an investment secures returns in the form of skilled manpower that geared to the needs of development, both for accelerating economic development and for improving the quality of the society (Yogish, 2006). Education augments efficiency and productivity of an individual through imparting desired knowledge and skills. Education promotes economic growth and development in two ways, through changing the attitudes relevant to economic development and by acting as an economic output

(Kothari and Panchamukhi, 1980). Human resources constitute the ultimate basis of wealth of nations. Capital and natural resources are passive factors of production, human beings are the active agencies who accumulate capital, exploit natural resources, build social, economic and political organization, and carry forward national development (Psacharopoulos and Woodhall, 1985). Education creates a more productive and efficient workforce capable of taking more difficult tasks. A good supply of well-educated workers can help an economy to achieve a sustainable growth and its absence can hinder the growth process. It is argued that countries with high levels of education have witnessed higher economic growth. Countries like Norway, Germany, United States and France embarked on high economic growth mainly because of its educated workforce. Higher education level provided them much needed platform to achieve higher economic growth and prosperity.

Apart from economic benefits, education also brings non-economic benefits to the individuals. The attainment of knowledge, skills and competencies augment people's capacity to contribute to their personal, family as well as social well-being. Education is not only an instrument of enhancing efficiency, but is also, an effective tool of widening and augmenting democratic participation and upgrading the overall quality of individual and societal life. Non-economic returns to learning, in the form of enhanced personal well-being and greater social cohesion, should be viewed as important as the impact on labour market earnings and economic growth (The Well-being of Nations, 2001). Thus, people with better education not only expect to enjoy higher income but it also better health conditions, more employment prospects and positive contribution towards higher economic growth. The economic and non-economic returns to education are illustrated in **Figure 1.1**.

**Figure 1.1: Returns to Education**



A cross country analysis of economic and non-economic indicators suggests that countries with better educational infrastructure created through heavy investments have performed well in education sector. These countries are ranked higher in terms of educational development index (EDI). A country having high EDI ranking have shown better performance in both economic and non-economic indicators. It gets reflected in higher per capita gross national income (GNI), better life expectancy, improved maternal mortality ratio (MMR) and other development indicators. All these outcome indicators contribute towards achieving the overall well being of its citizens. Well-being indicator developed by UNDP in its human development report reflects overall satisfaction with life of an individual. A higher value is given to countries like Norway, Germany, USA, etc. which are performing better in education sector. Contrary to this, countries having low EDI value like India, Bangladesh, Nigeria have low GNI, less longevity, relatively high MMR and less satisfaction with life (*Table 1.1*).

**Table 1.1**  
**Returns to Education**

<i>EDI Range</i>	<i>Country</i>	<i>EDI Ranking *</i>	<i>Gross National Income per capita (Constant 2005 PPP\$), 2011</i>	<i>Life expectancy at birth (Years), 2011</i>	<i>Maternal Mortality Ratio, 2008</i>	<i>Well-being** 2006-10</i>
High EDI (Value > 0.75)	Norway	2	47,557	81.1	7	7.6
	Germany	5	34,854	80.4	7	6.7
	USA	6	43,017	78.5	24	7.2
	UK	26	33,296	80.2	12	7.0
	France	27	30,462	81.5	8	6.8
Medium EDI (Value 0.45 - 0.75)	Mexico	64	13,245	77.0	85	6.8
	Sri Lanka	66	4,943	74.9	39	4.0
	South Africa	67	9,469	52.8	410	4.7
	Brazil	78	10,162	73.5	58	6.8
	China	80	7,476	73.5	38	4.7
Low EDI (Value < 0.45)	<b>India</b>	<b>113</b>	<b>3,468</b>	<b>65.4</b>	<b>230</b>	<b>5.0</b>
	Bangladesh	114	1,529	68.9	340	4.9
	Nigeria	115	2,069	51.9	840	4.8
	Pakistan	124	2,550	65.4	260	5.8
	Ethiopia	137	971	59.3	470	4.4

**Source:** Compiled from Human Development Report, 2011.

**Note:** \* Author's calculation from Inequality-adjusted education index.

\*\* Overall life satisfaction (0 refers to least satisfied and 10 referring to most satisfied).

#### **1.4 Investment in Education**

According to the Kothari Commission (1964), one of the important social objectives of education is to equalize opportunity, enabling the backward or underprivileged classes and individuals to use education as a lever for the improvement of their condition. Inequalities of educational opportunities arise in various ways. In places where no primary, secondary, or collegiate institutions exist, children do not have the same opportunity as compared to those who have these facilities in their neighborhood. Another cause of inequality of educational opportunity is widespread poverty. To remove such inequalities, deliberate policies of equalization of educational opportunities in different districts will have to be adopted. Apart from educational development, progressive abolition of fees, provision of books, stationery and even school meals and uniforms at zero price or subsidized rate will also help in narrowing the gap. In addition, it is necessary to develop a large program of scholarships. There are two other forms of educational 'inequalities'. The first is the wide disparity between the education of boys and girls at all stages and in all sectors of education and the second is the wider disparity of educational development between the advanced social groups and the backward ones i.e. the Scheduled Castes and the Scheduled Tribes. On grounds of social justice as well as for the furtherance of democracy, it is essential to make special efforts to equalize educational opportunities between these groups (Report of the Education Commission, 1964-66).

The Dhebar Commission in 1961 had suggested an appropriate system of educational facilities for the Scheduled Tribes students (Elwin, V: 1963). Special educational incentives such as opening of separate schools, reservation of seats in educational institutions, special scholarships etc. have

been introduced for the benefit of Scheduled Castes and Scheduled Tribes. In spite of all these measures education has made little progress among these communities. Tribal education in India presents a dismal scene. It is characterized by low enrolment, especially of girls, high dropout, drift and wastage, limited numbers of high achievers and little credibility (Dubey: 1998).

In a country like India, higher education has two functions: First, to maintain and enhance the civilization tradition of India, and second, to create excellence in all fields of knowledge (Vidyarthi: 1985). A knowledge superpower can be built only through proper and effective education, particularly the higher education (Singh: 2005). The objective of higher education is not only to promote equality and social justice, but also to provide the right kind of work ethos, professional expertise and leadership in all walks of life. University education is a hall-mark of knowledge and dignity. University education is the training, development and discipline of the real man. It is education in human values and revitalizing the moral and ethical approach to life (Sinha: 1992). Above all, attempt is to nurture values inherent in physical, emotional, rational, aesthetic, ethical and spiritual education among teachers, students and whole society.

In order to implement these objectives, a complex structure and system of governance has been evolving. The structure of higher education consists of three years of education (after 12 years of school education) leading to a bachelor's degree in arts, science and commerce and four years in professional fields like engineering and medicine. This is followed by two years of study for a Master's degree; and three years at least beyond the Master's degree for a Ph.D. degree which generally takes longer. There are



also postgraduate diploma programmes open to graduates, and certain professional programmes like those in education and law require a first degree as a pre-condition for admission in most places (Ministry of Human Resource Development).

Education has been treated as an investment in human capital, which confers benefits both on individual and society. Analysis of returns to education provides a rationale for investing in education. Investment in education generates both economic and non-economic benefits to society and that to individual as well. Empirical evidence suggests that education is associated with increased productivity, enhanced income, healthier society and thus stronger and prosperous economy. In addition to the direct contribution of education to increase an individual's productivity, it has been argued that education can also yield various positive external benefits in production. Number of studies has investigated the effectiveness of public spending in education on economic and social outcomes, such as per capita income, life expectancy, maternal mortality rate and other outcome indicators. The earning model of human capital theory by Jacob Mincer (1970, 1974), considers the impact of investment in differing amounts of schooling on individual earnings. The comparison of profitability of human capital vis-à-vis physical capital can serve as signal in guiding resource allocation between the two forms of capital in development planning (Psacharopoulos, 1985, 1994). According to Fagerlind and Saha (1997), human capital theory provides a basic justification for large public expenditure on education both in developing and developed nations. Investment in education leads to the formation of human capital, comparable

to physical capital and social capital, and that makes a significant contribution to economic growth (Barro, 2001).

Human capital theory undoubtedly justifies the importance of investment for imparting higher level of education and acquiring required skills and competencies. Efforts to promote investment in human capital are therefore needed for returns in the form of individual economic success at the micro level and rapid economic growth at the macro level. Lack of investment in human capital is therefore, mainly responsible for slow growth of under developed countries. Evidence suggests that countries spending high proportion of its GDP on education have higher mean years of schooling. This implies that persons of these countries have spent more number of years in attaining the education. This helps in building a more qualified and productive workforce which results in higher individual as well as national income. Norway, Australia, Netherlands, United States and New Zealand are spending more than five per cent of their GDP on education. This spending pattern is reflected in higher proportion of per capita GNI. On the other hand, countries like Indonesia, India, Pakistan, Bangladesh and Liberia expenditure on education ranges from two to three per cent of their GDP. Per capita GNI of these countries are much lower than the per capita GNI of developed countries. Lack of qualified and productive workforce could be one of the main reasons for relatively lower per capita GNI of these countries. Not surprisingly, countries with low spending on education are also ranked low in human development index.

**Table 1.2**  
**Impact of Investment in Education**

<i>Country</i>	<i>Public Expenditure on Education (% of GDP) (2006-09)*</i>	<i>Mean years of schooling, 2011</i>	<i>Gross National Income (GNI) per capita (Constant 2005 PPP\$)</i>	<i>Human Development Index (HDI), 2011</i>
Norway	6.8	12.6	47,557	0.943
Australia	4.5	12.0	34,431	0.929
Netherlands	5.3	11.6	36,402	0.910
United States	5.5	12.4	43,017	0.910
New Zealand	6.1	12.5	23,737	0.908
Indonesia	2.8	5.8	3,716	0.617
India	3.1	4.4	3,468	0.547
Pakistan	2.7	4.9	2,550	0.504
Bangladesh	2.4	4.8	1,529	0.500
Liberia	2.8	3.9	265	0.329

**Source:** Human Development Report, 2011.

**Note:** \* Data refer to the most recent year available during the period specified.

#### **1.4 Importance of Higher Education**

Economic studies of incomes and education shows that the income profile of a person varies with the level of education and acquired knowledge. People with higher level of education start out with higher incomes and enjoy more rapid growth in income than those with lower education level (Brian Keeley, 2010). Series of work has been done on estimating the rate of return to different levels of education. All these studies have consistently suggested

that more schooling is associated with higher individual earnings. A higher level of education brings substantial economic benefits for individuals. Higher education provides more monetary benefit as those who hold higher degree can expect higher income (Kim 2002). A person with a higher education can expect to earn over 50 per cent more than a person with an upper secondary. In OECD countries, those who do not complete an upper secondary education could earn an average of 23 per cent less than their counterparts who do complete that level of education (Education at a Glance, OCED, 2011). Another study by OECD suggests that the risk of unemployment declines substantially as people gain more education. The study further asserts that a University graduate receives higher wages than those who completed secondary education. Similarly, people with secondary education earn more than those with lower level of education. A study by US Census Bureau in 2004 observed that, on an average, a college graduate earns significantly more than a person with simply high school diploma. The findings of these studies may vary in different countries, but it establishes the fact that higher level of education gives higher return. It is argued that a workforce having high level of education can contribute in a better way for advancement of the economy. Moreover, if the average time spent in education by a population rises by one year, then economic output per head of population should grow by between 4 - 6 per cent in the long run (OECD, 2010). As evident from Table 1.2, countries with higher mean year of schooling is experiencing higher per capita income. Apart from monetary benefits, higher education improves an individual's quality of life. Studies show that, compared to persons with lower level of education, college graduates have relatively longer life spans, better access to health care, better

dietary and health practices. Also, the person has greater economic stability and greater participation in community service. Thus, important functions of higher education includes creation and dissemination of knowledge, supply of manpower, specifically knowledge workers, attitudinal changes for modernization and social transformation, formation of a strong nation-state, and promotion of high quality of individual and social life.

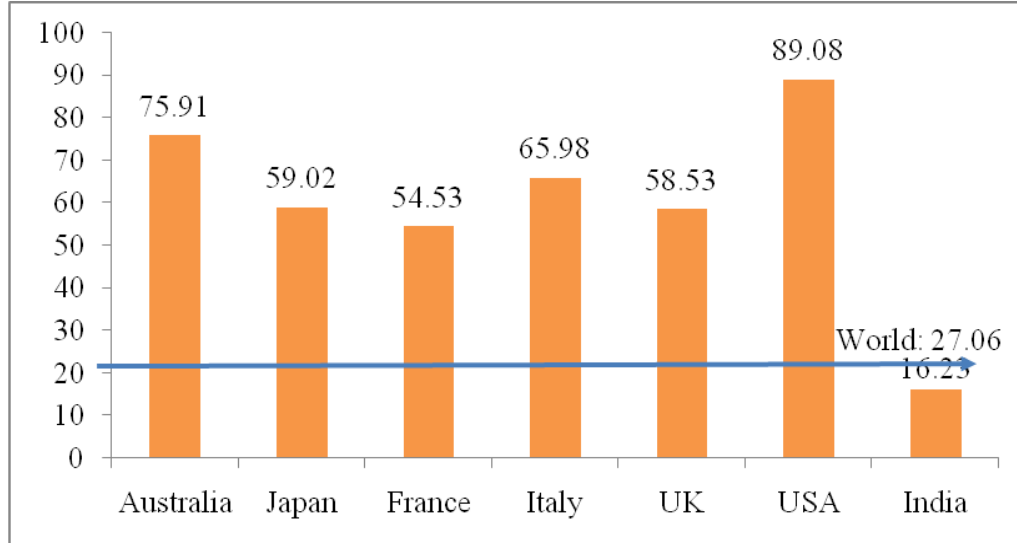
Discussion carried out in the previous sections highlights the importance of human capital for economic development. It also emphasizes the critical role of higher education in achieving the desired level of human capital. Level of higher education explains the relative growth of different economies and the overall well-being of individuals. Policy framework covering various aspects of higher education is critical for the growth of higher education system of a country. Institutions imparting higher education play a central role in producing quality and efficient workforce. Advent of globalization and integration of world economy has further necessitated the need for a strong and vibrant higher education system.

### **1.5 Higher Education in India: An Overview**

The role of higher education in economic development has been recognized for quite some time amongst policy makers and social thinkers in India and there has been rapid expansion and demand for higher education in different parts of the country. India's higher education system is the largest in terms of number of institutions and third largest in terms of enrollment next only to China and United States. Total approximate number of institutions

imparting higher education in India is 26,000 whereas it stands at 6,706 in USA and 4,000 in China (Ernst & Young, 2010). Student enrollment in higher education in India is 13.6 million, next to China (25.35 million) and USA (17.76 million). Higher education has made a significant contribution to economic development, social progress and political democracy in independent India. But there is serious cause for concern at this juncture (Pitroda, 2006). Currently, 33 percent of the total population in India is under 15 years age, which is much higher than the global average of 27 per cent. Total number of this young population in the country is more than the combined population of the relevant age group of Britain (13 per cent) and United States of America (17 per cent). This clearly implies that more than one fourth of the country's population is ready to enter into the world of higher education. However, opportunities for higher education in terms of the number of places in universities are simply not adequate in relation to the requirement. A large segment of population does not have access to higher education. Gross enrollment ratio (GER) for higher education in the country is very low at 16.23 per cent as compared to the world average of 27.06 per cent. GER is much higher in countries like Australia (75.91 per cent), Japan (59.02 per cent), UK (58.53 per cent), USA (89.08 per cent) and Italy (65.98 per cent) (*Graph 1.1*). India is lagging far behind the developed countries and it will take many years for India to come close to the level of these developed countries.

**Graph 1.1**  
**Gross Enrollment Ratio in Tertiary Education (percent)**



**Source:** UNESCO Institute of Statistics accessed on 20<sup>th</sup> April, 2012.

Higher education in India has witnessed many fold increase in its institutional capacity since independence. During the period of 1950 to 2009, the number of universities increased from 25 to 467, while colleges grown from 700 to 25,951. Number of teachers rose from 15,000 in 1951 to 588,000 in the year 2009. Also, number of students enrolled for higher education increased from 0.1 million in 1951 to 13.6 million in 2009 (*Table 1.3*).

**Table 1.3**  
**Growth of Higher Education in India**

<i>Indicator</i>	<i>1950</i>	<i>1991</i>	<i>2004</i>	<i>2006</i>	<i>2009</i>
University level institutions	25	177	320	367	467
Colleges	700	7,346	16,885	18,064	25,951
Teachers (in thousands)	15	272	457	488	588
Students enrolled (in millions)	0.1	4.9	9.95	11.2	13.6

**Source:** Higher Education in India, University Grants Commission, January, 2011.

As on 1<sup>st</sup> July 2010, the higher education system in the country comprises of 533 university level institution which includes 41 Central Universities, 257 State universities, 130 Deemed to be Universities, 5 Institutions of national importance established under State legislation, 39 Institution of national importance established under Central legislation and 61 private Universities. In addition, there are 25,951 colleges including 2,565 women's colleges.

Disciplinary orientation of the universities is fairly wide in the country. There is overall expansion of universities across all discipline throughout the country. Fifty-four percent of the Universities are multidisciplinary in nature. Discipline-wise break-up of the universities shows that 16.5 per cent are Agriculture Universities, 5.9 per cent are technical, 3.8 per cent are medical and 2.5 percent are law Universities. Also, 2.1 per cent Universities are exclusively for women and are multi-disciplinary in nature. Open universities constitutes of five per cent of the total university (**Table 1.4**). The number of universities in India offers a wide choice for its students who want to pursue higher education.

**Table 1.4**  
**Disciplinary Orientation of Universities in India**

<i>Type</i>	<i>Number</i>	<i>Percentage</i>
General (multi-disciplinary)	126	53.16
Agricultural, Veterinary and Fishery	39	16.46
Technological	14	5.91
Language	11	4.64
Medical	9	3.80
Law	6	2.53
Woman (multi-disciplinary)	5	2.11



Open	11	4.64
Others	16	6.75
<i>Total</i>	<i>237</i>	<i>100</i>

**Source:** Higher Education in India, University Grants Commission, January, 2011

Disciplinary orientation is equally wide for colleges in the country. According to the report of Ministry of Human Resource Development titled Statistics of Higher and Technical Education 2009-10, there are 25,938 colleges in the country, out of which, 14,321 are for general education, 2,894 are for technical education, 2,074 for medical and 3,357 for teacher training. To meet the expanding need for skilled personnel reflecting the changing demand for skills there are 1,914 polytechnics in the country. Technical education sector comprises IITs, IIMs, NITs, IIITs, engineering and technology colleges, polytechnics, Institutions for pharmacy, Schools of hotel management and architecture, Boards of apprenticeship training, Technical Teachers Training Institutes, etc. Altogether, there are 6,244 technical institutions including management institutions with an aggregate intake of 11.5 lakh students and 2,324 diploma level institutions with a total enrolment of 5.1 lakh students. During 2009-10, total enrolment in higher education is placed around 2,07,40,740 out of which 82,96,140 are female enrolment and 1,24,44,600 are male enrolment. Gross enrollment ratio (GER) for the age group 18-23 years is 15 per cent, where females account for lesser value of (12.7) and male account for larger value (17.1). Nevertheless, the gross enrollment ratio is only around 11 per cent as compared with 20 to 25 per cent in most other developing countries. The percentage of students opting for science and technical courses is far too low with most students going for liberal Arts courses. The total technical education enrolment at 16.6 lakh accounts for only 12 per cent of total

higher education enrolments. The total strength of teaching faculty in higher education is about 6,52,665 and the total number of students enrolled is 1,58,87,680. The pupil-teacher ratio comes out to be around 24 in country.

Since independence, there is continuous growth of higher education in India. But, the quality of higher education in India is not comparable to other advanced countries. There are issues related to accessibility, equity and quality in higher education system in the country. There are acute regional, social group and gender imbalances with respect to access to higher education reflected in variation in enrolment ratios. Besides, there are large variations in the standard and quality of education imparted in the universities and colleges. The difficulty in attracting qualified persons to teach in institutions of higher education is one of the most important constraints in expanding higher education. One of the reasons for such a situation is gross under-funding to the higher education system, i.e. universities and colleges. For instance, out of the 25,951 colleges in the country, only 5,936 colleges are eligible for receiving grants from University Grants Commission (UGC). The remaining colleges are left without any development assistance as they do not meet the minimum eligibility norms, mostly in terms of physical facilities and infrastructure.

Besides, there are also large disparities across states, regions, sex, and caste in terms of accessibility and quality of university education. Rightly said by the Prime Minister of India, Dr. Manmohan Singh that “Our university system is, in many parts, in a state of disrepair...In almost half the districts in the country, higher education enrollments are abysmally low, and almost two-third of our universities and 90 per cent of our colleges are rated as below average on quality parameters...” The distribution of universities and colleges are not uniform across states. There are seven states, which

have only one university, while three states have two each. Indeed, these states are small in terms of area or population. In sharp contrast, there are seven states which have 21 or more university-level institutions, the largest state on this continuum being Maharashtra (UGC, 2011). There is regional disparity in terms of number of universities in the country.

### **1.6 Higher Education in Bihar Vis-à-vis Major States in India**

According to 2011 census, Bihar is the third most populous state of the country with a total population of 10,38,04,637 accounting for 8.58 per cent of the country's population. The population of the state increased at the rate of 25.1 per cent during 2001-11 as against the increase of 17.64 per cent registered for the country. In ancient times, Bihar had well governed administrative system in the country. Education sector was well developed with universities like Nalanda and Vikramshila attracting students from all over the world. But, Bihar lost its pre-eminent position and higher education in particular is in bad shape today. The current status of higher education in the state is characterized by low enrolment ratio particularly among girls, low completion rate, low college population index and poor qualitative as well as quantitative infrastructure. Bihar with glorious history of education and learning in the past is now one of the most educationally backward states of the country.

There is one central university and 13 state universities in Bihar. In total, there are 20 university level institutions in the state. Total number of institutes imparting higher education is less in number with respect to population and size of the state. Other bigger states have institutes in proportion to their population like Andhra Pradesh, Gujarat, Karnataka,

Maharashtra, Tamil Nadu have 31, 26, 29, 42, and 43 university level institutes respectively (**Table 1.5**).

**Table 1.5**  
**Number of University & University Level Institutions**

<i>Sl. No.</i>	<i>State</i>	<i>Central Univ.</i>	<i>State Univ.</i>	<i>Private Univ.</i>	<i>Deemed Univ.</i>	<i>Insti. Estb. Under State legislature Act</i>	<i>Insti. of National Importance</i>	<i>Total</i>
1	Andhra Pradesh	3	20	0	4	2	2	31
<b>2</b>	<b>Bihar</b>	<b>1</b>	<b>13</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>20</b>
3	Gujarat	1	16	5	2	0	2	26
4	Haryana	1	7	0	3	0	1	12
5	Jharkhand	1	4	0	2	0	1	8
6	Karnataka	1	16	0	11	0	1	29
7	Kerala	1	7	0	1	0	2	11
8	Madhya Pradesh	2	15	0	2	0	2	21
9	Maharashtra	1	19	0	20	0	2	42
10	Odisha	1	10	0	2	0	2	15
11	Punjab	1	7	1	2	0	3	14
12	Rajasthan	1	14	0	7	0	2	24
13	Tamil Nadu	1	18	0	21	0	3	43
14	Uttar Pradesh	4	19	2	8	1	2	36
15	West Bengal	1	15	0	1	0	3	20

**Source:** Statistics of Higher & Technical Education 2009-10, Ministry of Human Resource Development, Government of India.

There are comparatively fewer institutions offering technical education in the State. Bihar shares more than eight per cent of total population of the country but it shares only about 0.34 per cent of engineering colleges and

0.88 per cent of polytechnic institutions of the country. As on 30<sup>th</sup> September, 2009 there are only 37 medical colleges and ten engineering and technical colleges in the State. There is only one ITI for every ten lakh population in Bihar, whereas the corresponding figures are ten for Tamil Nadu, eight for Andhra Pradesh, seven for Karnataka and six for Maharashtra. At present there are only 17 polytechnics in the state which is very low as compared to other states like Uttar Pradesh (163), Karnataka (273), Tamil Nadu (363) and Maharashtra (227). Similarly there are 189 IT colleges in Tamil Nadu, 113 in Andhra Pradesh, 73 in Karnataka, 60 in Uttar Pradesh and 20 in Orissa, but there is none in Bihar. There are 1,031 colleges in Bihar, whereas it is as high as 4,473 in Andhra Pradesh, 1,311 in Madhya Pradesh, 3,446 in Maharashtra, 1,936 in Tamil Nadu and 3,104 in Uttar Pradesh (**Table 1.6**). These figures reveal the acute shortage of institutions for imparting higher education in the state as compared to other major states.

**Table 1.6**  
**Number of Colleges & Polytechnics**

<i>Sl. No.</i>	<i>State</i>	<i>Arts, Fine Arts, Social Work, Science &amp; Commerce</i>	<i>Engineering/Technology/Architecture</i>	<i>Medical</i>	<i>Education/Teacher Training</i>	<i>Others</i>	<i>Total Colleges</i>	<i>Polytechnics</i>
1	Andhra Pradesh	1,970	698	415	615	775	4,473	213
<b>2</b>	<b>Bihar</b>	<b>817</b>	<b>10</b>	<b>37</b>	<b>33</b>	<b>134</b>	<b>1,031</b>	<b>17</b>
3	Gujarat	577	29	114	254	244	1,218	104
4	Haryana	238	154 <sup>^</sup>	50 <sup>*</sup>	447	113	1,002	32 <sup>**</sup>
5	Jharkhand	110 <sup>^</sup>	4 <sup>^</sup>	12 <sup>^</sup>	9 <sup>^</sup>	26 <sup>**</sup>	161	19 <sup>**</sup>
6	Karnataka	369	174	423 <sup>**</sup>	0	13 <sup>*</sup>	979	273

7	Kerala	192	98**	125**	21	12	448	59**
8	Madhya Pradesh	896	208	102	102**	3	1,311	49
9	Maharashtra	2,074	312	141	471	448	3,446	227^
10	Odisha	634	82	69	14	75	874	24
11	Punjab	234^	82	37	48	177	578	89
12	Rajasthan	1,135	96*	54**	111**	214^	1,610	71
13	Tamil Nadu	589	440	198**	645	64	1,936	363
14	Uttar Pradesh	2361^	212^	104^	128**	299^	3,104	163
15	West Bengal	434	73	51	103	180	841	57

**Source:** Statistics of Higher & Technical Education 2009-10, Ministry of Human Resource Development, Government of India.

**Note:** \*\* repeated from 2006-07, \* repeated from 2007-08, ^ repeated from 2008-09.

The number of institutions for imparting higher education in Bihar is indeed short in number. The quantitative shortfall in the state is one of the reasons for low quality of higher education in state. The indicators reflecting qualitative situation in the state is given in Table 1.7. It shows that gross enrollment ratio (GER) is 11 in Bihar, 15.9 in Gujarat, 19.1 in Haryana, 19.0 in Tamil Nadu. Bihar has better GER than Jharkhand (9.4), Punjab (10.8), Rajasthan (9.6) and Uttar Pradesh (10.9). The Gender Parity Index (GPI) measure the relative access to education of males and females, calculated as the quotient of the number of females by the number of males enrolled in a given stage of education. Bihar has one of the worst GPI among major states of the country. Only Jharkhand and Odisha have poor GPI than Bihar. Also, pupil-teacher ratio referring to number of teachers in a school or university with respect to the number of students who attend the institution is one of the highest in Bihar. There are 39 pupils per teacher in

the state, whereas it is 16 in Andhra Pradesh, 22 in Jharkhand, 13 in Kerala and 15 in Tamil Nadu (**Table 1.7**).

**Table 1.7**  
**Major Indicators of Higher Education**

<i>Sl. No.</i>	<i>States</i>	<i>Gross Enrollment Ratio</i>	<i>Gender Parity Index</i>	<i>Pupil-Teacher Ratio</i>
1	Andhra Pradesh	16.9	0.58	16
<b>2</b>	<b>Bihar</b>	<b>11.0</b>	<b>0.53</b>	<b>39</b>
3	Gujarat	15.9	0.72	37
4	Haryana	19.1	0.79	24
5	Jharkhand	9.40	0.51	22
6	Karnataka	18.1	0.82	15
7	Kerala	13.1	1.18	13
8	Madhya Pradesh	14.9	0.79	41
9	Maharashtra	21.4	0.67	26
10	Odisha	11.3	0.36	19
11	Punjab	10.8	1.03	13
12	Rajasthan	9.60	0.64	22
13	Tamil Nadu	19.0	0.83	15
14	Uttar Pradesh	10.9	0.79	35
15	West Bengal	11.9	0.75	41

**Source:** Statistics of Higher & Technical Education 2009-10, Ministry of Human Resource Development, Government of India.

Apart from quantity, the institutions imparting quality education are also one of the important pillars which can support the faster growth of the economy. Institutions of higher education in the State are crumbling due to inadequate investment in physical facilities and infrastructure and a large number of faculty positions have remained vacant over a fairly long period of time. The academic infrastructure in the State is one of the worst in the country. The libraries of most colleges and university departments do not

subscribe any standard journal and the scholars fail to get the latest books in subjects concerned. The laboratories of science departments are running without the essential equipment and chemicals. Many postgraduate departments face immense hardship in meeting their day-to-day expenses due to non-availability of contingency grants. The problem further aggravated with acute shortage of teachers in colleges. The acute shortage of teachers in six colleges can be gauged from the fact that more than 50 per cent of the teaching posts are lying vacant. Bihar's six government-run engineering colleges have less than 40 teachers, including principals, to cater to over 4,000 students, triggering resentment among them and forcing thousands of others to study in other states (The Economic Times, IANS, Nov 8, 2011) .

It has been observed that the crisis of higher education in Bihar is not merely on account of decline in standard of teaching or shortage of teachers or deterioration of basic infrastructure. Possibly it is as much due to academic stagnation that characterizes the universities today. There is no sign of progress in terms of new course, updated syllabus or innovative methods of teaching and learning. Whereas innumerable new job opportunities are coming up in the world today and there is unprecedented expansion in both service sector and knowledge sector, colleges in Bihar are of little help to the student community. Universities still run conventional courses in a routine style leaving their products hardly equipped to take up the new challenges of the contemporary world of work. New faculties like fashion technology, bio-technology, etc. have not been opened in the state universities to cater to the demands of the students.

The present situation with respect to higher education in Bihar has adverse impact on the prospective student of the state. There is growing



trend among the students from Bihar to migrate to other parts of the country for educational needs. The poor state of education system in state compels students to migrate to other parts of the country to get higher education and acquire new skills. While, return to education is the main motive for migration, but in the case of Bihar, it is the acquisition of education itself which is becoming an important trigger for migration movements. In the context of Bihar, Migration has direct impact on the skill base of the state by changing the skill composition and the talent base. Apart from adverse impact on the skill base, economy of the Bihar is severely affected by the growing trend of migration. At a conservative estimate calculated in 2004 by a leading newspaper, over 50,000 outstation students living in areas surrounding Delhi University. Assuming one student spends an average Rs. 2,000 per month, it amounts to Rs. 10 Crores. Multiplying it by 12 and the annual figure comes to Rs. 120 Crores. Most of these students come from Bihar, UP, Uttaranchal, Meghalaya and Assam. The amount of money going out is fuelling the economy of other states. As a result, due to lack of quality educational facilities, lots of money is being spent outside the state.

Ancient Bihar was established seat of learning and knowledge capital of the World. During vedic period, Mithila, was renowned for its vedic education and scholars. Buddhist and Jainist education first developed in the state during 5<sup>th</sup> Century B.C. Three world class universities Nalanda, Vikramshila and Udanpuri were established between the 4<sup>th</sup> and 8<sup>th</sup> Century in Bihar. These universities have attracted large number of students and scholars from all over the world. Until Independence, Bihar's administration and university education system was assessed as one of the best in India by Sir Paul Appleby. But, in due course of time, Bihar has lost its pre-eminent position. Current Status of Higher education is characterized by low GER,

low C-PI, low pupil-teacher Ratio, Poor academic and physical infrastructure. Bihar with glorious history of education and learning in the past is currently one of the most educationally backward states of the country. Large numbers of students are migrating to other regions of the country for pursuing higher education. This decline in Bihar's positions from the best to the worst; from most attractive to most repulsive knowledge hub raises several questions and motivated the researcher to delve deeper into the issue

### **1.7 Organization of Dissertation**

The dissertation has been organized in seven chapters as out-lines below:

Chapter 1 introduces the topic, points out the problem of the study and gives the background of the study.

Chapter 2 provides a brief summary of literature on related issues like linkage between education and development, higher education scenario in India and problems of higher education in the Country.

Chapter 3 outlines the data methodology and research design.

Chapter 4 describes the development of higher education in Bihar. This chapter gives an insight into the history of higher education in the state and also deals with the present scenario of higher education.

Chapter 5 discusses about the financing of higher education at both micro and macro level.

Chapter 6 presents primary data analysis and examines the major factors responsible for out flow of students from the state of Bihar.

Chapter 7 focuses the summary findings of the study along with key issues and useful suggestions for the policy implication of the study.