

Availability of Institutions Imparting Higher Education: A Review (A Comparative Study of Punjab and Haryana)

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Abstract: Higher education must provide knowledge and skills to build productive careers so that the people have professionally satisfying lives and also contribute positively to a strong and vibrant economy. The greater the weightage within an economy of the components representing higher levels of educational attainment and professional expertise, the higher is the level of technology being used within the economy. Further, given the significance of human capital stock for achieving higher levels of development, an examination of the structure of human capital stock and the nature of relationship between attainment in terms of the different components of human capital stock and the level of development becomes an issue of considerable significance. The present paper accesses the availability of educational institutions imparting higher education in Punjab and Haryana region by taking into account the number of different types of recognized higher education institutions. The study is totally based upon secondary sources of data and aims to analyse the growth of higher education institutions during 1971-2011, understand their spatial pattern at the district level in 2010-11 and compare the two states of Punjab and Haryana to find out the overall performance with respect to availability of recognized institutions imparting higher education in the study region.

Key Words: Higher education, Educational institutions, Growth, Level of Development.

1. INTRODUCTION:

Higher education as envisaged in National Policy on Education, 1986 lays emphasis on 'reflection' rather than action. While indeed reflection on critical issues facing humanity is important, higher education has a valuable role to play in regard to action on the part of those receiving it, particularly on issues such as regional development, school education (including universalisation of elementary education) etc. (Rao, 1998). Higher education must provide knowledge and skills to build productive careers so that the people have professionally satisfying lives and also contribute positively to a strong and vibrant economy (Planning Commission, 2009). The greater the weightage within an economy of the components representing higher levels of educational attainment and professional expertise, the higher is the level of technology being used within the economy. Further, given the significance of human capital stock for achieving higher levels of development, an examination of the structure of human capital stock and the nature of relationship between attainment in terms of the different components of human capital stock and the level of development becomes an issue of considerable significance (Mathur, 1993).

India is lagging far behind the developed countries of the world as far as higher education and specialized learning is concerned. Off late, although the number of institutions imparting higher education- both technical and non-technical- has tremendously increased, yet there has been no significant improvement in the quality of education imparted in them. The process of quality improvement is, undoubtedly, slow in the country, yet, it has been able to generate scientific temperament in the masses, encourage innovations and further augment the pace of industrialization, thus, bringing India in the league to the fast developing countries of the world. Education, in general, and technical education, in particular, has been very important in transforming pre-industrial into industrially developed societies with high rates of economic growth (Chopra, 1993). Technical education is one of the most significant components of human resources development spectrum with great potential for adding value to products and services and for contributing to the national economy through gainful employment of youth and improving quality of life of the people (Planning Commission, 2009, p-97).

2. OBJECTIVES:

- To analyse the growth of different recognized institutions imparting higher education in Punjab and Haryana during 1971-2011.
- To comprehend the spatial pattern of recognized higher education institutions at the district level in both the states in 2010-11.
- To draw a comparison between the two states to find out the overall performance with respect to educational institutions imparting higher education in the study area.

3. METHODOLOGY:

The present study is totally based on secondary data taken from various issues (1971-2012) of Statistical Abstracts of Punjab and Haryana. The data related to population has been taken from the Population Tables of Census of India, 1971, 1981, 1991, 2002 and 2011.

In this study, the number of recognised higher education institutions has been taken as an indicator of higher education. The higher education institutions considered in this study include arts, science, commerce and home science colleges; universities, engineering, technology, law and architecture colleges; medical colleges; and teacher's training (B.Ed.) colleges. There is difference in the nature of education imparted and skills developed in these institutions and, hence, score has been assigned to them as follows with the objective to bring them at equal level for statistical analysis:

Arts, science, commerce and home science colleges: 3; university, engineering, technology, law and architecture colleges: 7; medical colleges: 9; and teacher's training (B.Ed.) colleges: 5.

By multiplying the number of various categories of higher education institutions with respective assigned scores and summing up the results; category-wise, cumulative scores of higher education institutions has been arrived at. By summing up the cumulative scores of each category; Aggregate Registered Higher Education Institutions Score (ARHEISs) has been obtained.

Further, to make the data more authentic for interpretation, Rate of Recognised Higher Education Institutions (RRHEIs) has been calculated by applying the following formula:

$$\text{RRHEIs} = \frac{\text{ARHEISs}}{\text{Total Population}} \times 1,00,000$$

4. STUDY AREA:

The present study deals with the Punjab and Haryana region. The states of Punjab and Haryana are neighbours situated in the north-western part of India in the Indo-Gangetic plains. The study region covers a total area of 94,574 sq. kms., extending from 27°37' North to 32°32' North latitudes and from 73°55' East to 77°36' East longitudes. It is surrounded by Jammu and Kashmir in the north, Himachal Pradesh in the north-east, Uttar Pradesh in the east, Rajasthan in the south and west and Pakistan in the north-west. The study area (in 2011) is divided into 41 districts, out of which 21 districts are of Haryana and 20 districts are from Punjab. The study area is having one of the best infrastructure in the country and is considered to be the current 'growth engine'.

5. DISCUSSION:

In Punjab, the number of colleges of general education (arts, science, commerce and home science) increased from 150 in 1970-71 to 238 in 2010-11. Similarly, during the same period, universities, colleges of engineering and technology, medical colleges, law colleges, colleges of architecture and colleges of teachers training increased from 127 to 463.

In 1970-71, in Haryana, there were 65 colleges of general education which had increased to 208 in 2010-11. Similarly, the system of higher education had expanded substantially with the increase in number of universities, colleges of engineering and technology, medical colleges, law colleges, colleges of architecture and colleges of teachers training from mere 20 in 1970-71 to 644 in 2010-11.

5.1 Trends in Rate of Recognised Higher Education Institutions

The growth of institutions providing higher education in the region had been very sluggish till 2001. However, the last decade witnessed a steep rise in the number of these institutions. In 1970-71, the number of recognized higher education institutions in Punjab and Haryana were 277 and 85, respectively, which increased to 701 in Punjab and 852 in Haryana in 2010-11.

Aggregate Registered Higher Education Institutions Score (ARHEISs) for Punjab and Haryana during 1971-2011 has been presented in Table 1.

Table 1
Punjab and Haryana Region: Aggregate Recognised Higher Education Institutions Score, 1971-2011

Year	Punjab					ARHEISs**	Haryana					ARHEISs**
	Arts, Science, commerce and Home Science Colleges CS*	University, Engineering, Technology, Law and Architecture Colleges CS*	Medical Colleges CS*	Teachers Training Colleges CS*	ARHEISs**		Arts, Science, commerce and Home Science Colleges CS*	University, Engineering, Technology, Law and Architecture Colleges CS*	Medical Colleges CS*	Teachers Training Colleges CS*	ARHEISs**	

1970-71	450	742	36	85	1313	195	49	9	60	313
1980-81	486	868	45	90	1489	342	70	9	100	521
1990-91	513	847	45	90	1495	408	77	9	90	584
2000-01	612	1120	54	110	1896	498	259	9	100	866
2010-11	714	1890	72	925	3601	624	1141	36	2385	4186

* Cumulative Scores ** Aggregate Registered Medical Institutions Scores

Source: Worked out by the author.

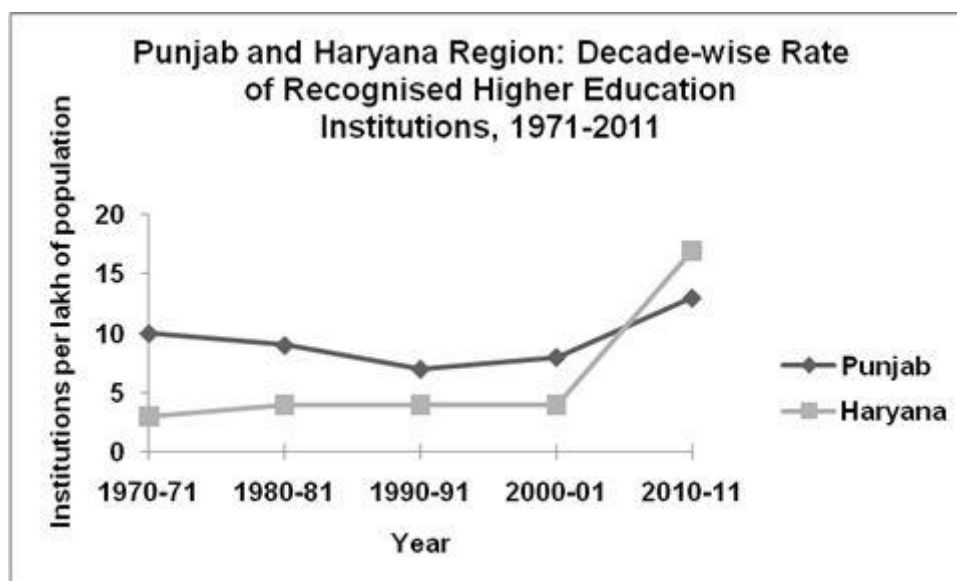
For effective analysis and comparison, the RRHEIs in Punjab and Haryana has been calculated for the period 1971-2011 and presented in Table 2.

Table 2
Punjab and Haryana Region: Decade-Wise Rate of Recognised Higher Education Institutions, 1971-2011

Year	Punjab	Haryana
1970-71	10	3
1980-81	9	4
1990-91	7	4
2000-01	8	4
2010-11	13	17
Growth Rate (%)	30	466.67

Source: Worked out by the author.

In 1970-71, the RRHEIs for Punjab was 10 while it was 3 for Haryana, thereby, indicating that Punjab was 7 points ahead of Haryana in terms of the number of higher education institutions per lakh of population. In 1980-81, RRHEIs decreased by 1 point in Punjab while it improved by 1 point in Haryana, thus, bringing down the difference in RRHEIs between the two states to 5 points (Table 2). The year 1990-91 witnessed a decline in the RRHEIs by further 2 points in Punjab while it remained unchanged in Haryana, resulting into further decrease in the difference in RRHEIs by 2 points. The next decade recorded an increase in the RRHEIs for Punjab by 1 point whereas the value in Haryana, again, remained unaltered (Table 2). The last decade, however, had recorded the maximum increase in the number of higher institutions in the region leading to increase in RRHEIs in both the states. In 2010-11, RRHEIs for Punjab was 13 whereas it was 17 for Haryana, first time more than Punjab in the last four decades (Fig. 2). In the period of four decades, the RRHEIs increased by 3 points in Punjab and 14 points in Haryana, thereby, indicating faster rate of improvement in the higher education in Haryana than Punjab. It is further supported by the fact that the growth rate of RRHEIs during 1971-2011 had been incredibly high in Haryana (466.67 per cent) as compared to Punjab (30 per cent) during the same period (Table 2). However, it must be made clear that although the exponential growth rate of RRHEIs recorded by Haryana had been mainly on account of low base figure of 3 only.



Source: Table 2

Fig. 1

5.2 Spatial Pattern of Rate of Recognised Higher Education Institutions

The total number of the various recognised higher education institutions, in 2010-11, in all the districts has been multiplied by their respective score in order to obtain the Cumulative Scores (CS), which have been further summed up to obtain the Aggregate Recognised Higher Education Institutions Score (ARHEISs) and the results have been presented in Table 3.

Table 3
Punjab and Haryana Region: Aggregate Recognised Higher Education Institutions Score, 2010-11

Region/Districts	Arts, Science, commerce and Home Science Colleges CS*	University, Engineering, Technology, Law and Architecture Colleges CS*	Medical Colleges CS*	Teachers Training Colleges CS*	Aggregate Recognised Higher Education Institutions Score (ARHEISs)
Region	1338	3031	108	3310	7787
Gurdaspur	63	35	0	105	203
Amritsar	39	147	18	40	244
Tarn Taran	18	42	0	15	75
Kapurthala	57	105	0	40	202
Jalandhar	69	126	0	45	240
S.B.S. Nagar	24	77	0	25	126
Hoshiarpur	57	98	0	35	190
Rupnagar	24	91	0	20	135
S.A.S. Nagar	6	182	0	60	248
Ludhiana	102	147	18	90	357
Ferozpur	36	84	0	55	175
Faridkot	9	63	9	15	96
Muktsar	24	63	0	45	132
Moga	30	84	0	55	169
Bathinda	36	105	9	50	200
Mansa	12	56	0	10	78
Sangrur	48	112	0	95	255
Barnala	9	35	0	20	64
Patiala	33	161	18	70	282
Fatehgarh Sahib	18	77	0	35	130
Ambala	39	84	9	65	197
Panchkula	12	28	0	20	60
Yamunanagar	30	112	0	100	242
Kurukshetra	24	63	0	100	187
Kaithal	33	28	0	75	136
Karnal	33	70	0	90	193
Panipat	30	70	0	90	190
Sonapat	30	154	0	185	369
Rohtak	42	63	9	240	354
Jhajjar	27	98	0	150	275
Faridabad	51	105	0	130	286
Palwal	9	56	0	15	80
Gurgaon	39	0	9	205	253
Mewat	6	21	0	25	52
Rewari	30	21	0	110	161
Mahendragarh	24	42	0	250	316
Bhiwani	39	28	0	160	227
Jind	36	28	0	110	174
Hisar	36	42	9	135	222
Fatehabad	18	7	0	65	90
Sirsa	36	21	0	65	122

*Cumulative Scores - Source: Worked out by the author.

In 2010-11, the Aggregate Recognised Higher Education Institutions Score (ARHEISs) for the region was 7787. The highest and lowest ARHEISs had been recorded by the districts of Sonipat and Mewat, respectively, both of which are from Haryana. A factor worth notable here is that medical colleges in both the states were concentrated in a few districts/cities only (Table 3).

Owing to the variations in the number of higher education institutions in the region in 2010-11, the Rate of Recognised Higher Education Institutions (RRHEIs) has been calculated for every district in order to make the data comparable and presented in Table 4. The RRHEI was 13 and 17 for Punjab and Haryana, respectively, while the regional average was 15 (Table 4). Interestingly, the RRHEI in Punjab was lower than the values of both Haryana and the region.

Table 4
Punjab and Haryana Region: Rate of Recognised Higher Education Institutions, 2010-11

State/Districts	RRHEIs	State/Districts	RRHEIs
Punjab	13	Haryana	17
S.A.S. Nagar	25	Mahendragarh	34
Kapurthala	25	Rohtak	33
Fatehgarh Sahib	22	Jhajjar	29
S.B.S. Nagar	21	Sonipat	25
Rupnagar	20	Yamunanagar	20
Moga	17	Kurukshetra	19
Faridkot	16	Rewari	18
Sangrur	15	Ambala	17
Patiala	15	Gurgaon	17
Muktsar	15	Faridabad	16
Bathinda	14	Panipat	16
Hoshiarpur	12	Bhiwani	14
Jalandhar	11	Jind	13
Barnala	11	Karnal	13
Ludhiana	10	Hisar	13
Mansa	10	Kaithal	13
Amritsar	10	Panchkula	11
Gurdaspur	9	Fatehabad	10
Firozpur	9	Sirsa	9
Tarn Taran	7	Palwal	8
		Mewat	5
Regional Average : 15			

Source: Worked out by the author.

The district of Mahendragarh had recorded highest RRHEIs while the lowest RRHEIs had been found in Mewat district, thus, making the regional variation to be 29 points. Both the districts recording highest and lowest values belong to Haryana. Interestingly, there was a difference of 9 points in RRHEIs between Mahendragarh and S.A.S. Nagar (along with Kapurthala) districts, which had recorded highest RRHEIs in Haryana and Punjab, respectively. At state level, the range of RRHEIs was 18 points and 29 points in Punjab and Haryana, respectively, thereby, suggesting that inter-district variations were much greater in Haryana as compared to Punjab. On the basis of RRHEIs, the region has been divided into following categories for further analysis:

A. Areas of Relatively High Rate of Recognised Higher Education Institutions

The districts having RRHEIs more than 19 fall in this category. Out of 10 districts belonging to this category, five districts, namely, Kapurthala, S.A.S. Nagar, Fatehgarh Sahib, S.B.S. Nagar and Rupnagar are of Punjab while the remaining five districts, namely, Mahendragarh, Rohtak, Jhajjar, Sonipat and Yamunanagar are from Haryana. The districts of Kapurthala, S.B.S. Nagar, Rupnagar, S.A.S. Nagar, Fatehgarh Sahib and Yamunanagar form a small discontinuous belt covering the north-central, north-eastern and eastern parts of the region while the districts of Sonipat, Rohtak, Jhajjar and Mahendragarh form another small belt running in north-south direction in the southern part of the region (Table 4, Fig. 2). Sonipat had the highest number of recognized higher education institutions in the region in 2010-11. Similarly, Rohtak, Mahendragarh, Jhajjar, Yamunanagar, S.A.S. Nagar and Kapurthala also had high number of these institutions. Rohtak has, already, evolved as an educational centre of Haryana while Sonipat, Mahendragarh, and Jhajjar are the new emerging centres of education. The districts of Kapurthala, S.A.S. Nagar and Fatehgarh Sahib are the educational hubs of Punjab. S.A.S. Nagar, a recently created district, has done fairly well in terms of the number of higher education institutions due to its proximity to the capital of the region, Chandigarh.

Although, the number of higher education institutions was comparatively far less in S.B.S. Nagar, Rupnagar and Fatehgarh Sahib, yet these districts had recorded high RRHEIs on account of their small population size, apart from their location close to Chandigarh.

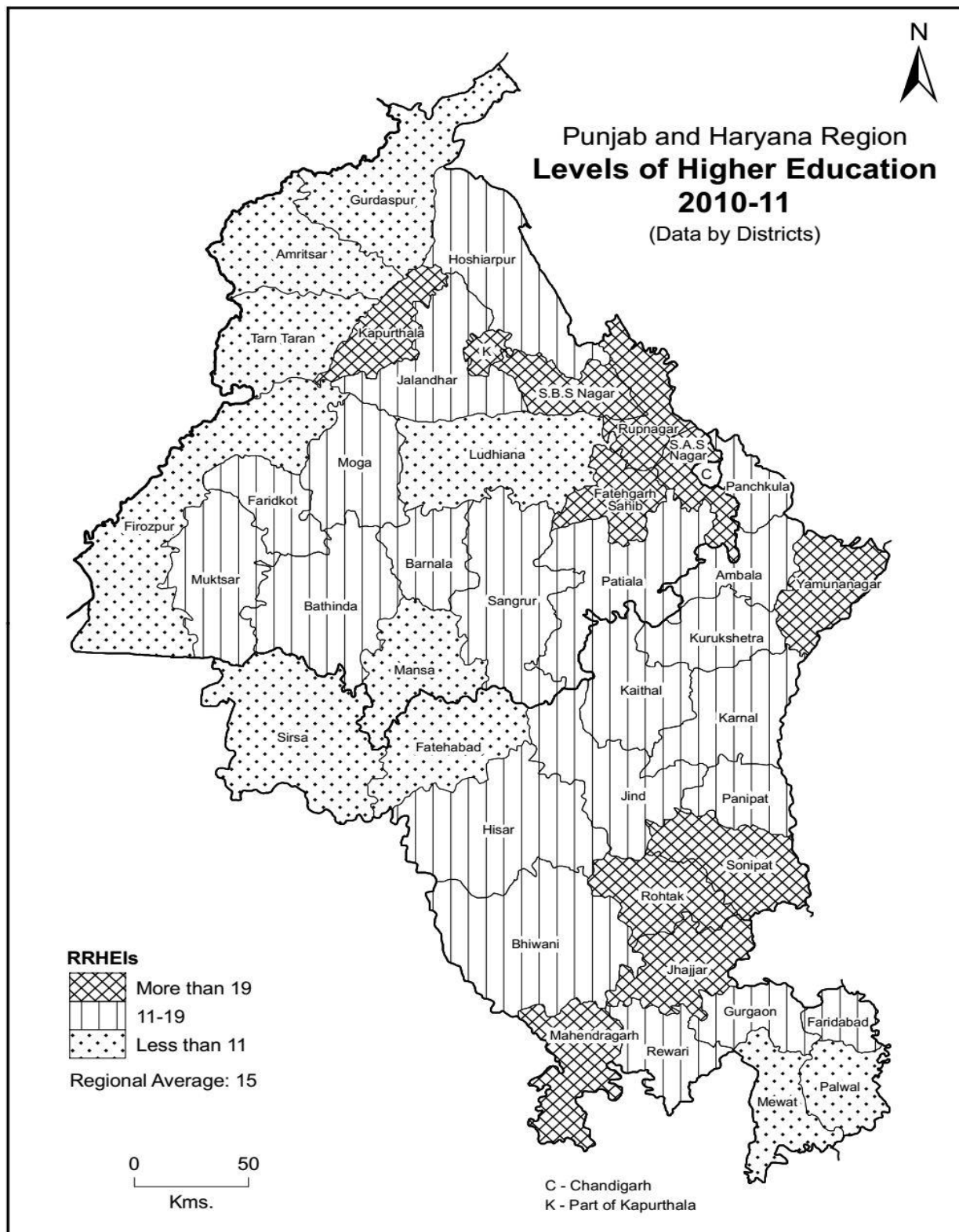


Fig. 2

B. Areas of Moderate Rate of Recognised Higher Education Institutions

The districts with RRHEIs in the range of 11 to 19 belong to this category. There are 21 districts in this category, out of which nine districts, namely, Moga, Faridkot, Sangrur, Patiala, Muktsar, Bathinda, Hoshiarpur, Jalandhar and Barnala are of Punjab while the remaining 12 districts, namely, Kurukshetra, Rewari, Ambala, Gurgaon, Faridabad, Panipat, Bhiwani, Jind, Karnal, Hisar, Kaithal and Panchkula are from Haryana. The districts of Rewari, Gurgaon and Faridabad form a small belt located in the southern part of the region while all the remaining districts form a

continuous spread covering the northern, central and south-western parts of the region (Table 4, Fig. 2). In 2010-11, the number of recognized higher education institutions was quite high in Faridabad, Patiala, Sangrur, Gurgaon, Jalandhar, Hisar, Bhiwani and Bathinda districts but the relatively high size of population of these districts had adversely affected the RRHEIs in them. On the other hand, the number of higher education institutions was very less in Panchkula, Barnala and Faridkot but RRHEIs recorded by these districts was relatively high owing to the small population size of these districts. In all the remaining districts, the number of institutions was in proportion to their population size.

C. Areas of Relatively Low Rate of Recognised Higher Education Institutions

The districts which have recorded RRHEIs less than 11 fall in this category. Out of 10 districts belonging to this category, six districts, namely, Ludhiana, Mansa, Amritsar, Gurdaspur, Firozpur and Tarn Taran are from Punjab while remaining four districts, namely, Fatehabad, Sirsa, Palwal and Mewat are from Haryana. The districts of Gurdaspur, Amritsar, Tarn Taran and Firozpur cover the north-western part of the region and share the international boundary with Pakistan while Ludhiana district is located in the north-central part. The districts of Sirsa, Mansa and Fatehabad form a small belt in the western part whereas Mewat and Palwal districts are located in the southern part of the region (Table 4, Fig. 2). Surprisingly, Ludhiana, which had the highest number of recognised higher education institutions in the region in 2010-11, belongs to this category. The reason behind it is that it also had the highest population, thus, making the RRHEIs very less. Despite of fairly good number of recognised higher education institutions, Amritsar, Gurdaspur, Firozpur and Sirsa fell under this category, primarily, due to their high population. Moreover, the location of Gurdaspur, Amritsar, Tarn Taran and Firozpur along the international border with Pakistan has also adversely affected the availability of higher education institutions in these districts to some extent. The districts of Mansa, Fatehabad, Tarn Taran, Palwal and Mewat, having less than one hundred higher education institutions in them, undisputedly, belong to this category as these have an agrarian base and are socio-economically backward, consequently, they will take a little more time to figure prominently on the map of higher education institutions.

5.3 State Level Comparison in Levels of Higher Education

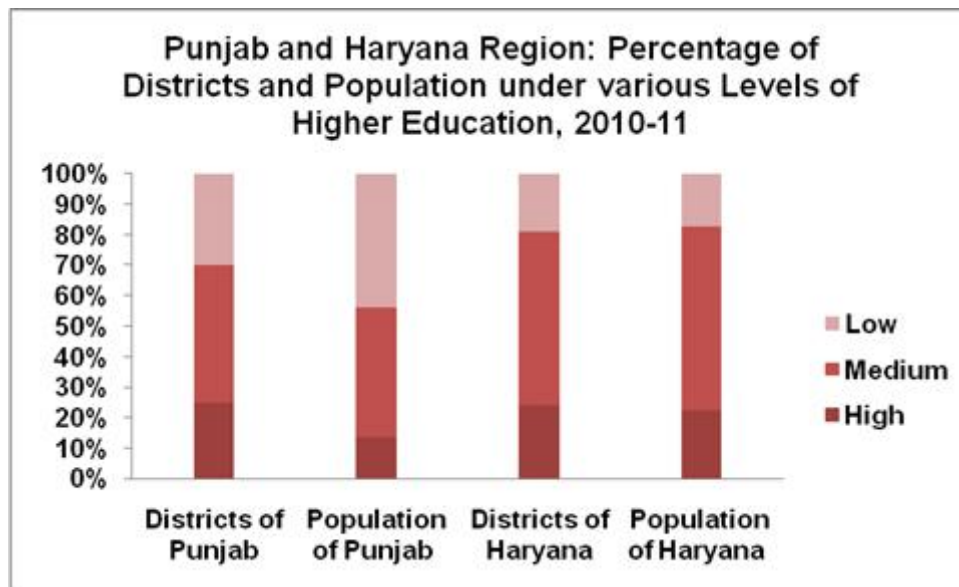
There are wide variations in the number and distribution of higher education institutions, both at district level as well as state level. On the basis of the percentage of districts and population falling under various levels of Rate of Recognised Higher Education Institutions (RRHEIs) in 2010-11, a comparative picture between Punjab and Haryana has been presented in Table 5.

Table 5
Punjab and Haryana Region: Percentage of Districts and Population falling under various Levels of Higher Education, 2010-11

Levels of RRHEIs	Punjab		Haryana	
	Percentage of Districts	Percentage of Population	Percentage of Districts	Percentage of Population
High	25	13.36	24	22.21
Moderate	45	42.63	57	60.57
Low	30	44.01	19	17.22
Total	100	100	100	100

Source: Worked out by the author.

Although the percentage of districts falling under high level of RRHEIs was nearly one-fourth in Punjab and Haryana, the percentage of total population falling in this category in Punjab (13.36 per cent), was much less than that of Haryana (22.21 per cent, Table 5). More than two-fifth of the districts of Punjab (45 per cent) in comparison to more than half of the districts of Haryana (57 per cent) fell under moderate level of RRHEIs. Similarly, more than two-fifth of the population of Punjab (42.63 per cent) against about three-fifth of the population of Haryana (60.57 per cent) fell under this category (Table 5). On the other hand, nearly one-third of districts of Punjab (30 per cent) as compared to nearly one-fifth of districts of Haryana (19 per cent) fell under low level of RRHEIs (Table 5). However, the percentage of population of Punjab (44.01 per cent) falling in this category was more than double than that of Haryana (17.22 per cent, Fig. 3). In fact, majority of the population of Punjab fell under low level of RRHEIs whereas maximum population of Haryana fell under moderate level of RRHEIs. It can be said that large size of areas and population of Punjab fell in the category of low level of higher education as compared to Haryana. The study concludes that 70 per cent of districts and 55.99 per cent of total population of Punjab in comparison to 81 per cent of districts and 82.78 per cent of total population of Haryana fell under the categories of high and moderate levels of RRHEIs, thus, suggesting that the spatial diffusion of higher education was far more in Haryana than in Punjab.



Source: Table 5

Fig. 3

6. FINDINGS AND SUGGESTIONS:

Acquisition of specialized knowledge requires setting up of specialized institutions of higher learnings. The region has taken big stride in the field of higher education. The number of recognised higher education institutions, in Punjab, had increased from 277 in 1970-71 to 701 in 2010-11 while this increase, in Haryana, had been from 85 to 852 during the same period. The Rate of Recognised Higher Education Institutions (RRHEIs), in Punjab, had increased from 10 in 1970-71 to 13 in 2010-11 in Punjab whereas, in Haryana, it had increased from 3 to 17 during the same period. Punjab was 7 points ahead of Haryana in terms of RRHEIs in 1970-71 while in 2010-11, Haryana moved 4 points ahead of Punjab due to the rapid increase in the number of higher education institutions in it (Haryana). It is further supported by the fact that the growth rate of RRHEIs had been 15 times higher in Haryana (466.67 per cent) than that in Punjab (30 per cent) during last four decades.

In 2010-11, the RRHEIs for the region was 15 while it was 13 and 17 for Punjab and Haryana, respectively. The highest RRHEIs had been recorded by the districts of Mahendragarh, Rohtak and Jhajjar, all from Haryana, while Mewat, Tarn Taran and Palwal districts had recorded the lowest RRHEIs. There were 18 districts in the region, seven of Punjab and the remaining 11 from Haryana, which had RRHEIs more than the regional average. On the other hand, three districts of Punjab, namely, Sangrur, Patiala and Muktsar, had RRHEIs at par with the regional average. The highest RRHEIs, in Punjab, was recorded by the districts of S.A.S. Nagar and Kapurthala while Tarn Taran district had recorded the lowest RRHEIs, thus, making the range to be 18 points while, in Haryana, the highest and lowest RRHEIs had been found in Mahendragarh and Mewat districts, respectively, a difference of 29 points. Hence, the inter-district variations were far more prominent in Haryana than Punjab.

Although, the percentage of districts falling under high level of RRHEIs was almost same in Punjab (25 per cent) and Haryana (24 per cent), the percentage of total population falling in this category was much lower in Punjab (13.36 per cent) as compared to that of Haryana (22.21 per cent). On the other hand, nearly one-third of districts of Punjab (30 per cent) in comparison to nearly one-fifth of districts of Haryana (19 per cent) fell under low level of RRHEIs. However, the percentage of population of Punjab (44.01 per cent) in this category was more than twice than that of Haryana (17.22 per cent). Although, majority of districts and population of both the states fell under moderate level of RRHEIs, yet the percentage of districts and population in this category in Punjab (45 per cent and 42.63 per cent, respectively) was comparatively less than that of Haryana (57 per cent and 60.57 per cent, respectively). Overall, 70 per cent districts with 55.99 per cent of total population of Punjab against 81 per cent of districts and 82.78 per cent of total population of Haryana fell under high and moderate levels of RRHEIs. Thus, Haryana had performed better than Punjab with respect to the higher education in the region, despite of having large inter-district variations. Moreover, the growth rate of RRHEIs was more in Haryana, thereby, implying that Haryana would maintain the lead in future also.

Higher education had remained in the backseat especially in Tarn Taran district of Punjab and Palwal and Mewat districts of Haryana. Although there had been a sharp increase in the number of higher education institutions recently in the region, yet their distribution was quite uneven. Both the states witnessed mushrooming of teacher's training colleges in recent years whereas the growth of other institutions was occurring at a slow pace. It has also been observed that there was a heavy concentration of medical colleges in few districts of the region only while the other districts were devoid of them. It has been seen that the eastern half of the region had higher number of higher education institutions than their western counterparts mainly on account of more urbanization, industrialization and

better connectivity with major transportation lines. Hence, it becomes imperative that the state governments should establish more such institutions in their backward districts for improvement of human resource in both the states.

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