Higher Education in Punjab and its Adjoining States: A Comparative Analysis

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ABSTRACT
Increasing number of students, after completion of their secondary education, is going abroad for higher education. The universities and colleges in Punjab have registered a 20% fall of admissions in July 2018. This is bound to affect the employment opportunities for teachers and create financial problems for Higher Education Institutes (HEIs) in Punjab. UG enrolment in Haryana has been on the down trend for last four academic sessions. The present paper discusses the status of Higher Education in Punjab and its comparison with the its adjoining states in light of All India Survey on Higher Education (AISHE Report 2015-16), National Assessment and Accreditation Council (NAAC) report and National Assessment Survey (NAS) for tenth class. Rajasthan, Himachal Pradesh, Jammu and Kashmir, Haryana are the adjoining states of Punjab. Status of higher education in these five states is a reflection of issues related to education in northern states of India. Developments in the adjoining states in the field of higher education are important as these states share common history and geography with the state of Punjab. World Development Indicators (WDI) are the key pointers that will help nations design education policies for future growth and development. A glimpse of trends in Higher education in the five states is presented.

Keywords: Higher Education, AISHE, WDI, NAAC, NAS, HEI

Higher Education in Punjab and Adjoining States at Cross Roads
Department of Higher Education, Government of Punjab, states its Vision and Mission on its website as: The State of Punjab envisions ensuring to its youth a system of higher education that equips them with knowledge and skills. To ensure that youth of Punjab is suitably employed; is able to live a dignified and contented life. It envisions arming its youth with a purposeful education so that each one is capable of contributing productively and positively to the civic life, economic development, and social progress of the state as well as the nation…….. To provide a congenial and quality environment to its students through improved infrastructure, better facilities and high quality staff.

Recent studies indicate that the quality rather than quantity in education will help countries enhance Gross Domestic Product over a period of time (OECD 2015). India took a pledge to attain millennium development goals under the United Nations Millennium Declaration (UNDP 2018). Enrolment in tertiary education has increased by over 19% in India during the period 2010-11 to 2015-16. There has been a spurt of private Higher Education Institutes (HEIs): universities, degree colleges, engineering colleges and other institutions in India during the last decade. In addition to the spread of HEIs (Higher Education Institutes) the trend of going abroad for higher education has posed a complex problem for education, particularly northern India. The status of Higher Education in Punjab, Union Territory Chandigarh and adjoining states; Haryana, Himachal Pradesh(HP), Jammu and Kashmir (J&K), Rajasthan in light of All India Survey on Higher Education 2015 have been discussed here.

Number of Universities
There were 799 universities in India in 2015-16. Rajasthan had the highest number i.e. 70 universities in India. The number of universities in UT Chandigarh was 3, Punjab 26, Jammu and Kashmir (J & K) 11, Himachal Pradesh (HP) 25 and Haryana 39. There was no private university in J & K. Among these states only Punjab has two deemed universities, one government and one private. 68% universities in Himachal and Haryana each, 49% universities in Rajasthan and 38% universities in Punjab are private.
Number of Colleges
There were 39071 colleges in India in 2015-16. Number of colleges in Punjab was 1070. Rajasthan had highest number of colleges i.e. 3050, among states adjoining Punjab. Number of colleges in HP, J & K, Haryana and Chandigarh were 357, 342, 1117 and 25 respectively. Accreditation status of the universities and colleges: Of the 140 universities and 2780 colleges accredited by NAAC only 32% universities and 9% colleges got ‘A’ grade. 68% universities and 91% colleges got average or below average grade (NPE 2016) in India. Table 1 lists the number of colleges and universities accredited by NAAC along with number of Institutes with A or Higher grade in Punjab and its adjoining states.

Table 1

<table>
<thead>
<tr>
<th>State/UT</th>
<th>Colleges Accredited with A or Higher Grade</th>
<th>Total Accredited</th>
<th>Universities Accredited with A Grade</th>
<th>Total Accredited with A or Higher Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandigarh</td>
<td>7</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Haryana</td>
<td>33</td>
<td>183</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>HP</td>
<td>4</td>
<td>37</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>J &amp; K</td>
<td>12</td>
<td>47</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Punjab</td>
<td>57</td>
<td>157</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>12</td>
<td>167</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>TOTAL</td>
<td>125</td>
<td>602</td>
<td>21</td>
<td>33</td>
</tr>
</tbody>
</table>

(Institutions accredited by NAAC whose accreditation period is valid; Institutions assessed prior to 01st July 2016 in Punjab and Adjoining States)

A total of 602 colleges were accredited, by NAAC till 1st July 2016, in one UT and five states being compared. 21% colleges of these 602 accredited colleges got A or higher grade. The pie chart in Figure 2 below depicts the percent of colleges with A or higher grade out of these 602 accredited colleges. 46% of these A accredited colleges were in Punjab alone and 26% were in Haryana.

Figure 1 (Percent of Colleges, with A or higher Grade, accredited by NAAC)

Among the universities in these five states only Panjab University Chandigarh is ranked among top hundred Asian Universities. In India Panjab University, IISc Bangalore and IIT Bombay are ranked 79, 63 and 90 respectively (1. THE Rankings 2018, 2. www.usnews.com/education/best-global-universities/rankings).
College density
College density per ten thousand population (age group of 18-23): Chandigarh 14, Haryana 35, HP 47, J & K 25, Punjab 32, Rajasthan 35 and National average is 28. The density in Haryana, HP, Punjab and Rajasthan was higher than national average of 28 (MHRD 2016,a).

Enrolment
Average enrolment per lakh population was highest in Chandigarh at 1871 followed by 895 in Punjab, Haryana 646, J&K 644, Rajasthan 551, HP 520. The average enrolment per lakh of population was 721 at national level.
Although average enrolment in Chandigarh rose by 132%, enrolment has shown negative trend in all the five states being compared. The enrolment fell by 16%, 3%, 54%, 13% and 24% in states of Haryana, HP, Punjab, J & K and Rajasthan respectively (from 2010-11 to 2015-16).

Mushrooming growth of universities and colleges is not the only reason for fall in average enrolment. Increasing number of students are going abroad for higher studies. The trend of going abroad and growth of IELTS coaching centers has started to show its effect on enrolment in colleges, a clear picture of this exodus will emerge in the future AISHE reports. Around 1.5 Lakh students from Punjab have sought admissions overseas for spring and fall sessions in 2018. This amounts to a drain Rs 27000 crores from Punjab. Canada is the chosen destination for 1.25 lakh students (Deepkamal Kaur, The Sunday Tribune, 2018). State Universities of Punjab have reported a fall of 20% admissions to the respective campuses (Deepkamal Kaur, The Tribune, 2018). Canada plans to increase the number of full-time international students in Canada to 450,000 by 2020 (Nick Clark, 2013).

Enrolment in Post Graduate (PG) and Undergraduate Courses (UG)
Average enrolment has shown a downward trend but gross enrolment has increased in PG and UG courses. UG enrolment is negative in Haryana and Rajasthan.
Increase in enrolment in PG Courses in the year 2015-16 as compared to 2011-12 : India 19.4%, Chandigarh 54.2%, Haryana 10.1%, HP 48.6%, J&K 4.4%, Punjab 30.9%, Rajasthan 16.9%
Increase in enrolment in UG Courses in the year 2015-16 as compared to 2011-12 : India 18.4%, Chandigarh 52.4%, HP 221%, Punjab 4.1%, Rajasthan 11.3% as calculated from AISHE 2015 report.
Enrolment in UG courses decreased by 10.6% in Haryana, 21.5% in J&K during the five year period from 2011-12 to 2015-16. Decrease in UG enrolment is significant (7.5%) in Haryana. Haryana has observed a fall in UG enrolment for four continuous sessions since 2012-13. In J&K fall in UG enrolment has been observed for three continuous sessions since 2013-14 (Singh RJ, 2018).

PhD enrolment
There was 7.8% increase in PhD enrolment at National Level in 2015-16 as compared to 2014-15. States of Haryana, J&K, Punjab, have shown continuous upward trend in PhD enrolments through regular mode during 2012-13 to 2015-16. Significant increase in enrolment is observed in the J & K (+43%). Union territory, Chandigarh has shown a 31.3% increase in PhD enrolment during the same period. In Rajasthan 11.3% decrease was observed in the PhD enrolment in the corresponding periods (MHRD 2016,a).
Foreign Students
Among the 5 states and 1 UT, number of foreign students was 2459 in the state of Punjab whereas the number was 1321, 856, 552 and 8 in Haryana, Rajasthan, Chandigarh and J & K respectively. Punjab had sixth highest number of foreign students in India.

Gross enrollment ratio (GER), (Higher Education age group 18-23 years)
GER is calculated by dividing the number of students enrolled with the population of that age group. GER may come out to be greater than 100% as students of higher age may also get enrolled for a particular level of education. A GER of 100% indicates that education is accessible to a larger section of population i.e. universally. Higher the GER greater is the access to education.
GER for 2015-16 in India was 24.5. Chandigarh has highest GER 57.6 in India. Seventeen states of India had GER higher than national average. Among Punjab and its adjoining states Rajasthan has lowest GER 20.2 and the other four states have GER above national average. GER of Haryana, HP, J&K and Punjab was 26.1, 32.5, 24.8, 27.0 (MHRD 2016,a).

Gross Enrollment Ratio in higher education remains low at 23.6 percent (24.5% for boys, 22.7% for girls; 18.5% for SCs and 13.3% for STs) in 2014-15 in India (MHRD 2016,b). Among BRICS nations GER is highest in Russian Federation at 80.39, Brazil 50.60, China 43.39, South Africa 20.83. Turkey has highest GER 94.73 in the world (World Bank 2018, a). GER of India has increased by 26% over the last five years but a lot is still desired.

Here we can also correlate high GERs with Per Capita Income of states. The ranks in terms of Per Capita Income at national level are Chandigarh 3, Haryana 6, HP 12, J&K 25, Punjab 17 and Rajasthan 21 (at constant 2011-12 prices)(SWD, ESOP & CSO  2018). Per capita income of J & K and Rajasthan are correlated to quality of HEIs in these states.

Gender Parity Index (GPI)
GPI is an indicator of parity between boys and girls. GPI equal to 1 indicates parity; 0-1 indicates disparity in favour of boys and >1 is disparity in favor of girls. GPI is calculated for promoting gender equality and empowerment of women (UNSD).

GPI of Chandigarh, Haryana, HP, J & K, Punjab, Rajasthan is 1.48, 1.02, 1.20, 1.12, , 1.10 and 0.85 respectively indicating higher enrolment of girls. Here attention needs to be drawn to GPI values of Punjab and Haryana which are 1.10 and 1.02 respectively.

Gender Parity Index for China 1.003, Pakistan 0.854, Sri Lanka 0.979, Bangladesh 1.079, India 1.12 (Highest), Afghanistan 0.691(World Bank 2018, b). Developed countries like USA, Germany etc have GPI values closer to 1.

Female Teaching Staff in Higher Education Institutes
The percentage of female teaching staff in colleges, universities and Other HEIs: Chandigarh 58.4% (highest in India), Haryana 45.2%, HP 42.9%, J & K 39.3%, Punjab 55.4%, Rajasthan 33.1%, All India 39.1%. Chandigarh and Punjab has higher percentage of women staff as compared to neighbouring states. Kerala has highest percentage of female teachers in India after Chandigarh (MHRD 2016,a).

Number of Temporary teachers
The percentage of temporary teachers is highest in J & K among Punjab and its neighbouring states and lowest in Rajasthan. The percentage of temporary teachers: Chandigarh 14.8%, Haryana 6.4%, HP 6.3%, J & K 26.0%, Punjab 9.7%, Rajasthan 1.7% and All India 7.4%. Also J & K has highest and Rajasthan has lowest percentage of temporary teachers at all India level (MHRD 2016,a).

The growth of higher education institutions in Punjab is in quantity rather than quality. Recent decade has witnessed phenomenal growth in private, education and degree colleges. 1925 vacancies of teachers in Govt. aided colleges remained vacant till 2015 since 2004. These post were filled only after a case was filed in Punjab and Haryana High Court for filling of vacancies. Recruited teachers were appointed for a three year contract and were offered a salary of Rupees 21500/- per month which is too meager compared to present salary structure. Government colleges are still worse. Government Science College, Jagraon , District Ludhiana was established for brilliant students. The college offers post graduation courses in Botany and Chemistry. The College has only one teacher with Ph.D as listed in faculty on its website; www.gscjgn.org. These facts highlight how much is the said vision and mission of Punjab is in resonance with ground realities. Here two instances highlight the plight of higher education in Punjab; Dr. Rawel Singh and Dr. Harjinder Singh having doctorate in Chemistry and working as Assistant Professors of Chemistry at A.S.
College Khanna and M.M. Modi College Patiala respectively. They were appointed during the filling of 1925 vacancies of college teachers as stated above. Dr. Harjinder Singh got Post Doctoral Fellowship at Washington University in St. Louis, Department of Medicine for a period of 3 years. Dr. Rawel Singh was Awarded FY2017 JSPS (Japan Society for the Promotion of Science) Postdoctoral Fellowship for Research in Japan (Standard) to carry out research at Tokyo Institute of Technology, Tokyo, Japan for two years. Harjinder Singh and Rawel Singh gave up these opportunities giving preference to their families, state and country with the hope to get full pay scale after the end of three year contract. The state must draft a policy to retain talent in Higher Education, less the future of higher education seems bleak and we will witness more brain drain in coming future. It is pertinent to mention here no pension is given to the teachers of aided colleges in Punjab whereas neighbouring state Haryana gives pension to teachers of aided colleges also.

Expenditure of Education
The expenditure on education in states of Chhattisgarh, Andhra Pradesh, Odisha, Goa, Uttarakhand, Uttar Pradesh, Puducherry, Rajasthan, West Bengal, Madhya Pradesh, Kerala, Jharkhand, Haryana, Karnataka, Maharashtra, Punjab, Chandigarh, Tamil Nadu, Gujarat, Telangana and Delhi is below the National expenditure on education as percentage of GDP.

Uttarakhand, Uttar Pradesh, Puducherry, Arunachal Pradesh, Chhattisgarh, Meghalaya, Bihar, Tripura, J&K, Nagaland, Himachal Pradesh, Assam, Sikkim, Manipur, A & N islands and Mizoram spent higher percentage of Gross State Domestic Product in the increasing order. Mizoram has spent maximum 7.41%, Maharashtra spent minimum, 0.35% in 2010-11 (MHRD 2013).

Among India and its neighbouring countries Bhutan spent 7.36% of total GDP on education which is second highest in the world in 2015. India spent 3.89% of GDP on education which is higher than its neighbouring countries. (World Bank 2018, c).

It is evident from figure 5 Punjab spends around 2% of GSDP on education which is lower than all its neighboring states (MHRD 2013).

Pupil Teacher Ratio (2011-12/2015-16) (All Institutions)
Chandigarh (25/31), Haryana (22/18), HP (24/22), J&K (38/31), Punjab (19/16), Rajasthan (26/26), India (23/23) (MHRD 2016,a). The pupil teacher ratio (PT ratio) appears to be ideal but actually in colleges there may be more than 80 students studying in one section. This is the situation in many colleges of district Ludhiana in Punjab.

It will be wrong to calculate Pupil Teacher ratio by dividing total number of students in a college with total number of teachers. Let us assume a college has 100 students in its B.Sc. 1st year, non medical group. There will be at least 10 teachers teaching them the three papers of chemistry, three of physics, three of mathematics and one language. A direct division will give a PT ratio of 10 only where as actual PT ratio will be 100, as all the students will be attending classes of each paper together.

The Results of National Achievement Survey 2015
This assessment was carried by NCERT among a selected sample of students from a small proportion of schools in particular state for class III, V, VIII and X. The test provides an idea of learning achieved at state
level and national level. The results for English, Math and Science and Social Science for class X are presented here (NCERT 2015).

<table>
<thead>
<tr>
<th>State</th>
<th>English</th>
<th>Math</th>
<th>Science</th>
<th>Social Studies</th>
<th>Average Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haryana</td>
<td>236</td>
<td>240</td>
<td>233</td>
<td>248</td>
<td>239.25</td>
</tr>
<tr>
<td>HP</td>
<td>229</td>
<td>232</td>
<td>230</td>
<td>234</td>
<td>231.25</td>
</tr>
<tr>
<td>J&amp;K</td>
<td>251</td>
<td>232</td>
<td>239</td>
<td>223</td>
<td>236.25</td>
</tr>
<tr>
<td>Punjab</td>
<td>226</td>
<td>226</td>
<td>224</td>
<td>211</td>
<td>221.75</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>229</td>
<td>240</td>
<td>240</td>
<td>248</td>
<td>239.25</td>
</tr>
<tr>
<td>Chandigarh</td>
<td>243</td>
<td>234</td>
<td>232</td>
<td>233</td>
<td>235.5</td>
</tr>
</tbody>
</table>

Table:2

In the data presented in table 2, there is only one value which is higher than National Average of 250, that is in case of J&K's score of 251 in the subject of English. Average score of Punjab for these four subjects is minimum (221.75) while Haryana and Rajasthan have maximum average score of 239.25 each. Punjab seems to be doing better than its neighbouring states in Higher education as is evident from AISHE Data but in secondary education Punjab lies among the last five states of India. If secondary education does not improve, its impact will be visible on higher education also in the coming years.

Students are leaving Punjab after secondary or senior secondary levels and are ready to pay hefty amounts for going to Canada, Australia or USA. This is bound to cause brain drain. A number of colleges in Punjab have not been able to pay salaries to their teachers for last two to six months. World development indicators help counties in setting targets. These should be followed by the states as well if we want to give a better future to our present generation. To achieve high growth and prosperity funding must increase in higher education sector. Investment in quality higher education will create a skilled generation that will create wealth and add to the GDP in future.

REFERENCES