



DISPARITIES IN EDUCATION IN THE STATE OF HARYANA

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Abstract

The present paper attempts to examine the growth pattern of education sector and the level of inter-district disparities in the education sector in the State of Haryana using various indicators namely literacy rate, number of institutions, enrolment of students, and number of teachers etc. A compound annual growth rate is used to assess the growth of education in Haryana and an aggregate composite index has been constructed to assess the degree of disparity across State. On the basis of the composite index, the study confirms the presence of disparities across districts: few districts- Ambala, Panchkula, Gurgaon and Rewari have turned out to be the best performers while some districts like Sirsa, Fatehabad, Jind, Mewat and Palwal have been identified to lag behind in the spread of educational facilities/performance. Hence, the policy makers need to take care of inter-district disparities while preparing policy on education.

Keywords: *Education, inter-district disparities, Compound annual growth rate, Composite Index*

INTRODUCTION:

Redefining the goals of development of the society by bringing in human capabilities at the central-stage is a major shift from the traditional welfare economics. In other words the expansion of human capabilities or functioning is key requirements for integrated socio-economic growth of the country (Sen, 1999). A healthy and skilled human asset can contribute more effectively to economic development. From this point, all it requires larger investment on social sector indicators namely health and education. But within social sector,

the impact of education is the most widespread and positive on all types of human development outcomes (India Human Development Report, 2011).

Since independence, India has accorded due importance to education and ensuring equitable distribution of educational opportunities across the nook and corner of the country with a view to overcome educational deprivation is the basic purpose of planning in India. In this direction many constitutional safeguards such as Articles- 15, 16, 17, 21A and 38 etc. with enabling schemes namely Non-formal Education Program, Operation Blackboard, Total Literacy Campaigns, Shiksha Abhiyan, Rashtriya Madhyamik Shiksha Abhiyan and Mid-day Meal schemes etc. are introduced with a view to provide equal opportunities of education to all but still the achievements were not often proportionate with these efforts and despite various initiatives of providing equal access to education, there exist large disparities in the spread of educational facilities across States/regions in India. Some States are educationally advanced while others are relatively backward. Even within each State, some regions have better educational facilities while others lag behind.

For all the above reasons, it is imperative in policy interest to study the degree of disparities in the spread of educational facilities across Indian States. But, the assessment of such issue at national or state level provides only a general idea of the problem, many disparities/inequalities remain hidden. While the assessment of the same at district level help in shaping the detailed policy framework for enhancing the educational as well as other welfare opportunities. Thus, the broad objectives of the paper are to study the growth pattern of education and to estimate the disparities across different districts in the State of Haryana.

Haryana, which came into existence on November, 1966, is one of the economically well-off States of India. Its Gross State Domestic Product has recorded to be 9% over the last decade and ranks at 3rd place in terms of Per Capita Income. In terms of human development which is measured by Human Development Index (HDI), it is ranked 5th, where it slightly lags behind its economic performance. Education is one of the important constituent of HDI and has gained significance in this era of knowledge. In the 21st century, the Indian economy has become service-sector oriented economy. The share of service-sector has been highest and above 60 percent of GDP. Parallely Haryana has successfully assimilated the advent of Information and Communication Technology leading to the flourishing growth of services like Business Process Outsourcing and Knowledge Process Outsourcing in its territory. Has

educational development of the State provided the requisite back-up for the same? In order to answer this question, the present paper is devoted to study the growth of education in the State of Haryana and the district level performance in this regard. Hence, the study is divided into following sections:

Section II discuss the measurement issues related with the growth of education sector and the pattern of disparities in the spread of educational facilities in the State; Section-III depicts the findings pertaining to growth and the levels of inter-district disparities in the spread of educational opportunities and Section –IV conclude with a suggestions and policy implications.

(II) DATA & METHODOLOGY

The present study is based on secondary data taken from various government documents namely Census Reports, Economic Survey of Haryana, Annual Reports of Haryana and Statistical Abstracts of Haryana. For tracing the growth of education sector in Haryana in terms of following indicators: (a) number of educational institutions; (b) enrolment of students and (c) number of teachers from primary to high/senior secondary level of education across all the districts for the period 1966 and 2011, the compound annual growth rate (CAGR) formula would be used:

$$P_n = P_0 (1+r)^n$$

$$r = (P_n/P_0)^{1/n} - 1$$

where P_n = value of the variable in final or nth year

P_0 = value of variable in the initial year

n = number of years

r = rate of growth

Further, to decipher the disparities in the spread of education by using the data of 2011 Census for the State of Haryana, a composite index is constructed by applying the following formula:

$$C = \frac{X_i - X_{\min}}{X_{\max} - X_{\min}}$$

Where C represent the factor score for each district in the index. Min. value and max. value are minimum and maximum goal-posts selected for the indicator. In a composite index, equal

weight is given to all the component indicators. For the analysis of the pattern of disparity in education facilities, the following indicators are selected:

1. Literacy rates of male, female and total.
2. Number of educational institutions per lakh of population.
3. Density of educational institutions per sq.km of the area.
4. Enrolment of students per institutions.

At last an aggregate composite index is prepared as:

1	Literacy rates	¼ of these indicators
2	Number of educational institutions	
3	Density of educational institutions	
4	Enrolment of students	

(III) FINDING/RESULTS

III.1 Growth of Education in Haryana

Table-1 portray growth of education sector across all the levels of education under study on various aspects (a) number of educational institutions (b) enrolment of students and (c) number of teachers during the period 1966-2011.

Table-1 Growth of Education in Haryana (1966 to 2011)

Educational Profile of Haryana	1966	2011	CAGR
(A) Number of Education Institutions			
Primary Schools	4449	13073	+4.30
Middle Schools	735	3439	+8.17
High/Sr. Secondary Schools	597	6671	+22.60
(B) Enrolments in Education Institutions			
Primary Schools	534764	1694900	+4.82
Middle Schools	250673	877767	+5.56
High/Sr. Secondary Schools	376080	2405479	+11.99
(C) Number of Teachers			
Primary Schools	12960	31574	+3.19
Middle Schools	7701	20128	+3.58
High/Sr. Secondary Schools	11813	91406	+14.97

Source: Govt. of Haryana, Statistical Abstract of Haryana and Economic Survey, 2012-13.

Part (A) shows the increase in the number of primary schools from 4449 to 13073, middle schools from 735 to 597 and high schools from 597 to 6671 for 1966 and 2011 respectively.

As shown in part (B) the enrolment of students has increased from 534764 to 1694900 in primary schools, from 250673 to 877767 in middle schools and from 376080 to 2405479 in high schools during the period of study. Part (C) depicts the increase in the number of teachers at different levels of education namely primary schools from 12960 to 31574, middle schools from 7701 to 20128 and high schools from 11813 to 91406 for the period 1966 to 2011.

Further, the CAGR show that (a) in case of *number of educational institutions* is highest for high schools (22.6 percent) and least for primary schools (4.30 percent), (b) in case of *enrolment of students*, the CAGR is again highest for high schools (11.99 percent) and lowest for primary schools (4.82 percent) during the period of study. Following the similar pattern (c) the CAGR for *number of teachers* has been highest for high schools (14.97 percent) and lowest for primary schools (3.19 percent). In nutshell the above Table reflects that earlier i.e. during 1966 the focus was more on primary level of education but by 2011 the time trend reveals that the share of high school has increased drastically.

III.2 Inter-district Disparities in Education in Haryana

This section presents the trends in literacy rates, the pattern of disparities with indexation, and finally constructing aggregate composite index for all indicators and finding out best performing districts and laggard districts in the progress of education.

III.2.1 Trends in Literacy Rates across Districts

The Table-2 represents that the literacy rate of Haryana was 76.6% during 2011, as compared to national average of 74.0%. In the same census, the male literacy rate was 84% and female literacy 65.9% as against 82.1% and 65.5% respectively at national level. And district-wise highest male literacy and female literacy rates were recorded for the districts of Rewari (91.4%) and Gurgaon (77.9%) respectively. While the lowest male literacy and female literacy rates were recorded for the district of Mewat (69.9% in case of male literacy and 36.6% in case of female literacy). It indicates that the overall literacy rate and both male-female literacy rates of Haryana are slightly higher than the national average as nearly 11

districts namely Panchkula, Ambala, Yamunanagar, Kurkshetra, Sonipat, Rohtak, Jhajjar, Mahendragarh, Rewari, Gurgaon, and Faridabad have registered more than 75% literacy rate, which is even higher than the State average.

In terms of index values the best performing districts in overall literacy index as well as in male-female literacy index consists of- Gurgaon, Panchkula, Ambala, Rewari, Jhajjar and Faridabad respectively. While the category of laggard districts in the respective values comprises-Mewat, Palwal, Fatehabad and Sirsa. The spectacular progress of districts like Gurgaon and Faridabad can be due to carving of Mewat and Palwal as separate districts, which are one of the most backward areas of the State.

Table-2 District-wise Literacy Index of Haryana, 2011 Census

Districts	Total	Index	Male	Index	Female	Index
Panchkula	81.88	0.907	87.04	0.795	75.99	0.951
Ambala	81.75	0.903	87.34	0.809	75.5	0.940
Yamunanagar	77.99	0.780	83.84	0.646	71.38	0.840
Kurukshetra	76.31	0.726	83.02	0.608	68.84	0.779
Kaithal	69.15	0.499	77.98	0.591	59.24	0.547
Karnal	74.73	0.674	81.82	0.552	66.82	0.730
Panipat	75.94	0.713	83.71	0.640	67	0.734
Sonipat	79.12	0.817	87.18	0.801	69.8	0.802
Jind	71.44	0.566	80.81	0.505	60.76	0.583
Fatehabad	67.92	0.451	76.14	0.288	58.87	0.538
Sirsa	68.82	0.481	76.43	0.373	60.4	0.575
Hisar	72.89	0.614	82.2	0.570	62.25	0.619
Bhiwani	75.21	0.690	85.65	0.730	63.54	0.651
Rohtak	80.22	0.853	87.65	0.823	71.72	0.848
Jhajjar	80.65	0.867	89.31	0.900	70.73	0.824
Mahendragarh	77.72	0.772	89.72	0.92	64.57	0.675
Rewari	80.99	0.878	91.44	1	69.57	0.796
Gurgaon	84.7	1	90.46	0.954	77.98	1
Mewat	54.08	0	69.94	0	36.6	0
Faridabad	81.7	0.902	88.61	0.868	73.84	0.899
Palwal	69.32	0.497	82.66	0.301	54.23	0.426
Haryana	75.55 (74.04)		84.06 (82.10)		65.94 (65.50)	

Note: Figure in parentheses represents literacy rates of India

Source: Director Census Operations, Haryana.

But the progress in literacy levels, when viewed in terms of female literacy rates, Haryana presents a picture of wider gap and neglect as it highlight that female literacy in the State lag behind their male counterparts as the gap between male-female literacy rate is 18.12 percent, which is higher as compared to even all India level of 16.6 percent.

This clearly shows the less emphasis given by the state in the development of female literacy. Therefore, it is customary for the State to work out on female education-related policies with special focus on the laggard districts like Mewat and Palwal.

III.2.2 District-wise Availability of Educational Institutions and Density

As evident from Table-3 on the *availability of educational institutions (per lakh of population)* at different levels of education, the best performing districts are- Jhajjar (in case of high/senior secondary schools), Mewat (in middle schools) and Yamunanagar (in primary schools). While the category of districts lagging behind consists of Mewat (in case of high schools), Ambala (in middle school level) and Gurgaon (in case of primary school) respectively.

Having framed index number for each level of education (see cols. 3, 5 and 7) and comparing them, it was found that the disparities do exist across districts for all types of educational levels. Moreover, no symmetry/trend could be found regarding the number of institutions per lakh of population. Hence, the policymakers need to pay attention on this kind of disparities (i.e. lack of availability of educational institutions) which results in low level of educational attainments of the students as they have to suffer from scarcity and inadequate accessibility of the educational institutions.

Table-3 District-wise Educational Institutions Per Lakh of Population & Index Value (2011 Census)

Districts (1)	High/Sr. Secondary (2)	Index No. (3)	Middle Schools (4)	Index No. (5)	Primary Schools (6)	Index No. (7)
Ambala	24.81	0.49	2.12	0	63.8	0.73
Panchkula	20.31	0.34	16.92	0.55	61.64	0.68
Yamunanagar	26.1	0.53	19.76	0.66	76.26	1
Kurukshetra	22.39	0.41	22.6	0.77	64.58	0.74
Kaithal	24.76	0.49	11.63	0.35	56.31	0.56
Karnal	27.5	0.58	14.48	0.46	53.67	0.51
Panipat	22.23	0.4	7.05	0.18	38.24	0.17
Sonapat	31.17	0.7	10.2	0.3	56.68	0.57
Rohtak	31.66	0.72	18.75	0.62	43.72	0.29
Jhajjar	39.85	1	11.37	0.34	65.62	0.77
Faridabad	33.26	0.77	15.85	0.51	46.13	0.34
Palwal	25.89	0.53	16.39	0.53	53.51	0.5
Gurgaon	20	0.33	8.31	0.23	29.97	0
Mewat	10.09	0	28.55	1	57.74	0.59
Rewari	36.43	0.88	14.21	0.45	68.97	0.84
Mahendragarh	26.57	0.55	17.24	0.57	70.16	0.86
Bhiwani	38.05	0.93	13.82	0.44	66.07	0.77
Jind	29.23	0.64	9.81	0.29	51.26	0.45
Hisar	29.81	0.66	7.85	0.21	45.18	0.32
Fatehabad	23.03	0.43	11.67	0.36	50.95	0.45
Sirsa	25.55	0.51	11.27	0.34	55.89	0.55

Note: Institutions per lakh of population are calculated as (number of schools/ total population)*100,000

Source: Govt. of Haryana, Statistical Abstract of Haryana, 2012-13.

District-wise Density of Educational Institutions in Haryana

Further, the Table-4 on *density of educational institutions (per square kilometer of the area)* depicts that the growth of educational institutions is very dense in some districts while it is thin in others. The leading district is Faridabad for all levels of education. The category of districts lagging behind comprises Mewat (in case of high school), Ambala (in case of middle school) and Sirsa (in case of primary school) respectively.

A striking effect of such kind of disparity is that it results in another kind of disparity i.e. the gender-disparity because the concentration of education institutions in urban areas affects the

educational opportunities of the female population belonging to rural areas or the areas which are already in the category of most backward districts where females are still unfavorable. Hence, the policy-makers need to emphasize on the removal of disparities and equalization of educational opportunities across all sections of society/regions.

Table-4 District-wise density of Educational Institutions & Index value (2011census)

Districts	High/Sr. Secondary Schools	Index	Middle Schools	Index	Primary Schools	Index
Ambala	17.7	0.14	1.52	0	45.74	0.32
Panchkula	12.69	0.07	10.57	0.25	38.53	0.24
Yamunanagar	17.92	0.15	13.57	0.34	52.37	0.39
Kurukshetra	14.11	0.09	14.24	0.36	40.71	0.26
Kaithal	11.48	0.05	5.39	0.11	26.11	0.1
Karnal	16.42	0.13	8.65	0.2	32.06	0.16
Panipat	21.13	0.19	6.7	0.14	36.35	0.21
Sonipat	21.3	0.2	6.97	0.15	38.73	0.24
Rohtak	19.25	0.17	11.4	0.28	26.59	0.1
Jhajjar	20.82	0.19	5.94	0.12	34.29	0.19
Faridabad	76.88	1	36.65	1	106.64	1
Palwal	19.73	0.17	12.5	0.31	40.78	0.26
Gurgaon	24.83	0.25	10.32	0.25	37.21	0.22
Mewat	7.36	0	20.81	0.54	42.1	0.28
Rewari	20.57	0.19	8.03	0.18	38.95	0.24
Mahendragarh	12.9	0.07	8.37	0.19	34.07	0.19
Bhiwani	13.01	0.08	4.73	0.09	22.6	0.06
Jind	14.43	0.1	4.84	0.09	25.31	0.09
Hisar	13.05	0.08	3.43	0.05	19.78	0.03
Fatehabad	8.55	0.01	4.33	0.07	18.91	0.02
Sirsa	7.73	0.01	3.41	0.05	16.92	0

Note: Density of institutions are calculated as (number of institutions/ total area of district)*100

Source: Govt. of Haryana, Statistical Abstract of Haryana, 2012-13.

III.2.3 Enrolment of Students in Educational Institutions

Table-5 on *enrolment of students per institutions* indicates that the leading districts are Gurgaon (in case of high school), Palwal (in case of middle school), and Ambala (in case of primary school). While the districts with lower enrolment are Jhajjar (in case of high school), Mewat (in case of middle school) and Kurukshetra (in case of primary school). It indicates

that the social set-up of these districts perhaps restrict the enrolment of students in educational institutions. Thus, the policy-makers should organize awareness programs with a view to motivate people to come for education especially in districts with lower enrolment of students.

Table-5 District-wise Enrolment of Students Per Institutions & Index value (2011census)

Districts	High Schools	Index Value	Middle Schools	Index Value	Primary Schools	Index Value
Ambala	218.3	0.56	2716.7	1	100.7	0.08
Panchkula	213.1	0.53	319.3	0.09	146.6	0.36
Yamunanagar	178.9	0.32	235.7	0.06	108.6	0.12
Kurukshetra	241.1	0.7	267.8	0.07	87.7	0
Kaithal	262.4	0.83	523	0.16	173.3	0.53
Karnal	176.3	0.31	330.8	0.09	160.7	0.45
Panipat	208.7	0.5	656.8	0.21	228.3	0.87
Sonipat	194.9	0.42	489.1	0.15	158.5	0.43
Rohtak	170.2	0.27	227.7	0.05	207.9	0.74
Jhajjar	125.6	0	365.2	0.1	120.2	0.2
Faridabad	264	0.84	324.9	0.09	245.3	0.97
Palwal	141.7	0.09	291.9	0.08	248.9	1
Gurgaon	289	1	471.6	0.14	216.3	0.79
Mewat	188.2	0.38	76.2	0	241.3	0.95
Rewari	175.9	0.3	360	0.1	111.7	0.14
Mahendragarh	203.7	0.47	247.8	0.06	99.6	0.07
Bhiwani	157.4	0.19	397.8	0.12	142.5	0.33
Jind	206.6	0.49	596.3	0.19	202.4	0.71
Hisar	255.7	0.79	707	0.23	200.6	0.7
Fatehabad	215.4	0.54	454.6	0.14	183.7	0.59
Sirsa	208.2	0.5	423.4	0.13	133.6	0.28

Note: Enrolment per institutions= enrolment of students is divided by the number of institutions.

Source: Govt. of Haryana, Statistical Abstract of Haryana, 2012-13.

III.2.4 Aggregate Composite Index of all the Individual Variables

Finally, an aggregate composite index (see Table-6) has been constructed to assess the degree of disparity across State. Following the composite index (see col. 5) the leading districts are: Faridabad, Gurgaon, Rewari, Ambala, Yamunanagar and Panchkula while the districts which lag behind are Mewat, Sirsa, Fatehabad, Kaithal, Jind, Karnal and Palwal respectively.

Table-6 Composite Index of all the Individual Variables (2011 Census)

Districts	Total of Literacy Index (1)	Total of Educational Institutions per lakh of Population Index (2)	Total of density of Educational Institutions Index (3)	Total of Enrolment of Students Index (4)	Aggregate Composite Index (5)
Ambala	2.65	1.22	0.46	1.64	1.49
Panchkula	2.65	1.57	0.56	0.98	1.44
Yamunanagar	2.26	2.19	0.88	0.5	1.45
Kurukshetra	2.11	1.92	0.71	0.77	1.37
Kaithal	1.41	1.4	0.26	1.52	1.14
Karnal	1.95	1.55	0.49	0.85	1.21
Panipat	2.08	0.75	0.54	1.58	1.23
Sonapat	2.42	1.57	0.59	1	1.39
Rohtak	2.52	1.63	0.55	1.06	1.44
Jhajjar	2.59	2.11	0.5	0.3	1.37
Faridabad	2.67	1.62	3	1.9	2.29
Palwal	1.51	1.56	0.71	1.17	1.21
Gurgaon	2.95	0.56	0.72	1.93	1.54
Mewat	0	1.59	0.82	1.33	0.93
Rewari	2.67	2.17	0.61	0.54	1.49
Mahendragarh	2.36	1.98	0.45	0.6	1.34
Bhiwani	2.07	2.14	0.23	0.64	1.27
Jind	1.65	1.38	0.28	1.39	1.17
Hisar	1.80	1.19	0.16	1.72	1.21
Fatehabad	1.27	1.24	0.1	1.27	0.97
Sirsa	1.35	1.4	0.06	0.91	0.93

The analysis highlights the following areas of great concern that need dire attention of the policy-makers for balanced educational development in a more efficient manner:

- In Haryana one of the priority areas of great concern is the low levels of female literacy as compared to their male counterparts. There are nearly 8 districts namely Mewat, Palwal, Kaithal, Fatehabad, Sirsa, Jind, Hisar and Bhiwani where female literacy rate is lower than the state average.
- Uneven pattern of availability of educational institutions and their density across all districts is another important matter of concern. Apart from that even within the same district large

disparities exists in the respective areas for instance in case of frontrunner district like Ambala which shows better results in terms of availability as well as density of primary and middle levels of educational institutions but lag behind in case of high/secondary level of educational institutions.

- There are significant inter-district disparities in terms of enrolment of students in different districts and continuous backwardness of some districts namely Mewat, Palwal, Sirsa and Fatehabad on all the indicators of educational development which need special attention of the policy-makers.

(IV) SUGGESTIONS & CONCLUSION

On the basis of analysis of inter-district disparity in education across Haryana the following policy options are suggested:

- **Allocation of Resources:** As in this present study it was observed that the availability of educational institutions and their density is more in some districts and less in others. Here proper investment in terms of provision of educational institutions in adequate amount lead to eliminate the disparities and raise the educational attainment levels in the State. Hence, the first step needed for reducing educational disparities is to allocate more financial resources for the deprived districts.
- **Priority to Female Education:** The overall profile of the female literacy in Haryana is really disappointing. It provides the pitiable situation of females in the State and that need dire attention of the policy-makers while framing any educational or developmental policies especially for the most backward districts like Mewat, Palwal, Sirsa and Fatehabad.
- **Trained and Qualified Teachers:** Another most important requirement of the overall development of the educational system is the availability of the trained and skilled teachers in the educational institutions especially the female teachers in order to create interest of education among female students and they get inclined towards education.
- **Adequate educational infrastructure:** Infrastructure is the key determinant of any development process. Hence, for increasing enrolment ratio in the State, the educational

institutions should be within a distance of 1 or 2 kilometer of habitation of students and should be evenly distributed so that it results in maximum participation of all the students across different regions and groups.

- **Decentralization decision-making:** The State government should take effective steps in order to develop decentralized decision-making pattern of educational system. The decision-making processes which are made at the grassroots levels results not only reduction of all kinds of disparities but also help in framing in-depth policies which are more relevant for the districts than the general decision taken at the national or the state level.

CONCLUSION

In-nutshell, it can be concluded that despite commendable progress on various fronts; the State of Haryana is still perplex with educational disparities. Using composite index, the study found that few districts like Ambala, Panchkula and Gurgaon has performed well on almost all the educational indicators whereas some districts like Sirsa, Fatehabad, Mewat and Palwal etc. show no change or improvements in the respective educational indicators. Hence, the educational policy should take care of the ground reality prior to policy formulation. Special focus on the laggard districts will definitely push up the average performance of the State.

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