Quality of Elementary Education in Rural Haryana: A Geographical Analysis

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***Abstract*- Education plays a dynamic role in the life of an individual and nation it is an essential need for the young people to make an all-round development and progress. Education has the power to change your entire life. Learning changes your thinking capabilities and perception. Therefore, School infrastructure is a key base for effective teaching and learning in schools. The infrastructure arrangements are a very significant component in ensuring quality education. The present paper mainly analyses the availability of teachers, physical infrastructure facilities such as building, safe drinking water, toilet, ramp, playground, boundary and library in educational- institutions of the area under study. In Rural Haryana, 4.59 percent schools (353 schools) operate with just without teacher and single teacher, making it difficult to meet the diverse educational needs of students. In addition to, 16.55 percent government upper primary schools (373 Schools) in the study area are not meeting norms of right to education act govt. of India. Similarly, the availability of classrooms is problem in government primary and upper primary schools in the study areas. Many rural government schools face issues like inadequate classrooms, poor sanitation, lack of electricity, safe drinking water, toilet, boundary, ramp and library etc. due to often lack adequate infrastructure due to limited government funding.**

Keywords: Education, Quality, Educational Facilities, Availability, Distribution.

INTRODUCTION

The famous statement of Nelson Mandela is displayed at the entrance of the University of South Africa thus: "Destroying any nation does not require the use of atomic bombs or the use of long-range missiles. It only requires lowering the quality of education and allowing cheating in the examinations by the students."

Education plays a dynamic role in the life of an individual, and nation it is an essential need for the young people to make an all-round development and progress. Education is important because it helps people develop skills and knowledge that can improve their lives and the world around them. Education plays a dynamic role in the life of an individual, and in the life of the nation it is an essential requisite for the young people to make an all-round development and progress. The main delivery system for the basic education of children outside the family is primary schooling. Primary education must be universal, the basic learning needs of all children are satisfied, and take into account the culture, needs, and opportunities of the community.

Education has the power to change your entire life. Learning changes your thinking capabilities and perception. Education helps to change society for the better people life solve issues eradicate poverty, the strength to fight against injustice, impart knowledge, solving problems, following your passion and in the personal development of skills.

School education cannot be measured solely in them of years of enrollment. The concern is also of what students learn and retain or in other terms the diversity and disparity in performance. India's goal of universal primary education of good quality basically points to three main challenges: (i) expanding access; (ii) raising learning achievement and (iii) reducing gaps in education outcomes across regions and across socio-economic groups.

In overall development of country education play essential role so it should be equally distributed in urban, rural areas and in government as well as private sector. The quality of schools can vary greatly depending on various factors such as human resources and physical infrastructures. The quality of infrastructure such as classroom, drinking water, toilet separate for girls, playground and boundary and human resources means availability of teachers in education directly impacts both academic achievement and holistic success. School infrastructure is a key base for effective teaching and learning in schools. The infrastructure arrangements are a very significant component in ensuring quality education. A well-designed and well-maintained learning environment enhances student engagement,

promotes active learning and fosters a sense of belonging within the school community.

Overall, addressing these spatial variations in quality of schools in rural areas may require targeted investments in infrastructure, human resource such as teachers support to ensure that all students have access to a high quality education regardless of their location. The problem of this study therefore was to determine whether or not the availability of physical facilities matches the increase in pupils' enrolment in primary and upper primary schools in in the study area.

India is a large country broadly divided into two social sections: urban and rural. While the rural population of India represents about 69% of the total population (census of India 2011). Haryana has a predominantly rural population, with about 65 percent of its people living in village. So, education is very important tools for rural development. In this context, the present study relates to the quality of elementary education in rural Haryana. It seeks to analyse a set of objectives.

OBJECTIVE

In this context, the present paper aims to study the following objectives.

1. To find out the availability of teachers in special reference to primary and upper primary schools.
2. To study the spatial variations in physical infrastructure facilities of elementary schools in Rural Haryana.

Profile of the Study Area:

India is located in South Asia. India is the seventh-largest country by area wise in the world. Haryana state that has been taken as study area is situated in the north western part of India. The state of Haryana was carved out of the composite state of Punjab on the 1st November, 1966.

The state is lying between 27˚ 39'N to 30˚ 55'51" N latitudes and 74˚ 28'80" E to 77 ˚ 36'05" E longitudes. The total area of state is 44212sq. km. It form 1.3 percent of total area of the country and occupied the seventeenth position in area as compared with other state and union territories. The Haryana plain is part of the indo-gangetic plain; formed by alluvial deposits of the Himalayan Rivers.

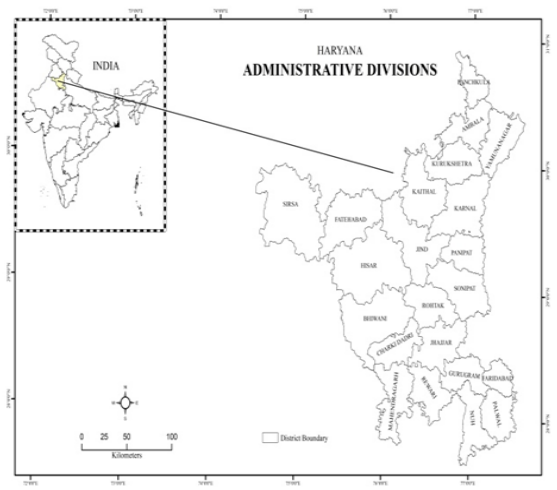


Fig. 1

It is bounded by Himachal Pradesh in the north, utter Pradesh and Delhi in the east, Punjab and Chandigarh on north-west and Rajasthan in the south and south-west. According to 2011 census Haryana is a total population stand at 25351462 which 65.12 percent is living in rural areas.

Haryana is divided into six administrative divisions: Ambala, Rohtak, Gurgaon, Hisar, Karnal, and Faridabad which are further divided into 22 districts. It again is divided into 74 sub-divisions, 94 revenue tehsils, 142 community development blocks and 7,030 villages and 6,234 villages' panchayats.

Database and Research Methodology:

The present paper was utilized source of secondary data. This collected from Unified District Information System for Education Plus (UDISE+) during 2021-22. The distribution of various types of school educational facilities is provided under two sections i.e. primary and upper primary. It is only public management schools are included. Public management school educational facilities are mainly two sections: (1) primary only with grade 1 to 5, (2) upper primary/middle only with grade 6 to 8. The quality will be studied with reference to (i) teachers (ii) physical infrastructure facilities in various types of schools, such as classrooms, number of classrooms per-school, head-room, playground, and ancillary, drinking water, boundary, library, toilet (separate for girls, medical check-up etc.

Unified District Information System for Education Plus: - The Indian Government has decided to develop an application, UDISE+ under the Ministry

of Education, to collect the school details. UDISE+ has a mandate of collecting information from Pre-primary to XII. Information collected through the digital platform of UDISE+, is utilized for the planning, optimized resource allocation and implementation of various education-related programs and assessments of progress made.

Table-1: Norms and Standards for a School

1.Teacher student ratio	For 1 to 5 classes
	60 students per 2 teachers and next 30 students + 1 teacher
	150 students per 5 teachers and + 1 head-master
	Above 200 students than 40 students per-teacher + 1 head-master
	For 6 to 8 classes
	At least one teacher per class so that there will be at least one teacher each for: - 1. Science and Mathematics 2. Social Studies 3. Languages
	100 and above students: - 1. A full time head-master and 2. Part time instructors for:- art education, health and physical education, work education
	At least one teacher for every 35 students + full time head-master
2.Building	1 room per-teacher + office cum-store-cum head-master room Arrangement for securing the school building by boundary wall and playground
3. Drinking water facility	Safe and adequate drinking water facility to all students
4. Toilet facility	Separate toilet for boys Separate toilet for girls
5. Library	Library in each school providing newspaper, magazines and books on all subjects, story books
6. Play material, games and sports equipment	To provide to each class as required

Source: The Right of Children to Free and Compulsory Education Act, 2009, Govt. of India.

RESULTS AND DISCUSSION

This paper is attempted to study the infrastructural facilities of elementary schooling education in rural areas of Haryana state and examines various aspects such as availability of teachers and infrastructure facilities like as classrooms, safe drinking water, and toilet separate for girl's students, furniture, library, playground and boundary etc. However, efforts are being made by the government to improve education facilities in rural areas. Here are some common features of school education facilities in rural Haryana. Most of government schools in rural areas are government run schools providing education to children from various socio-economic backgrounds. Many schools in rural areas may lack of basic infrastructure facilities such as proper classrooms, safe drinking water, ramp, playground, library and toilet separate for girls etc. there may be a shortage of teachers in rural areas, leading to a high pupil-teacher ratio and affecting the quality of education.

Public Schooling Facilities:

Table 2 reveals that the total number of schools in 2021-22 from public primary to higher secondary school facilities was 12,951 schools in Rural Haryana. In which the percentage of primary schools (grade 1 to 5) is about 60 percent in 2021-22. The upper primary schooling facilities (grade 6 to 8) has been 17.40 percent as well as secondary (grade 6 to 10) 7.98 percent and higher secondary (grade 6 to 12) only 15.20 percent. It has been rapidly increase primary education compare than schooling facilities like upper primary, secondary and senior secondary. Primary education serves as a link between the middle and secondary education, and plays a very important role in this respect. It is noted that in Haryana about eight percent schools are such schools where student complete their grade 1 to 12. Villages with no government higher/senior secondary schools these villages are disturbing schooling cycle specially girls' students.

Table-2: Distribution of Public School Facilities in Rural Haryana: 2021-22

Type of school	No. of Public Schools	Percentage
Primary with grades 1 to 5	7695	59.42
Upper Primary with grades 6 to 8	2254	17.40
Secondary with grades 6 to 10	1968	15.20
Higher Secondary with grades 6 to 12	1034	7.98
Total	12951	100

Source: UDISE+ 2021-22

Figure-2.1: Showing Public Schooling Structure of Haryana: 2021-22

Figure 2 reveals that the distribution of number of schools under public sector is clearly main provider of schools in the primary level into all schools in the state. Therefore, it is need of improvement secondary and senior secondary schooling facilities in village level by government of Haryana.

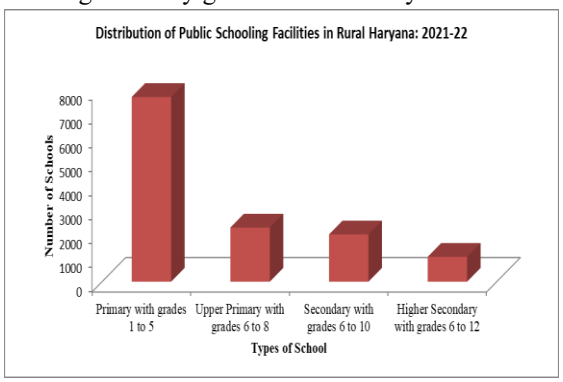


Fig. 2

Source: UDISE+ 2021-22

The Inter-district Patterns:

The data presented in the below Table 3, fig. 3 reveal that in the state is highest percentage of primary level facilities in Panchkula district (65.13 percent) whereas 53.46 percent in Nuh district is least. It found that the wade inter-district disparity. Public higher secondary level facilities in Yamunanagar district is least 7.31 percent in Haryana and followed by Kurukshetra (8.80 percent). Both districts are located in north part of Haryana. Whereas Rohtak and Jhajjar districts are maximum percentage of schooling facilities (classes 6 to 12) like 30.55 percent and 25.35 percent respectively. It is found that Availability of public elementary facilities via secondary facilities falls far short of the government's own norms across the state. In addition, the available facilities are poorly distributed, and often located far away from rural.

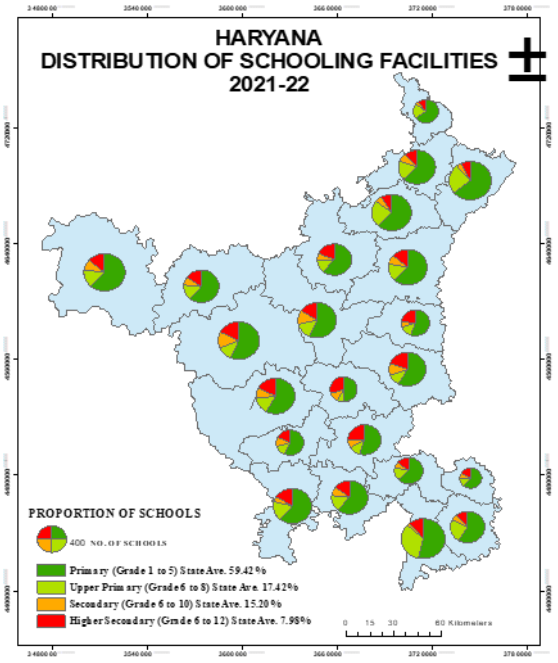


Fig. 3

Table-3: Distributions of Public Schooling Facilities in Rural Haryana: 2021-22

Districts	Primary with Grades 1 to 5		Upper with Primary Grades 6 to 8		Secondary with Grades 6 to 10		Higher Secondary with Grades 6 to 12		Total
	No. of Schools	%	No. of Schools	%	No. of Schools	%	No. of Schools	%	
Ambala	404	62.73	115	17.86	51	7.92	74	11.49	644
Bhiwani	412	58.19	105	14.83	69	9.75	122	17.23	708
Charkhi Dadri	204	56.35	50	13.81	44	12.15	64	17.68	362
Faridabad	137	60.62	32	14.16	20	8.85	37	16.37	226
Fatehabad	356	60.96	89	15.24	47	8.05	92	15.75	584
Gurugram	240	63.16	60	15.79	25	6.58	55	14.47	380
Hisar	448	56.42	95	11.96	111	13.98	140	17.63	794
Jhajjar	278	55.05	57	11.29	42	8.32	128	25.35	505
Jind	392	56.40	104	14.96	89	12.81	110	15.83	695
Kaithal	338	61.23	72	13.04	39	7.07	103	18.66	552
Karnal	442	62.43	110	15.54	59	8.33	97	13.70	708
Kurukshetra	458	61.98	175	23.68	41	5.55	65	8.80	739
Mahendragarh	420	61.22	123	17.93	33	4.81	110	16.03	686
Nuh	479	53.46	300	33.48	20	2.23	97	10.83	896
Palwal	325	58.56	133	23.96	34	6.13	63	11.35	555
Panchkula	198	65.13	61	20.07	12	3.95	33	10.86	304
Panipat	207	55.35	54	14.44	23	6.15	90	24.06	374

Rewari	383	61.67	94	15.14	55	8.86	89	14.33	621
Rohtak	174	50.14	25	7.20	42	12.10	106	30.55	347
Sirsa	489	61.82	122	15.42	73	9.23	107	13.53	791
Sonipat	376	58.29	71	11.01	73	11.32	125	19.38	645
Yamunanagar	535	64.07	207	24.79	32	3.83	61	7.31	835
Haryana	7695	59.42	2254	17.40	1034	7.98	1968	15.20	12951

Source: UDISE+ 2021-22

Human Resources:

The present paper mainly analyses the availability of teachers in educational- institutions of the area under study. A teacher is learning responsible for students, but teachers are considered human resources in the sense that they are valuable assets to schools. Government-employed teachers are usually well-qualified and trained, but insufficient teachers are a concern in rural areas. In rural areas, students lag due to inadequate resources and teacher shortages.

This table 4 shows that In Rural Haryana, 4.59 percent schools (353 schools) operate with just without teacher and single teacher, making it difficult to meet the diverse educational needs of students. If the teacher of single-teacher school is absent, the school has to be closed as there is hardly any substitute available immediately. It is affects not only the teaching-learning process but also the programmes of universal elementary education. Gurugram district is 10.83 percent schools with no or single teacher as well as 8 districts such as Rewari, Jhajjar, Ambala, Nuh, Kurukshetra, Mahendragarh, Charkhi Dadri and Gurugram is more than state average. In addition to, 16.55 percent government upper primary schools (373 Schools) in the study area are not meeting norms of right to education act govt. of India.

As of 2021-22, Haryana's state–run government middle schools (grades 6 to 8) faced a 16.55 percent (373 Schools) shortage of teachers out of 2254 schools. These schools are not meeting norms of right to education act (at least one teacher per class) govt. of India. The highest percent insufficient teachers as norms in middle schools in Charkhi Dadri district is account to 42 percent as well as, 10 districts such as Rewari, Nuh, Karnal, Jhajjar, Panchkula, Mahendragarh, Panipat, Gurugram, Yamunanagar and Kurukshetra.

In addition to, largest number of the teacher shortage in 32 primary schools out of 479 and 55 upper primary schools out of 300 in Nuh district remains a pressing issue, adversely affecting the quality of education in the district. It is located in southern part of Haryana. Muslims account for nearly 80% of population of Haryana's Nuh. Nuh district in Haryana is considered one of the most educationally backward in the state due to low literacy rates and poor infrastructure. It is previously known as Mewat district. The shortage of teachers in rural areas of Haryana is a significant concern, impacting the quality of education and student outcomes.

Table-4: Availability of Teachers in Elementary Schools in Rural Haryana: 2021-22

Category	Primary Schools	Upper Primary Schools
Percent schools not meeting norms of RTE (state average)	4.59 (353 schools)	16.55 (373 Schools)
Name and Number of Districts not meeting norms of RTE (Above state average)	(8) Rewari, Jhajjar, Ambala, Nuh, Kurukshetra, Mahendragarh, Charkhi Dadri, Gurugram	(10) Rewari, Nuh, Karnal, Jhajjar Panchkula, Mahendragarh, Panipat Gurugram, Yamunanagar, Kurukshetra
Highest percent deficient schools with district	(10.83) Gurugram	(42.00) Charkhi Dadri
Highest number of deficient schools with district	(32 Schools) Nuh	(55 Schools) Nuh

Source: UDISE+ 2021-22

Figure-4.1 and 4.2: Showing variation in the availability of teachers in primary and upper primary level in rural Haryana. It is exploring that teacher availability is better in primary level compared to upper primary level. Northern districts such as Panchkula, Yamunanager, Ambala and Kurukshetra are insufficient teachers in elementary level.

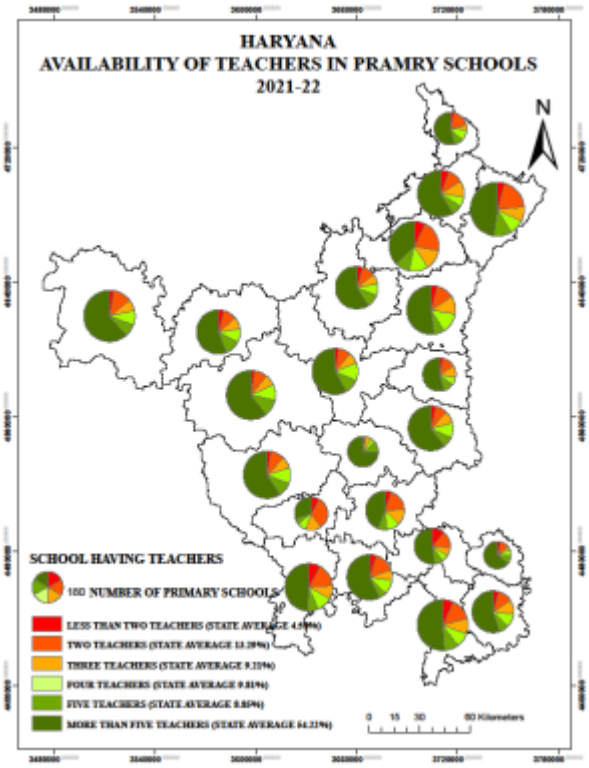


Fig. 4.1

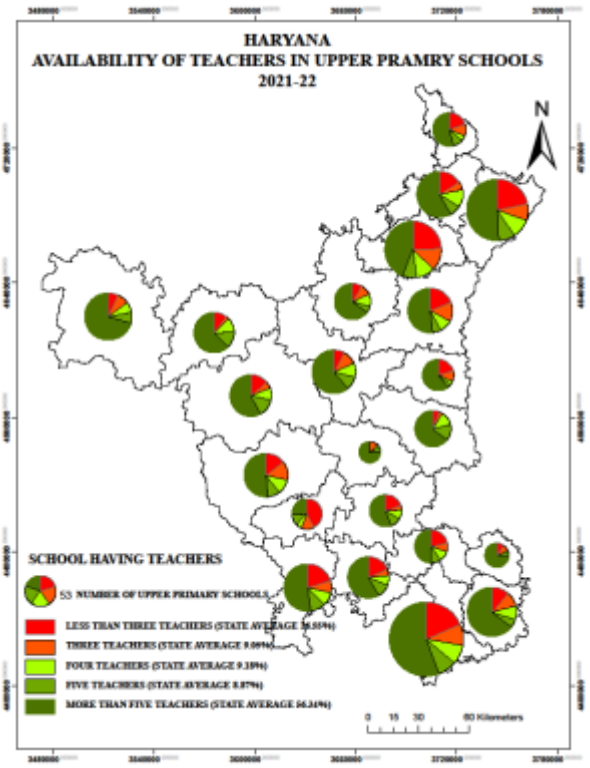


Fig. 4.2

Physical Infrastructure Facilities:

Infrastructure facilities are used to achieving education goals. In school the facilities include classrooms, safe drinking water, and toilet separate for girl's students, furniture, library, playground, boundary and others. Most of the facilities are in good condition. This means that the existing facilities better for the learning environment.

Building:

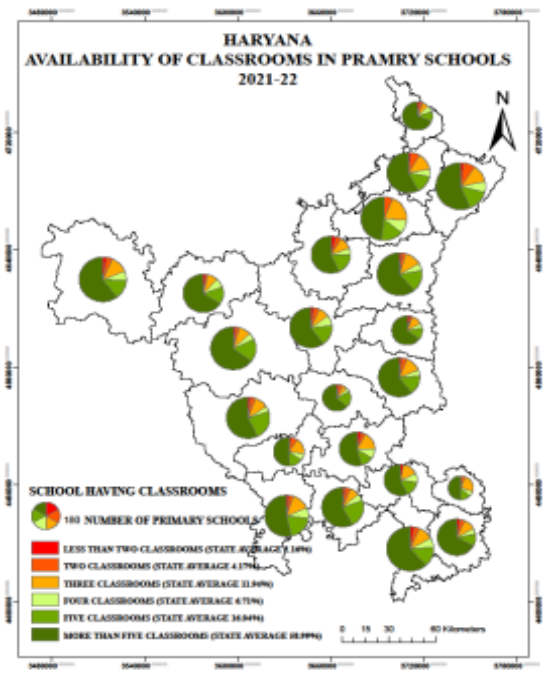
The availability of adequate school infrastructure including building/classroom and head-master room significantly influences the teaching and learning environment. Many rural government schools are housed in all-weather building that are intended to meet the basic Right to Education (RTE) norms. These norms typically require a dedicated classroom for each teacher, proper lighting and ventilation. However, studies have shown that while some schools have more classrooms than the prescribed norms, others still struggle with shortages and poor maintenance of these facilities. Table 5 reveal that government primary schools in rural Haryana are account for 2.16 percent schools (166 Schools) in single classroom or without classroom. According to Operation Blackboard Scheme a primary school should have a minimum of two classrooms. This scheme is to improve the quality of primary education by ensuring adequate space for teaching activities. Kaithal district is highest classrooms deficiency in primary schools.

Statistically represented that the availability of classrooms is problem in government upper primary schools in the study areas where about 6.61 percent schools (149 Schools) have classroom not meet norms of RTE Act. Charkhi Dadri district have 12 percent schools have less than three classrooms. These schools are not available one classroom per-teacher. Nuh district is highest (25 schools) number of deficient classroom. 7 districts such as Fatehabad, Ambala, Yamunanagar, Nuh, Kurukshetra, Gurugram and Mahendragarh are above state average. Whereas three northern districts as Ambala, Yamunanagar and Kurukshetra; three southern districts as Nuh, Gurugram and Mahendragarh; one western district as Fatehabad. According to ASER reports indicated that in some schools the teacher-to-classroom ratios are not optimal with a significant number of institutions either below or just barely meeting the norms resulting in overcrowded classes or underutilized spaces.

Table-5: Classrooms Facilities in Elementary Schools in Rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	2.16 (166 Schools)	6.61 (149 Schools)
Name and Number of Districts not meeting norms of RTE (Above state average)	(9) Rohtak, Charkhi Dadri, Sirsa, Gurugram, Panchkula, Nuh, Palwal, Panipat, Jhajjar	(7) Fatehabad, Ambala, Yamunanagar, Nuh, Kurukshetra, Gurugram, Mahendragarh
Highest percent deficient schools with district	(4.14) Kaithal	(12.00) Charkhi Dadri
Highest number of deficient schools with district	(14 Schools) Kaithal	(25 Schools) Nuh

Source: UDISE+ 2021-22



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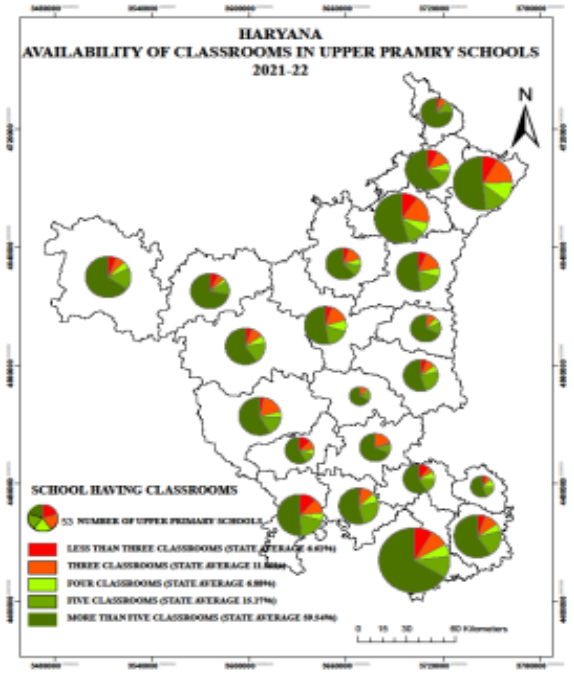

Fig. 5.2

Head-Master Room Facilities:

The provision of separate head-master room facility for each school is essential under the right to education act, 2009. As per table 6, in rural Haryana is about one-fourth primary and upper primary school have not separate head-master room facility. Some states may mandate separate headroom for all schools. About 64 percent Primary schools in Kurukshetra district is available separate head-master room facility as well as eight districts such as Jhajjar, Mahendragarh, Ambala, Faridabad, Karnal, Palwal, Yamunanagar and Panchkula are worst condition (below state average).

The table 5 it is made clear that, the average separate head-master room facility in middle school in rural Haryana is account for 74.80 percent (1686 Schools out of 2254 schools). It is better conditions (92 percent schools having separate head-master room facility) in central district Rohtak of the Haryana and worst condition (65.63 percent schools) in south district Faridabad. Moreover seven districts like as Mahendragarh, Yamunanagar, Ambala, Charkhi Dadri, Kurukshetra, Jind and Karnal are bad conditions (below state average).

Table-6: Head-Master Room Facilities in Elementary Schools in Rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	74.09 (5701 Schools)	74.80 (1686 Schools)

Name and Number of Districts not meeting norms of RTE (below state average)	(8) Jhajjar, Mahendragarh, Ambala, Faridabad, Karnal, Palwal, Yamunanagar, Panchkula	(7) Mahendragarh, Yamunanagar, Ambala, Charkhi Dadri, Kurukshetra, Jind, Karnal
Highest percent deficient schools with district	64.41 (Kurukshetra)	65.63 (Faridabad)
Lowest percent deficient schools with district	81.92 (Hisar)	92.00 (Rohtak)

Source: UDISE+ 2021-22

Ramp Facilities:

The provision of ramp facility within schools ensure that students with physical disabilities, especially those using wheelchairs or mobility aids, can access classrooms, libraries and other facilities without barriers. They promote inclusivity, equal learning opportunities. About one-fourth schools include primary and upper primary are not available ramp facility in the study area (table 7).

Table-7: Ramp Facilities in Elementary Schools in rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	73.79 (5678 Schools)	73.60 1659 Schools
Name and Number of Districts not meeting norms of RTE (Above state average)	(8) Rohtak, Palwal, Rewari, Ambala, Nuh, Jind, Gurugram, Kurukshetra	(8) Palwal, Nuh, Sirsa, Charkhi Dadri, Jind, Mahendragarh, Faridabad, Ambala
Highest percent deficient schools with district	64.65 (Panchkula)	63.16 (Jhajjar)
Lowest percent deficient schools with district	80.06 (Fatehabad)	83.33 (Kaithal)

Source: UDISE+ 2021-22

Drinking Water Facilities:

The provision of drinking water is essential which need to be safe and adequate for all children. The district-wise percentage of schools with tap water during 2015-16 reveals that only two-third schools are having provision of tap water, be it primary, upper primary or secondary schools. The spatial pattern reveals that the schools of Kaithal and Panipat districts are most vulnerable followed by Jind where only one-third schools are having tap water facility. It is equally unfortunate to find that none of the districts in Haryana boast of having any grade of school with cent-percent provision of safe drinking water facility measured in terms of tap water supply (Table 8). Safe drinking water facilities in government schools are essential for students' health and well-being.

Table-8: Drinking Water Facilities in Elementary Schools in rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	99.88 (7686 schools)	99.78 (2249 schools)
Name and Number of Districts meeting norms of RTE (100 percent)	(16) Ambala, Bhiwani, Faridabad, Fatehabad, Gurugram, Hisar, Jind, Kurukshetra, Mahendragarh, Nuh, Panchkula, Panipat, Rohtak, Sirsa, Sonipat, Yamunanagar	(18) Ambala, Bhiwani, Charkhi Dadri Faridabad, Fatehabad, Hisar, Jhajjar, Jind, Karnal, Kurukshetra, Mahendragarh, Panchkula, Panipat, Rewari, Rohtak, Sirsa, Sonipat, Yamunanagar
Highest percent deficient schools with district	99.11 (Kaithal)	97.22 (Kaithal)

Source: UDISE+ 2021-22

Toilet Facilities:

Provision of separate toilet for boys and girls is essential for each school. As per statistics, in rural Haryana almost all types of schools were having separate toilet facility for boys and girls (Table 9, 10). The state average of schools with toilet facility is 99 percent. The disaggregated statistics however reveals that the schools of southern Haryana district namely Mahendragarh, Gurugram and Faridabad are deficient in toilet facility. The situation is more pathetic for secondary schools in case of Faridabad, where 8 percent schools are devoid of this basic facility.

Table-9: Boys Toilet facilities in Elementary Schools in rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	8.04 (619 schools)	7.50 (169 schools)
Name and Number of Districts not meeting norms of RTE (Above state average)	(11) Yamunanagar, Ambala, Faridabad, Kaithal, Rewari, Jind, Sonipat, Charkhi Dadri, Mahendragarh, Nuh, Gurugram	(11) Panchkula, Kurukshetra, Palwal, Nuh, Mahendragarh, Ambala, Faridabad, Fatehabad, Kaithal, Jhajjar, Sonipat
Highest percent deficient schools with district	13.39 (Hisar)	16.00 (Rohtak)
Lowest percent deficient schools with district	3.71 (Kurukshetra)	4.35 (Yamunanagar)

Source: UDISE+ 2021-22

Table-10: Girls Toilet facilities in Elementary Schools in rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	4.81 (370 schools)	5.32 (120 schools)
Name and Number of Districts not meeting norms of RTE (Above state average)	(8) Yamunanagar, Panipat, Ambala, Faridabad, Gurugram, Hisar, Rohtak, Mahendragarh	(9) Yamunanagar, Hisar, Kurukshetra, Charkhi Dadri, Rewari, Nuh, Mahendragarh, Panchkula, Ambala
Highest percent deficient schools with district	7.55 (Jhajjar)	12.00 (Rohtak)
Lowest percent deficient schools with district	1.31 (Kurukshetra)	1.92 (Jind)

Source: UDISE+ 2021-22

Electricity Facilities:

As electric connection for fan and light need is an essential commodity for all levels of schools, it may be noted that in Haryana all villages have been electrified. In the same vein, the majority of schools in Haryana have electricity facility. In case of primary and upper primary schools about 2 percent schools are not having this facility. There are 5 districts such as Panchkula, Jhajjar, Palwal, Nuh and Yamunanagar where primary schools running without electricity are recorded above state average in rural Haryana. Whereas upper primary level having without electricity is 8 districts like as Rewari, Kaithal, Rohtak, Mahendragarh, Yamunanagar, Sonipat, Jind and Bhiwani.

Majority of these schools lie in southern Haryana districts of Palwal, Nuh, Rewari, Bhiwani and Mahendragarh. In south, highest deficient percent public primary schools located in Mahendragarh district and upper primary level in Palwal district is not having electricity connection (Table 11).

Table 11: Availability of Electricity Facilities in Elementary Schools in Rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	97.70 (7518 Schools)	98.14 (2212 Schools)
Name and Number of Districts not meeting norms of RTE (Above state average)	(5) Panchkula, Jhajjar, Palwal, Nuh, Yamunanagar	(8) Rewari, Kaithal, Rohtak, Mahendragarh, Yamunanagar, Sonipat, Jind, Bhiwani
Highest percent deficient schools with district	91.43 (Mahendragarh)	93.98 Palwal
Lowest percent deficient schools with district	99.43 (Rohtak)	100 (Ambala, Charkhi Dadri, Faridabad, Gurugram, Hisar, Kurukshetra, Sirsa)

Source: UDISE+ 2021-22

Playground Facilities:

The table 10 highlights the disparity in playground facilities among schools in rural Haryana. As far as playground facility is concerned, about 14 percent government primary and upper primary schools were devoid of this space. Playgrounds are needed for sports and extra-curricular activities. It may be noted that about 19 percent primary schools in Rohtak district were not having playground facility, whereas 22 percent upper primary schools in Faridabad district which is a must for the overall growth of students (Table 12).

Table 12: Availability of Playground Facilities in Elementary Schools in Rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	85.77 (6600 Schools)	85.76 (1933 Schools)
Name and Number of Districts not meeting norms of RTE (Above state average)	(8) Panchkula, Fatehabad, Charkhi Dadri, Palwal, Sirsa Faridabad, Nuh, Hisar	(11) Fatehabad, Nuh, Jind, Mahendragarh, Jhajjar, Karnal Panipat, Panchkula, Sirsa Yamunanagar, Kurukshetra
Highest percent deficient schools with district	81.03 (Rohtak)	78.13 (Faridabad)
Lowest percent deficient schools with district	89.94 (Kaithal)	93.33 (Gurugram)

Source: UDISE+ 2021-22

Library Facilities:

As per operation blackboard scheme, all schools have to be provided with essential learning equipment including a library. About 6 percent of government primary and upper primary schools premises were not equipped with library. North district Ambala of Haryana is highest deficient in primary level whereas upper primary level central district Jind (table 13).

Table 13: Availability of Library Facilities in Elementary Schools in Rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	94.35 (7260 Schools)	94.10 (2121 Schools)
Name and Number of Districts not meeting norms of RTE (Above state average)	(12) Jind, Jhajjar, Panchkula, Karnal, Gurugram, Palwal, Sonipat, Panipat, Kaithal, Fatehabad, Faridabad, Mahendragarh	(8) Panipat, Palwal, Charkhi Dadri, Fatehabad, Ambala, Sirsa, Rewari, Faridabad
Highest percent deficient schools with district	87.62 (Ambala)	86.54 (Jind)
Lowest percent deficient schools with district	97.77 (Hisar)	100 (Rohtak)

Source: UDISE+ 2021-22

Medical Check-up:

Haryana government provides medical checks for students in government schools through the School Education Haryana's Health and Treatment (SEHAT) scheme. Table 14 reveals that annual medical check-up is available in 63.90 percent government primary schools in the state whereas 63.71 percent upper primary schools. Southern district Palwal is lowest medical check-up of students in primary and upper primary level in rural areas.

Table-14: Medical Check-up in Rural Haryana: 2021-22

Category	Primary	Upper Primary
Percent schools not meeting norms of RTE (state average)	63.90 4917	63.71 1436
Name and Number of Districts not meeting norms of RTE (Above state average)	Ambala, Gurugram, Fatehabad, Jind, Jhajjar, Panchkula, Rohtak, Nuh, Sonipat	Panchkula, Jhajjar, Ambala, Faridabad, Kurukshetra, Panipat, Sirsa, Jind, Gurugram
Highest percent deficient schools with district	52.00 Palwal	54.89 Palwal
Lowest percent deficient schools with district	71.84 Bhiwani	73.61 Kaithal

Source: UDISE+ 2021-22

CONCLUSION

The main finding of present paper shows that the spatial distribution of educational facilities in rural Haryana significant disparities across various districts. The availability of public elementary facilities via secondary facilities falls far short of the government's own norms across the state.

This study analysing educational development variables such as availability of teachers and

infrastructure facilities not meet of right to education act (govt. of India). In Rural Haryana, 4.59 percent schools (353 schools) operate with just without teacher and single teacher, making it difficult to meet the diverse educational needs of students. In addition to, 16.55 percent government upper primary schools (373 Schools) in the study area are not meeting norms of right to education act govt. of India.

Similarly, the availability of classrooms is problem in government primary and upper primary schools in the study areas. Government primary schools in rural Haryana are account for 2.16 percent schools (166 Schools) in single classroom or without classroom. According to Operation Blackboard Scheme a primary school should have a minimum of two classrooms. This scheme is to improve the quality of primary education by ensuring adequate space for teaching activities. Kaithal district is highest classrooms deficiency in primary schools.

The availability of classrooms is problem in government upper primary schools in the study areas where about 6.61 percent schools (149 Schools) have classroom not meet norms of RTE Act. Charkhi Dadri district have 12 percent schools have less than three classrooms. These schools are not available one classroom per-teacher. Nuh district is highest (25 schools) number of deficient classroom.

It is recorded that there is improvement in the availability of building, teacher and others facilities such as drinking water, toilet, ramp, playground, boundary and library in the state during few years.

The spatial distribution of schooling facilities in rural areas is influenced by a variety of factors that aim to provide equal access to education for all students. Overall, there are challenges in providing quality education in rural Haryana, efforts by government are being made to bridge the gap and improve education facilities in these areas.

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