Regional Disparity In The Level Of Infrastructural Development In Haryana

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Introduction:

Development is a complex process. There is no general accepted definition of development. Meaning of development varies from one context to another objective. Development involves social, economic, infrastructural and political transformation. Among varies dimension of development, present study deals with infrastructural development in Haryana. Infrastructure development is the base of economic development. The crucial role of infrastructure in economic development is well known to planners (Rives and Heaney 1995). D.A. Aschauer found in his study that there is a positive and statistically significant correlation between investment in infrastructure and economic performance. The lack of infrastructure is the main constraint to economic progress (Pardhan, 2004). People in backward regions have lack economic opportunities. They are deprived of fruits of development efforts and often carry a deep sense of frustration (Patra, 2010).Investment in infrastructure is an important driving force to achieve rapid and sustained economic growth.

The term 'infrastructure' refers to the technical structures that support a society, such as roads, railways, schools, hospitals, houses, electricity, postal, bank services and other amenities. Generally infrastructure defines as "a set of facilities through which goods and services are provided to the public." Infrastructural development shows the quality of life of people in a region or country. The development of a region depends upon the development of agriculture and industry but such a development cannot take place without simultaneous development of infrastructure (Naseer, 2004).

The problem of regional disparity has become a worldwide phenomenon today and specially in the developing countries. Adhyapok and Ahmed (2012) studied about the infrastructure disparity in Assam and found that the Assam ranked one of the poor sates in the country and also have inter-district disparity. So, present study made an attempt to examine the inter-regional variation in infrastructural facilities across 21 districts of Haryana. Some indicators of infrastructural development have been considered for detailed analysis. They are (i) Schools per lakh population, (ii) Medical Institutions per lakh population, (iii) Hospital Beds per 1,00,000 population, (iv) Registered Factories per lakh population, (v) Road Density, (vi) Road per lakh population (in k.m.), (vii) Banks per lakh population, (viii) Number of Post Offices per lakh population, (ix) Household have Pucca house (in %), (x) Police stations per 10 lakh population.

Study Area:

Haryana is located between the 27^0 39' to 30^0 55' 05" North Latitudes and 74^0 27' 08" to 77^0 36' 05" East Longitudes. It is one of the smallest states of India which came to existence on 1st November 1966 as seventeenth state of India. It has an area of 44212sq.km, where 2, 53, 53,081 persons (including 1, 35, 05,130 males and 1, 18, 47, 951 females) inhabited. There are 21 districts in the state in 2011.

2. Objectives:-

Main objectives of this paper are as follows:-

➢ To analyse the level of inter-district disparity in infrastructure level in Haryana.

➢ To find out the status of the districts in terms of infrastructural development.

Data Base and Methodology:

Present paper is based on secondary data which obtained from Statistical Abstract of Haryana, 2012 and DLHS -3. It is also analyzed and presented in the form of cartographic characteristics based on statistical techniques like; mean, standard deviation, composite development index (CDI).

Composite Development Index (CDI):

$$Z_{ij}= \frac{(Actual\ X_{ij}\ Value)-(Minimum\ X_{ij}\ Value)}{(Maximum\ X_{ij}\ Value)-(Minimum\ X_{ij}\ Value)}$$

Where;

Z_{ij}= Composite Development Index

Actual X_{ij}= Actual Value of Variable

Maximum X_{ij}= Maximum Value of Variable

Minimum X_{ij}= Minimum Value of Variable

Figure 1: Study Area

Source: Census of India, 2011
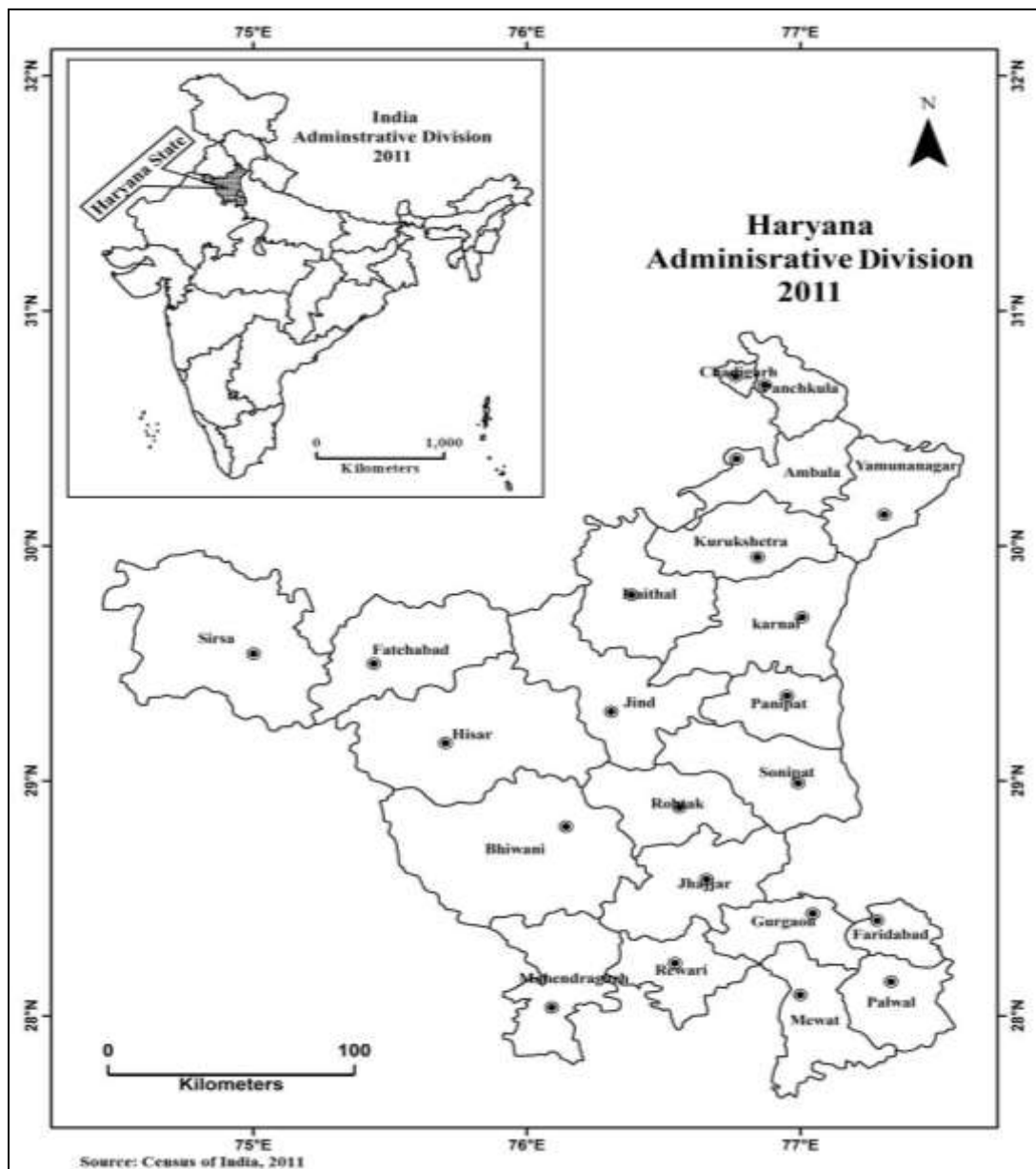
Analysis and Discussion:

The development in all the regions or state of a country is never uniform whether the country is developing or developed. Regional disparities in the infrastructural development are also varying in the all districts of the Haryana. The detailed explanation of the disparity is given below;

Table 1 shows the infrastructural indicators in Haryana during 2010-11. It shows the disparities between the districts in different indicators. It reveals that in terms of schools per lakh population are highest in the Yamunanagar (127) followed by Bhiwani (119) and Jhajjar (115) while the lowest in Panipat (60) followed by Rohtak (66) and Gurgaon (69). Medical Institutions per lakh population are highest in Bhiwani district (17) followed by Jhajjar and Kaithal and lowest in Gurgaon and Faridabad. Rohtak has 1st rank in terms of hospital beds per lakh population with 150 beds followed by Bhiwani (55) and Panchkula (54), on the other hand Mewat has lowest (19) beds per lakh population followed by Palwal and Panipat.

Factories or industries play a vital role in the economic development of any region. Registered Factories per lakh population are highest in Faridabad district with 148 factories per lakh population, that's why Faridabad is called industrial capital of Haryana. Gurgaon has 2nd rank with 121 followed by Yamunanagar (105). While Mewat has only one registered factory per lakh population followed by Palwal (2).

When we talk about development of a region, transport system came first in mind and roads are the major source of transport. Roads play a major role in the development of a region or state. Roads are known as life line of an area or

country. Haryana state lies in northern plain region that gives suitable condition to the state for the development road transport system. Haryana was first state in the country to link all villages with all-weather roads. Haryana has a total road length of 29,726 kilometers with regional variation. Ambala has highest road density with 80 k.m. followed by Kaithal (78) and Kurukshetra (77), while it is lowest in Jind (41) followed by Mewat and Bhiwani with 51 k.m. in both districts. But when we see roads in terms of road per lakh population (in k.m.); one other picture came out, which shows that Sirsa has 1st rank followed by Kaithal and Fatehabad while lowest in Gurgaon followed by Faridabad.

Banking facilities are the base of development of infrastructure, and helps to improve other facilities. Banks per lakh population are highest in Panchkula (23) followed by Gurgaon (22) and Ambala (14) while it is lowest in Mewat (3) followed by Palwal (6). Post Offices per lakh population are highest in Fatehabad district with 15 post offices per lakh population followed by Bhiwani, Jhajjar and Rewari with 14 post offices; while lowest are noticed in Faridabad (5) followed by Mewat (7). In terms of household having pucca house (in %) Gurgaon (76) has 1st position followed by Panchkula (75) and Rohtak (70); while on the other hand Mewat has legging behind from all the districts because there are only 35 percent household are pucca. Jind and Sirsa are also lower position with 39 and 47 percent of pucca house respectively. In the last, police stations per 10 lakh population are highest in Gurgaon (18) followed by Panchkula (16) and Rewari (14), while these are lowest in Mewat (6) followed by Jhajjar (7) and Panipat (7).

Table 1: Infrastructural indicators in Haryana, 2010-11

Districts	X^1	X^2	X^3	X^4	X^5	X^6	X^7	X^8	X^{9*}	X^{10}
Ambala	110	12	44	37	80	111	14	12	63	13
Bhiwani	119	17	55	7	51	149	8	14	53	8
Faridabad	93	6	37	148	71	56	10	5	62	10
Fatehabad	86	14	28	13	60	163	9	15	51	10
Gurgaon	69	6	40	121	57	47	22	10	76	18
Hisar	79	15	42	20	54	126	8	13	55	6

Jhajjar	115	16	32	52	72	139	9	14	59	7
Jind	76	15	35	12	41	84	7	12	39	9
Kaithal	87	16	27	12	78	168	9	11	51	11
Karnal	87	12	31	31	64	106	11	12	62	9
Kurukshetra	102	14	31	17	77	122	11	12	63	10
Mahendragarh	102	15	33	7	54	112	7	13	52	9
Mewat	81	10	19	1	51	87	3	7	35	6
Palwal	109	9	23	2	61	80	6	N.A	N.A	8
Panchkula	86	14	54	28	67	108	23	9	75	16
Panipat	60	10	25	68	71	75	10	9	64	7
Rewari	110	15	37	22	64	113	11	14	67	14
Rohtak	66	15	150	28	58	96	12	11	70	10
Sirsa	83	15	28	9	53	174	9	13	47	10
Sonipat	96	15	26	44	67	96	11	12	64	10
Yamunanagar	127	12	36	105	67	97	10	11	64	12

*Source: Statistical Abstract of Haryana, 2012 * DLHS 3*

X^1 Schools per lakh population, X^2 Medical Institutions per lakh population, X^3 Hospital Beds per lakh population, X^4 Registered Factories per lakh population, X^5 Road Density, X^6 Road per lakh population(in K.M.), X^7 Banks per lakh population, X^8 Post Offices per lakh population, X^9 Household have Pucca house (in %)*, X^{10} Police stations per 10 lakh population
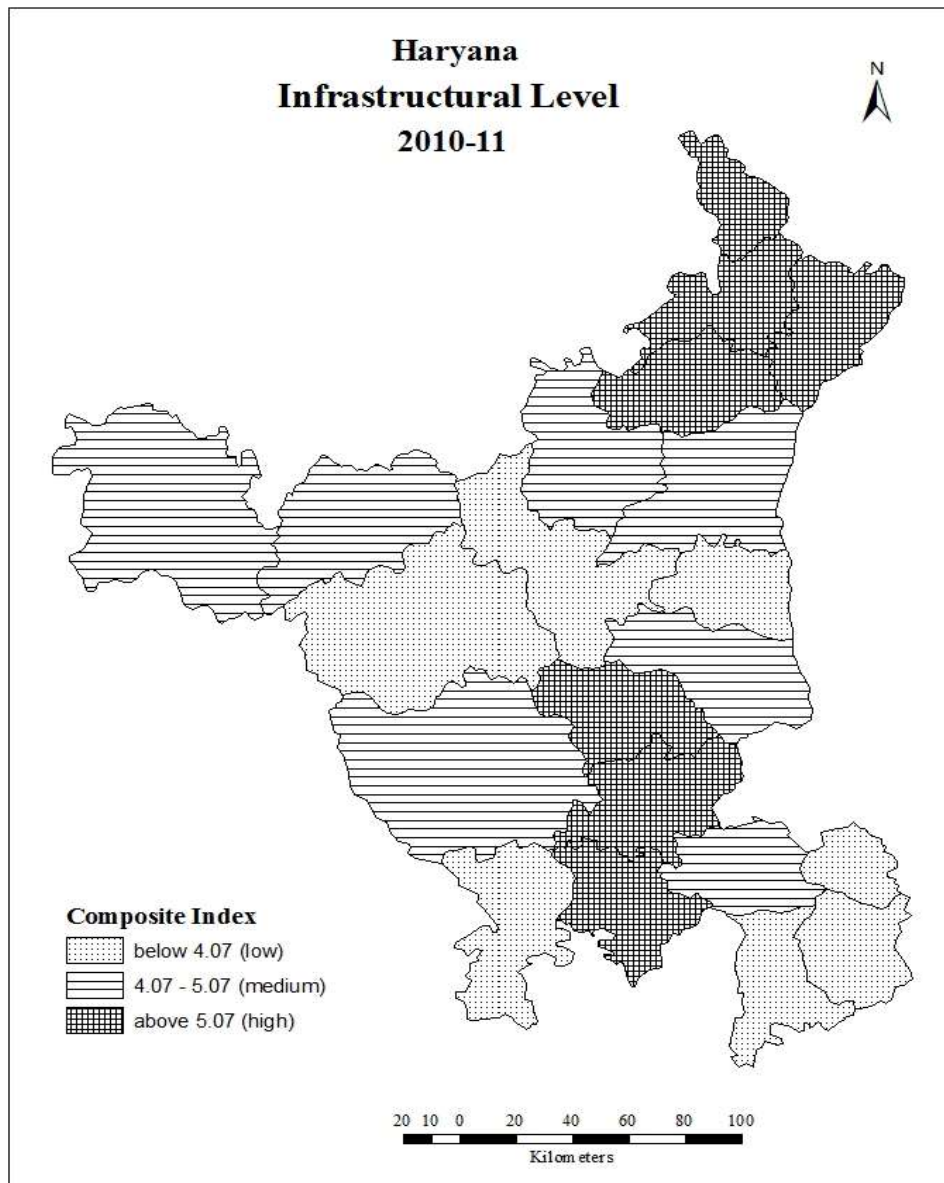
Table 1.1: Composite Development Index of Infrastructural indicators in Haryana, 2010-11

Districts	X^1	X^2	X^3	X^4	X^5	X^6	X^7	X^8	X^9	X^{10}	Composite Index
Ambala	0.75	0.52	0.19	0.25	1.00	0.50	0.54	0.7	0.69	0.60	5.74
Bhiwani	0.89	1.00	0.27	0.05	0.24	0.80	0.22	0.9	0.44	0.19	5.01
Faridabad	0.50	0.00	0.14	1.00	0.77	0.07	0.34	0	0.67	0.38	3.86
Fatehabad	0.39	0.72	0.07	0.08	0.49	0.91	0.30	1	0.39	0.31	4.66
Gurgaon	0.14	0.08	0.16	0.81	0.40	0.00	0.98	0.5	1.00	1.00	5.07
Hisar	0.29	0.82	0.18	0.13	0.33	0.62	0.27	0.8	0.49	0.06	4.00
Jhajjar	0.83	0.92	0.10	0.35	0.80	0.72	0.32	0.9	0.60	0.14	5.68
Jind	0.25	0.82	0.12	0.08	0.00	0.29	0.20	0.7	0.10	0.27	2.84
Kaithal	0.41	0.90	0.06	0.08	0.94	0.95	0.29	0.6	0.40	0.44	5.07
Karnal	0.41	0.57	0.09	0.21	0.57	0.46	0.38	0.7	0.67	0.24	4.31
Kurukshetra	0.63	0.73	0.09	0.12	0.91	0.59	0.41	0.7	0.69	0.37	5.26
Mahendragarh	0.63	0.77	0.11	0.04	0.33	0.51	0.21	0.8	0.42	0.24	4.06
Mewat	0.31	0.35	0.00	0.00	0.25	0.31	0.00	0.2	0.00	0.00	1.42
Palwal	0.74	0.33	0.03	0.01	0.50	0.26	0.16	N.A	N.A	0.17	2.19
Panchkula	0.40	0.69	0.27	0.19	0.66	0.48	1.00	0.4	0.97	0.81	5.86
Panipat	0.00	0.34	0.05	0.46	0.75	0.22	0.35	0.4	0.71	0.15	3.43
Rewari	0.75	0.80	0.14	0.15	0.57	0.52	0.38	0.9	0.79	0.69	5.69
Rohtak	0.09	0.81	1.00	0.19	0.44	0.39	0.47	0.5	0.86	0.37	5.11
Sirsa	0.35	0.76	0.07	0.06	0.29	1.00	0.31	0.8	0.31	0.35	4.29
Sonipat	0.55	0.77	0.05	0.29	0.65	0.39	0.39	0.7	0.72	0.37	4.88
Yamunanagar	1.00	0.57	0.13	0.71	0.65	0.39	0.37	0.6	0.71	0.46	5.59

Source: Based on Table 1 and calculated by Researchers

Areas of High Composite Development Index (>5.07):

This category involves 7 districts which have CDI above 5.07; these districts are Panchkula, Ambala, Rewari, Jhajjar, Yamunanagar, Kurukshetra and Rohtak. Panchkula district has the better facilities of banking, housing and security (police station) as a result it is on the top among these districts. Ambala district has good facility of school and good road connectivity. Rewari and Jhajjar have good facility of school, medical, road, post office and pucca houses. Yamunanagar has highest schools per lakh population and also has good facility of factories and pucca houses. Kurukshetra has high road density and Rohtak has better health care facilities like medical institution and hospital beds; and also have good facilities of pucca houses.

Haryana Infrastructural Level 2010-11

Composite Index
- below 4.07 (low)
- 4.07 - 5.07 (medium)
- above 5.07 (high)

Areas of Medium Composite Development Index (4.07-5.07):

This category involves 7 districts which have CDI between 4.07 and 5.07. These districts are Gurgaon, Kaithal, Bhiwani, Sonipat, Fatehabad, Karnal and Sirsa. Gurgaon has good facility of housing, banking and police station, while it has lowest road length per lakh population and also have low value of school and medical facility as a result Gurgaon comes under this moderate category. Kaithal has good facility of medical institution and road density and road

length, while it has low infrastructure facilities of hospital bed, factories and banks. Bhiwani district has good infrastructure of school, medical and post office, while has less infrastructure of factories, road and police station. Sonipat, Fatehabad, Karnal and Sirsa districts present an almost average picture of all infrastructure facilities.

Areas of Low Composite Development Index (<4.07):

There are 7 districts in this category which have CDI below 4.07. This category involves Mewat, Palwal, Jind, Panipat, Faridabad, Hisar and Mahendragarh. Mewat district is at the bottom in the list of infrastructure facility in the district. It has almost lowest value of all infrastructure indicators. Mewat's neighboring district Palwal also has low infrastructure level. It has only one indicator of high value that is school per lakh population. Panipat and Faridabad districts have only high valve of factories and pucca house, rest indicators are at bottom. The main cause of this is that these districts have high population density; Faridabad is the most populated district in the state. Jind, Hisar and Mahendragarh districts are also have low level of infrastructure but better than the other districts in this category.

Conclusion:

Haryana state has not good infrastructure level (As per Ministry of Urban Development Report 2015 three city of Haryana at the bottom in 476 cities in India; which are Palwal (474), Bhiwani (473) and Rewari (469). It shows that sanitation related infrastructure is not properly improved as per population.) but it is far ahead from many states like; Bihar, Uttar Pradesh, Orissa, Madhya Pradesh and North-Eastern states. Study found that Haryana has also have regional disparity like other states or countries. It found that districts like; Panchkula, Ambala, Rewari, Jhajjar, Rohtak, Kurukshetra and Gurgaon have comparatively high infrastructure development than Mewat, Palwal, Jind, Panipat, Hisar and Mahendragarh. It may be concluded that there is a regional disparity in the level of infrastructure development in the state. So, government should not only focus on infrastructure development but also focus on equivalent development of all the districts.

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