



Evaluation of Industrial Politics and Infrastructure Facilities in National Capital Sub-region, Haryana

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KEY WORDS

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ABSTRACT

Present paper analyses the change in industrial policy and development of infrastructure facilities in national capital region part of Haryana. It includes districts of Faridabad, Gurgaon, Mewat, Rewari, Jhajjar, Sonipat, Rohtak and Panipat. The study is based on secondary data namely, statistical abstract and government policy documents. A composite index of industrial infrastructure is prepared to display intra- region disparities and is displayed by choropleth maps using ARC GIS 9.1.

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1. Introduction

NCR comprises the total area of about 30,242 sq. kilometers. One third part of Haryana falls under National Capital Region. In the present study only Haryana sub region is taken for research work. NCR Haryana is situated between 29°50' and 30°10' North latitude to 77°20' 45½ and 76°12' 45½ East longitude. It comprises of eight districts namely Faridabad, Gurgaon, Panipat, Rohtak, Sonipat, Rewari, Jhajjar and Mewat. Haryana sub region accounts for 30.3 percent (i.e. 13,413 sq. Km.) area of the state and 39.95 percent of the total area of NCR.

Industrial development is taking place at very fast rate in this part of Haryana. NCR Haryana has lot of industrial disparity. This disparity is on the basis of number of industrial units, employment, investment and production as well as infrastructure such as accessibility, electricity, land and the like.

Government is continuously planning and even implementing new industrial policies to overcome this disparity. A lot of progress can be seen in all these districts but no signs of reduction in industrial disparity can be noticed. The situation has now become more critical. Gurgaon and Faridabad are better developed whereas Rewari, Mewat and Rohtak are least developed. A long term planning may help to reduce this disparity.

Both industrial policies and infrastructure are important tools which are playing quite an important role in the development of industries in various parts of the country. Different types of industrial policies are framed by the industrial and infrastructure organizations from time to time according to the need of time. Now a day's important role is played by Haryana State Industrial and Infrastructure Development Organization (HSIIDC) to develop industrially backward areas and to streamline the industrial development in the state.

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Industrial Policies of Haryana:

Various industrial policies have been implemented by the government of Haryana from time to time. There was lot of differences in the policies before 1991 and of 1991 when liberalization was initiated in India such as:

The motive of each policy is different from other such as industrial policy of 1992 announced in tandem with the economic reforms brought out by the central government was an incentive centric approach to attract investment. Industrial policy 1997 adopted infrastructure led approach to industrial development. Industrial policy 1999 aimed at promoting industrial growth in context of overall economic value addition with emphasis on infrastructure development through private initiative. Industrial policy of the year 2005 has been a significant change from the past.

2. Materials and Method

Objectives of the industrial policy, 2005:

To re-establish industry as a key driver of economic growth.

To generate employment and entrepreneurial opportunities across all sectors of the economy.

To create wealth for the residents of the state and improve the quality of their life.

To facilitate spatial dispersal of economic activities particularly in economically and socially backward regions of the state.

To ensure sustainable development through investment in key sectors of economy (Haryana Industrial Policy, 2005).

Strategic Mission Approach to Implementation of Industrial Policy, 2005

The state government intends to realize the objectives of policy by emphasizing a coordinated

Industrial Policy Changes	
Pre-1991 Policy	1991 policy
1. Industrial licensing was rule.	1. Licensing is an exception.
2. Public sector monopoly/ dominance in strategic, basic and heavy industries.	2. All but two industries are open to private sector.
3. MRTP Act restrictions on entry and growth of large companies.	3. No such restrictions.
4. Foreign investment allowed only in selected industries, that too subject to, normally, a ceiling of 40 percent of total equity and prior permission.	4. Foreign investment allowed in large number of industries, including up to 100 percent of equity in many of them. Automatic route available subject to specific to specified conditions.
5. Restrictive Policy toward foreign technology.	5. Very liberal policy toward foreign technology.
6. Reservation of large number of products for small scale sector.	6. Reservation list is being pruned.

Source : Cherunilam (2003)

development strategy in mission mode approach. The strategy shall be:

- To develop economic hubs through infrastructure initiatives.
- To encourage public private partnership in infrastructure projects.
- To focus on economic activities enjoying comparative advantage in the state; in particular development of food processing industry, information communication technology, industry having competitive advantage, and to promote development of frontier technologies.
- To promote mega projects with economic spin off potential, particularly in backward regions.

- To adopt sector specific approach focusing on incentives and infrastructural support for synergetic growth of key enterprises.
- To develop services sector especially in tourism, transport, education, health care services, financial services.
- To focus on development and support to the small and medium enterprises segment.
- To enhance export competitiveness and enable compound annual growth rate of 20 percent.
- To create investor focused approach in administrative process, bringing about efficiency, transparency and accountability using modern technological and management solutions.

- To adopt human resource development by establishing static linkages between industry and technical institutions to meet future manpower requirements.
- To continue with fiscal reforms and prudent fiscal management to release resources for development in key public investment areas (Haryana Industrial Policy, 2005).

3. Results and Discussion

Infrastructure Development as Driver of Investment Promotion

The present policy will encourage private participation in development of infrastructure. To facilitate coordinated development of infrastructure and participation of private sector including FDI (Foreign Direct Investment), the Haryana State Industrial Development Corporation (HSIIDC) will be the nodal agency.

New Economic Hubs

Industrial infrastructure development of industrial estates: Kundli- Manesar- Palwal expressway opens opportunities to develop economic hubs along the expressway (Haryana Industrial policy, 2005).

Special Economic Zones:

To give boost to exports, SEZs will be encouraged by the state government. As many as 10 SEZs have been given approval in principle by the Government of India. These SEZs are as follows:

- (i) By HSIIDC at Garhi Harsaru in district Gurgaon with an investment of Rs.2060.40 crore providing employment to 12000 persons.
- (ii) By M/S MGF Development limited at Gurgaon with an investment of about Rs.600 crore and employment for 41,000 persons.
- (iii) By M/S Haryana Technology Park in an area of 8.25 acres at Faridabad with an investment of Rs.1200 to 1500 crore and employment for 30,000 persons.
- (iv) By M/S Orient Craft Infrastructure Ltd. Gurgaon with an investment of Rs.2000 crore and employment of 20,000 persons.
- (v) By M/S DLF Cyber city or IT SEZ Cyber City Gurgaon with an investment of Rs. 593 crore and employment for 28,000 persons.
- (vi) By M/S DLF Commercial Developers Ltd. at Gurgaon with an investment of Rs. 345 crore and employment for 18,000 persons.
- (vii) By M/S IST Ltd. at Gurgaon with an investment of Rs.535 crore and employment for 18,000 persons.
- (viii) By M/S Pioneer Profin Ltd. at Gurgaon with an investment of Rs. 2310 crore and employment for 75,000 persons.

(ix) By M/S Unitech Realty Project at Dharuhera in Gurgaon district with an investment of Rs.499 crore and employment for 26,000 persons.

(x) By M/S SRM Infrastructure Pvt. Ltd. at Mewat with an investment of Rs.500 crore.

All these SEZs areas are present in NCR Haryana and out of these eight are present in Gurgaon and rest two in Faridabad and Mewat each (Economic Survey of Haryana, 2005-06).

Industrial Model Townships

HSIDC has developed Industrial Model Township at Manesar on modern lines.

Development of Mega Petrochemical Hub

IOCL is implementing two mega projects at Panipat. One for setting up of integrated Para-xylene and other for setting up of Naptha Crackers along with downstream polymer units.

Theme Parks:

In order to meet the requirements of specific industries specialized industrial estates would be developed at strategic locations

- (i) Food Parks at Rai , Saha , Narwana , Dabwali and Sampla
- (ii) Gems and Jewellery Parks at Udyog Vihar
- (iii) Apparel Parks in Gurgaon and Sonipat
- (iv) Foot Wear and Leather Garments Park at Karnal

Transport:

The state has already conceived one mega project for the construction of Kundali- Manesar- Palwal expressway. The other projects in the pipeline are Badarpur Fly-over between Delhi and Faridabad, the Panipat fly over, Elevated highways between Gurgaon -Delhi, and Bhadarpur- Delhi. Steps should be taken to encourage development of mass transit system through public and private investment in NCR region. Extension of Delhi metro rail to Gurgaon and Manesar and its connectivity to Bahadurgarh, Sonipat and Faridabad shall also be taken up.

Social Infrastructure:

A World class Education City to be named Rajeev Gandhi Education City providing opportunities to educational and research institutes to come up at Kundli in Sonipat. Trade-Cum-Convention Centers for Readymade Garments at Gurgaon, Handloom Products at Panipat, Art Exhibition and Convention Centre at Faridabad

Development of Small and Medium Scale Industries:

In order to improve the development of small and medium enterprises and enable them to compete globally, Government has set up SME's (Small and Medium Enterprises) Renewable fund. This fund is

for technology up-gradation, creation of quality consciousness, promotion of branding for improved marketing, adoption of improved management practices and capacity building.

Cluster Development:

State government will implement the following projects under the government of India scheme:

- Textile cluster, Panipat
- Light engineering goods cluster, Faridabad
- Auto parts cluster, Gurgaon
- Scientific instruments cluster, Ambala
- Metal industries cluster, Jagadhri
- Agriculture implements cluster, Karnal
- Pharmaceutical cluster, Sonipat
- Agrichemical and industrial cluster, Bahadurgarh

Most of these clusters will be developed in NCR part of Haryana (Haryana Industrial policy, 2005).

Focus on Information Technology:

Gurgaon has developed as the most preferred destination for North India. State government is improving the infrastructure and continuously upgrading Gurgaon to match international standards. Simultaneously, economic hub around Kundali – Manesar –Palwal and Panchkula will be developed as IT corridors.

Human resource development:

Development of Human Resources shall be given highest priority by the Government. Efforts will be made to reorient technical education with the twin objective of meeting the requirement of enterprises from local resources and to improve the skill of trained man power to improve their earning capacity. To achieve these objectives, detailed scheme should be chalked out incorporating the role of industry in deciding curriculum and in management of ITI's, polytechnics and engineering colleges.

Role of the State:

Haryana Investment Promotion Board (HIPB) under the chairmanship of chief minister will be constituted to attract domestic as well as foreign direct investment in the state (Haryana Industrial policy, 2005).

Policies for Future Development of National Capital Region-2021:

The Regional plan for NCR has been prepared by National Capital Region Planning Board. The main aim of regional plan is "to promote growth and balanced development of National Capital Region" as per section 10, Sub-section (2) of the act, 1985. This aim can be achieved through:

- (i) Providing suitable economic base for future growth for identification and development of regional settlement capable of absorbing the economic development impulse of National

Capital Territory, Delhi.

- (ii) To provide efficient and economic rail and road based transportation networks well integrated with the land use pattern to support balanced regional development in such identified settlements.
- (iii) To minimize the worst environmental impacts that may occur in the process of development of the National Capital Region.
- (iv) To develop selected urban settlements with urban infrastructure facilities such as transportation, power, communication, drinking water, sewerage, drainage etc. comparable with NCT-Delhi.
- (v) To provide rational land use pattern in order to protect and preserve good agricultural land and utilize unproductive land for urban uses.
- (vi) To promote sustainable development in the region to improve quality of life.

To improve the efficiency of existing methods of resource mobilization and adopt innovative methods of resource mobilization and facilities, attract and invite private investment in desired direction. (Regional Plan-2021 National Capital Regions.

Infrastructural Facilities Available in the National Capital Region:

The development of industries depends a lot on the infrastructure facilities available in an area. Infrastructure includes the transport facilities like road and rail, power supply, banking, marketing as well as educational institutes like industrial training institutes,

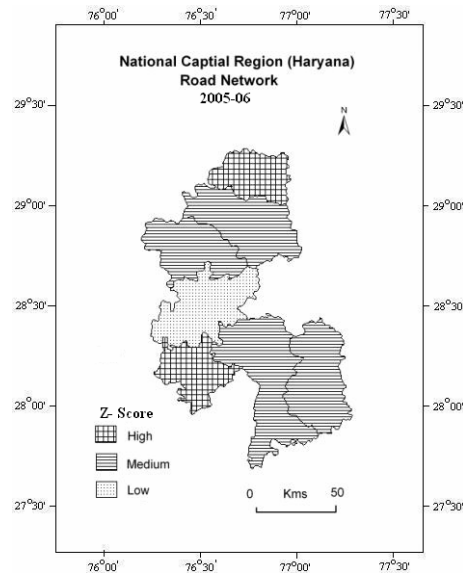


Figure : 1

engineering and management institutes and many more. Infrastructure is back bone of industrial development. Even the areas having lack of raw material but having strong infrastructure facilities can also be highly industrial developed areas. A combined analysis of infrastructure facilities and industrial policies will help us a lot in understanding the true industrial development of an area.

Transport Facility:

Means of transportation are very important infrastructure facility for the development of an area. In the lack of this facility we can't even expect about the industrial development. Transport network improve the accessibility to an area and also the movement of goods and passenger within the area. The raw material is brought from other areas and finished product is transported to various parts of the country through the transport network. The transport system of NCR consist of well knit road network and radial rail corridors catering to inter-city and intra-city commuters and long distance traffic. The freight traffic is also sustainable in the region and this is mostly carried by roads. (NCR, Regional Plan-2021)

Road Network:

All the towns and villages are connected by highways. These roads are well connected with extensive rail routes and air ports. The roads in Haryana can be divided to three groups:

- National highways
- State highways
- District and rural link roads

These national highways have a four lane divided carriageway on most of stretches of NCR. Existing road network in the region shows convergence of four

National Highways that are:

- NH-1 Connects Panipat and Sonipat to Delhi
- NH- 2 connects Faridabad to Delhi
- NH-8 Rewari and Gurgaon to Delhi
- NH-10 connects Rohtak and Jhajjar to Delhi

State Highways:

Most of state highways are of single lane or intermediate lane. These are important roads which connect various district headquarters with the national capital, national highways and other states. These state highways are as follows;

- SH-24 connected Mahendragarh with Rewari
- SH-22 connected Rewari with Jhajjar
- SH-20 connects Charkhi Dadri to Jhajjar
- SH-16 connects Rohtak to Bhiwani
- SH-10 connects Sonipat to Jind

Except these there are several other states highways in National Capital Region.

Roads Development Index:

According to Table 1, in the year 2005-06, the total road length in National Capital Region was of 7,398 km. in the region. Panipat have well developed road network as it has a Z score of 1.41 while Rewari (0.57) and Gurgaon (0.34) are on second and third places as far as road density is concerned. Faridabad, Sonipat, Rohtak and Jhajjar are included in the category of low density of road network having Z – score less than 0. Jhajjar have the lowest density of road network i.e. 21.48 per sq. Km. of area. Highest density of roads i.e.78.70 per 100 sq. km. of area is in Panipat district followed by Rewari and Gurgaon with density of 65.12 and 61.50 per 100 sq km of area. Faridabad has road density of 55.23 per 100 sq. km. while Sonipat and Rohtak have 54.71 and 54.33per sq. km. Jhajjar have

Table 1 NCR (Haryana): District Wise Density of Metalled Roads, 2005-06

District	Total length of National and State Highway	Per 100 sq. km. of area	D	d ²	Z score
Jhajjar	394	21.48	-33.75	1139.06	-2.13
Rohtak	948	54.33	-0.9	0.81	-0.09
Sonipat	998	54.71	-0.52	0.27	-0.07
Faridabad	1038	55.23	0	0	-0.03
Gurgaon	1161	61.50	6.27	39.31	0.34
Rewari	1188	65.12	9.89	97.81	0.57
Panipat	1669	78.70	23.47	550.84	1.41
Total	7398	391.07	4.46	1828.10	

Source: Statistical Abstract, Haryana, 2005-06.

the least road density of about 21.48 per sq. km.

Rail Network:

The rail network has a great value for industries for carrying heavy and bulky goods inside and outside the state. The rail network in region consists of both broad and meter gauges. Out of five broad gauge railway line four fall in national capital region which converge at Delhi.

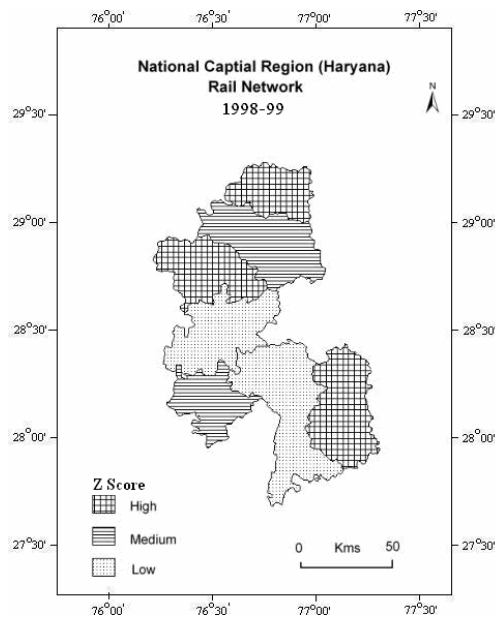


Figure : 2
 In the year 1998-99, there was 493.3 Km railway route length in National Capital Region, Haryana. Faridabad, Panipat and Rohtak are categorized as high developed area on the basis of rail density. All the three districts have Z score value of more than 0.5. Sonipat and Rewari are medium developed areas as the Z score value is -0.05 and -0.04. Jhajjar and Gurgaon are low developed areas on the basis of road density as the Z score values are -1.33 and -1.53. The density of rail per 100 sq. km. is high in Faridabad i.e. 13.59 followed by Panipat i.e.12.69. Rohtak is on third place on the basis of rail density which are 11.09 per 100 sq. km. of area. Sonipat Rewari and Jhajjar have rail density of about 8.28, 8.24 and 2.88 per 100 sq. km. of area. Gurgaon have the lowest density i.e.2.14 per 100 sq km of area (Table 2 and Fig. 2).

Power:

Power is an important aspect of physical infrastructure which is required to improve the quality of life, productivity and economic activities. Cheap and abundant power supply is one of the factors which help in attracting the industrialists to set up industries

Table 2 NCR (Haryana): District Wise Density of Railways, 1998-99

District	Total length of Railway Route	Per 100 sq. km. of area	d	d ²	Z score
Gurgaon	36.00	2.14	-6.14	37.69	-1.53
Jhajjar	52.20	2.88	-5.4	29.16	-1.33
Rewari	53.00	8.24	-0.04	0.01	-0.05
Sonipat	59.50	8.28	0	0	-0.04
Rohtak	71.50	11.09	2.81	7.89	0.63
Panipat	92.50	12.69	4.41	19.44	1.01
Faridabad	128.60	13.59	5.31	28.19	1.23
Total	493.3	59.18	0.95	122.37	

Source: Statistical Abstract Haryana, 1998-99.

in those areas. The status of power supply in national capital Region has not kept pace with increasing population and growth of economic activities such as industries, trade, commerce, offices etc. There is overall shortage of power supply in northern grid, from where the region draws its power supply and hence power cuts have become routine affair, disturbing daily life as well as effecting economic productivity (NCR, Regional Plan, 2021). In the year 2005-06, industries of Faridabad alone have a share of 45.55 percent with a high Z score that is 2.22, while Gurgaon have a power consumption of 21.35

percent with a medium Z score value that is 0.49. Sonipat and Panipat are also included in the same category with a power consumption of more than 3000 kilo watt pre hour. Rohtak, Jhajjar and Rewari are categorized in the category of low consumption with a Z score value of less than -0.5 as shown in Table 3 and Fig. 3. Therefore, it can be conclude that areas

Table 3 NCR (Haryana): Industrial Consumption of Electricity, 2005-06

District	Consumption of electricity (in Lakh K.W.H.)	Z score	Class
Rewari	712.56	-0.83	Low
Jhajjar	880.46	-0.79	Low
Rohtak	1784.94	-0.57	Low
Panipat	3010.96	-0.28	Medium
Sonipat	3174.18	-0.24	Medium
Gurgaon	6246.08	0.49	Medium
Faridabad	13442.26	2.22	High
Total	29251.44		

Source: Haryana Vidyut Prasar Nigam Ltd.

which are industrially more developed have more power consumption.

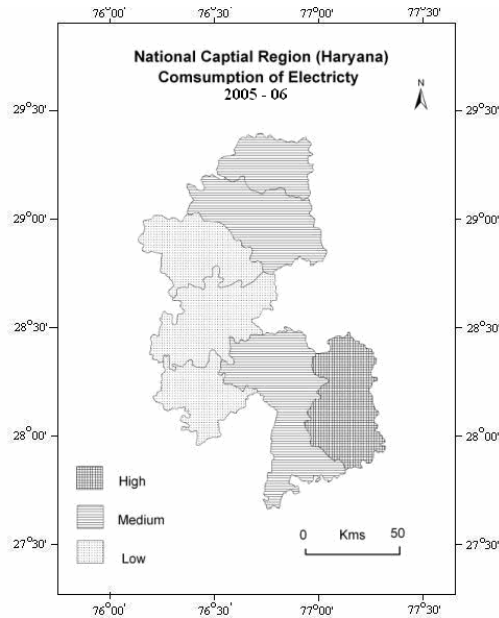


Figure : 3

Intake Capacity in Engineering Institutes:

The industrial development of any place is also dependent on the number of various professional colleges and institutes like Industrial training institutes, engineering institutes, management institutes and poly technique colleges etc. More the number of this type of institutes more will be the intake capacity in these colleges and the result will be more industrial development in these areas. In the last half a decade the number of these institutes and students has multiplied many times. Total intake

capacity in various Engineering Courses in the year 2006-07, in NCR part of Haryana was 9945. Out of this 58.22 percent of intake capacity of students belongs to only two districts that are Faridabad and Gurgaon with a high Z score value of 2.08 and 0.65. Sonipat and Rohtak districts have the intake capacity of 15.86 percent and 9.23 percent out of total Haryana sub region with a medium Z score value of 0.14 and -0.46. Rest of three districts has a very low intake capacity in engineering institutes these are Panipat, Jhajjar and Rewari with a Z score value of less than -0.5 (Table 4).

Faridabad is categorized as high developed areas on the basis of infrastructure with composite score of 1.37 while Panipat, Gurgaon, Sonipat, Rohtak and Rewari all are included in the category of medium developed areas on the basis of infrastructure have composite scores between 0.5 to -0.5. Only Jhajjar is in the category of low developed area on the basis of infrastructure have z score value of -1.28 (Table 5 and Fig.5).

Relationship between Industrial Development and Infrastructure:

To find the relationship between industrial development and infrastructure, rank correlation method is used in the present study along with t test. The tabulated value of t for 5 (7-2) degrees of freedom is 4.03 at 1%, 2.57 at 5 % and 2.02 at 10 % levels of significance respectively. The computed value is less than tabulated value of t at 1% and 5 % level of significance. The value of r which is +.75 suggests significant positive correlation between industrial development and infrastructure facilities.

4. Conclusions:

Industrial policies are playing an important role in the development of industries. In the year 1988, there were total of 10164 industrial units in the NCR Haryana which has increased to 3.29 times that is 33494 in

Table 4 : NCR (Haryana) Intake Capacities in Degree Courses in Engineering Department by Trade, 2006-07

District	Mechanical	Electrical	Electrical and commercial	Computer engineering	Others	Total	Percentage to total	Z score	Class
Rewari	120	-	90	60	159	429	4.31	-0.90	Low
Jhajjar	60	-	120	60	222	462	4.63	-0.88	Low
Panipat	168	-	198	180	225	771	7.75	-0.60	Low
Rohtak	180	60	258	240	180	918	9.23	-0.46	Medium
Sonipat	180	180	360	360	494	1574	15.86	0.14	Medium
Gurgaon	240	120	580	530	652	2122	21.33	0.65	High
Faridabad	780	330	900	714	945	3669	36.89	2.08	High
Total	1728	690	2506	2144	2877	9945	100		

Source: Statistical Abstract, Haryana (2006-7)

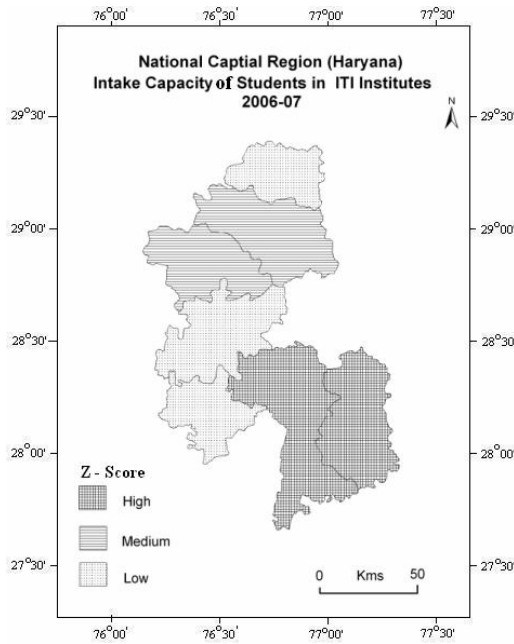


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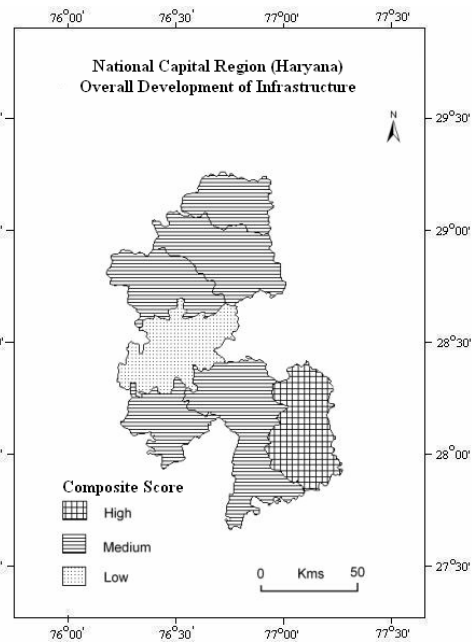


Figure : 5

1998 and 3.66 times (38430) in 2008. This was due to the reason that liberal industrial policy was adopted by the government after 1991. The industrial backward regions also come in front row for industrial development. Lot of SEZs areas are also developed by the government. Foreign investors are also showing interest due to liberal industrial policy adopted by

power consumption by industries Faridabad again is top ranker while Rewari has the lowest industrial consumption of electricity. Same is the case in the intake capacity of students that is again the engineering institutes of Faridabad have high capacity while Rewari again is a loser. The overall scenario depicts that Faridabad is first, Panipat second and

Table 5 NCR Haryana: Composite Score for Overall Industrial Infrastructure

Districts	Roads Z score	Railways score	Z	Power Z Score	Intake capacity in engg. Inst. Z score	Composite score	Class
Jhajjar	-2.13	-1.33		-0.79	-0.88	-1.28	Low
Rewari	0.57	-0.05		-0.83	-0.9	-0.30	Medium
Rohtak	-0.09	0.63		-0.57	-0.46	-0.12	Medium
Sonipat	-0.07	-0.04		-0.24	0.14	-0.05	Medium
Gurgaon	0.34	-1.53		0.49	0.65	-0.01	Medium
Panipat	1.41	1.01		-0.28	-0.60	0.38	Medium
Faridabad	-0.03	1.23		2.22	2.08	1.37	High

Source: Statistical Abstract, Haryana (2006-7).

government and due to its advantageous locations. Panipat with high road density is on top most rank while Jhajjar is lacking behind with low density. Faridabad stands first in case of rail density but Gurgaon stands last in case of rail density. In case of

Gurgaon is on third rank in case of infrastructure development. Construction of Gurgaon Dhola Kauna (Delhi) expressway and extension of metro rail from Meharauli to Gurgaon may soon improve the transport network in the millennium city of Gurgaon.

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