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Disparities In Health Infrastructure Development: A Composite Index Analysis Of Haryana

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ABSTRACT

The present paper is an attempt to rank the districts of Haryana according to Health infrastructure development in 2014-15. The rank of districts in Health infrastructure development has been assigned by Deprivation Index Method. Further, districts are classified into developed (D), moderately developed (MD) and less developed (LD) category on the basis of values of index. The study reveals that health development in the state is found to be concentrated mainly in eight district of the west-south part of Haryana. This proves the divergent Health development in the state and is a serious issue of concern and requires immediate attention of state government.

Keywords: Health development, Regional disparities, Deprivation Method, Health Development Indicator, Infrastructure development

INTRODUCTION

The theories relating to economic development and growth always put emphasis on the role of infrastructure. Infrastructure refers to services drawn from the set of public works that traditionally has been supported by the public sector, though in many cases, under this scenario the provision of health infrastructure becomes an engine for economic development. According to Rostow (1960) in his theory of 'Stages of Growth' and pre-condition for takeoff- availability of infrastructure is pre condition. The role of social overhead capital in economic development is more vital. Jacoby (1994) observes that construction jobs are created rather rapidly following the brief contracting period that is necessary after a decision is made to invest in a project.

Public health is a part of the foundations of any modern society that values human life and health, and seeks sustainable economic and social growth. The achievements of public health in preventing disease and early death, affect hundreds of millions of humans each year (Parascandola 1996). Sustainable economic growth requires robust policies that improves the population's health and raises productivity levels across the nation. Since 1993, the World Bank

has considered investments in health as a vital factor to promote economic growth and not as, previously considered, a burden on economic progress (World Bank 1993)

The World Health Statistics, one of WHO's annual flagship publications, compiles data from the organization's 194. Member States on 21 health-related SDG targets, providing a snapshot of both gains and threats to the health of the world's people. While the quality of health data has improved significantly in recent years, many countries still do not routinely collect high-quality data to monitor health-related SDG indicators

Health is the holistic process related to the overall growth and development of the nation. Generally scholars assess people's health by taking into account indicators like infant mortality and maternal mortality rates, life expectancy and nutrition levels, along with the incidence of communicable and non-communicable diseases.

Development of health infrastructure ensures a country of healthy manpower for production of goods and services. In recent times, scholars argue that people are entitled to health care facilities. It is the responsibility of the government to ensure the right to healthy living. Health infrastructure includes hospitals, doctors, nurses and other Para-medical professionals, beds, equipment required in hospitals and a well-developed pharmaceutical industry.

State of Health Infrastructure – The government has the constitutional obligation to guided and regulate all health related issues such as medical education adulteration of foods, medical profession etc. Over the years, India has built up a vast health infrastructure and manpower at different levels. At the village level, a variety of hospitals technically known as primary Health Centres (PHCs) have been set up by the government.

THE STATE-HARYANA

Haryana is a landlocked state in northern India one of the 29 states in India. It was carved out of the former state of East Punjab on 1 November 1966 on a linguistic basis. It is between 27°39' to 30°35' N latitude and between 74°28' and 77°36' E longitude. It is bordered by Punjab and Himachal Pradesh to the north and by Rajasthan to the west and south. The river Yamuna defines its eastern border with Uttar Pradesh. Haryana surrounds the country's capital Delhi on three sides, forming the northern, western and southern borders of Delhi. Consequently, a large area of south Haryana is included in the National Capital Region for purposes of planning for development. It stands 21st in terms of its area, which is spread about 44,212 km sq which is 1.3% of the geographical area of the country. As of 2011 census of India, the state is eighteenth largest by population with 25,353,081 inhabitants.GDP of Haryana is 3.89 lakh crore.

Haryana health infrastructure and health care is made up of a three-tier system – primary, secondary and tertiary. In order to provide primary health care, hospitals have been setup in

villages and small towns which are generally manned by a single doctor, a nurse and a limited quantity of medicines. They are known as Primary Health Centres (PHC), Community Health Centres (CHC) and sub-centres. When the condition of a patient is not managed by PHCs, they are referred to secondary or tertiary hospitals. Hospitals which have better facilities for surgery, X-ray, ECG (Electro Cardio Gram) are called secondary health care institution. The Tertiary sector also includes many premier institutes which not only impart quality medical education and conduct research but also provide specialised health care.

Therefore keeping above discussion in mind the present study is an attempt to measure the rank of districts in infrastructure development in Haryana over the period of 2014-2015.

OBJECTIVES AND METHEDLOGHY OF THE STUDY

The main objective of the study is to measure the incidence of Health disparities existing at district level in Haryana. For the purpose, we have computed the Health development level attained in certain indicators at district. A vector of 08 indicators encompassing all dimensions of Health development is used for working out the inter-district Health development indices. (List of the indicators is at Appendix-I) Further in the study it is hypothesized that the regional disparities in Health development are growing over time and secondly, Health development in the state is concentrated around north eastern and middle part of Haryana.

CONSTRUCTION OF COMPOSITE INDEX

Development is a multidimensional phenomenon. Each of these dimensions is measured in different units. Given the difficulties in analyzing development with respect to each of these dimensions, researchers generally prefer to aggregate them—what one calls composite index, to depict the overall status of region .For reduction of this dimensionality problem many methods have been suggested in the literature. While some are weighted others are weight free. The literature is silent vis-à-vis superiority of any method over others. Keeping the limitation in mind, a weight free index has been constructed.

DEPRIVATION INDEX METHOD

The Deprivation index (DI) is constructed in following steps...The first is to define a measure of deprivation that a region suffers in each of its variables. The notion of deprivation used by the UNDP (United Nation Development Programme) is one of absolute deprivation. In order to get an index of deprivation, the measure of regions is divided by the difference between the maximum and minimum value. Mathematically, D_{ij} is the deprivation indicator for the Z_{th} region with respect to the variable is defined as:

$$D_{ij} = \frac{Max_i \text{ --- } P_{ij}}{Max_i \text{ -- } Mini}$$

The second step is to define an average deprivation index by taking a simple average of all the indicators. Finally, the Development index (DI) is defined as absence of deprivation:

$$D_j = \sum_{i=1}^{n} D_{ij} / n$$

Mathematically:

$$(DI)_j = (1 - \sum D_{ij} / n)$$

CATEGORIZATION OF DISTRICTS

For the sake of easy comparison among development dynamics across different districts over time the study classified all the districts into three categories namely; developed, moderately developed and underdeveloped. This categorization for both method used in study is made by assuming that the worked out composite index follows a normal distribution with mean (μ) and standard deviation σ. The groups are categorized by using the following cut-off points.

Developed	$(D) \geq \mu + 0.5\,\sigma$
Moderately Developed (MD)	$\mu - 0.5\,\sigma \leq$ and $< \mu + 0.5\,\sigma$
Less Developed (LD)	$LD = \leq \mu - 0.5\,\sigma$

SOURCES OF DATA

The nature of study dictates the requirement of the secondary sources of information. Accordingly, all the required data has been obtained from various authentic sources. Some indicators have been manipulated by taking two and more different variables related with parent variable. The main source of data is as follow:

1. Statistical Hand Book of Haryana issued by Economic and Statistical Organization, Planning Department Government of Haryana, 2014-15.

2. Economic Survey of Haryana issued by Economic and Statistical Organization, Planning Department, Government of Haryana, (various issues).

3. Government of Haryana, "Census of India 2011-Census Department Haryana", Chandigarh.

FINDING OF THE STUDY

The results pertaining to the agricultural development are depicted in the Table 1.The table 1 demonstrates that in 2014-15. Jhajjar stands first in health development followed by Panchkula, , Mahendergarh, Bhiwani Hisar, Rohtak, Fathebad, Jind and Sirsa. All these nine districts are in the category of developed districts. While Seven districts namely Rewari, Sonipat, Ambala, Kaithal, Yamunangar, Karnal Kurukshetra, are moderately developed and remaining Five districts are in less developed category. Faridabad stands in last position in a Health infrastructure development. The above explanation is depicted graphically where dark green, light green and sky blue colour represent category of districts i.e. developed, moderately developed and less developed respectively.

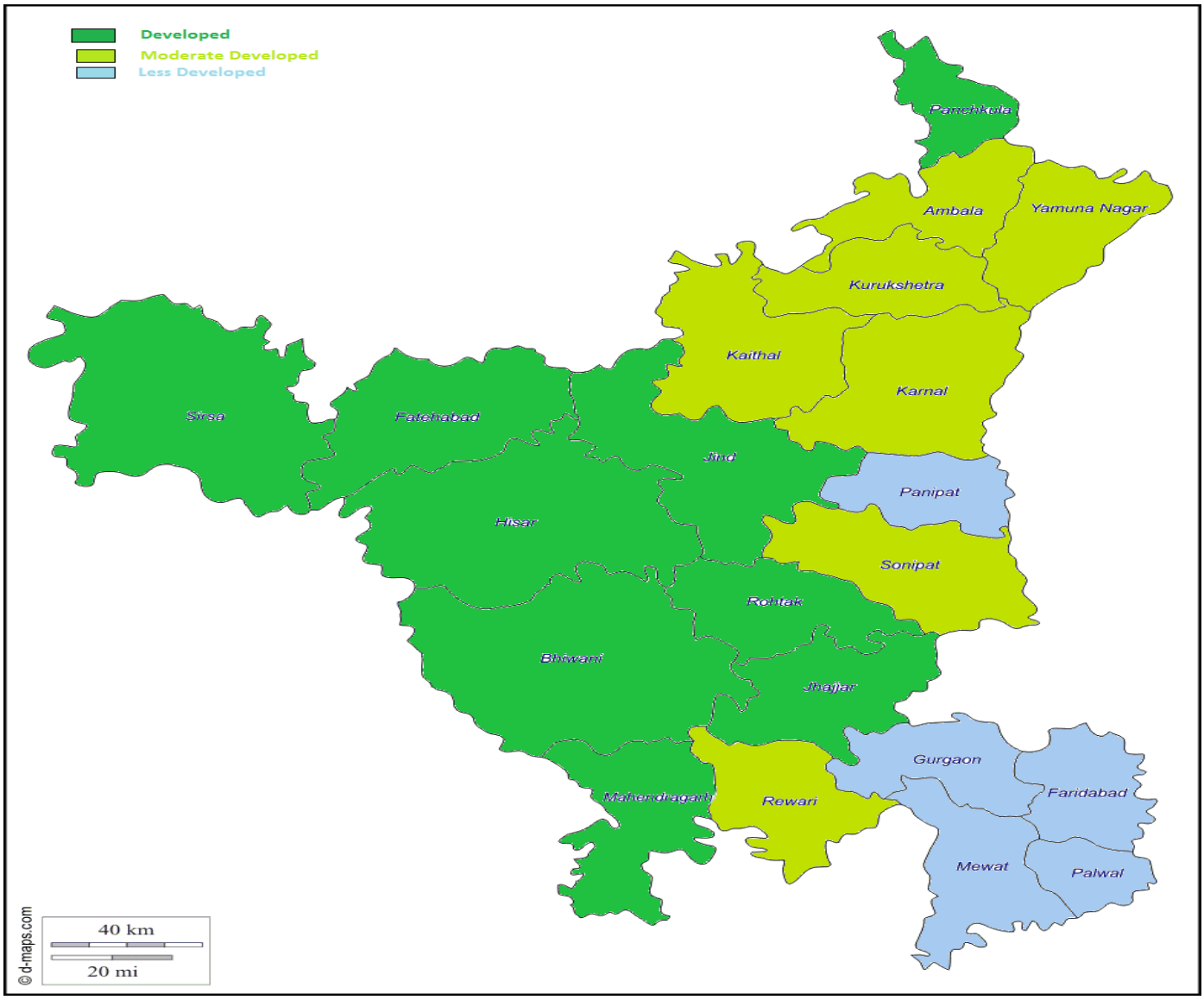
Table 1. Health Infrastructure Development Index 2014-15 (Deprivation Method)

District	HDI	Rank	Status
Jhajjar	0.775	1	DD
Panchkula	0.665	2	DD
Mahendragarh	0.662	3	DD
Bhiwani	0.66	4	DD
Hisar	0.627	5	DD
Rohtak	0.595	6	DD
Fatehabad	0.559	7	DD
Jind	0.538	8	DD
Sirsa	0.512	9	DD
Rewari	0.485	10	MD
Sonipat	0.467	11	MD
Ambala	0.466	12	MD
Kaithal	0.454	13	MD
Kurukshetra	0.415	14	MD
Yamunanagar	0.414	15	MD
Karnal	0.411	16	MD
Nuh	0.301	17	LD
Gurugram	0.233	18	LD
Panipat	0.225	19	LD
Palwal	0.215	20	LD
Faridabad	0.099	21	LD

Note: Where, D = ≥ 0.49 MD = > 0.35 & < 0.49 and LD = ≤ 0.35

Note: 1.HDI implies Health Development Index.

2. D refers to Developed, MD refers to Moderately Developed and LD refers to less developed.



CONLUSION

The present study was an attempt to measure the rank of districts in Health development of Haryana in the year of 2014-15. Further, developed and moderately developed category values of indices indicate that in some extent Health development in the state is concentrating on north eastern and middle part of Haryana. This proves the unbalanced Health development in the state and is issue of concern and need to attention.

Appendix-I

Health Development Indicators

H1 = District Wise Hospital in Haryana per lakh of Population.

H2 = District Wise No. Of CHC per lakh population

H3 = District Wise No. Of PHC per lakh population

H4 = District Wise No. Of Dispensaries per lakh population

H5 = District Wise No. Of Sub Centre per lakh population

H6 = District Wise NO. Of Ayurvedic per lakh population

H7 = District Wise NO. Of Bed per lakh population

H8 = District Wise NO. Of Staff per lakh population

References

1. Government of Haryana, "Census of India 2011-Census Department Haryana", Chandigarh
2. Government of Haryana, "Statistical Abstract of Haryana (2014-15)", Economic and Statistical Organization, Planning Department, Chandigarh.
3. Haryana at a Glance. Government of Haryana. Retrieved 1 March 2016.
4. Economic Survey of Haryana issued by Economic and Statistical Organization, Planning Department, Government of Haryana (various issues).
5. Rostow, W. W. (1960). "The Five Stages of Growth-A Summary". *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge: Cambridge University Press. pp. 4–16.
6. Vol. 52, Issue No. 27, 08 Jul, 2017 » India Badly Needs Public Health Education
7. World Health Statistics 2017: Monitoring health for the SDGs
8. NCERT Book Reprinted Dec (2008). Class 11 Indian Economic Development, Infrastructure chapter 8.. Pp. 149-154.