Research Paper Medical Geography

Impact of Housing Condition and Sanitation on Health Status of the Region, a Case Study of Nashik Region, Maharashtra.

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ABSTRACT

Health Index is considered as one of the major index consider while calculating of Human Development Index of any region. Health status of any region is determined by variety of factors, few are affected by government efforts and few are by public or individual efforts. Housing and sanitation is one of the major factors which affect the health condition of any region.
In present study an attempt is made to study the Housing and sanitation condition of one of the administrative region of Maharashtra, i.e. Nashik Region. There are 5 district were included in this region. Data about 10 variables (Dilapidated Houses %, Good Houses, Electricity %, Within Premises Drinking Water, Flush Latrine, Closed Drainage, LPG, No Latrine %,Tab water %, Bathroom %) had been taken in to consideration and with the help of composite score method these 5 district were rank from 1 to 5.
Relative development in case of Housing and sanitation has been measured. District wise recommendations were made at the end of the paper.

KEYWORDS Housing, Sanitation, Health status, composite score

Introduction:
Health Index is considered as one of the major index consider while calculating of Human Development Index of any region. The study of housing and sanitation status has become complicated because many socio-economic factors are interlinked. We cannot study them individually. So in present study 10 factors were taken into consideration for study the impact of housing and sanitation on the health status of the 5 districts of the Nashik region of Maharashtra state. This region covers about 16.5 % of state population and about 18.77 % of Maharashtra state area.

Research Review:
A study was conducted on the effect of water and sanitation on child survival (**Ricardo Fuentes and others, 2006**) in five countries (Cameron, Egypt, Peru, Uganda and Vietnam). This study was based on demographic and health surveys. Here variables like antenatal care, birth conditions, early nutritional status, birth order, breast feeding, fathers and mothers education, housing condition, access to water, sanitation, access to health care, infant mortality rate (IMR), age of mother, birth interval, environment contamination, malnutrition (calories, vitamin, minerals), accidental and intentional injuries, personal preventive methods were taken into consideration.

In a study on Egypt, **Abou-ali Hala (2003)** found a strong and negative correlation between qualities of water, sanitation with mortality rate.

According to **Annette Pruss Ustun (2008),** ensuring poor people's access to safe drinking-water and adequate sanitation and encouraging domestic and community hygiene will improve the quality of life of millions of individuals. Globally, improving water, sanitation and hygiene has the potential to prevent at least 9.1% of the disease burden or 6.3% of all deaths. Sanitation issues need to be given priority in our development policy approaches.

In India, **Rais Akhtar (2009)** studied the regional planning for health care system in Jammu and Kashmir, where he had studied the health care development of the state Jammu and Kashmir and factors like occupational structure, house types, number of rooms in the house, family structure, family size, water facility, sanitation, Income, accessibility to health care center, disease distribution, were taken into consideration. **Mishra R.P. (2007)** discusses the health status of mothers and children in India in his book, Geography of Health. **Nilofar Izhar (2010)** carried out a study about women's health status in rural areas of Kashmir valley, based mainly on primary data collected in 1988 -1999.

The approach of this work is - data related to health care services, sanitation, infrastructure, literacy, house conditions will give the idea of health status of that region because the cumulative effect of these factors results in favorable or non favorable health conditions.

Another approach is that, every region has regional disparities within it. Some part may be more developed or having better sanitation and housing conditions and some part not. It may be because of environmental or socio-economic factors. It is another aspect of study. So two questions should be addressed:

- What is sanitation and housing conditions related disparities within the region?
- What are the causes behind the disparities?

This paper is deals with the first question.

The objectives of present study are….
- To study the factors which are the determinant of sanitation and housing conditions in Nashik region
- To rank the districts of Nashik region on the basis of sanitation and housing conditions.
- To find out the weakness in sanitation and housing conditions for each district of this region.
- To recommend the strategy for improvement of sanitation and housing conditions in each district of Nashik region

Data: This work is based on the data from secondary sources. Demographic information is derived from India census -2011. Data related to different variables and indicators is acquired from India census -2011, Economical survey of Maharashtra -2013, District Level Household Survey-3 2007-08 and District Socio-economical Abstracts of Nandurbar, Dhule, Jalgaon, Nashik and Ahmednagar districts (2012).

Estimation Method: Nashik region is the study area of this study where district were taken as a study unit. Nashik, Ahmednagar, Jalgaon, Dhule and Jalgaon districts are included in

Nashik region.

Z score has been calculated for 10 variables on the basis of these composite score for sanitation and housing conditions is calculated.

Formula is……. Z score = Xi-X/O Where Z = Standard Score for observation.

Xi = Original value of observation. X = Average of all values of X. O = S.D. of X.

With help of Z Score Composite Scores were calculated by using following formula.

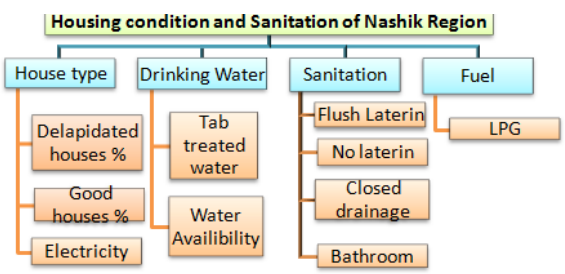
Comp. Scores = X1+X2+X3+ X4+X5+X6+X7 +X8+X9+X10 /N (Total Numbers of variables)

On its basis districts were grouped in to 3 categories namely Good, Moderate and Poor sanitation and housing conditions. High composite score indicates better sanitation and housing conditions condition.

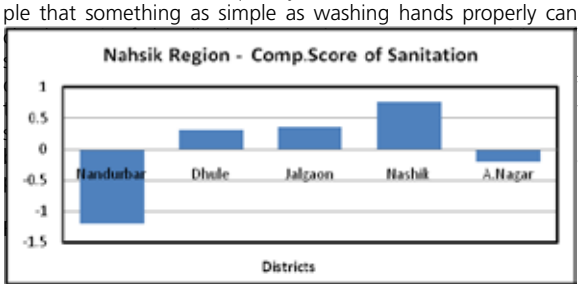
Apart from Z score and composite score, statistical tools like percentage; average, standard deviation, correlation etc have been used in the study. Data is processed and represented with the help of Bar graph.

Framework: The framework of the present study can be explained in a following diagram:

Fig.1 Framework of the study



Result and Discussion: Ensuring poor people's access to safe drinking-water and adequate sanitation and encouraging domestic and community hygiene will improve the quality of life of millions of individuals. (**Annette Pruss Ustun ,2008**). Globally, improving water, sanitation and hygiene has the potential to prevent at least 9.1% of the disease burden or 6.3% of all deaths. (**Annette Pruss Ustun, 2008**) sanitation issues need to be given priority in our development policy approaches. Sanitation has to be located in an integrated framework of public health policy to ensure that sanitation activities are indeed adequately funded. We know for example that something as simple as washing hands properly can



On the basis of composite score the situation of 5 districts of the region is given in next table….

Table.1 Quality of Housing condition and Sanitation in Nashik Region

Quality of Housing condition and Sanitation	Range of Comp. Score	District
Good	More than 0.5	Nashik (0.758)
Moderate	-0.5 to 0.5	Jalgaon (0.354) Dhule(0.309) A.Nagar (-0.205)
Poor	Less than -0.5	Nandurbar (-1.212)

In case of Nashik region Nashik district again having comparatively good sanitation & housing condition followed by Jalgaon and Dhule. The overall picture is as follows …

Table 2 District Ranks based on housing & Sanitation Condition in Nashik Region

Districts.	Nashik	Jalgaon	Dhule	A.Nagar	Nandurbar
Ranks in housing & Sanitation Condition	1	2	3	4	5

Conclusion and recommendation: Nashik district is having good Quality of Housing condition and Sanitation conditions in this region. Where as Nandurbar lie at the lowest rank in this regard. Jalgaon district is having moderate condition and Ahmednagar remain under average in case of housing and sanitation condition. To improve the overall condition in housing and sanitation district wise recommendations are as follows…

Nashik - 1. Dilapidated houses were more in proportion so housing condition should be improve. 2. Drinking Water distribution schemes should be well managed. In many parts drinking water sources should made available in premises. Tab and treated water percentage should be improved.

Jalgaon - 1. Construction of closed drainage. 2. Flush latrine should be made popular. 3. Availability of latrine is the matter of concern. People should be made aware about using proper closed latrine. Schemes like gram swachata Abhiyan should be encourage. 4. Government Housing schemes such as Indira Awas Yojana should be improved.

A.nagar - 1. Construction of closed drainage 2. Drinking water sources should made available in premises. Tab and treated water percentage should be improved. 3. Use of LPG for cooking should be made popular. 4. Availability of latrine is the matter of concern. People should be made aware about using proper closed latrine

Dhule - 1. Dilapidated houses were more in proportion so housing condition should be improve. 2. Construction of closed drainage as its proportion is very law.

Nandurbar - 1. Electrification process should be improved. Because this district have lowest electrification. 2. Availability of latrine is the serious matter. People should be made aware about using proper closed latrine. This district has highest percentage of families not having latrine. Flush latrine percentage is also very low. This district is having highest ST population. So awareness about using flush latrine should have priority. 3. Water should make available in premises. It is a difficult task because most of the part of the district has rugged topography and settlement is very scattered. 4. Use of LPG for cocking is lowest in this district so local people should encourage for using LPG. Distribution of Gas agency should be more scattered and special norms should be there for allocation of gas agencies.

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